

Service Manual

75DC1010 / 1B / 2B

75DC1020 / 1A / 2A

Deck / CD Player

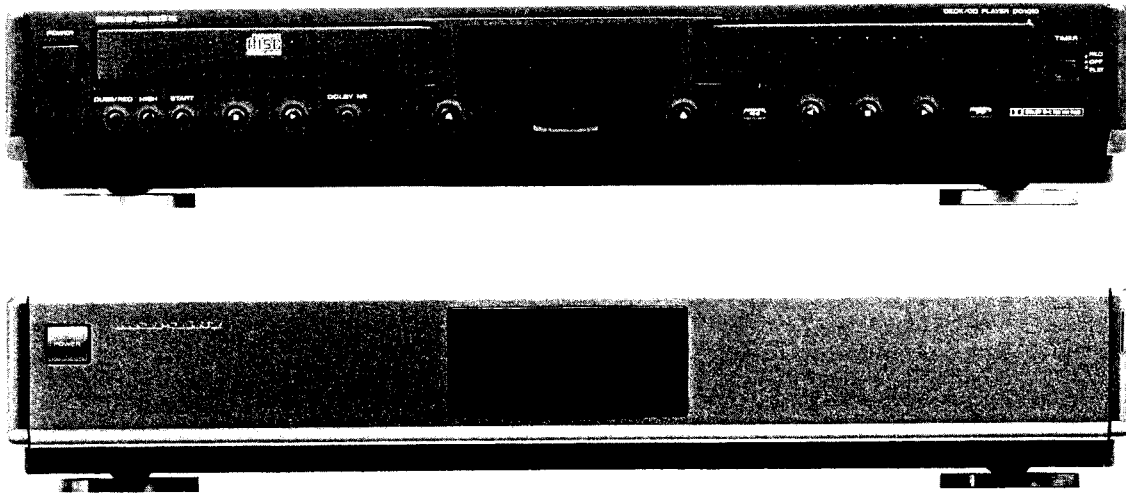


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marantz®

model DC1010 / DC1020

4822 725 51076
First issue : 1994 / 10
PCS 79 697

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 at our National Marantz Subsidiary or Agent.

MARANTZ EUROPE B.V.
P.O. Box 80002
Building SFF 2
5600 JB Eindhoven
The Netherlands
Phone : +31-40-732241
Fax : +31-40-735578

ORDERING PARTS

Parts can be ordered either by mail or by telex. 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 the part is required
5. Way of shipment
6. Signature: any order form or telex must be signed, otherwise such part order will be considered as null and void.

ADDRESSES

AUSTRALIA
MARANTZ AUSTRALIA
Figtree Drive
Australia Centre
Homebush, NSW 2140
AUSTRALIA

FINLAND
MARANTZ
Kuortanegatan 1
00520
Helsingfors 52
Finland

ITALY
MARANTZ ITALIANA SPA
Piazza IV Novembre 3
20124 Milano
Italy

NORWAY
MARANTZ
Postboks 7034
Assiden
3007 Drammen
Norway

SPAIN
MARANTZ SPAIN
Martinez Villergas 2
Apartado 2065
Madrid 28027
Spain

AUSTRIA
MARANTZ
Hietzinger Kai 137a
1130 Wien
Austria

FRANCE
MARANTZ FRANCE
4 Rue Bernard Palissy
92600 Asnières
France

JAPAN
MARANTZ JAPAN INC.
35-1, 7-chome, Sagamiono
Sagamihara-shi, Kanagawa
Japan

PORTUGAL
COREL
Av. da Liberdade
211-2 Esq.
1200 Lisboa
Portugal

SWEDEN
MARANTZ
Box 1324
17125 Solna
Sweden

BELGIUM
MARANTZ EUROPE B.V.
Div. Benelux
P.O.Box 80002
Building SFF 2
5600 JB Eindhoven
The Netherlands

GERMANY
MARANTZ GERMANY GmbH
Kleine Heide 12
Postfach 4802
Halle-Westfalen
Germany

KUWAIT
AL ALAMIAH ELECTRONICS
P.O.Box 8196
Salmiah
22052 Kuwait

SAUDI ARABIA
AL ALAMIAH ELECTRONICS
P.O.Box 5954
University Street
Riyadh 11432
Saudi Arabia

SWITZERLAND
MARANTZ SWITZERLAND
Postfach
8010 Zürich-Müllingen
Switzerland

CHILE
MARANTZ DIVISION OF
PHILIPS S.A.
Av.Santa Maria 0760
Casilla 2687
Santiago
Chile

GREAT BRITAIN
MARANTZ HiFi UK Ltd.
Kingsbridge House
Padbury Oaks
575-583 Bath Road
Longford Middlesex UB7 OEH,
U.K.

NETHERLANDS
MARANTZ EUROPE B.V.
Div. Benelux
P.O.Box 80002
Building SFF 2
5600 JB Eindhoven
The Netherlands

SOUTH AFRICA
MARANTZ S.A.
10 Bond Street
Randburg 2194
P.O. Box 7703
Johannesburg 2000
South Africa

TRADING
MARANTZ TRADING
P.O.Box 20008
Building SFF 2
5600 JB Eindhoven
The Netherlands

DENMARK
MARANTZ
Horsvinget 5
2630 Tastrup
Denmark

GREECE
ADAMCO ELECTR. SA
P.O.Box 21025
Hippocrates Str. 188
Athens 11471
Greece

All of the above locations are fully equipped to take care of your total service needs or can advise you. Because various countries have differing configuration requirements, it is necessary that you contact the service facility in your particular country. In the event that there is no service location listed for your country, please contact the nearest facility for the necessary assistance.

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

1. TECHNICAL SPECIFICATIONS (DIN)

CD PART:

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

Optical Readout System

Laser	GaAlAs semiconductor
Wavelength	780 nm

Frequency Characteristics

Frequency range	10 Hz~20 kHz
Dynamic range	> 93 dB
S/N ratio	> 95 dB
Channel separation (1 kHz)	> 90 dB
THD (1 kHz)	0.006%
Analog output jack	
Output level	2V RMS
Output impedance	1 kΩ
Digital output	
Optical output	-19 dBm

TAPE PART:

Motor (s) and type	1 DC
Number of heads	2

Frequency range (3 dB limits--no Dolby NR)

Type IV (metal) tape	30 Hz~16 kHz
Type II (CrO ₂) tape	30 Hz~16 kHz
Type I (Fe/Normal) tape	30 Hz~14 kHz
Signal to noise ratio (CrO ₂ tape at 1 kHz) (no Dolby NR/Dolby B and C NR)	58/67/72 dB
Wow and flutter	0.16%
Output level/impedance	500 mV/1 kΩ

Power supply

/ 1 version	115 V/230 V AC 50/60 Hz
/ 2 versions	230 V AC 50 Hz
F version	100 V AC 50/60 Hz
K version	110 V/220 V AC 50/60 Hz
U version	120 V AC 60 Hz
Power Consumption	22 W

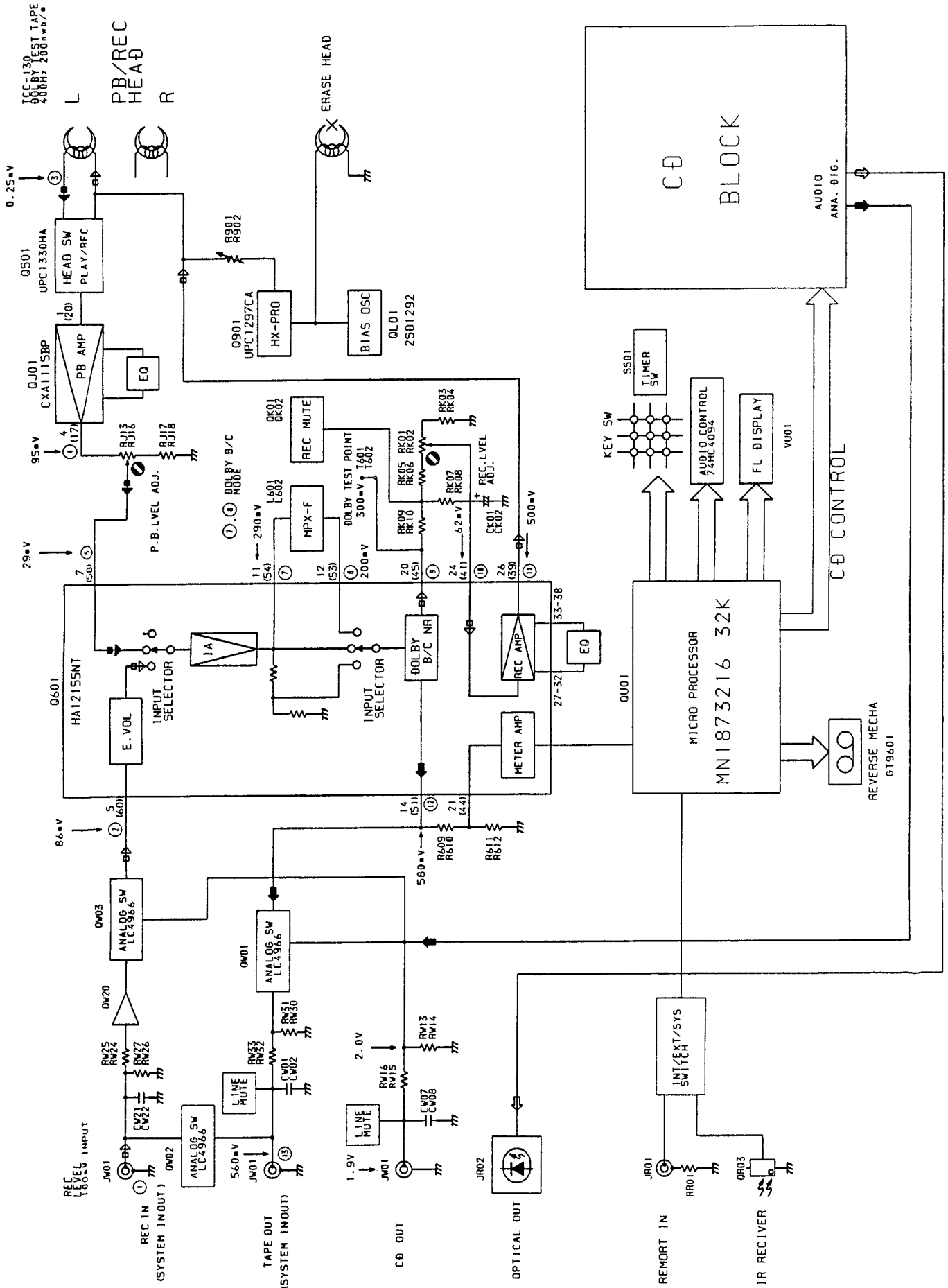
Cabinet, etc.

Dimensions	
Width	422 mm
Height	76 mm
Depth	309 mm
Net Weight	4.9 kg (DC1010)
	5.0 kg (DC1020)
Operating temperatures	+5~+35
Operating humidity	5%~90% (without dew)

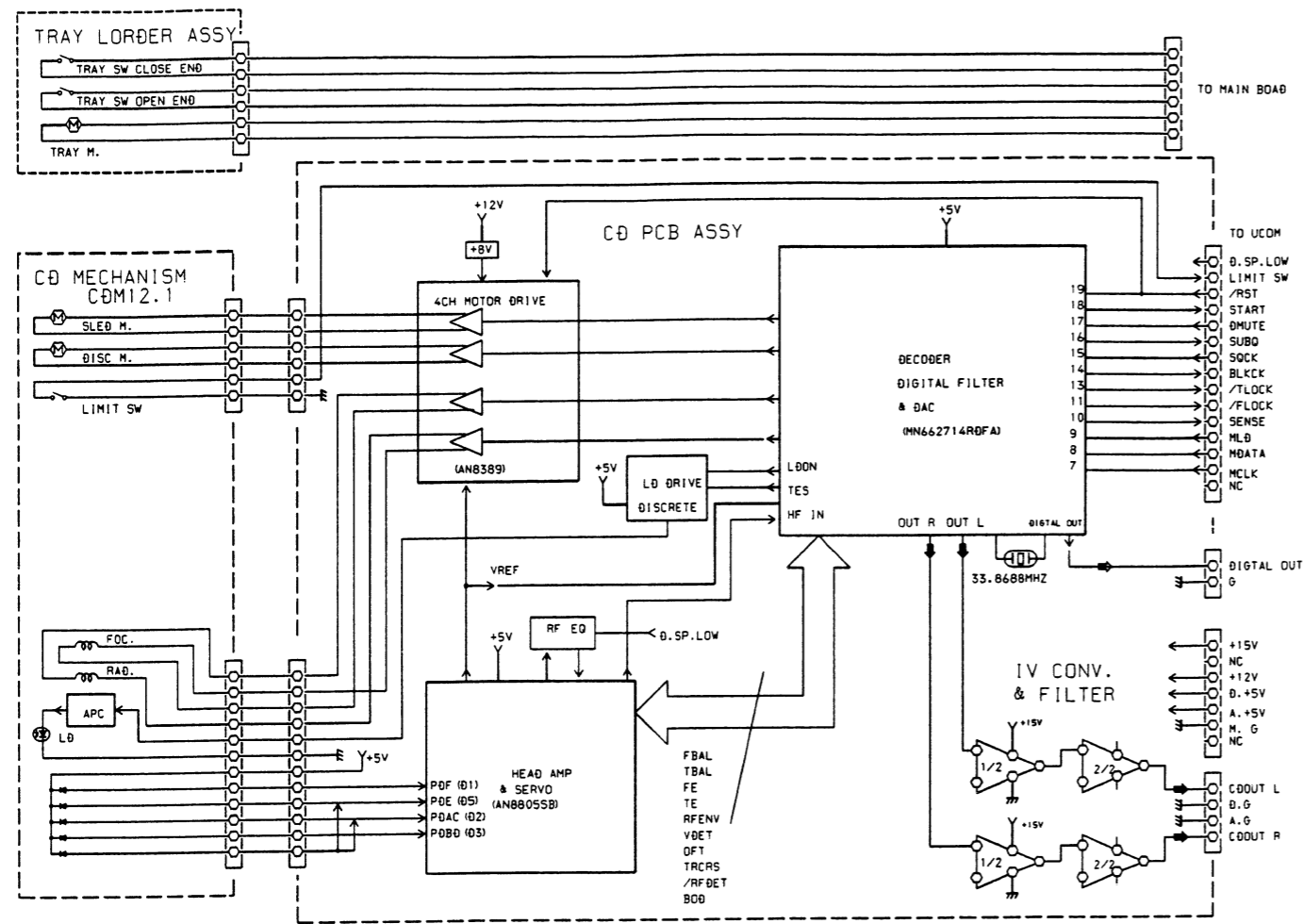
Specifications subject to change without prior notice.

2. BLOCK DIAGRAM AND LEVEL DIAGRAM

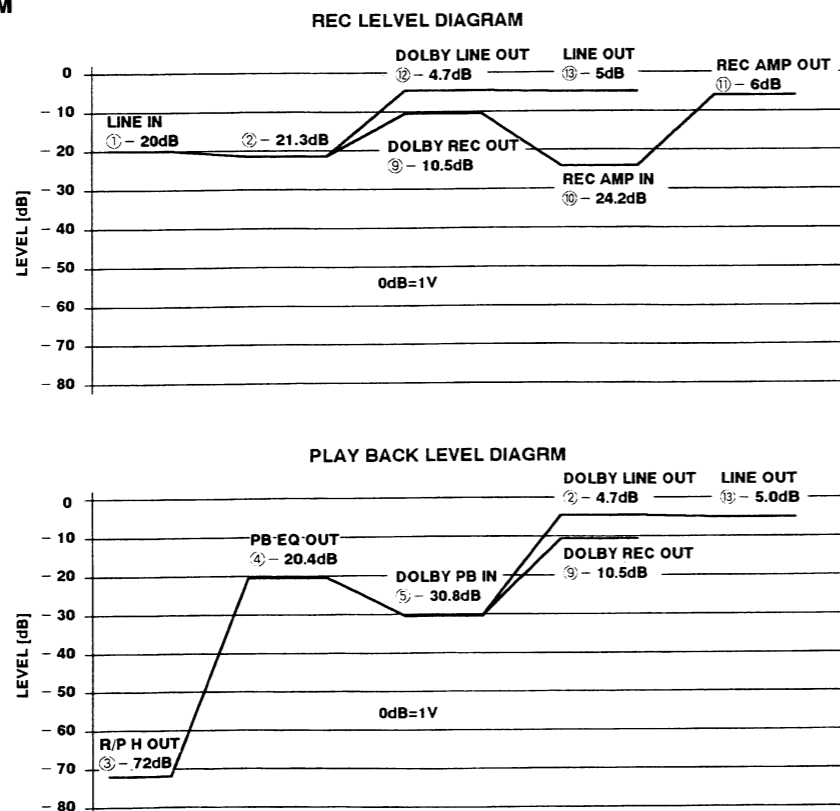
2.1 BLOCK DIAGRAM



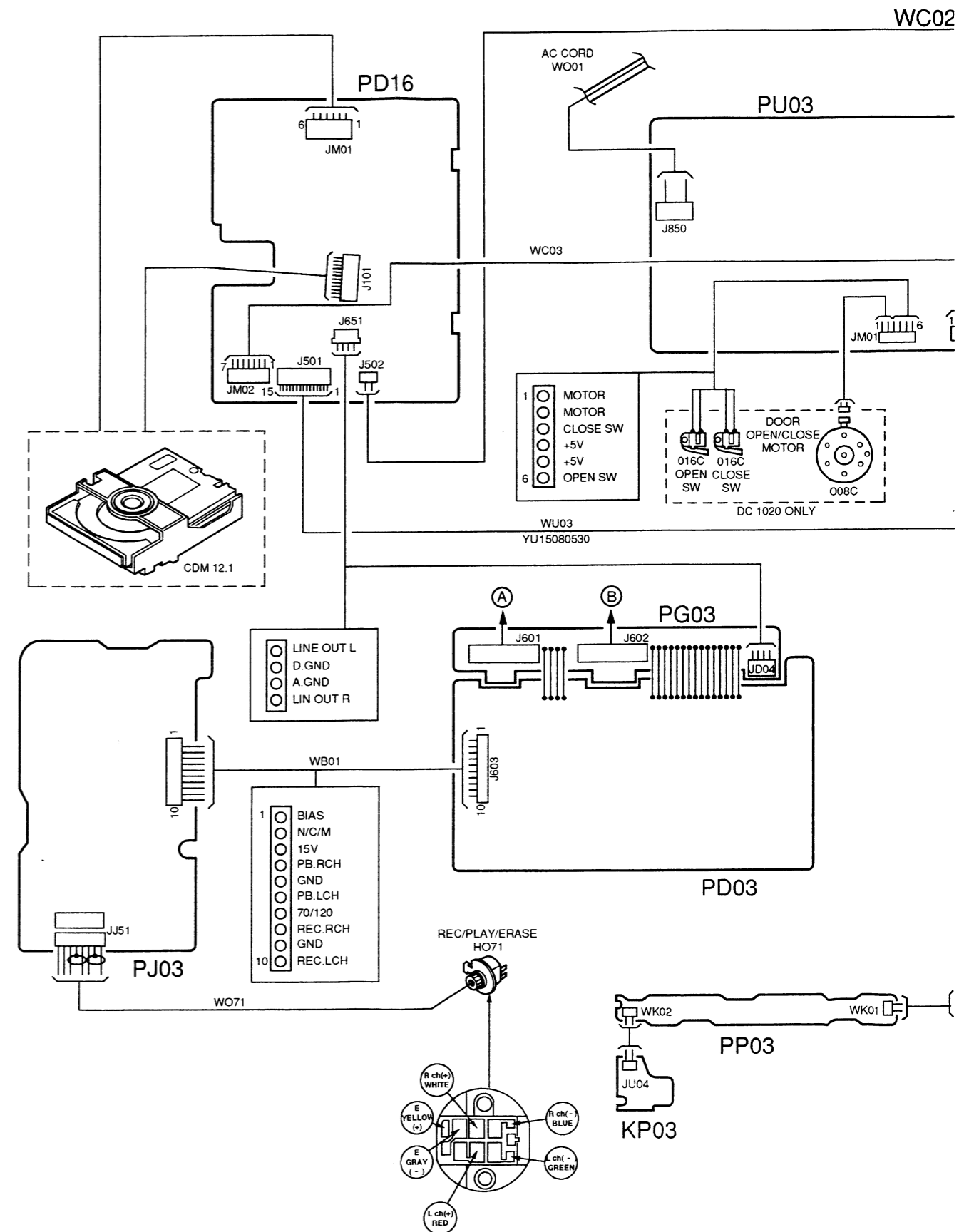
2.2 CD BLOCK DIAGRAM



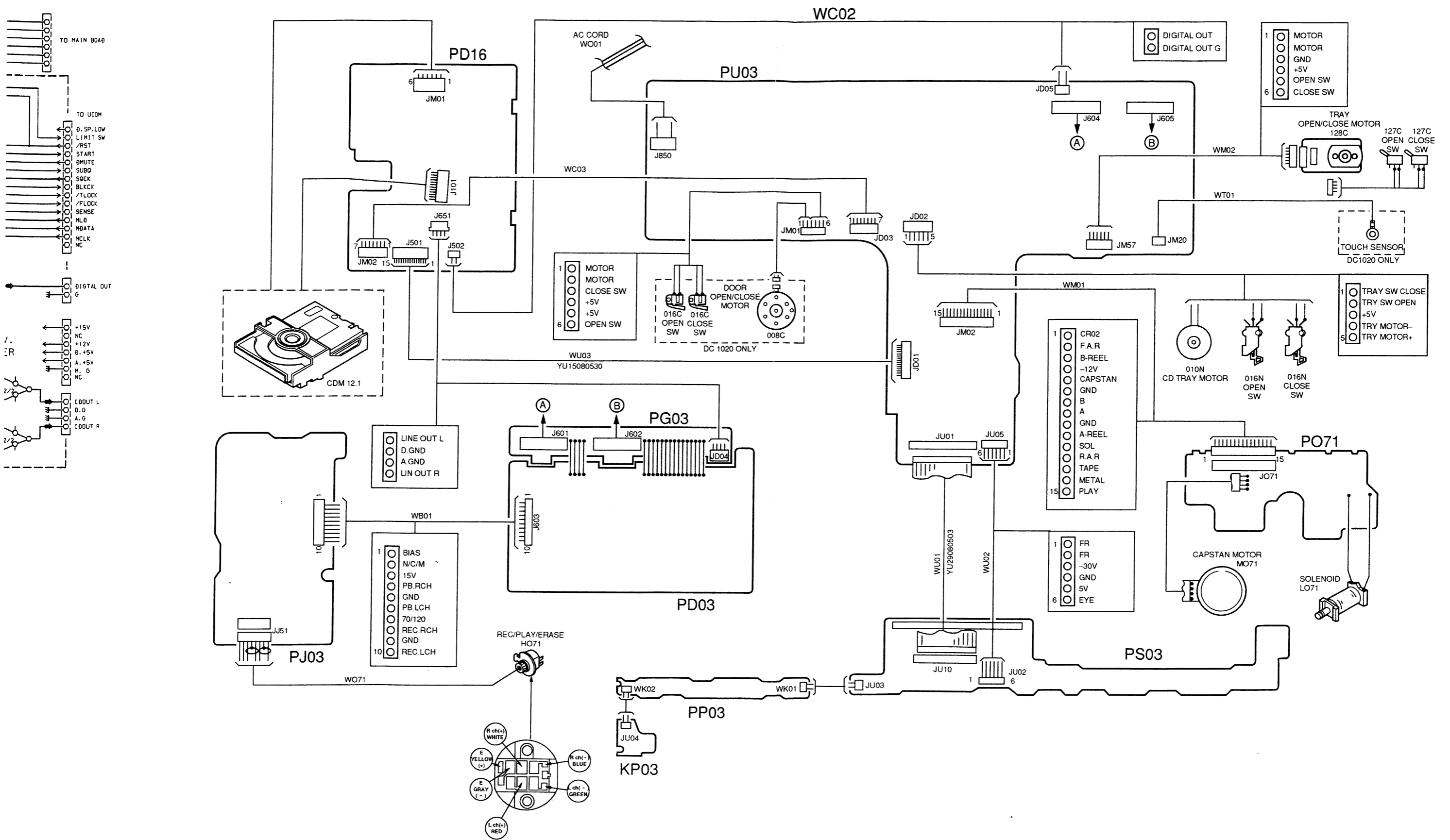
2.3 LEVEL DIAGRAM



3. CONNECTION DIAGRAM

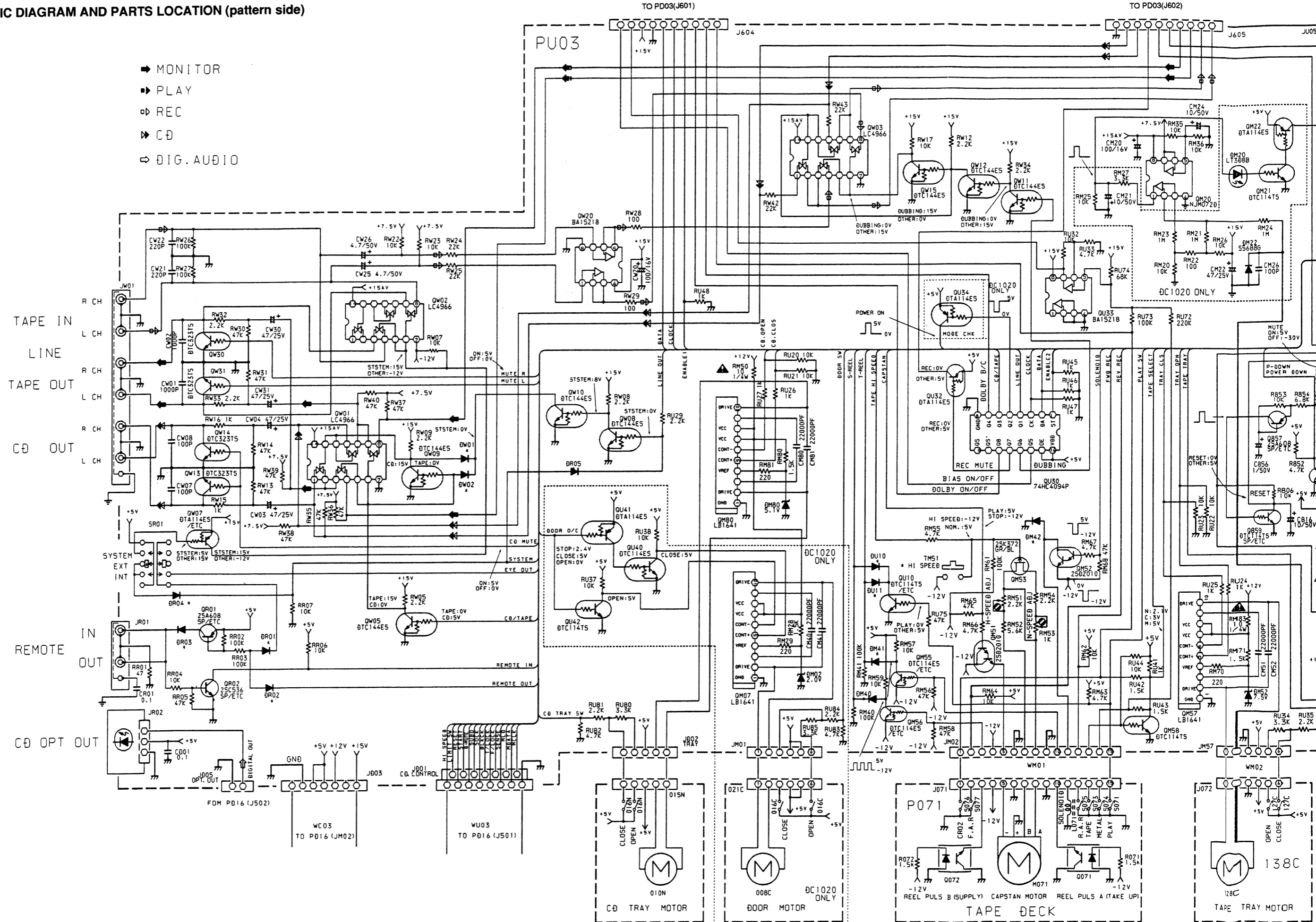


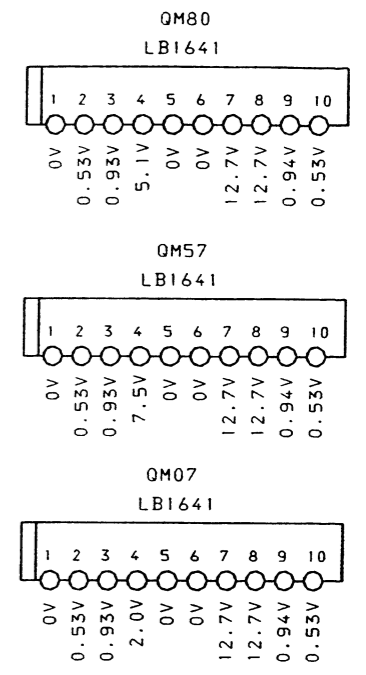
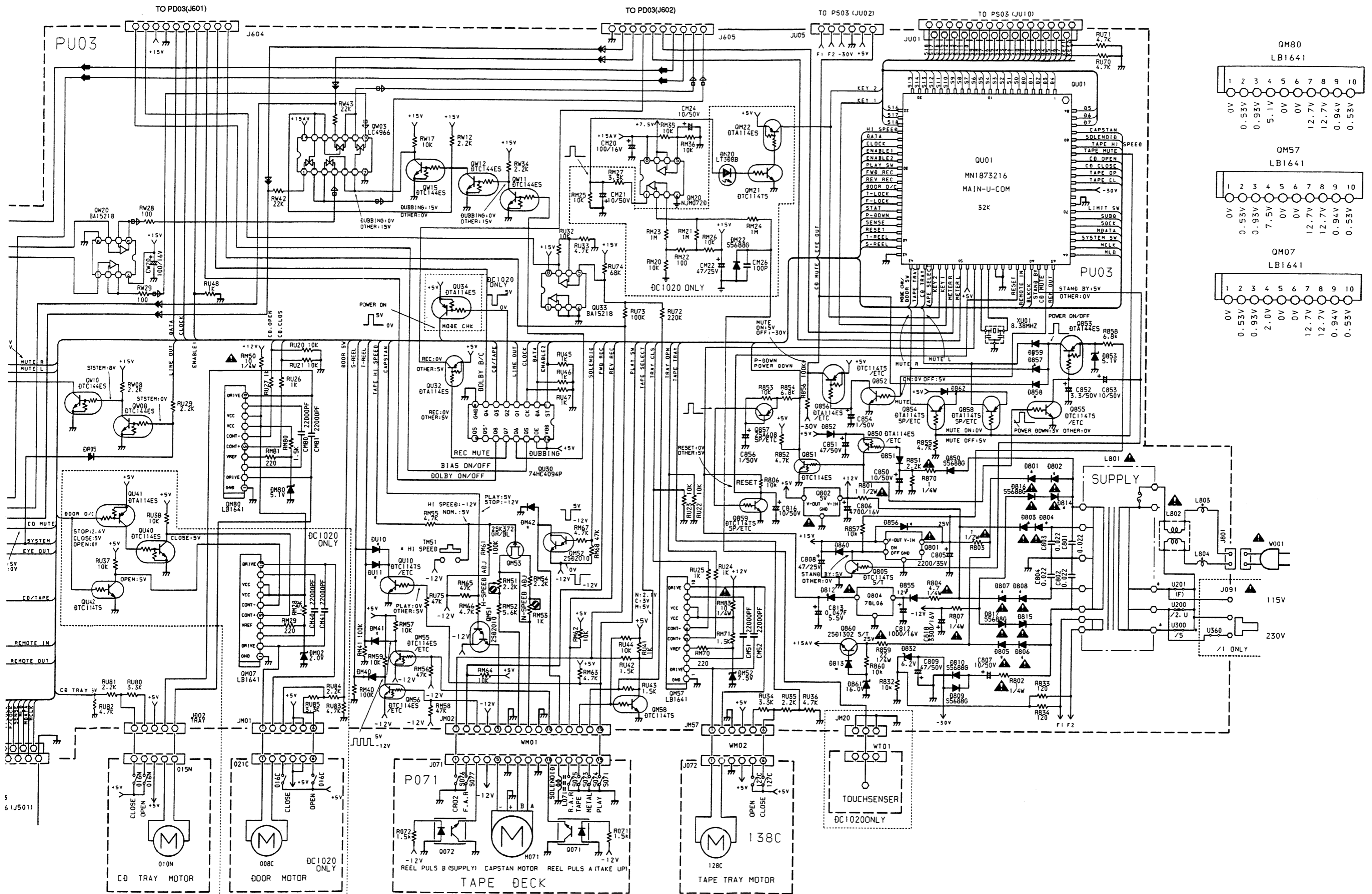
3. CONNECTION DIAGRAM



4. SCHEMATIC DIAGRAM AND PARTS LOCATION (pattern side)

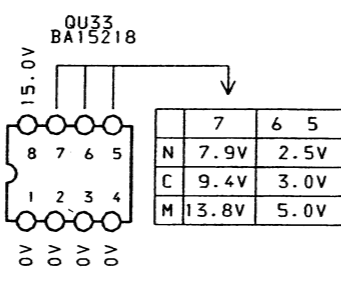
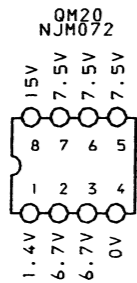
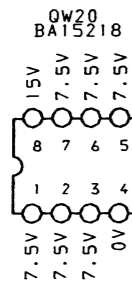
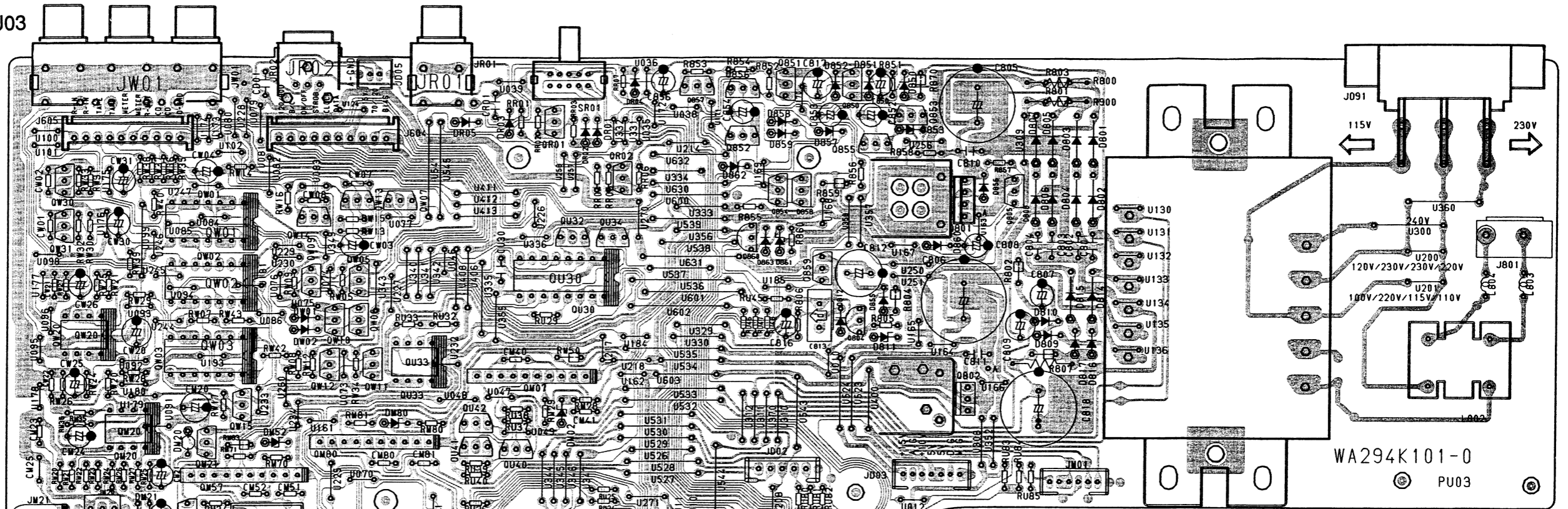
- ▶ MONITOR
- ▶ PLAY
- ▶ REC
- ▶ CD
- ▶ DIG. AUDIO



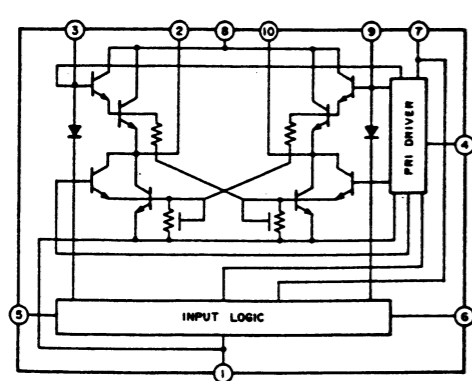


QW30 QW01-QW03 QW14 QW13 QR01 QR02 Q857 Q856,Q852 Q851 Q850 Q853 Q805
 QW31 QM21 QW15 QW09-QW12 QW05 QW07 QM07 QU30 QU32,QU34 QM56 QM55 QU10 Q854 Q855 Q801
 QW20 QM20 QM22 QM57 QM80 QW06 QU33 QU40-QU42 QW51-QW53 QM58 QU01 Q858-Q860 Q804 Q802

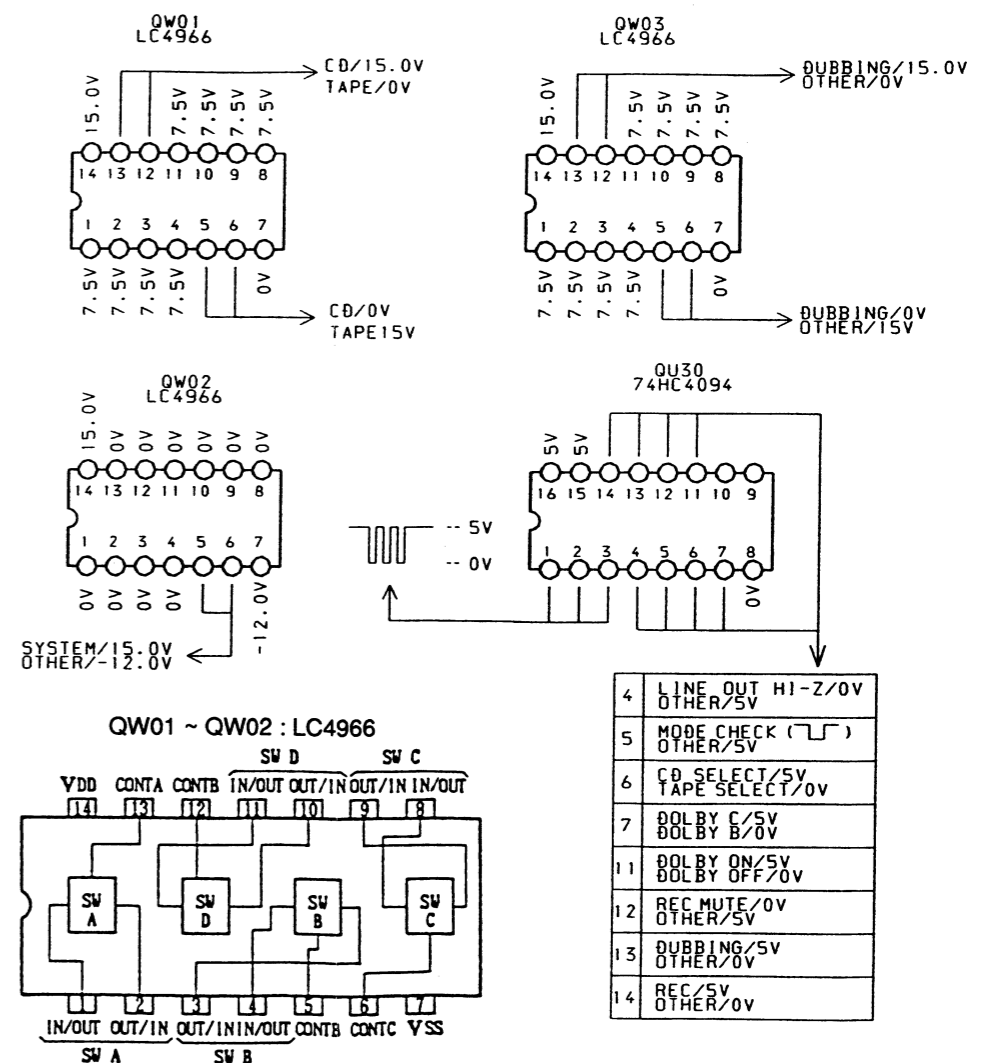
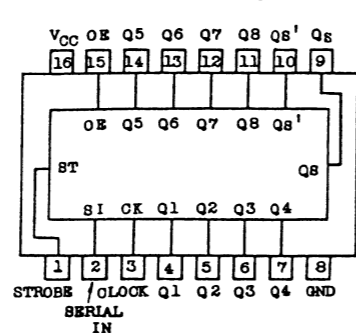
PU03

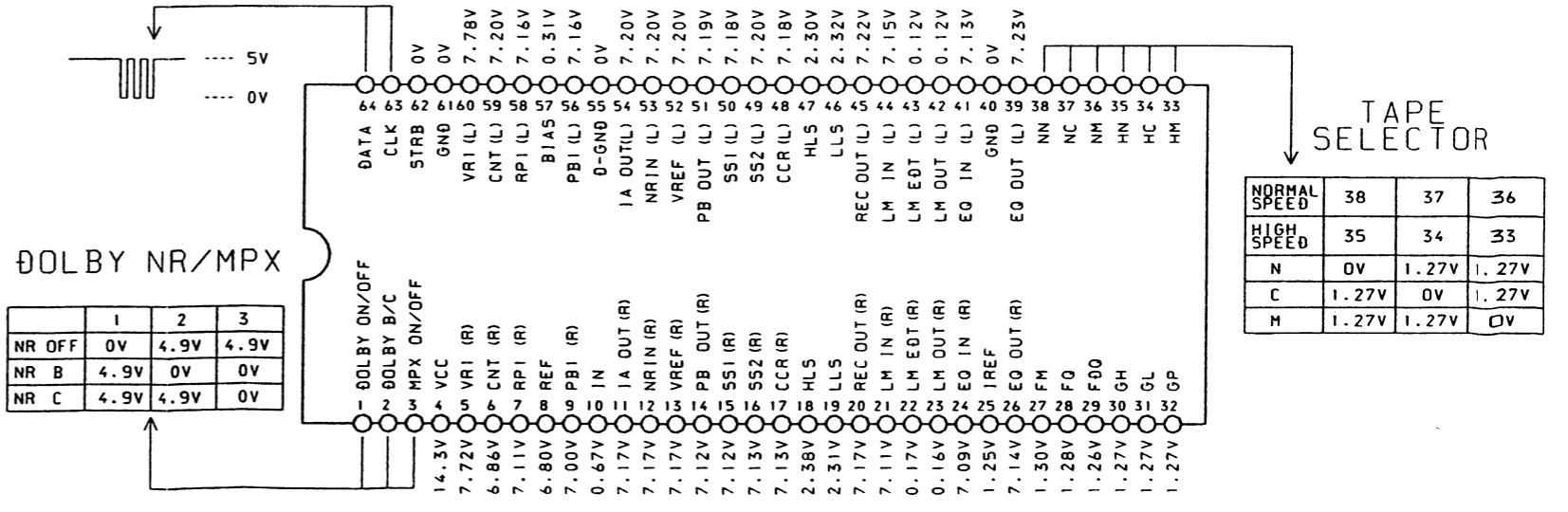
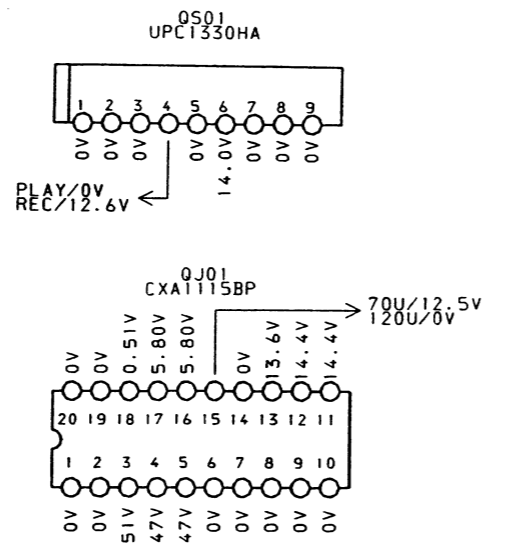
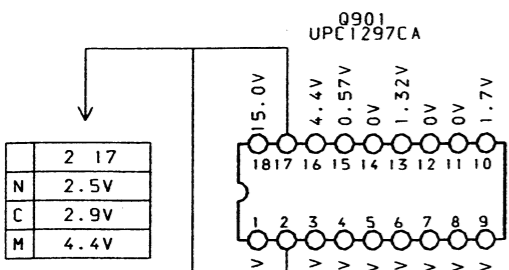
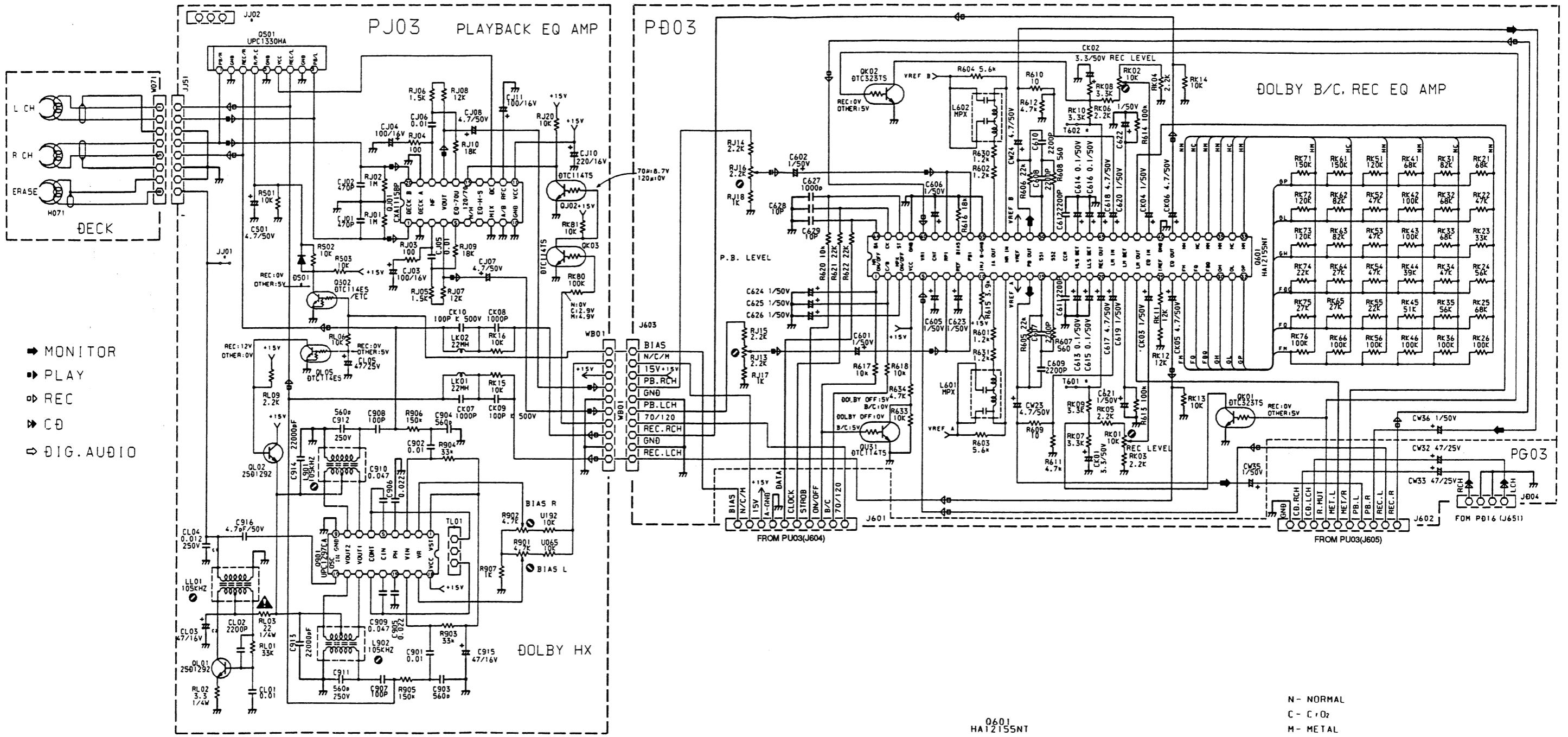


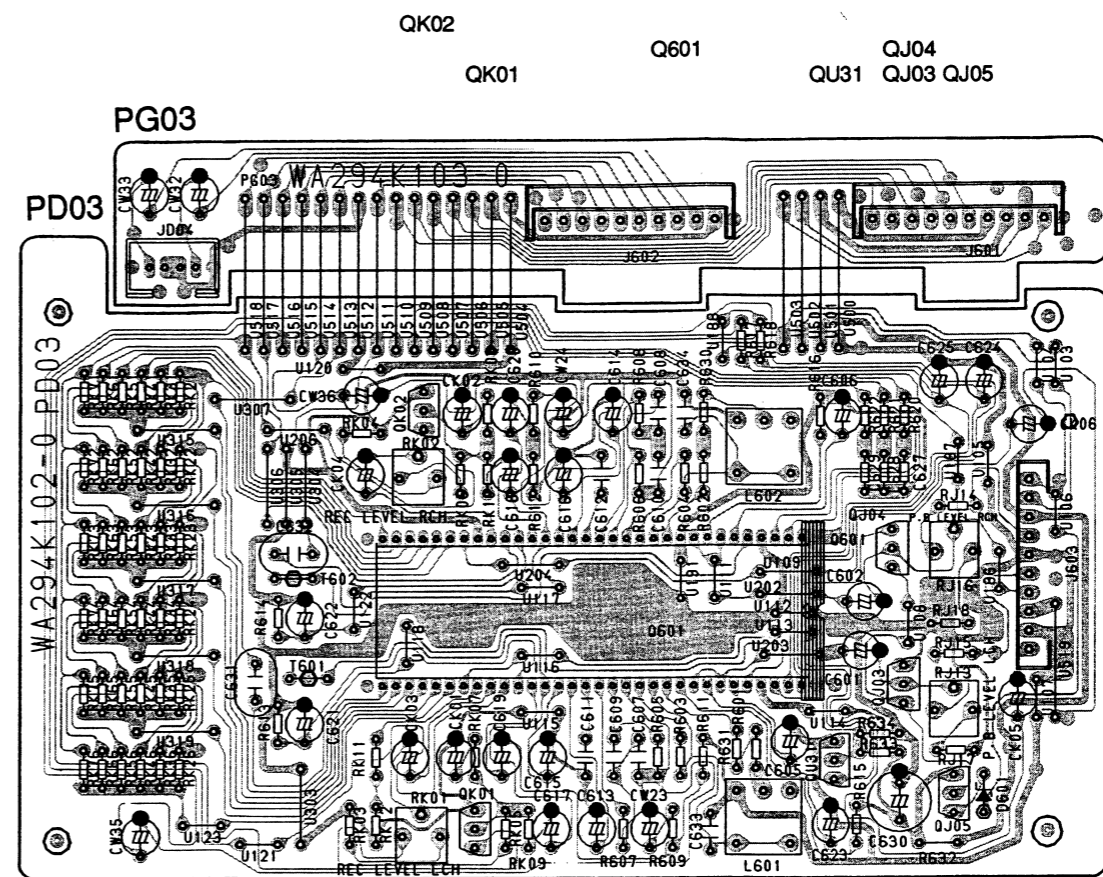
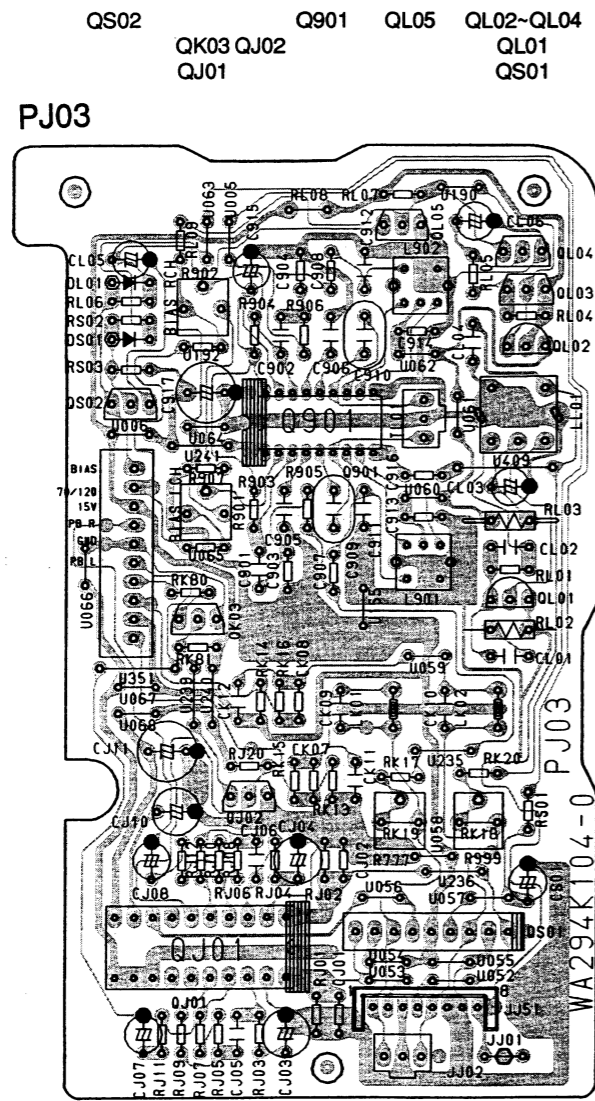
QM07, QM57, QM58 : LB1641



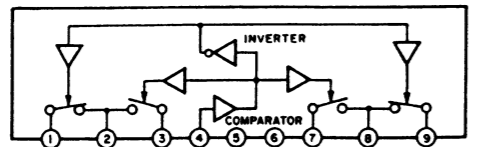
QU30 : 74HC4094



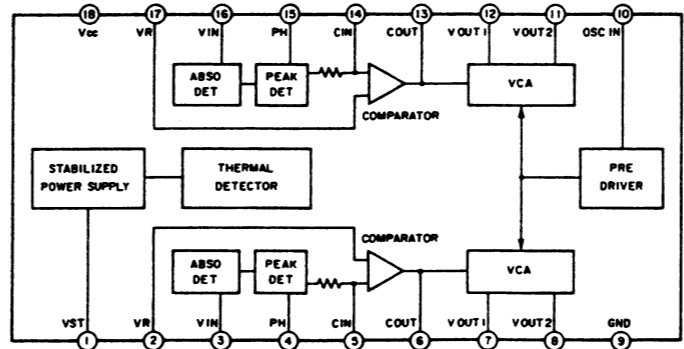




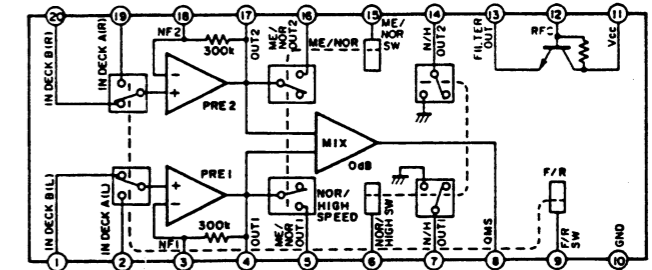
QS01 : μ PC1330HA



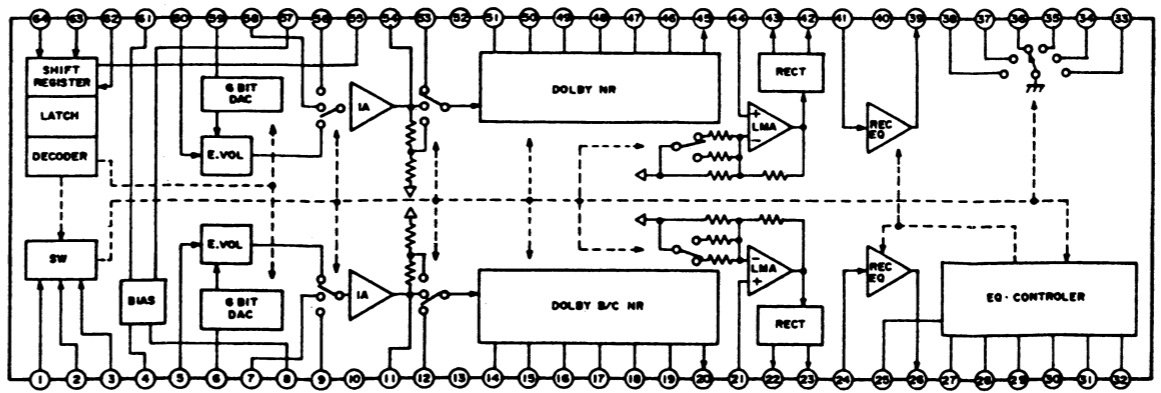
Q901 : μ PC1297CA



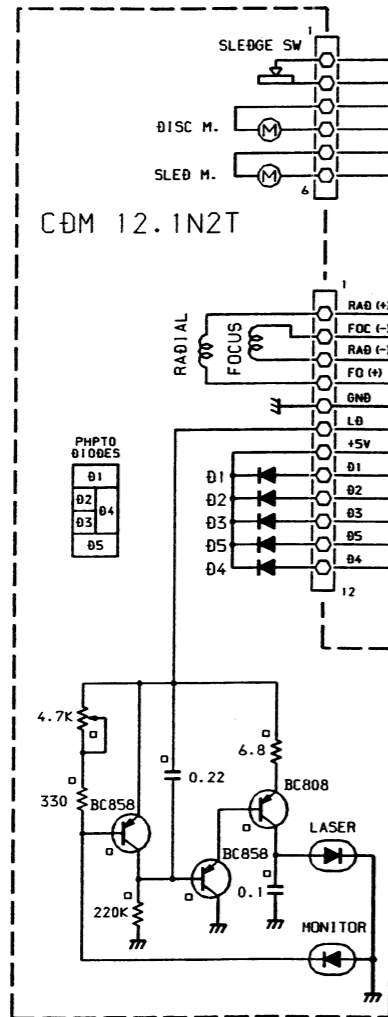
QJ01 : CXA1115BP



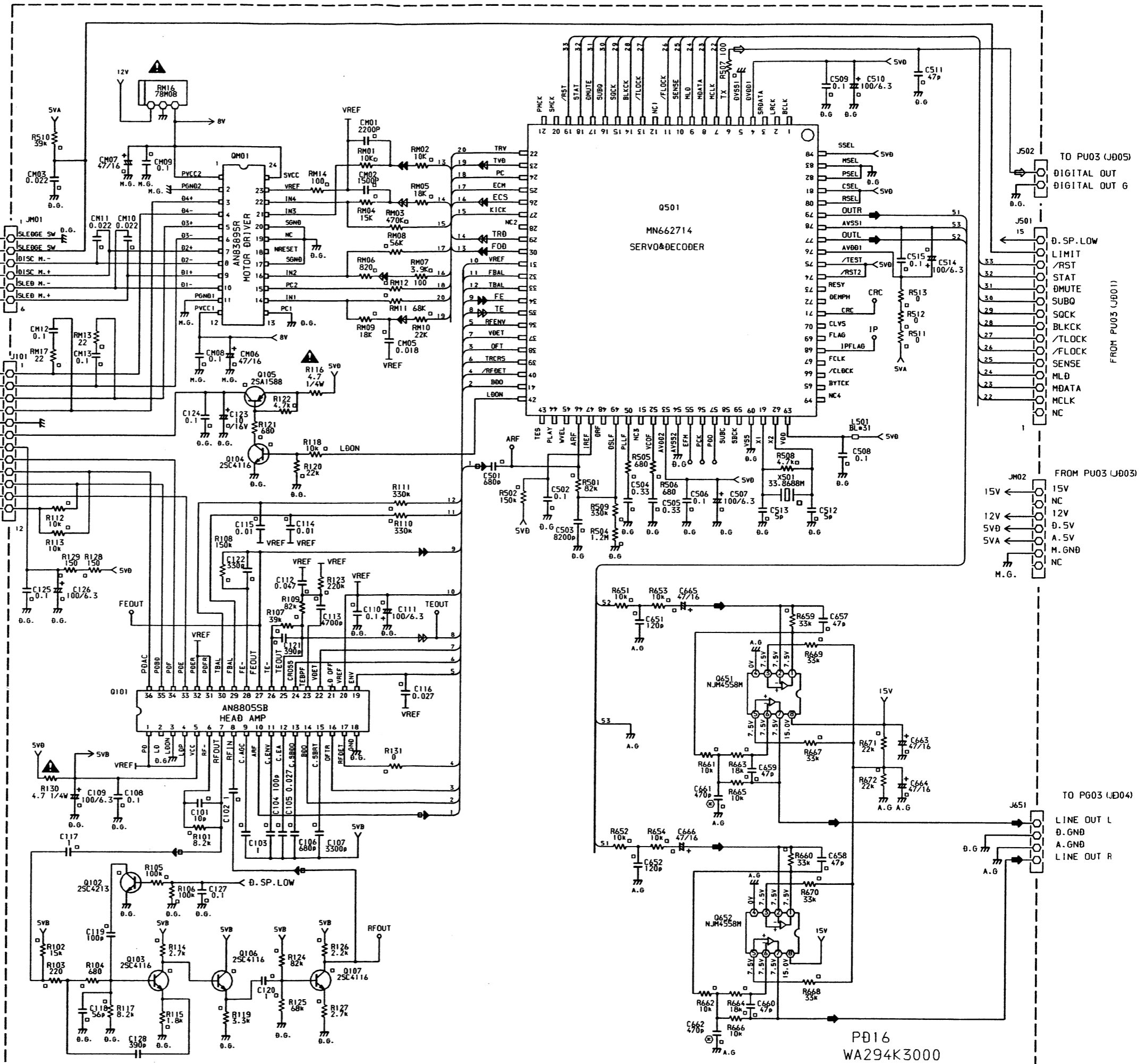
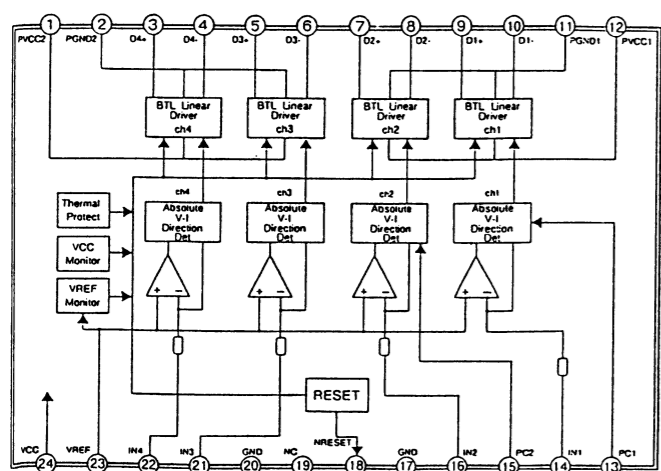
Q601 : HA12155NT



- ⇨ DIG. AUDIO
- ➔ ANA. AUDIO
- ⇨ HF (RF)
- ➔ FOCUS
- ⇨ RADIAL
- ➔ TURNTABLE
- ➔ SLED



QM01 : AN8389S



VOLTAGE VALUE IS UNDER CONDITION OF STOP

QM01

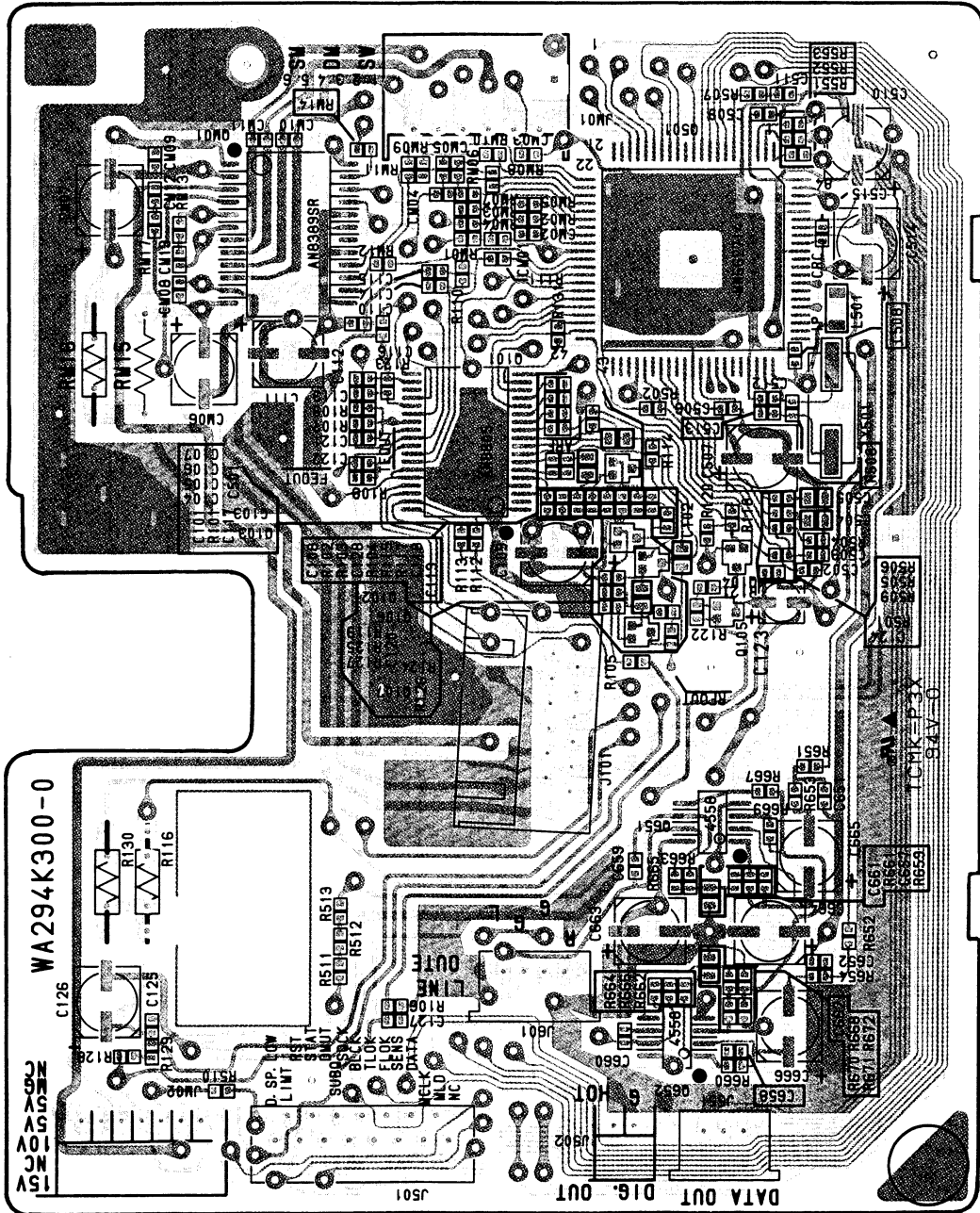
Q101

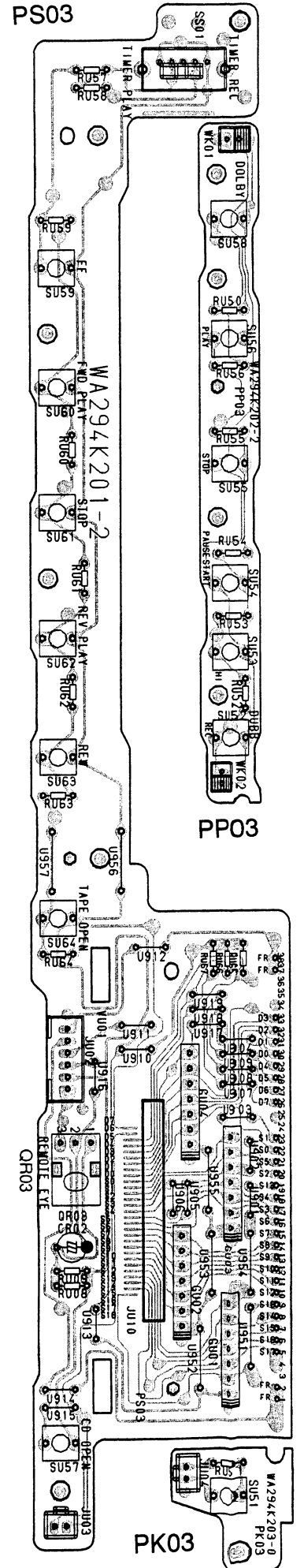
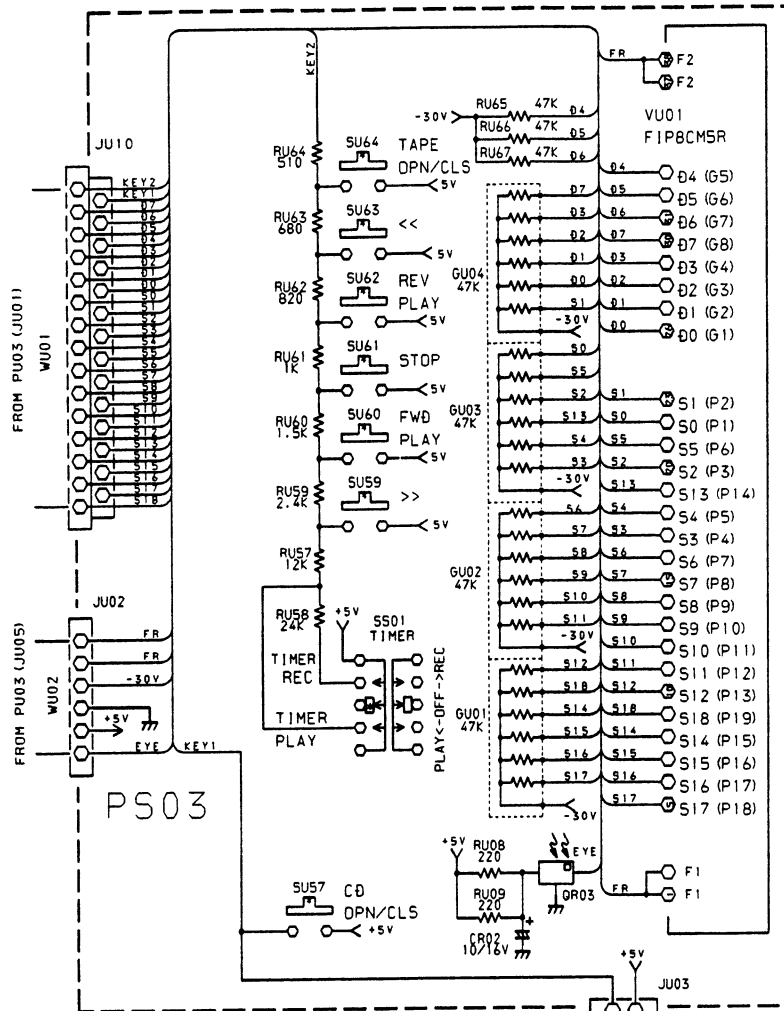
Q501 Q106 Q104

Q103 Q107 Q105

Q102 Q652 Q651

PD16



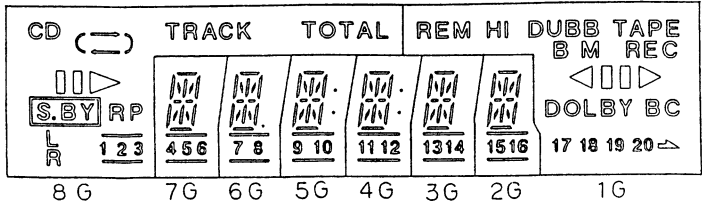


**FL DISPLAY
TERMINAL CONNECTION**

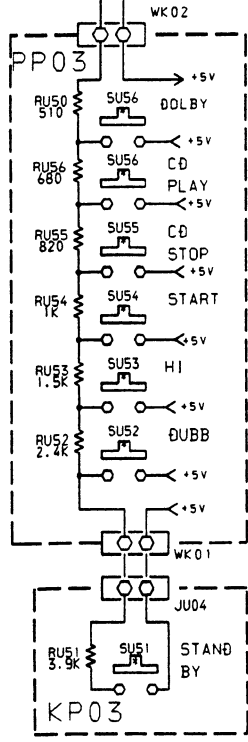
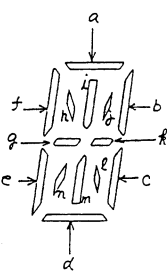
TERMINAL NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
ELECTRODE	F	F	NP	NP	P18	P17	P16	P15	P19	P13	P12	P11	P10	P9	P8	P7	P4	P5	P14
TERMINAL NO.	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
ELECTRODE	P3	P6	P1	P2	NP	NP	B1	B2	G3	G4	G8	G7	G6	G5	NP	NP	NP	F	F

Notes: F: Filament NP: No Pin
G: Grid P: Anode

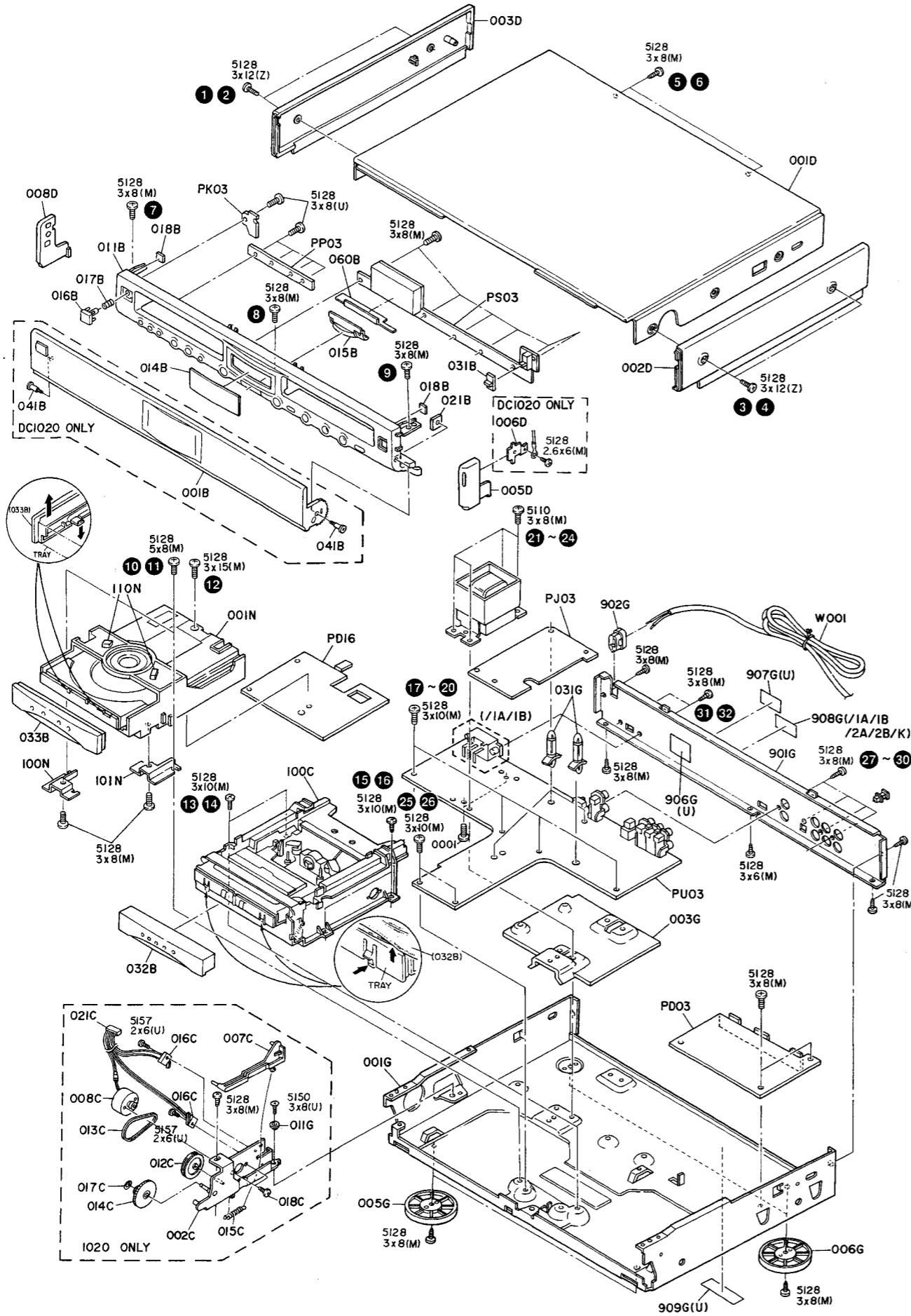
INTERNAL CONNECTION



	8G	7G	6G	5G	4G	3G	2G	1G
P1	CD	a	a	a	a	a	a	REM
P2	C	b	b	b	b	b	b	HI
P3	=	c	c	c	c	c	c	DUBB
P4	)	d	d	d	d	d	d	TAPE
P5	||	e	e	e	e	e	e	B
P6	▶	f	f	f	f	f	f	M
P7	TRACK	g	g	g	g	g	g	REC
P8	TOTAL	h	h	h	h	h	h	▶
P9	S.BY	i	i	i	i	i	i	||
P10	R	j	j	j	j	j	j	▶
P11	P	k	k	k	k	k	k	DOLBY
P12	L(←→)	l	l	l	l	l	l	B
P13	R(→)	m	m	m	m	m	m	C
P14	/	n	n	n	n	n	n	17
P15	1	4	7	8	11	13	15	18
P16	2	5	8	10	12	14	16	19
P17	3	6	.	.	.	.	.	20
P18	(1)	(2)	(3)	(4)	(5)	(6)	(7)	→
P18	(8)	(9)	(10)	(11)	(12)	(13)	(14)	→



5. 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)
001B	GREY	4822 454 21107	ESCUTCHEON, DOOR AL PANEL ASSY [DC1020]	294K063500
001B	PBLACK		ESCUTCHEON, DOOR AL PANEL ASSY (BLACK) [DC1020]	294K063510
011B	BLACK	4822 443 64297	FRONT PANEL ASSY [DC1010]	297K248500
011B	GREY	4822 443 64298	FRONT PANEL ASSY [DC1020]	294K248500
011B	PBLACK		FRONT PANEL ASSY (BLACK) [DC1020]	294K248510
014B			FL WINDOW [DC1010]	294K158110
014B			FL WINDOW [DC1020]	271K158010
015B			IR LENS	271K355010
016B			POWER BUTTON	157J270030
016B	PBLACK		POWER BUTTON (BLACK) [DC1020]	157J270230
017B			POWER BUTTON SPRING	271K115010
018B			MAGNET ASSY [DC1020]	271K305500
021B			NUT [DC1020]	446T011010
031B	BLACK	4822 411 61992	SLIDE KNOB [DC1010]	294K154110
031B	GREY	4822 411 61993	SLIDE KNOB [DC1020]	294K154010
031B	PBLACK		SLIDE KNOB (BLACK) [DC1020]	294K154210
032B	BLACK	4822 454 21105	TRAY ESCUTCHEON FOR ACC [DC1010]	294K063110
032B	GREY	4822 454 21106	TRAY ESCUTCHEON FOR ACC [DC1020]	294K063010
032B	PBLACK		TRAY ESCUTCHEON FOR ACC (BLACK) [DC1020]	294K063110
033B	BLACK	4822 454 30499	TRAY ESCUTCHEON FOR CD [DC1010]	294K063120
033B	GREY	4822 454 30501	TRAY ESCUTCHEON FOR CD [DC1020]	294K063020
033B	PBLACK		TRAY ESCUTCHEON FOR CD (BLACK) [DC1020]	294K063220
041B			SCREW FOR THE DOOR S (ESD) NI [DC1020]	446T010020
060B			INSULATOR ESD	294K120020
001C		4822 522 33389	GEAR ASSY [DC1020]	446T058500
007C		4822 404 21283	LEVER [DC1020]	446T354010
008C		4822 361 21687	D.C.MOTOR ASSY [DC1020]	*MM000630R
012C		4822 528 40363	PULLEY [DC1020]	446T262020
013C		4822 358 31264	BELT [DC1020]	446T264010
014C		4822 522 33388	GEAR [DC1020]	446T058010
015C		4822 492 33411	SPRING [DC1020]	446T115010
016C		4822 271 30768	LEAF SW [DC1020]	SM01011530
017C		4822 462 71954	STOPPER WASHER [DC1020]	204K114210
018C		4822 502 21381	P.H.M. SCREW M1.7 x 2 [DC1020]	51821702U0
000C			TRAY LOADER ASSY	446T163500
001D	BLACK		LID, TOP COVER [DC1010]	157J257110
001D	GREY		LID, TOP COVER [DC1020]	157J257010
001D	PBLACK		LID, TOP COVER (BLACK) [DC1020]	157J257120
002D	BLACK	4822 443 41304	SIDE PANEL (R) [DC1010]	157J249110
002D	GREY	4822 426 30156	SIDE PANEL (R) [DC1020]	157J249010
002D	PBLACK		SIDE PANEL (R) (BLACK) [DC1020]	157J249210
003D	BLACK	4822 443 41305	SIDE PANEL (L) [DC1010]	157J249120
003D	GREY	4822 426 30157	SIDE PANEL (L) [DC1020]	157J249020
003D	PBLACK		SIDE PANEL (L) (BLACK) [DC1020]	157J249220
005D	BLACK	4822 532 21483	BUSHING (R) [DC1010]	206J259010
005D	GREY	4822 532 12253	BUSHING (R) [DC1020]	157J259010
005D	PBLACK		BUSHING (R) (BLACK) [DC1020]	157J259210
006D		4822 281 50181	TOUCH CONTACTOR [DC1020]	157J123010
008D	BLACK	4822 532 21484	BUSHING (L) [DC1010]	206J259020
008D	GREY	4822 532 12254	BUSHING (L) [DC1020]	157J259020
008D	PBLACK		BUSHING (L) (BLACK) [DC1020]	157J259220
005G		4822 462 42067	LEG, FRONT [DC1010]	271K057050
005G		4822 462 42068	LEG, FRONT [DC1020]	271K057110
006G		4822 462 42066	LEG, REAR [DC1010]	271K057020
006G		4822 462 42069	LEG, REAR [DC1020]	271K057120
011G			COLLAR [DC1020]	446T055010
020G			B.H. TAP. SCREW	51280306M0
031G			SCREW FOR R-PANEL BOTTOM CENT	153J101010
901G	F		SUPPORT FOR PRO/DOLBY PCB	294K250040
902G	F/K/1	4822 532 61184	REAR PANEL (F)	085J259010
902G	U/2	4822 532 60948	BUSHING	450H259010
001N		4822 691 30353	MECHANISM, CD LOADER ASSY	305K304510
▲W001	/2	4822 321 10985	A.C.POWER CORD	YC01800610
▲W001	F/K/1		A.C.POWER CORD	YC01900160
▲W001	U		A.C.POWER CORD	YC02000540

POS. NO.	VERS. COLOR	PART NO. (For EUROPE)	DESCRIPTION	PART NO. (For U/K/F)
001S	F		PACKING	294K801010
002S	F		PACKING CASE [DC1020]	157J809010
003S	F		CUSHION (L SIDE)	157J809020
001T	F		CUSHION (R SIDE)	
001T	F		USER MANUAL [DC1020] (F)	294K851110
001T	U		USER MANUAL [DC1020] (U)	294K851250
001T	K/1/2	4822 736 22228	USER MANUAL [DC1010/1020]	294K851310
007T	F		MZ-EUR	
007T	F		WARRANTY CARD JAPAN	9631000150
J011	K/1	4822 265 10092	JACK AC ADAPTER, SMK S-I6116	YJ04001240
W011		4822 321 21438	CONNECTIVE CORD, RCA ST IM	ZD01000330
W012		4822 218 30797	UNIT K, REMOTE COMMANDER RC1020DC	ZK294K0010
W013	F		BATTERY SUM-3NG-2P	ZF23102000
W014		4822 321 62012	CONNECTIVE CORD, RCA	ZD00900100

DISASSEMBLY

1. REMOVING THE TOP COVER AND SIDE PANEL

Remove the screws 1 ~ 6.

2. REMOVING THE FRONT PANEL

Remove the screws 7 ~ 9.

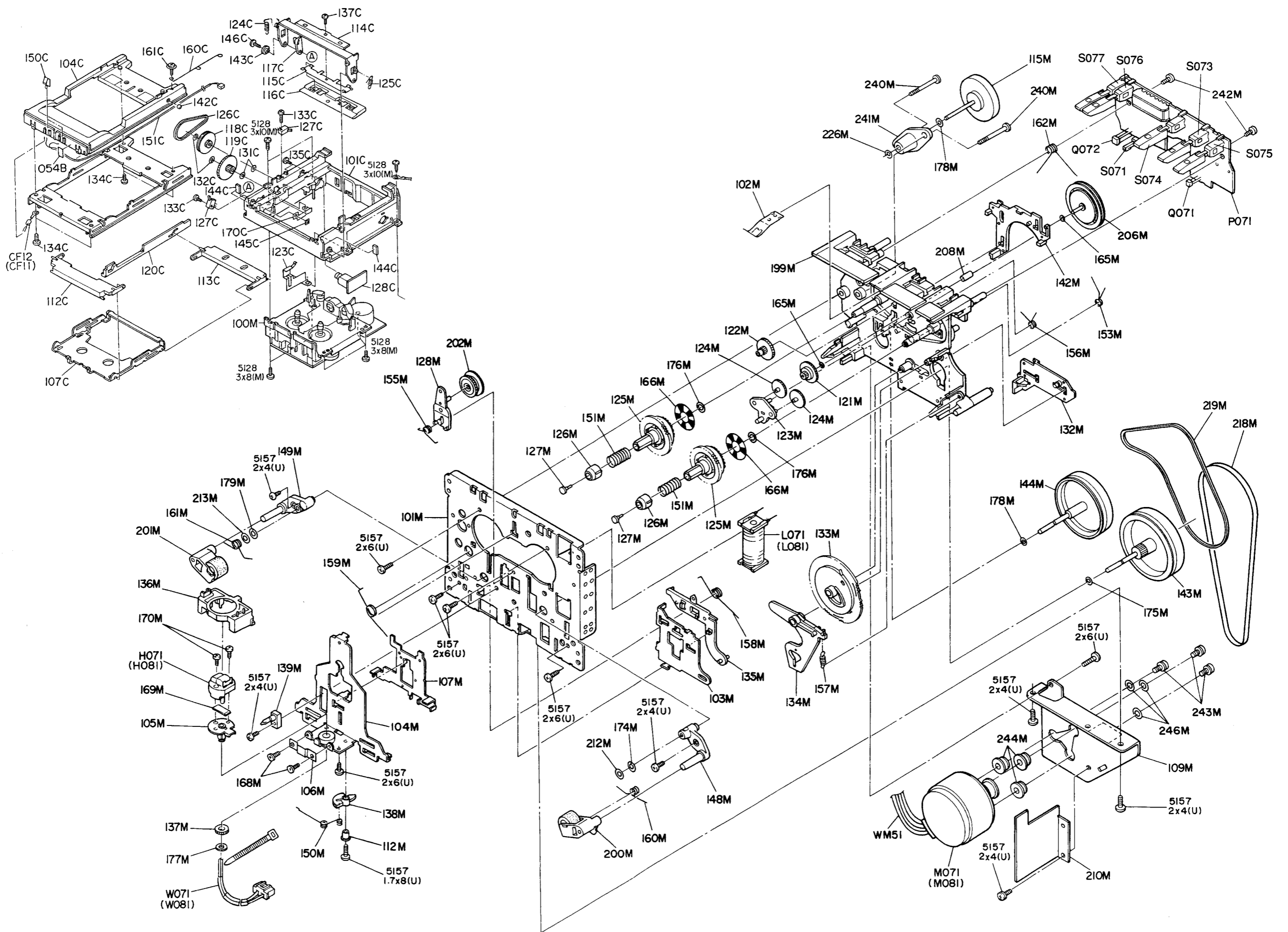
3. REMOVING THE MECHANISM

1) While opening the cassette tray and remove the tray escutcheon (032B) by disengaging two hooks at the bottom side of tray escutcheon.

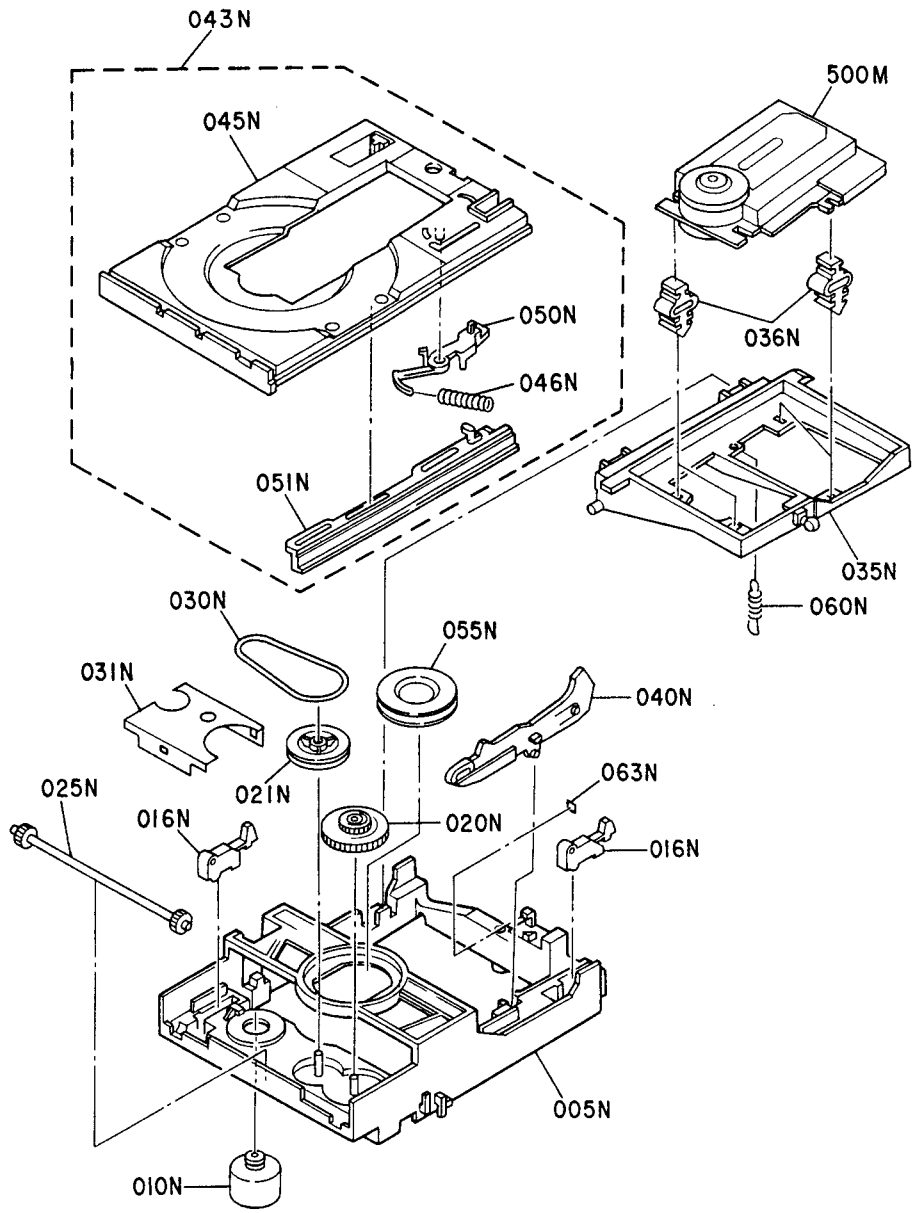
Close the cassette tray, then remove the screws 10 ~ 12.

2) While opening the CD tray and remove the tray escutcheon (033B) by disengaging two hooks at the bottom side of tray escutcheon.

Close the CD tray, then remove the screws 13 ~ 16.



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)
101C		4822 464 50987	FRAME ASSY	446T401500	179M		4822 532 52477	WASHER, POLYSLIDER	435T012150
104C		4822 443 64033	TRAY	446T163210	191M			P. TAPT. SCREW	51570204U0
105C		4822 464 51063	CHASSIS	446T105210	193M			TAPPING SCREW	435T010130
107C		4822 256 92106	HOLDER ASSY	446T271500	194M			TAPPING SCREW	435T010140
112C		4822 403 70979	ARM	446T002210	199M		4822 464 50992	CHASSIS, MECHA BASE ASSY	446T105500
113C		4822 403 70981	ARM	446T002220	200M		4822 403 70686	ARM, PINCH ROLLER (R) ASSY	435T002500
114C		4822 403 70982	ARM)	446T002230	201M		4822 403 70687	ARM, PINCH ROLLER (L) ASSY	435T002510
115C		4822 532 40229	RETAINER	446T104210	202M		4822 522 33286	PLAY GEAR ASSY	435T058500
116C		4822 401 11505	CLAMPER, PLATE	446T005240	206M		4822 528 20754	CLUTCH ASSY	435T061500
117C		4822 403 70983	ARM	446T002240	212M			NYLON WASHER	446T012120
118C		4822 528 50363	PULLEY	446T262210	213M			NYLON WASHER	446T012130
119C		4822 522 33397	GEAR	446T058210	218M		4822 358 31269	BELT, DRIVE (HA)	446T264110
120C		4822 522 33398	GEAR	446T058220	219M		4822 358 31271	BELT, DRIVE (HB)	446T264120
123C			CLAMPER, PLATE	446T005250	226M		4822 532 52469	WASHER	426T012120
124C		4822 492 71413	SPRING (01ST20100100)	446T115210	240M			TAP TITE SCREW	446T010110
125C		4822 492 71414	SPRING	446T115220	241M			HOUSING	446T280120
126C		4822 358 31268	BELT	446T264210	242M		4822 502 30734	TAPPING SCREW	446T010120
127C		4822 277 21716	SLIDE SWITCH	*SS000360R	243M			SEMS SCREW	446T010130
128C		4822 361 21669	D.C.MOTOR ASSY	*MM000610R	244M			MOTOR WASHER	446T012110
131C			WASHER	446T012210	246M			WASHER	446T012140
132C		4822 462 71954	STOPPER WASHER	204K114210	H071		4822 249 10469	PLAYBACK HEAD	*LH500020R
133C		4822 502 21449	SCREW	446T010210	L071		4822 281 50172	SOLENOID COIL ASSY	*ME100080R
134C			SCREW	446T010220	M071		4822 361 21671	D.C.MOTOR ASSY	*MM000620R
135C		4822 502 21451	SCREW	446T010230					
137C		4822 502 21453	SCREW	446T010250					
142C			BALL	61050010T0					
143C		4822 532 21487	BUSHING	446T259210	Q071		4822 130 82364	PHOTO UNIT	*HW100020R
145C			NUT	446T011210	Q072		4822 130 82364	PHOTO UNIT	*HW100020R
146C			SCREW	446T010260					
170C			CLAMPER GROUND PLATE	446T005260	S071		4822 271 30781	MINI SW, LEAF SW	*SM000250R
100M			MECHA ASSY, DECK NMZ-9601H	446T304500	S073				
101M		4822 464 50917	CHASSIS	435T105110	§		4822 271 30779	MINI SW, LEAF SW	*SM000240R
102M			LEAF SPRING	446T116110	S077				
104M		4822 464 50918	HEAD CHASSIS ASSY	435T105120					
105M		4822 462 10524	HEAD PLATE ASSY	435T128110					
106M		4822 492 71166	LEAF SPRING AZIMUTH	435T116120					
115M		4822 528 90875	IDLER PULLEY ASSY	446T001110					
121M		4822 522 33278	GEAR, CLUTCH	435T058110					
122M		4822 522 33279	GEAR, REW	435T058120					
123M		4822 403 70682	ARM, FR	435T002110					
124M		4822 522 33281	GEAR, FR	435T058130					
125M		4822 522 33282	GEAR, REEL	435T058140					
126M		4822 462 71856	CAP. REEL (A)	435T067110					
127M		4822 532 21462	BUSHING, REEL (B)	435T259110					
128M		4822 403 70683	PLAY ARM	435T002120					
133M		4822 522 33283	GEAR, PLAY CAM	435T058160					
134M		4822 403 70684	TRIGGER ARM	435T002130					
135M		4822 403 70685	SELECT ARM	435T002140					
136M		4822 528 81477	GUIDE, TAPE	435T051110					
137M		4822 522 33284	GEAR, ROTATION	435T058170					
138M		4822 522 33285	GEAR, RETURN	435T058180					
139M		4822 403 70688	GUIDE, CASSETTE	435T051120					
140M		4822 403 70986	P ROLLER ARM (R)	435T002150					
141M		4822 403 70987	P ROLLER ARM (L)	435T002160					
142M		4822 403 10304	ARM, BRAKE	435T002170					
143M		4822 528 60414	FLYWHEEL (RDH)	446T273110					
144M		4822 528 60415	FLYWHEEL (LDH)	446T273120					
150M		4822 492 71149	SPRING, RETURN	435T115110					
151M		4822 492 71151	SPRING, REEL	435T115120					
153M		4822 492 71153	SPRING, CLUTCH ARM	435T115140					
157M		4822 492 71157	SPRING, TRIGGER ARM	435T115180					
158M		4822 492 71417	SPRING, SHIFT	446T115120					
159M		4822 492 71418	SPRING, HEAD CHASSIS	446T115130					
160M		4822 492 71161	SPRING, P ROLLER (R)	435T115210					
161M		4822 492 71162	SPRING, P ROLLER (L)	435T115220					
162M		4822 492 71163	SPRING, BRAKE ARM	435T115230					
165M		4822 532 52473	WASHER, POLYSLIDER	435T012110					
166M		4822 466 62425	SEAL, REFLECT	446T108110					
168M		4822 502 21222	SCREW, AZIMUTH	435T010110					
169M		4822 401 11508	CLAMPER, HEAD WIRE	435T005110					
170M		4822 502 21223	SCREW, HEAD (RVS)	435T010120					
174M		4822 532 52474	WASHER, POLYSLIDER	435T012120					
175M		4822 532 52475	WASHER, POLYSLIDER	435T012130					
176M		4822 532 52471	WASHER, TEFRON	427T012110					
177M		4822 532 52476	WASHER, POLYSLIDER	435T012140					
178M		4822 532 52472	WASHER, POLYSLIDER	427T012120					



[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)
500M (CDM)		4822 691 30352	MECHANISM, CDM12.1N2T	294K304500
005N			FRAME KIT	305K401500
010N		4822 361 21741	D.C.MOTOR	MM0030002R
016N		4822 271 30853	MINI SWITCH	SM01020620
020N		4822 522 33521	GEAR	305K058030
021N		4822 528 81537	PULLY	305K262010
025N		4822 522 33522	GEAR KIT	305K058500
030N		4822 358 31314	BELT	305K264010
035N		4822 443 51265	CASE	305K064110
036N			BUFFER SUSPENSION	305K056010
040N		4822 403 71209	ARM	305K002010
043N		4822 444 50732	CASE, CD TRAY ASSY	305K064500
045N			CASE, CD TRAY	305K064010
046N			SPRING	305K115010
050N			CAM	305K054010
051N			GEAR	305K058010
055N		4822 401 11553	CLAMPER KIT	305K005500
060N			SPRING	305K115020

◆ サービス時に必要な試験機材

● 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 (AF OSC)
- アッテネータ (600Ω)
- VTVM
- 歪率計
- 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-224 (Normal) AC-712 (Metal)
AC-513 (CrO₂)

注意:

もし測定値が疑わしい場合は新しいテープを使用してください。

○ テストテープ

- TCC-112・MTT-111.....ワウ・フラッタ
テープスピード
- TCC-140・MTT-112B.....S/N比
- TCC-130・MTT-150.....出力レベル測定
- TCC-161・MTT-256.....周波数特性測定 (Normal用)
- TCC-261・MTT-356.....周波数特性測定 (CrO₂/Metal用)
- TCC-192・MTT-121.....クロストーク
- TCC-194・MTT-141.....チャンネルセパレーション
- TCC-174A・MTT-255M.....アジマス調整
(A-BEX)・(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

● 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してください。
- 2) テストテープはトランス内蔵の計測器やイレーサーのすぐ近くには置かないでください。
- 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ってください。
- 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してください。
- 5) 調整用半固定抵抗及び可変コイル等は、極力最小の回転/回数で調整してください。
- 6) スピード、ワウ等は、セットの通常の姿勢で調整/チェックしてください。
- 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してください。
- 8) AC電源電圧、オーディオ発振器電圧等は、1日2～3回規定どうりかチェックしてください。

6. TEST EQUIPMENT REQUIRED FOR SERVICING

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

- Audio Oscillator (AF OSC)
- Attenuator (600Ω)
- VTVM
- Distortion Meter
- Oscilloscope
- Wow and Flutter Meter
- Torque Meter (Cassette Type)
- Digital Frequency Counter
- Blank Tapes (Completely erased with bulk eraser)
AC-224 (Normal)
AC-513 (CrO₂)
AC-712 (Metal)

NOTE:

If any doubt is noted in a measured value, use new tape.

- Test Tape
TCC-112・MTT-111 Wow and Flutter, Tape Speed
TCC-140・MTT-112B Signal-to-Noise Ratio
TCC-130・MTT-150 Level Adjustment
TCC-161・MTT-256 Frequency Response
(for Normal)
TCC-261・MTT-356 Frequency Response
(for CrO₂ and Metal)
TCC-192・MTT-121 Cross Talk
TCC-194・MTT-141 Channel Separation
TCC-174A・MTT-255M Azimuth adjustment
(A-BEX)・(TEAC)
- Mirror cassette 12μm padless
TCC-902・MTT-902 Tape travel check
- Head and guide gauge (M-300)
THG-801

7. ELECTRICAL ADJUSTMENTS

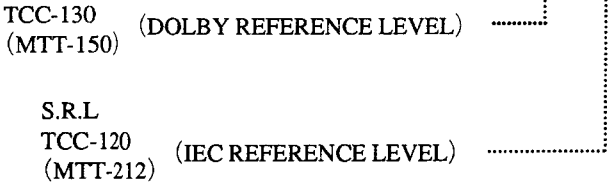
(A) Remark for adjustment

- 1) Test Tapes damp easily. Erase magnetism of heads and capstans, etc. completely with head erasers before using them.
- 2) Keep away from measuring instruments have transformer inside and tape eraser.
- 3) The method of magnetism erase: turn the head eraser on a little away from the sets. Then, close heads and capstans and move up and down 4 - 5 times. Turn them off after making distance slowly.
- 4) Tools you are going to use should not be magnetized. Erase magnetic them by bulk eraser sometimes.
- 5) Adjust semi-fixed resistor for adjustment and variable coil, etc. spin and the number of times as less as possible.
- 6) Adjust and check SPEED and WOW, etc. by normal sets condition.
- 7) A little bond lock and pay attention to sticking around and flowing.
- 8) Check AC voltage input and audio Oscillator output voltage 2 - 3 times per day to operate as normal.

●基準録音レベル (S.R.L)

1. 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、記録レベルとメータスケール及びテストテープの関係は以下のとおりです。

・開回路磁束 (nWb/m)	.....160	185	200	220	250
*当社標準メータスケール	.....-4	-3	-2	-1	0dB
・閉回路磁束 (nWb/m)		160	185	200	



注意:

(1) 開回路磁束=閉回路磁束+漏洩磁束

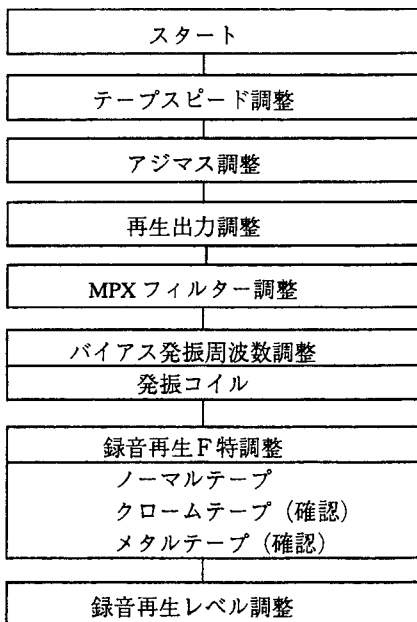
2. セットでは通常ドルビーレベルを基準としているので、以下のようになります。

- 1) LINE入力に1 KHz、100mVの信号を加え録音状態とします。
- 2) REC LEVEL (リモコン)を調整し、ドルビーポイント L) T601, R) T602でのレベルが300mVとなるようにします。
- 3) この状態から入力レベルを-4dBとした(アッテネータで4dB下げる)状態がすなわち、動作録音レベル(O.R.L)での録音状態です。

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ります。

●調整フローチャート



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

1. S.R.L (Standard Recording Level) which is 250nWb/m on a tape by* OPEN CIRCUIT MAGNETIC FLUX. The relationship among recording level, meter scale and test tape are as follows:

• OPEN CIRCUIT MAGNETIC FLUX (nWb/m)	160	185	200	220	250
• OUR STANDARD METER SCALE	-4	-3	-2	-1	0 dB
• CLOSED CIRCUIT MAGNETIC FLUX (nWb/m)	**	160	185	200	*** ****

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

(**): O.R.L

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

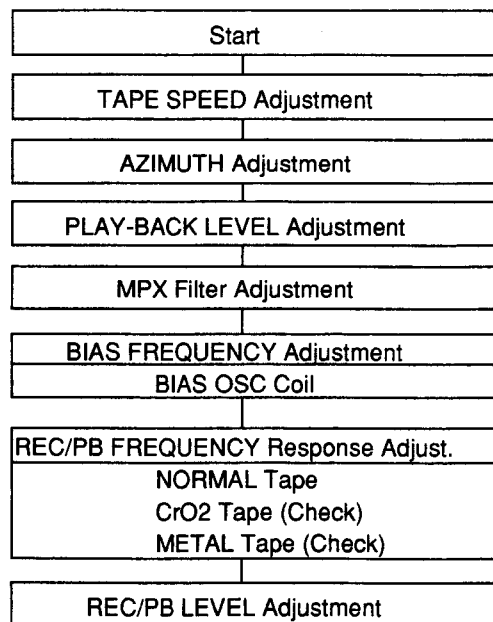
(****): S.R.L TCC-120 (IEC REFERENCE LEVEL) (MTT-212)

2. S.R.L Setting As for sets, DOLBY LEVEL is usually standard, it will be as follows:

- 1) Recording condition is to add 1 kHz, 100 mV signals on LINE INPUT.
- 2) Adjust REC LEVEL (REMOTE CONTROL UNIT) and should be 300 mV at DOLBY test points L/T601, R/T602.
- 3) From this condition, input level is -4 dB (4 dB down by attenuator). It is the recording condition at OPERATION RECORDING LEVEL. (O.R.L)

(Note) Depending on measurement items, playing standard level changes a lot. Recording level of specified test tape decides the standard level.

(C) Adjustment Flow Chart



●テープスピード調整

- 1) ハイスピードでは基板PU03上のスイッチTM51を押しながら半固定抵抗RM51を調整して6000Hz (5980 ~ 6020Hz)になるようにします。
- 2) 次に、ノーマルスピードでテープ(TCC-112)の中間を再生し、基板PU03上の調整用半固定抵抗RM53を調整して、3000Hz (2990 ~ 3010Hz)になるように調整します。
- 3) 設定後、再度再生して範囲内のことを確認します。

注意：

1. 据置き姿勢で調整してください。
2. メカニズムが常温と大きく異なる温度状態では、調整しないでください。

●ヘッドアジマス調整／再生F特調整

- 1) F特テープを再生し、12.5KHzの信号で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ます。
- 2) L/Rピーク点が違う場合は、低いチャンネルを最大にし、L/Rのバランスを取ります。
- 3) 調整ビスをボンドロックします。
- 4) 次に、315Hzの信号を0dBとし、12.5KHzの信号のレベルを読みます。無調整タイプのセットの場合は異常な値でないことを確認します。

7.1 TAPE SPEED ADJUSTMENT

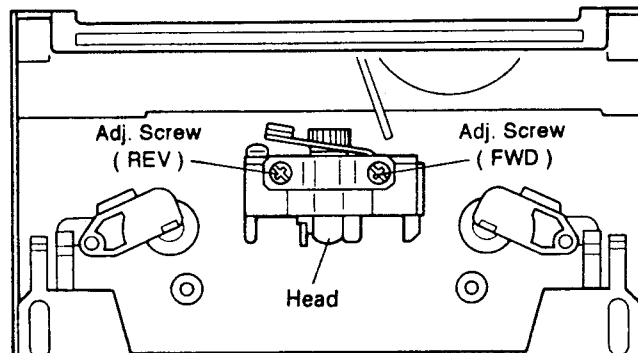
- 1) Pushing the switch TM51 and adjust semi-fixed resistor RM51 on the PCB (PU03) and to be 6000 Hz (5980 - 6020 Hz).
- 2) Next, play the middle of the tape in normal speed and adjust semi-fixed resistor RM53 on the PCB (PU03) and to be 3000 Hz (2990 - 3010 Hz).
- 3) After the set-up, play it again and check within range.

Remarks:

- 1) Carry them out the set condition.
- 2) Do not test the mechanism when the condition has a big difference of normal temperature.

7.2 HEAD AZIMUTH ADJUSTMENT AND PLAY-BACK FREQUENCY RESPONSE ADJUSTMENT (OR CHECK)

- 1) Play the frequency response tape and screw the AZIMUTH adjust screw at 12.5 kHz signal. Then, set output maximum to the screwed-up direction.
- 2) In case L/R peak point is difference, turn the lower channel maximum, keep the L/R balance.
- 3) Bondlock adjust screw.
- 4) Next, 315 Hz signal should be 0 dB and read 12.5 kHz signal level. In case the set is non-adjustment type, check the value whether it is normal.



●再生出力調整

- 1) ドルビーレベルテストテープを再生し、基板PD03上のテストポイントL) T601, R) T602で、基板PD03上の調整用半固定抵抗L) RJ13, R) RJ16を調整し、それぞれ出力電圧を300mVに合わせる。
- 2) 調整後再度再生し、再確認する。

注意：

1. 再生出力が変動する場合はテープ走行の不良、又はテストテープの不良が考えられるのでチェックしてください。

●MPX フィルター周波数調整

- 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1 KHzの時のレベルを0dBとします。
- 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(DOLBY NR ON)が「ON」の状態レベルが最小となるよう、基板PD03上のMPXコイルL) L601, R) L602を調整する。

*この調整は、チェッカーで行なうことが好ましい。

注意：

1. 通常は、-40dB以下となります。

7.3 PLAY-BACK LEVEL ADJUSTMENT

- 1) Play the DOLBY test tape, adjust semi-fixed resistor for adjustment L/RJ13, R/RJ16 on the PCB (PD03) at test point L/T601, R/T602 on the PCB (PD03). Then, set output voltage to 300 mV each of them.
- 2) After adjustment, replay and check it again.

Remark:

- 1) In case of drifting replay output, check the tape running and the test tape because it might be defective.

7.4 MPX FILTER ADJUSTMENT

- 1) Should be recording monitor by DOLBY LEVEL. Input signal level is 0 dB at 1 kHz.
- 2) Input signal frequency is 19 kHz (within ±10Hz). Adjust MPX coil L/L601, R/L602 on the PCB (PD03). Then MPX-F switch should be "ON" and the level is minimum.

Remark:

- 1) It is under -40 dB as usual.

●録音バイアス周波数及びHX コイル共振調整

- 1) 「METAL」ポジションで録音状態とします。
- 2) 基板PJ03上のテストポイントJJ01に10PFのコンデンサを介して測定器に接続します。(周波数カウンター及びオシロスコープ)
- 3) バイアス発振周波数を105KHzとなるよう基板PJ03上の発振コイルLL01を調整します。
- 4) 次にHXコイルL) L901, R) L902を調整し、テストポイントTL01(L, R)出力の最小点に合わせます。

●録音再生F特調整

- 1) 基準録音レベルから入力レベルを更に-25dB減じ、1KHzと12.5KHzの信号をDOLBY-Cポジションで録音します。(NORMALテープ/ACC224)
- 2) 巻き戻し再生し、1KHzと12.5KHzの信号のレベル差が0~+1.0dBとなるよう、基板PJ03上の調整用半固定抵抗L) R901, R) R902を調整します。
- 3) CrO₂、METALでは確認のみを行いません。

●録音再生レベル調整

- 1) NORMALテープ/ACC224にて動作録音状態とし、モニターレベルを0dBとします。
- 2) 巻き戻し再生し、1KHzのレベルが±0.5dB以内となるよう、PD03基板上の調整用半固定抵抗L) RK01, R) RK02を調整します。
- 3) CrO₂、METALでは1KHzで±1dB以内であることの確認のみを行いません。

7.5 RECORDING BIAS FREQUENCY AND HX COIL ADJUSTMENT

- 1) Operate to REC mode at METAL position.
- 2) High impedance through test point JJ01 on the PCB (PJ03) and connect to measurement. (FREQUENCY COUNTER and OSCILLOSCOPE through AUDIO VOLT METER)
- 3) Adjust a bias-oscillated coil LL01 on the PCB (PJ03) to be 105 kHz bias-oscillated frequency.
- 4) Then, adjust HX coil L/L901, R/L902 to minimum the output at test point TL01 (L/R).

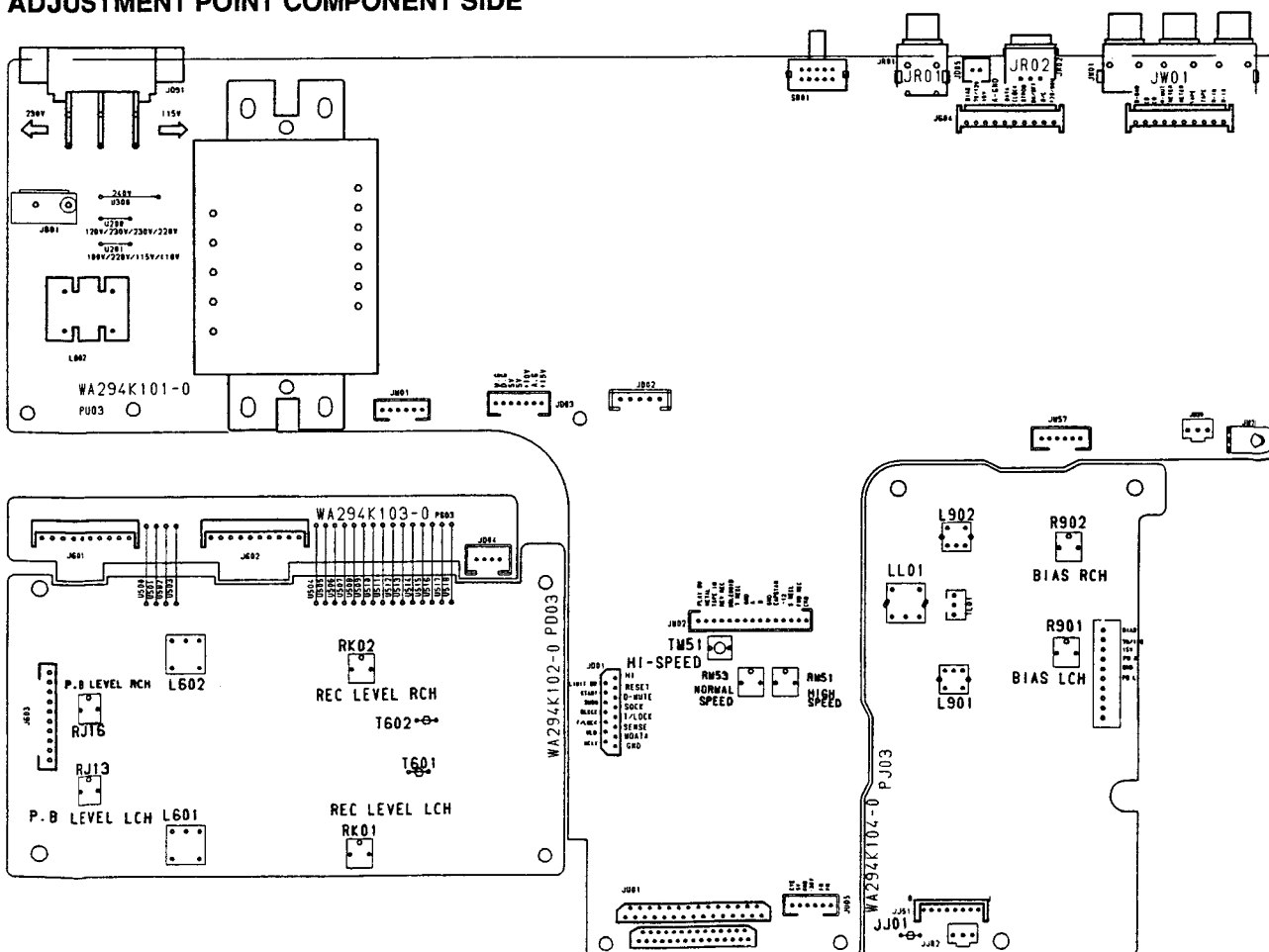
7.6 REC/PLAY-BACK FREQUENCY RESPONSE ADJUSTMENT

- 1) Decrease -25 dB INPUT LEVEL from S.R.L setting. Record 1 kHz and 12.5 kHz signals at DOLBY-C position. (NORMAL tape/position)
- 2) Adjust semi-fixed resistor L/R901, R/R902 on the PCB (PJ03) that the level of differences 1 kHz and 1.25 kHz should be 0 ~ +1.0 dB.
- 3) Only check CrO₂ and METAL tapes/positions.

7.7 REC/PLAY-BACK LEVEL ADJUSTMENT

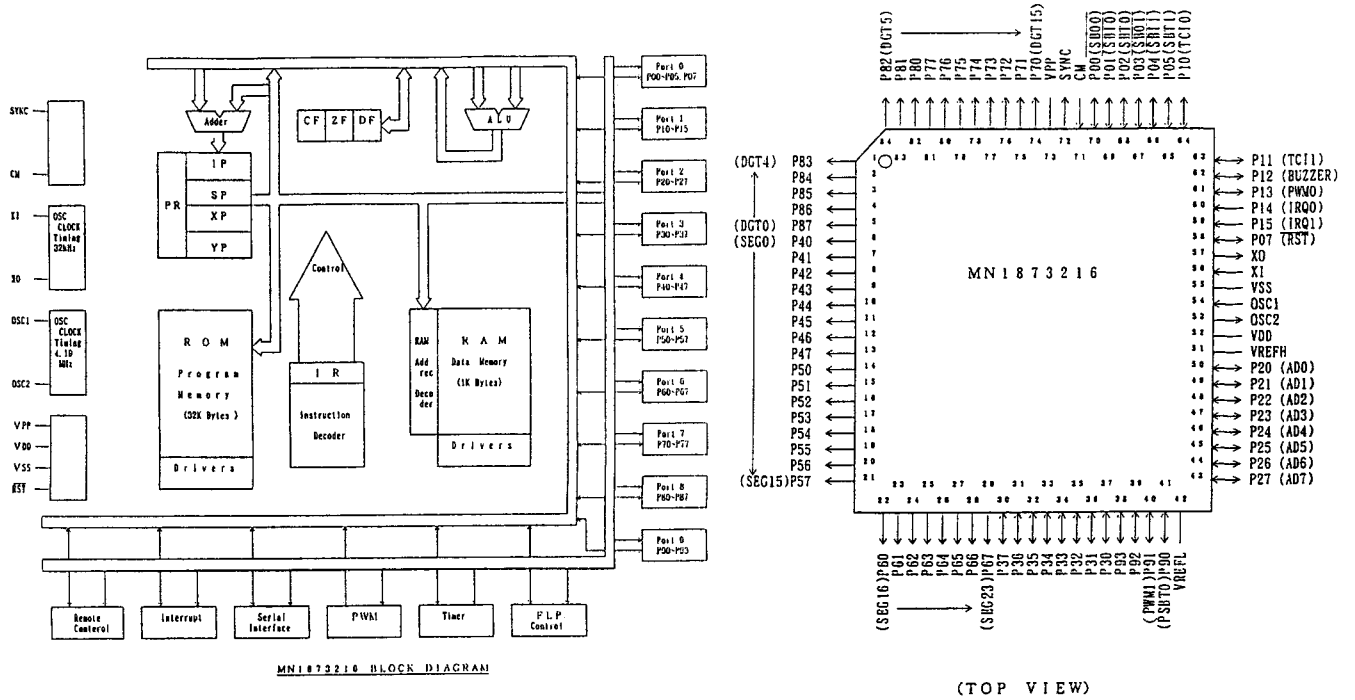
- 1) By NORMAL tape/position, set O.R.L setting and set monitor level scale 0 dB.
- 2) Do REWIND and PLAY it and adjust semi-fixed resistor L/RK01, R/RK02 on the PCB (PD03) to be 1 kHz level within ±0.5 dB.
- 3) Only check CrO₂ and METAL tapes/positions. In these case, to be 1 kHz level within ±1.0 dB.

ADJUSTMENT POINT COMPONENT SIDE



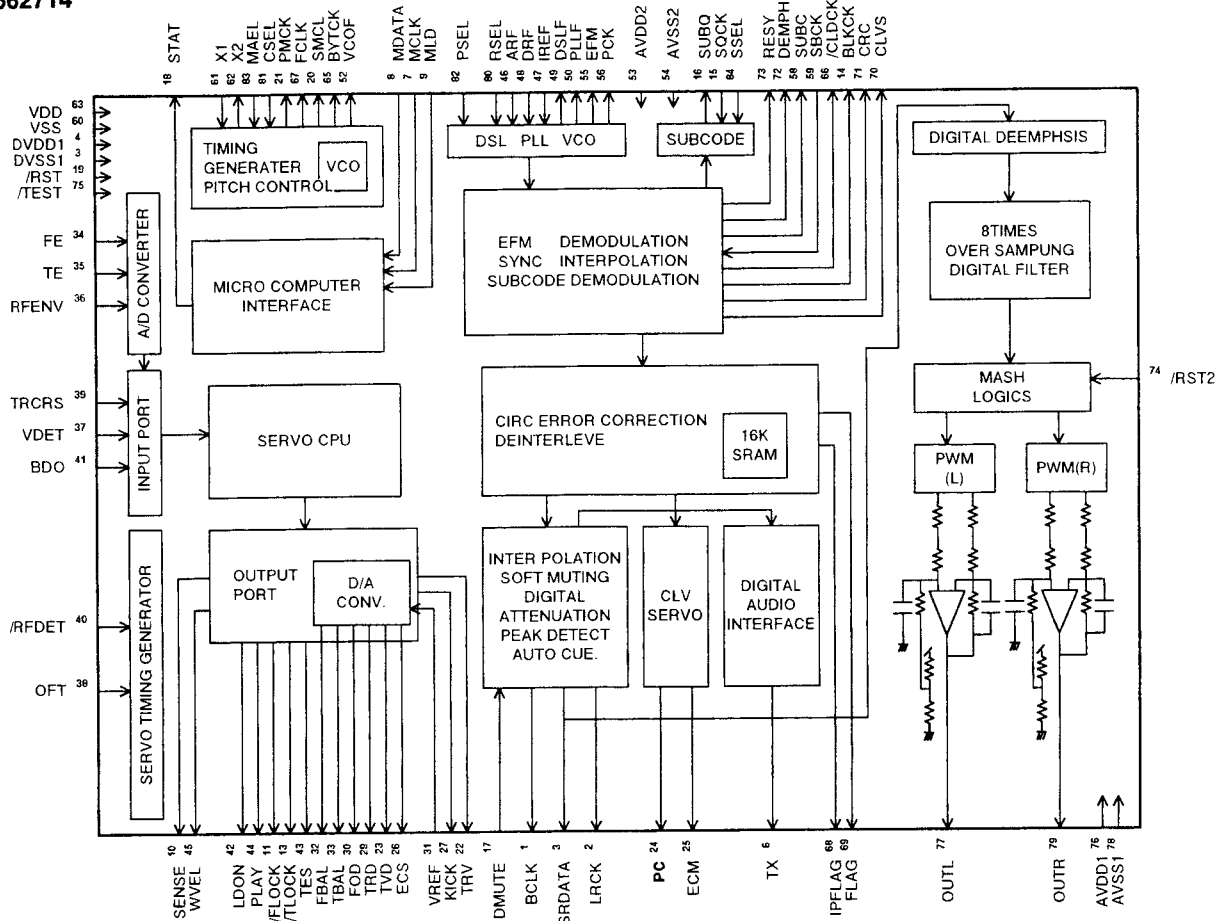
8. MICRO-PROCESSOR DATA AND IC DATA

MN1873216 (MICROPROCESSOR)

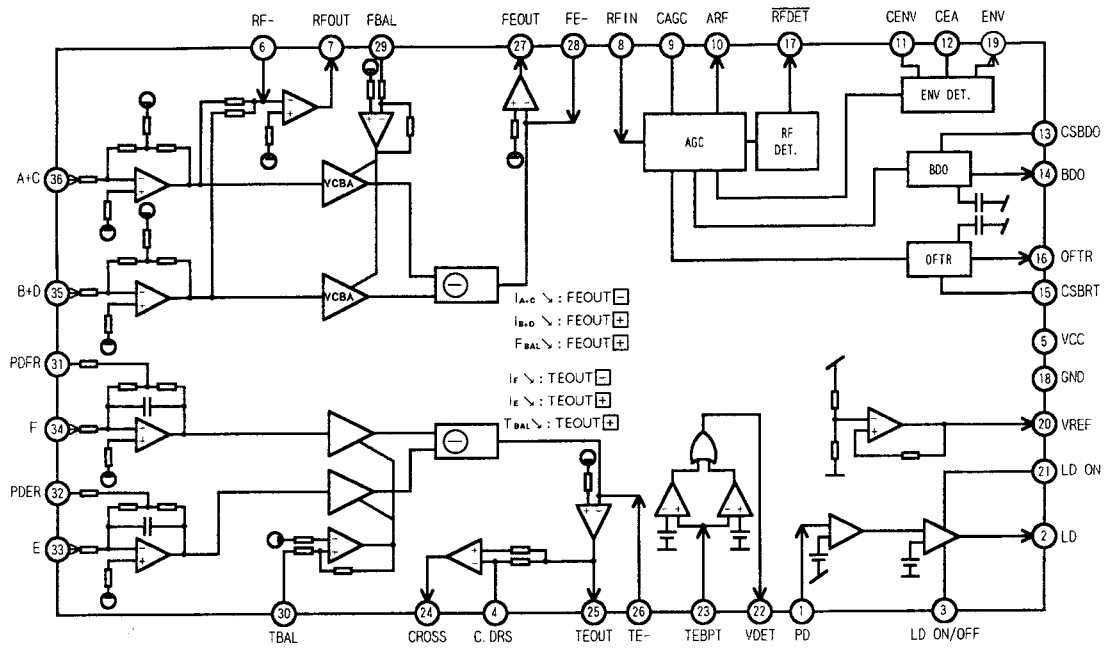


PIN NO.	PORT NAME	I/O	ACT	FUNCTION	PIN NO.	PORT NAME	I/O	ACT	FUNCTION	
1	P83	D4(G5)		FL DISPLAY DIGIT DRIVE	43	AD7	DOOR SW /MODE-CHK	I	DC	OPEN:2.3V CLOSE:3.4V OTHER:0V /DC1020
2	P84	D3(G4)			44	AD6	TAPE TRAY SW	I	DC	OPEN:2.3V CLOSE:3.4V OTHER:0V
3	P85	D2(G3)	O		45	AD5	CD TRAY SW	I	DC	OPEN:2.3V CLOSE:3.4V OTHER:0V
4	P86	D1(G2)			46	AD4	TAPE SELECT	I	DC	METAL:5V Cr2:3.0VNORMAL:1.9V
5	P87	D0(G1)		47	AD3	KEY B	I	DC	KEY SW	
6	P40	S0(P1)		48	AD2	KEY A	I	DC	KEY SW	
7	P41	S1(P2)		49	AD1	METER R	I	DC	LEVEL METER R CH	
8	P42	S2(P3)		50	AD0	METER L	I	DC	LEVEL METER L CH	
9	P43	S3(P4)		51	VREF H	AV REF H	-	-	AD CONVERTER REFERENCE VOLTAGE+5V	
10	P44	S4(P5)		52	VDD	VDD	-	-	VDD +5V	
11	P45	S5(P6)		53	OSC2	OSC2	-	-	MAIN CLOCK 8.38MHZ	
12	P46	S6(P7)		54	OSC1	OSC1	-	-	MAIN CLOCK 8.38MHZ	
13	P47	S7(P8)		55	VSS	VSS	-	-	VSS GND	
14	P50	S8(P9)		56	XI	XI	-	-	N.C.	
15	P51	S9(P10)	O	57	XO	XO	-	-	N.C.	
16	P52	S10(P11)		58	RES	RESET	I	L	μ - PROCESSOR RESET	
17	P53	S11(P12)		59	IRQ1	REMOTE IN	I	L	REMOTE INPUT	
18	P54	S12(P13)		60	IRQ0	BLK CK	I	H	SUB CODE BLOCK CLOCK SIGNAL	
19	P55	S13(P14)		61	P13	STAND BY	O	H	HIGH:STAND BY ON LOW:STAND BY OFF	
20	P56	S14(P15)		62	P12	CD MUTE	O	H	HIGH:MUTE ON LOW:MUTE OFF	
21	P57	S15(P16)		63	P11	REMOTE OUT	O	L	REMOTE OUTPUT	
22	P60	S16(P17)		64	P10	MLD	O	L	COMMAND LOAD SIGNAL LOW:LOAD	
23	P61	S17(P18)		65	P05	MCLK	O	P	COMMAND CLOCK SIGNAL	
24	P62	S18(P19)		66	P04	SYSTEM SW	I	L	SYSTEM INPUT LOW:SYSTEM	
25	P63	CD HI SPEED	O	L	67	P03	MDATA	O	P	COMMAND DATA OUTPUT
26	P64	DATA	O	P	68	P02	SOCK	O	P	SUB CODE O RESISTER CLOCK
27	P65	CLOCK	O	P	69	P01	SUBO	I	P	SUB CODE O CODE INPUT
28	P66	ENABLE 1	O	H	70	P00	LIMIT SW	I	L	LIMIT SW LOW:INSIDE
29	P67	ENABLE 2	O	H	71	CM	CM	-	-	N.C.
30	P37	PLAY SW	I	L	72	SYNC	SYNC	-	-	N.C.
31	P36	FWD REC	I	L	73	VPP	VPP	-	-	FL DRIVE VOLTAGE - 30V
32	P35	REV REC	I	L	74	P70	TAPE CLOSE	O	H	TAPE TRAY CLOSE
33	P34	DOOR OPEN/CLOSE	O	-	75	P71	TAPE OPEN	O	H	TAPE TRAY OPEN
34	P33	T - LOCK	I	L	76	P72	CD CLOSE	O	H	CD TRAY CLOSE
35	P32	F - LOCK	I	L	77	P73	CD OPEN	O	H	CD TRAY OPEN
36	P31	STAT	I	P	78	P74	TAPE MUTE	O	L	LOW:TAPE MUTE ON HIGH:OFF
37	P30	POWER DOWN	I	L	79	P75	TAPE HI - SPEED	O	L	LOW:HI - SPEED HIGH:NORMAL - SPEED
38	P93	SENSE	I	P	80	P76	SOLENOID	O	H	SOLENOID DRIVE
39	P92	CD RESET	O	L	81	P77	CAPSTAN	O	H	CAPSTAN MOTOR DRIVE
40	P91	T - REEL	I	P	82	P80	D7(G8)			FL DISPLAY DIGIT DRIVE
41	P90	S - REEL	I	P	83	P81	D6(G7)			
42	VREFL	AVREF L	-	-	84	P82	D5(G6)			

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	μ - COM COMMAND CLOCK SIGNAL	49	DSLIF	I/O	LOOP FILTER FOR DSL
8	MDATA	I	μ - COM COMMAND DATA SIGNAL	50	PLLF	I/O	LOOP FILTER FOR PLL
9	MLD	I	μ - 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	TRAKING SERVO LOCK SIGNAL	55	EFM	O	EFM SIGNAL
14	BLKCK	O	SUB CODE BLOCK CLOCK SIGNAL	56	PCK	O	PLL CLOCK 4.321MHz
15	SOCK	I	SUB CODE Q RESISTER CLOCK	57	PDO	O	PHASE COMPARATOR FOREFM AND PCK
16	SUBO	O	SUB CODE Q 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	/CLOCK	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	TRAKING ERROR SIGNAL	77	OUTL	O	ANALOG L CH
36	RFENV	I	RF ENVELOP	78	AVSS1	I	GROUND FOR ANALOG(AUDIO)
37	VDET	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	PDFR	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	PBDB	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 x 370, Ceramic capacitor
 Disc type
 Temp.coeff.P350~N1000,50V
 ① — Resistance value
 ② — Capacity value
 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

② Capacity value
 100pF...101 1000pF...102 10000pF...103
 470pF...471 2200pF...222

C*** : ELECTROLY CAP. (⏏), FILM CAP. (⏏)

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 Ω J	(± 5% 1/4W)
NH05 x x x 120	RF50S x x x x Ω J	(± 5% 1/2W)
NH85 x x x 110	RF73B2A x x x x Ω J	(± 5% 1/10W)
NH95 x x x 140	RF73B2E x x x x Ω J	(± 5% 1/4W)

* Resistance value 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 * 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.

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)
RL02		4822 050 23308	PJ03-RESISTORS 3.3Ω ±5%1/4W	GG05033140	R***		PS03-RESISTOR (COMMON) CARBON FILM FIXED RESISTOR, ±5% 1/6W: RU08, RU09, RU50, RU57-RU64		
▲RL03		4822 113 90119	FUSE 22Ω ±2% 1/4W	NFO2220140				PS03-SEMICONDUCTOR PHOTO UNIT IR RECIVER RPM-670C8R	HW10001210
R901		4822 100 11373	TRIMMING 4.7KΩ BIAS	RA04720780				PS03-MISCELLANOUES PLUG, 6P PLUG, 2P JACK, 1.0PITCH 29P	YP06006660 YP06006620 YJ07009470
R902		4822 100 11373	TRIMMING 4.7KΩ BIAS	RA04720780		QR03	4822 130 83519		
R***			PJ03-RESISTORS (COMMON) CARBON FILM FIXED RESISTOR, ±5% 1/6W: RJ01-RJ12, RJ20, RK13-RK17, RK80, RK81,RL01, RL04-RL06, RS01-RS03, R903-R907, U065, U192			JU02			
DS01		4822 130 33305	PJ03-SEMICONDUCTORS DIODE, 1SS176,MA165,1SS254 30V 0.1A	HD20002000		JU03			
QJ01		4822 209 62249	IC, DUAL PB-EQ AMP CXA1115BP	HC10022250		JU10			
QJ02		4822 130 61189	DIGITAL TRANSISTOR DTC114TS	BA20017210		SS01	4822 277 21767	SLIDE SWITCH,TIMER SW SSSF01 1-3	SS01030290
QK03		4822 130 61189	DIGITAL TRANSISTOR DTC114TS	BA20017210		SU57	4822 276 20508	PUSH SWITCH, TACT SWICH	SP01011280
QL01		4822 130 61886	TRANSISTOR 2SD1292 Q OR R	HT412922A0		SU59	4822 276 20508	PUSH SWITCH, TACT SWICH	SP01011280
QL02		4822 130 61886	TRANSISTOR 2SD1292 Q OR R	HT412922A0	S				
QL05		4822 130 60588	DIGITAL TRANSISTOR DTC114ES	BA20010210	SU64	4822 276 20508	PUSH SWITCH, TACT SWICH	SP01011280	
QS01		4822 209 61667	IC, HEAD SWITCH μPC1330HA	HC10206060	VU01	4822 130 91417	DISPLAY UNIT, FL F1P6CM5R	HQ30811060	
QS02		4822 130 60588	DIGITAL TRANSISTOR DTC114ES/UN4211	BA20001000	WU01		JUMPER LEAD 1.0PITCH SUMI CARD 29P 80MM	YU29080503	
Q901		4822 209 72874	IC, DOLBY HX-PRO μPC1297CA	HC10200060			PU03-POWER/μ-CON/MECHA DRIVE CIRCUIT BOARD		
JJ51			PJ03-MISCELLAEOUS JACK, 88B-PH-K-S 8P	YJ06006280	CD01	4822 122 40617	PU03-CAPACITORS CERAMIC 0.1 μF +80%-20% 50V	DD38104010	
LK01		4822 157 53521	CHOKE COIL TL-8 223J	LC22260710	CM20	DC1020 4822 124 90354	ELECT 100 μF 16V	OA10701620	
LK02		4822 157 53521	CHOKE COIL TL-8 223J	LC22260710	CM21	DC1020 4822 124 22571	ELECT 10 μF 50V	OA10605020	
LL01		4822 148 81358	OSC TRANSF. BIAS OSC COIL	TC101040410	CM22	DC1020 4822 124 22698	ELECT 47 μF 25V	OA47602520	
L901		4822 157 60436	OSC TRANSF. MX-PRO COIL 105KHZ	TC10100130	CM23	DC1020 4822 126 10408	CERAMIC 220PF ±10%	DA16221110	
L902		4822 157 60436	OSC TRANSF. HX-PRO COIL 105KHZ	TC10100130	CM24	DC1020 4822 124 22571	ELECT 10 μF 50V	OA10605020	
WB01			CONNECTIVE CORD, 10P	YB00081430	CM26	DC1020 4822 126 10364	CERAMIC 100PF ±10%	DA16101110	
			PK03-KEY CIRCUIT BOARD		CM40	DC1020 4822 122 40588	CERAMIC 0.022 μF ±20%	DA17223110	
			PK03-RESISTOR (COMMON) CARBON FILM FIXED RESISTOR, ±5% 1/6W: RU51		CM41	DC1020 4822 122 40588	CERAMIC 0.022 μF ±20%	DA17223110	
			PK03-MISCELLANOUES PLUG, 2P	YP06006620	CM51	DC1020 4822 122 40588	CERAMIC 0.022 μF ±20%	DA17223110	
JU04					CM52	4822 122 40588	CERAMIC 0.022 μF ±20%	DA17223110	
SU51		4822 276 20508	PUSH SWITCH, TACT SWICH	SP01011280	CM55	4822 124 22273	ELECT 0.47 μF 50V	OA47405020	
			PP03-KEY CIRCUIT BOARD		CM56	4822 124 22273	ELECT 0.47 μF 50V	OA47405020	
			PP03-RESISTOR (COMMON) CARBON FILM FIXED RESISTOR, ±5% 1/6W: RU52-RU56		CM80	4822 122 40588	CERAMIC 0.022 μF ±20%	DA17223110	
			PP03-MISCELLANEOUS		CM81	4822 122 40588	CERAMIC 0.022 μF ±20%	DA17223110	
SU52		4822 276 20508	PUSH SWITCH, TACT SWICH	SP01011280	CR01	4822 122 40617	CERAMIC 0.1 μF +80%-20% 50V	DD38104010	
SU56		4822 276 20508	PUSH SWITCH, TACT SWICH	SP01011280	CU01	4822 122 40617	CERAMIC 0.1 μF +80%-20% 50V	DD38104010	
SU58		4822 276 20508	PUSH SWITCH, TACT SWICH	SP01011280	CU02	DC1020 4822 124 90361	ELECT 22 μF 25V	OA22602520	
WK01			CONNECTIVE CORD, 2P	YB00051120	CU30	4822 122 40617	CERAMIC 0.1 μF +80%-20% 50V	DD38104010	
WK02			CONNECTIVE CORD, 2P	YB00051120	CW01	4822 122 33639	CERAMIC 1000 PF ±10%	DA16102110	
			PS03-FL/REMOTE/KEY CIRCUIT BOARD		CW02	4822 122 33639	CERAMIC 1000 PF ±10%	DA16102110	
CR02		4822 124 90352	PS03-CAPACITOR ELECT 10 μF ±20% 16V	OA10601620	CW03	4822 124 22698	ELECT 47 μF 25V	OA47602520	
					CW04	4822 124 22698	ELECT 47 μF 25V	OA47602520	
					CW07	4822 126 10364	CERAMIC 100 PF ±10%	DA16101110	
					CW08	4822 126 10364	CERAMIC 100 PF ±10%	DA16101110	
					CW20	4822 124 90354	ELECT 100 μF 16V	OA10701620	
					CW21	4822 126 10408	CERAMIC 220 PF ±10%	DA16221110	
					CW22	4822 126 10408	CERAMIC 220 PF ±10%	DA16221110	
					CW23	4822 124 22274	ELECT 4.7 μF 50V	OA47505020	
					CW24	4822 124 22274	ELECT 4.7 μF 50V	OA47505020	
					CW25	4822 124 22274	ELECT 4.7 μF 50V	OA47505020	
					CW26	4822 124 22274	ELECT 4.7 μF 50V	OA47505020	
					CW30	4822 124 22698	ELECT 47 μF 25V	OA47602520	
					CW31	4822 124 22698	ELECT 47 μF 25V	OA47602520	
					C801	4822 122 30103	CERAMIC 0.022 μF +80%-20% 50V	DK18223310	
					C802	4822 122 30103	CERAMIC 0.022 μF +80%-20% 50V	DK18223310	
					C803	4822 122 30103	CERAMIC 0.022 μF +80%-20% 50V	DK18223310	
					C804	4822 122 30103	CERAMIC 0.022 μF +80%-20% 50V	DK18223310	
					C807	4822 124 22571	ELECT 10 μF 50V	OA10605020	
					C808	4822 124 22698	ELECT 47 μF 25V	OA47602520	
					C809	4822 124 22276	ELECT 47 μF 50V	OA47605020	
					C810	4822 122 40617	CERAMIC 0.1 μF +80%-20% 50V	DD38104010	
					C811	4822 122 40617	CERAMIC 0.1 μF +80%-20% 50V	DD38104010	
					C812	4822 124 22722	ELECT 1000 μF 16V	OA10801620	

[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)
Q853		4822 130 42682	DIGITAL TRANSISTOR DTA144ES/UN4113	BA10002000
Q854		4822 130 63211	DIGITAL TRANSISTOR DTA114TS	BA10003210
Q855		4822 130 61189	DIGITAL TRANSISTOR DTC114TS	BA20017210
Q856		4822 130 60766	DIGITAL TRANSISTOR DTA114ES/UN4111	BA10001000
Q857		4822 130 42715	TRANSISTOR, A608SP.A1048 A1309. A4933S	HT10001000
Q858		4822 130 63211	DIGITAL TRANSISTOR DTA114TS	BA10003210
Q859		4822 130 61189	DIGITAL TRANSISTOR DTC114TS	BA20017210
Q860		4822 130 42125	TRANSISTOR 2SD1302 S.T	HT413022B0
PUB3-MISCELLANOUES				
042B			FL HOLDER SP	461T271020
043B		4822 459 11158	STICKER FL ADHESIVE TAPE	056J122010
JD01			JACK, 15P	YJ07008800
JD02			PLUG, 5P	YP06010450
JD03			PLUG, 7P	YP06006670
JD04			PLUG, 4P	YP06007140
JD05			PLUG, 2P	YP06006620
JM01	DC1020		PLUG, 6P	YP06006660
JM02			JACK, 15P	YJ06006350
JM20	DC1020		PLUG, 3P	YP06006930
JM57			PLUG, 6P	YP06006660
JR01		4822 267 41009	TERMINAL, 2P RCA PIN JACK	YT02020890
JR02		4822 267 31369	JACK, OPTICAL OUT GP1F32T	YJ15000090
JU01			JACK, 1.0PITCH 29P 9610S-29A	YJ07009460
JU05			PLUG, 6P	YP06006660
JW01			TERMINAL 6P RCA PIN JACK	YT02060460
▲J091	/1	4822 277 21763	SLIDE SWITCH, SDKAG 4	SS02021240
J604			JACK, 10JQ-BT10P (TATE)	YJ06008800
J605			JACK, 10JQ-BT10P (TATE)	YJ06008800
J801			PLUG, 2P	YP04000760
L601		4822 157 52461	M.P.X. COIL	LS10440060
L602		4822 157 52461	M.P.X. COIL	LS10440060
▲L801	/1	4822 146 21748	POWER TRANSF. 115V/230V	TS15426030
▲L801	F/U		POWER TRANSF. 100V/120V	TS15426010
▲L801	/2	4822 146 21747	POWER TRANSF. 220V/230V/240V	TS15426020
▲L801	K		POWER TRANSF. 110V,220V	TS15426040
▲L802		4822 157 70419	NOISE FILTER (EMI) LF-4D-102	FN01020020
L803			FERRITE CORE ZBF503AR-00 (TA)	FC90050090
L804			FERRITE CORE ZBF503AR-00 (TA)	FC90050090
SR01		4822 277 21768	SLIDE SWITC	SS02030640
TM51		4822 276 20508	PUSH SWITCH, TACT SWICH ADJ.	SP01011280
XU01		4822 242 81863	CERAMIC RESONATOR, 8.38MHZ	FQ08384020