

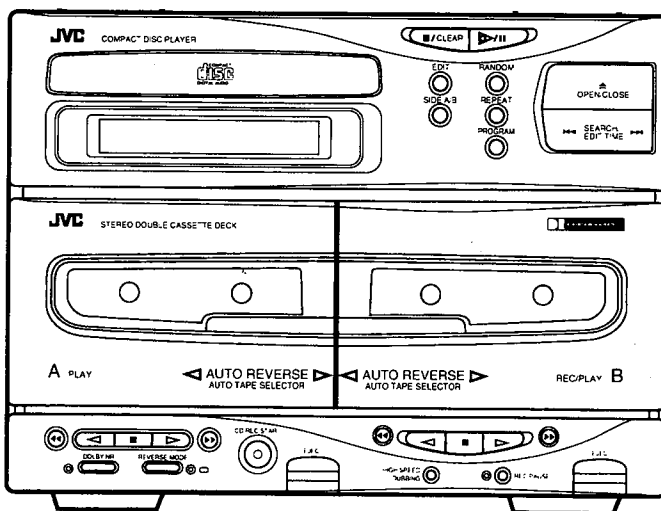
7960

JVC

SERVICE MANUAL

COMPACT COMPONENT SYSTEM

CA-MXS4BK (Unit No. XT-MXS4BK)



COMPACT
disc
DIGITAL AUDIO

* For instruction manual, packing materials and accessories, please refer to the RX-MXS4BK (S.M. No.20404).

* RX-MXS4BK is needed (for power supply etc.) when servicing.

Contents

Safety Precautions	1 - 2	Flow of Functional Operation	
Important for Laser Products	1 - 3	Until TOC is Read	1 - 21
Description of Major LSIs	1 - 4	Replacement of Laser Pickup	1 - 21
Internal Block Diagrams of Other ICs	1 - 9	Troubleshooting	1 - 22
Internal Connection of FL Display Tube	1 - 11	Application Points for Greasae	1 - 28
Disassembly Procedures	1 - 12	Schematic Diagrams	1 - 29
Adjustment Procedures	1 - 16	Block Diagrams	1 - 31
Maintenance of Laser Pickup	1 - 20	Printed Circuit Boards	1 - 32
		Parts List	2 - 1

Safety Precautions

1. The design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (Δ) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.

5. Leakage current check (Electrical shock hazard testing)

After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

Do not use a line isolation transformer during this check.

- Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.).

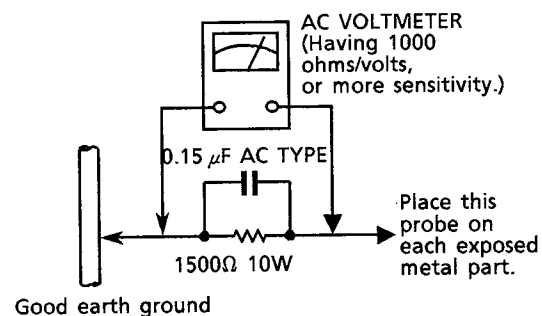
● Alternate check method

Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500 Ω 10 W resistor paralleled by a 0.15 μ F AC-type capacitor between an exposed metal part and a known good earth ground.

Measure the AC voltage across the resistor with the AC voltmeter.

Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor.

Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).



Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

Important for Laser Products

1. **CLASS 1 LASER PRODUCT**
2. **DANGER** : Invisible laser radiation when open and interlock failed or defeated. Avoid direct exposure to beam.
3. **CAUTION** : There are no serviceable parts inside the Laser Unit. Do not disassemble the Laser Unit. Replace the complete Laser Unit if it malfunctions.
4. **CAUTION** : The compact disc player uses invisible laser radiation and is equipped with safety switches which prevent emission of radiation when the drawer is open and the safety interlocks have failed or are defeated. It is dangerous to defeat the safety switches.
5. **CAUTION** : If safety switches malfunction, the laser is able to function.
6. **CAUTION** : Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
7. **CAUTION** : The compact disc player provides a laser diode of wavelength 780-790nm and optical output power typical 3mW at the laser diode.

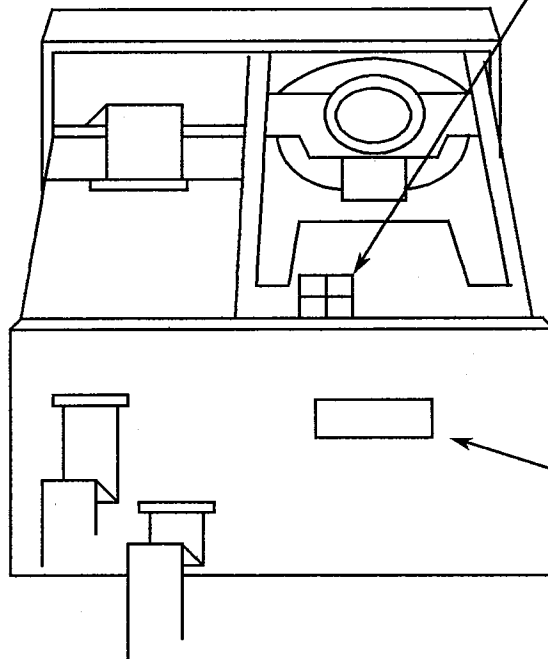
VARNING : Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.

VARO : Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.

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

ADVARSEL : Usynlig laserstrålning ved åbning, når sikkerhedsbryteren er avslott. unngå utsettelse for stråling.

REPRODUCTION AND POSITION OF LABELS



WARNING LABEL

(Except for the U. S. A.)

DANGER: invisible laser radiation when open and interlock failed or defeated. AVOID DIRECT EXPOSURE TO BEAM. (e)	VARNING: Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen. (s)
ADVARSEL: Usynlig laserstrålning ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling. (d)	VARO: Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen. (f)

**CLASS 1
LASER PRODUCT**

CLASSIFICATION LABEL

(Except for the U. S. A. and Canada)

Description of Major LSIs

■ HD614081SD53 (IC491) : Deck System Controller

1. Terminal Layout

NR LED	1	64	A FWD LED
NR LED(C)	2	63	A REW LED
A.SPEED UP	3	62	B FWD LED
B.SPEED UP	4	61	B REV LED
MUSIC IN	5	60	REC LED
B FWD REEL MOTOR	6	59	REV. MODE
B REV REEL MOTOR	7	58	BIAS
B REV CAM MOTOR	8	57	NR OFF
B FWD CAM MOTOR	9	56	REC MUTE
A CAM SW 2	10	55	DCS IN
A CAM SW 1	11	54	DCS OUT
A CAM SW 0	12	53	GND
A PULSE IN	13	52	4.19MHz OSC IN
B CAM SW 2	14	51	4.19MHz OSC IN
B CAM SW 1	15	50	To VCC
B CAM SW 0	16	49	RESET IN
B PULSE IN	17	48	KEY&SW IN4
POWER OFF IN	18	47	KEY&SW IN3
GND	19	46	KEY&SW IN2
A FWD REEL MOTOR	20	45	KEY&SW IN1
A REV REEL MOTOR	21	44	KEY OUT 4
A REV CAM MOTOR	22	43	KEY OUT 3
A FWD CAM MOTOR	23	42	KEY OUT 2
NR REC	24	41	KEY OUT 1
A MUTE	25	40	SW OUT 2
B MUTE	26	39	SW OUT 1
PLAY MUTE	27	38	HI-SPEED DUB BING
CAP MOTOR ON	28	37	
REC	29	36	H.S CrO2
FADE CTRL	30	35	H.S NORM
BEQ	31	34	
+5V	32	33	CrO2

2. Table of key matrix

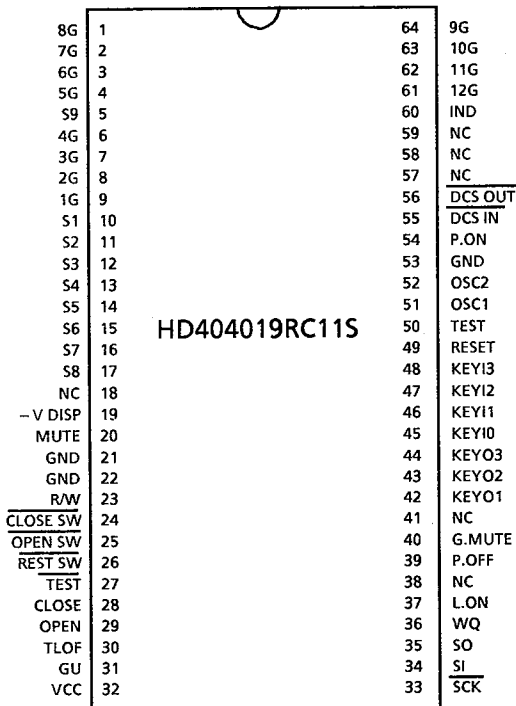
	KEY IN 1	KEY IN 2	KEY IN 3	KEY IN 4
KEY OUT 1	A ◀	A ◀◀	A ▶▶	A ▶
KEY OUT 2	B ◀	B ◀◀	B ▶▶	B ▶
KEY OUT 3	A ■	B ■	B REC PAUSE	
KEY OUT 4	A ▶▶ B	DOLBY	REV. MODE	CD. REC

3. Pin Functions

Pin NO	symbol	I/O	Function	Pin NO	symbol	I/O	Function
1	NR LED	O	DOLBY B indicator signal output	33	CrO2	O	CrO2 Recording Equalizer control
2	NR LED (C)	O	DOLBY C indicator signal output	34		-	Not used
3	A SPEED UP	O	A deck Reel motor speed control output	35	H.S NORM	O	Hign speed Normal Recording Equalizer control
4	B SPEED UP	O	B deck Reel motor speed control output	36	H.S CrO2	O	Hign speed CrO2 Recording Equalizer control
5	MUSIC IN	I	Music scan signal input	37		-	Not used
6	B FWD REEL MOTOR	O	FWD direction control for B reel motor	38	HI SPEED DUB BING	O	Recording Equalizer control
7	B REV REEL MOTOR	O	REV direction control for B reel motor	39	SW OUT1	O	Leaf switch output
8	B REV CAM MOTOR	O	REV direction control for B cam motor	40	SW OUT2	O	Leaf switch output
9	B FWD CAM MOTOR	O	FWD direction control for B cam motor	41	KEY OUT1	O	Key matrix output
10	A CAM SW2	I	A CAM SW input	42	KEY OUT2	O	Key matrix output
11	A CAM SW1	I	A CAM SW input	43	KEY OUT3	O	Key matrix output
12	A CAM SW0	I	A CAM SW input	44	KEY OUT4	O	Key matrix output
13	A PULSE IN	I	A deck reel pulse input	45	KEY&SW IN1	I	Key matrix and Leaf switch input
14	B CAM SW2	I	B CAM SW input	46	KEY&SW IN2	I	Key matrix and Leaf switch input
15	B CAM SW1	I	B CAM SW input	47	KEY&SW IN3	I	Key matrix and Leaf switch input
16	B CAM SW0	I	B CAM SW input	48	KEY&SW IN4	I	Key matrix and Leaf switch input
17	B PULSE IN	I	B deck reel pulse input	49	RESET IN	I	Reset signal input
18	POWER OFF IN	I	Power ON / OFF signal input	50	TO VCC	-	Connect to VCC
19	GND	-	Ground	51	OSC IN	I	Clock oscilator input
20	A FWD REEL MOTOR	O	FWD direction control for A reel motor	52	OSC IN	I	Clock oscilator input
21	A REV REEL MOTOR	O	REV direction control for A reel motor	53	GND	-	Ground
22	A REV CAM MOTOR	O	REV direction control for A cam motor	54	DCS OUT	O	DCS signal output
23	A FWD CAM MOTOR	O	FWD direction control for A cam motor	55	DCS IN	I	DCS signal input
24	NR REC	O	NR Rec control signal output to IC352	56	REC MUTE	O	Recording mute control signal output
25	A MUTE	O	A Deck play back mute signal output	57	NR OFF	O	NR ON/OFF control signal output to IC352
26	B MUTE	O	B Deck play back mute signal output	58	BIAS	O	BIAS control signal output
27	PLAY MUTE	O	Play back mute signal output	59	REV MODE	O	REV Mode indicator signal output
28	CAPSTAN ON	O	Capstan motor ON/OFF control	60	REC LED	O	Recording indicator signal output
29	REC	O	PB / REC control signal output to IC331	61	B REV LED	O	B REV indicator signal output
30	FADE CTRL	O	Fade control signal output	62	B FWD LED	O	B FWD indicator signal output
31	BEQ	O	Equalizer switching signal	63	A REW LED	O	A REW indicator signal output
32	+5V	-	Power supply	64	A FWD LED	O	A FWD indicator signal output

■ HD404019RC11S (IC951) : CD SYSTEM CONTROLLER

1. Terminal Layout



2. Key matrix

	KEY IN 0	KEY IN 1	KEY IN 2	KEY IN 3
KEY OUT 1	—	PROGRAM	—	▶/
KEY OUT 2	◀◀	REPEAT	RANDOM	▲
KEY OUT 3	■/CLEAR	SIDE A/B	EDIT	▶▶

3. Pin Description

Pin No.	Symbol	I/O	Functions and Operations	Pin No.	Symbol	I/O	Functions and Operations
1~4	8G~5G	O	FL grid control output	34	(D IN) SI	I	Serial data input from IC841
5	S9	O	FL segment control output	35	(D OUT) SO	O	Serial data output for IC841
6~9	4G~1G	O	FL grid control output	36	WQ	I	Write request signal input
10~17	S1~S8	O	FL segment control output	37	L.ON	O	Laser on signal output
18	NC	--	Non connection	38,40 41	NC	--	Not used
19	-V DISP	I	FL Power supply	39	P.OFF	O	LSI power off signal output
20~22	NC	--	Not used	42~44	KEY OUT0 ~ KEY OUT3	O	Key matrix output
23	R/W	O	Read / Write signal output	45~48	KEY IN0 ~ KEY IN3	I	Key matrix input
24	CLOSE SW	I	Close switch : active low	49	RESET	I	Reset signal input
25	OPEN SW	I	Open switch : active low	50	TEST	I	Test mode input : connected to +5V
26	RESET SW	I	Reset switch : active low at the inmost position of pickup	51	OSC 1	I	Clock Oscillation input
27	TEST	I	Test mode input	52	OSC 2	O	Clock Oscillation output
28	CLOSE	O	Close signal output	53	GND	--	Ground
29	OPEN	O	Open signal output	54	P.ON	I	Power on signal input
30	TLOF	O	Tracking servo off signal output	55	DCS IN	I	Compu-link signal input
31	GU	O	Tracking gain up signal output	56	DCS OUT	O	Compu-link signal output
32	VCC	--	+ 5V	57~59	NC	--	Non connection
33	SCK	O	Clock output for IC841	60	IND	O	Auto power off indicator signal
				61~64	11G~9G	O	FL grid control output

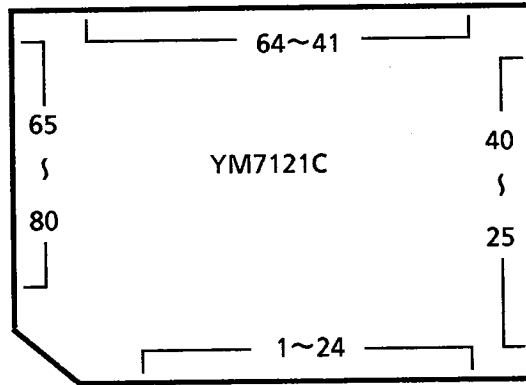
■YM7121C (IC841)

1. Outline

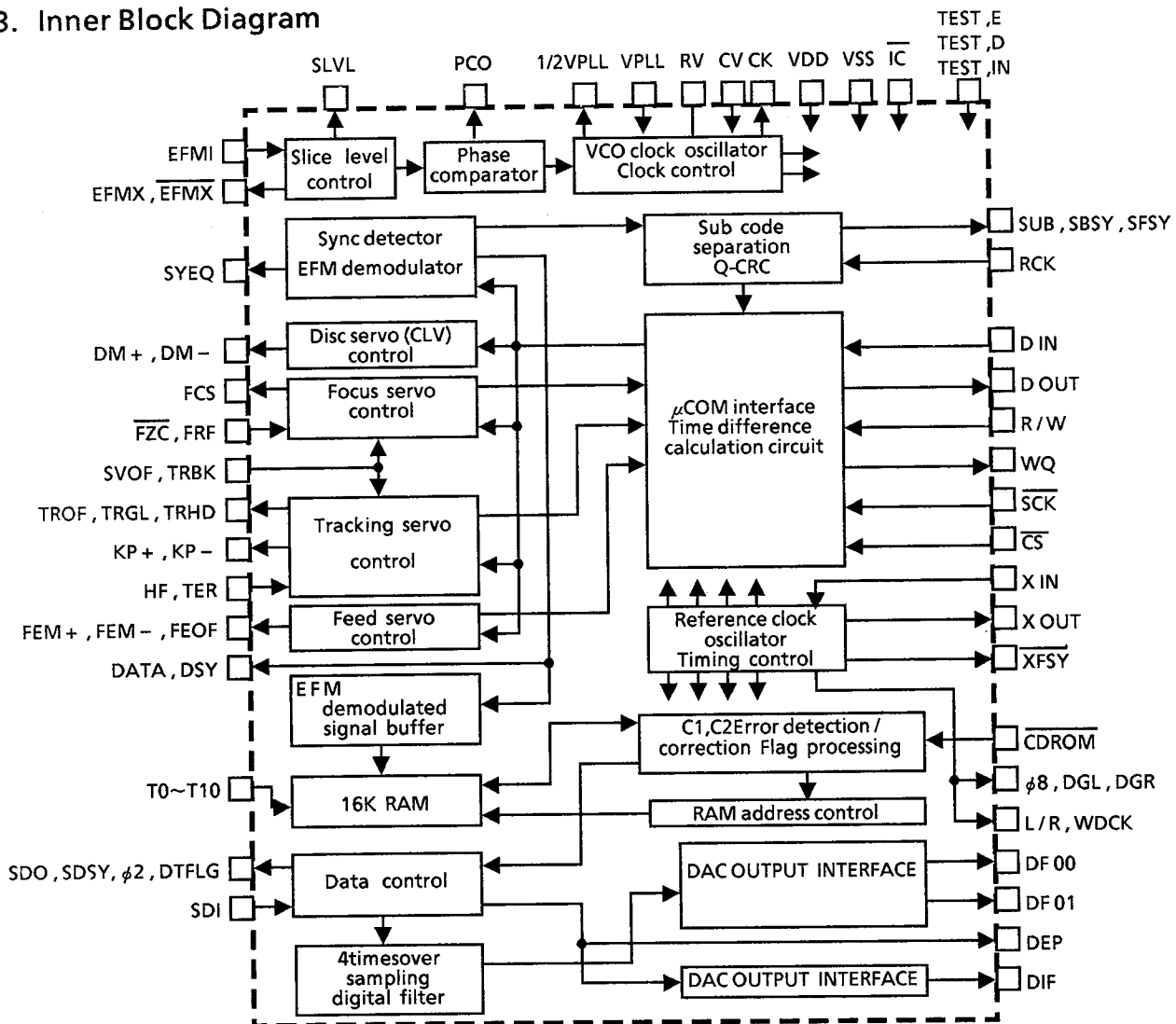
YM7121 is a C-MOS LSI for signal processing and servo control (SVC) in a CD player. It is used for the demodulation of the EFM signal from the laser pick up , detection / correction of the error signal , signal processing in digital filtering , etc. and for various servo controls (focusing , disc , tracking and feed servos).

And it contains digital interface which output the audio digital signals in S-RAM and CD-player. This digital interface matches EIAJ standards.

2. Top View



3. Inner Block Diagram

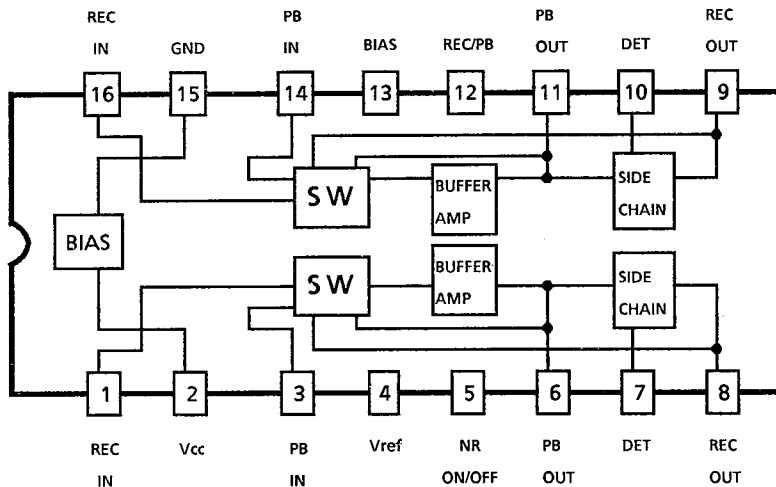


4. Terminal Function

Pin No.	Symbol	I/O	Function and Operation
1	CV	I	Adequate time constant is added to this terminal and input the PCO output. This makes the structure of clock reproduce circuit by inner VCO circuit.
2	RV	-	RV terminal is standard voltage terminal of inner VCO. And capacity for stabilizing is added to this terminal.
3 32 72	VDD	-	These are +5V power supply terminals.
4 5 70	TEST. IN TEST. E TEST. D	I I I	These terminals are for test.
6	SYEQ	O	This is the check output terminal, it becomes high when flame synchronizing signal detected from EFM pattern coincides frame synchronizing signal from internal counter.
7	DSY	O	DSY is synchronizing signal which becomes high when first signal of data output comes in. This terminal is the check terminal.
8	DATA	O	This terminal is for checks. The DATA is a serial signal of CK bit rate and it contains 8 bit EFM demodulation signal and 5 bit data control signal in 17 bit.
9	CK	O	CK has 4.3218 MHz clock.
10~19	T0~T9	I	This terminal is internal RAM test terminal, and connected GND.
22	DEP	O	De-emphasis is necessary when this terminal is high.
23	DIF	O	DIF is digital audio interface format output matched EIAJ standards.
24	SDO	O	SDO is a serial signal output of $\phi 2$ bit rate. (The MSB puts in at first.)
25	SDI	I	SDI is the input terminal of 4 times over sampling digital filter. It is usually connected with SDO.
26	SDSY	O	This terminal changes the Lch/Rch by LSB of the SDO.
27 30 33 34 35 36 37 38 39 40 41 42 43 44 45	DTFLG XOUT XFSY SUB SBSY RCK SESY CDROM $\Phi 8$ WDCK L/R DGL DGR DF01 DF00	O O O O O I O O O O O O O O O	Not used.
28	$\phi 2$	O	$\phi 2$ is 2.1168 MHz crystal clock.
29, 52, 77	VSS	-	GND
31	XIN	I	Input from crystal clock.
46	$\overline{\text{SCK}}$	I	This terminal is connected to μCOM . It is an input terminal that carries the clock signal for data transfers.
47	R/W	I	This connects with microcomputer and it is an output terminal for switching data transmission mode. it enables to transmit data from SVC to microcomputer when R/W is "L" and from microcomputer to SVC when R/W is "H".
48	$\overline{\text{CS}}$	I	This is a chip select terminal for YM7121.
49	DOUT	O	This terminal is the data output terminal connected to μCOM . When R/W is low, data is transfer-red from YM7121 to μCOM , according to the SCK clock input.
50	WQ	O	This terminal is connected to μCOM . It is a request signal which demands to μCOM inputting the data transfer (YM7121 to μCOM).
51	DIN	I	This is a data input terminal connected to μCOM . When R/W is high, the data is transferred from μCOM to YM7121 according to the SCK clock input.

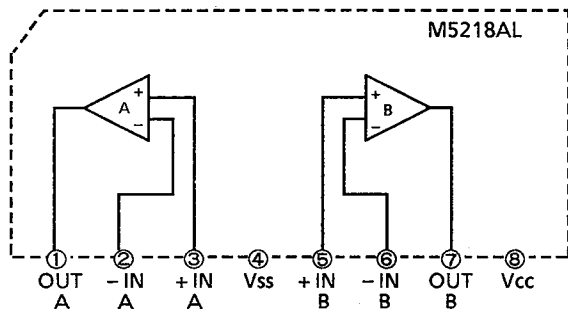
Pin No.	Symbol	I/O	Function and Operation
53 54	DM+ DM-	O O	These terminals output the PWM to control the speed of spindle motor. The speed of the motor goes up when DM+ is high, and slows down when DM- is high: both terminals can not become high simultaneously.
55 56 60 61 62 63 64	HF TER TRHD TRGL TROF KP- KP+	I I O O O O O	When tracks are being crossed during serches, the amplitude variation of the generated HF signal is sampled at the zero - cross point of the tracking error signal TER and the TROF signal is output. The level variations of this signal turn the servo on and off, greatly facilitaing track acquisition. KP+ or KP- is output to conduct tracking, and TRHD is output during tracking to cause generation of the tracking error signal. The TRGL signal is for increasing the tracking gain after tracking is completed.
57 58 59	FEM+ FEM- FEOF	O O O	The FEM+ and FEM- are output as high speed feed signals, and FEOF signal is output for cutting the feed servo during high speed feed.
65	TRBK	I	TRBK is input to apply tracking brake from outside. TRGL becomes low with high input and inner control signal TBKE becomes high.
66	SVOF	I	When the signal inputs to SVOF, tracking and feed servo set to OFF. TROF and FEOF become "H" with high input, and TRHD, KP+, KP- become low.
67 58 59	FZC FCS FRF	I O I	These terminals are used for controlling the focus servo. The FCS is for a leading signal of Focusing; the signal, generated when the focus point is achieved, terminate the focusing operation; and FCO flag is dropped internally by FRF signal generated when reflected light is detected.
71	IC	I	YM7121 needs initializing when power supply turn on. IC will be low more than 400μs since XIN is input clock with VDD standard.
73 74 75	SLVL EFMX EFMX	O O O	Amplitude limited, mutually anti-phased signals are output from EFMX and EFMX. Slice level is controlled by these signals and external amplifier. SLVL is output amplitude alteration component of both terminals. When integral circuit is connected to external. YM7121 easily can control slice level.
76	EFMI	I	This terminal is input EFM signal. (1~2 Vpp)
78	PCO	O	This terminal outputs the phase difference when the polarity of the clock and the EFM pattern changes.
79	VPLL	I	This terminal is input D.C. voltage matched VCO free run frequency. (17.2872 MHz)
80	1/2 VPLL	O	This terminal outputs a half of VPLL input, and capacity for stabilizing is added to this terminal.

■ HA12136A (IC352) : Noise Reduction Amplifier

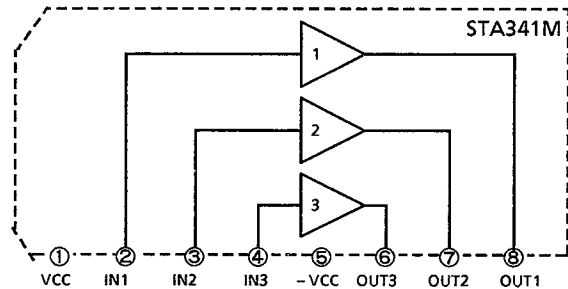


Internal Block Diagram of Other ICs

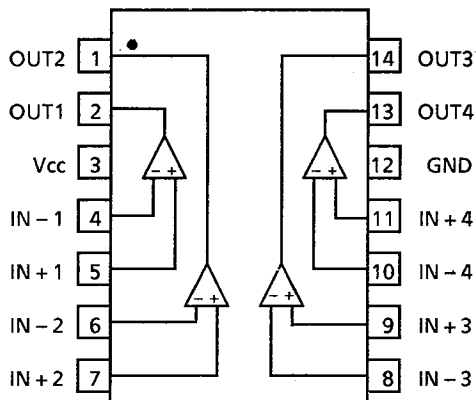
■ M5218AL (IC 762,781,803)



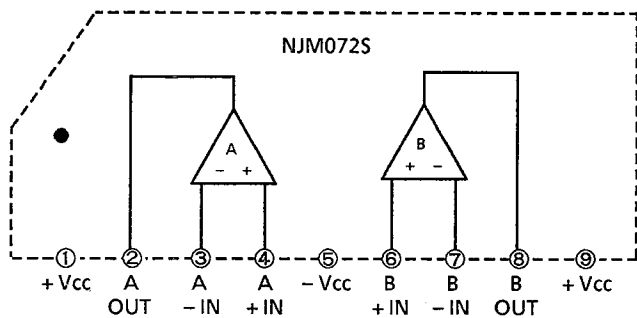
■ STA341M(A) (IC761) : Motor Driver



■ XRA/BA10339 (IC802,871) : Comparator

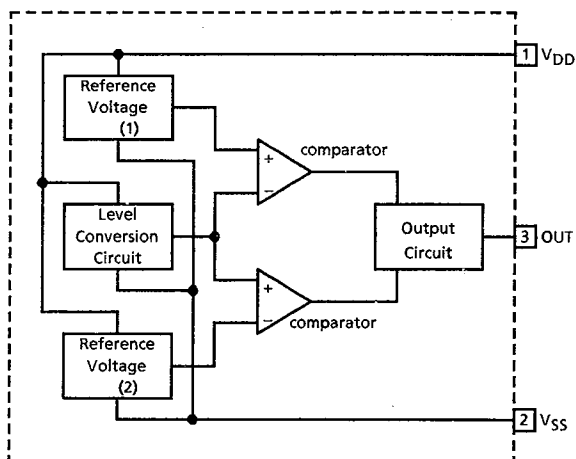


■ NJM072S (IC801) : Dual OP Amp



■ MN1281 (P.Q) IC952: Reset IC

Block Diagram



Pin No.	Pin Name	Functions
1	V _{DD}	Power supply
2	V _{SS}	Ground
3	OUT	Reset signal output : Low level is output when resetting : High level is output when cancelling the reset.

■ MN35501 (IC873) : D/A converter

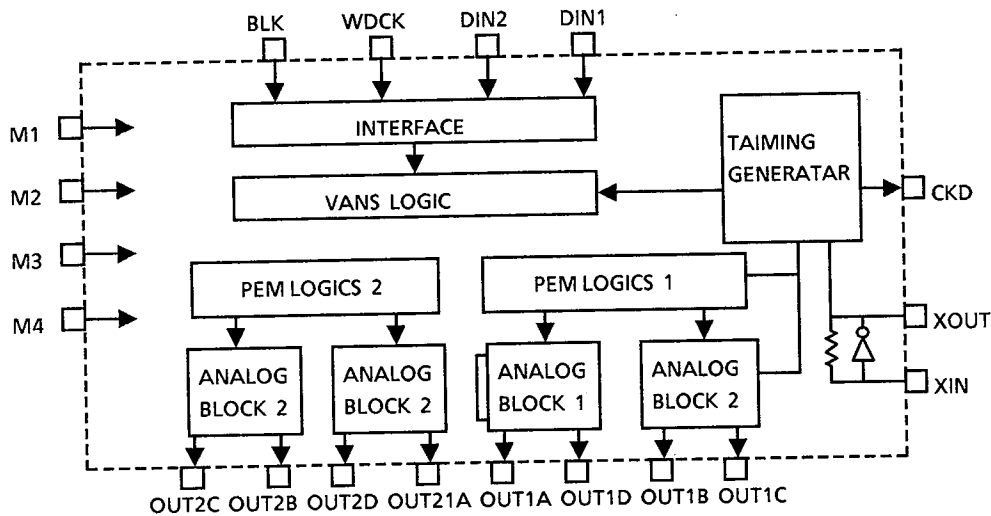
1. Terminal Layout

DIN1	1	28	RSTB
DIN2	2	27	M4
WDCK	3	26	M3
BCK	4	25	DVDD1
DVDD2	5	24	XIN
CKO	6	23	XOUT
DVSS2	7	22	DVSS1
M1	8	21	M2
OUT1C	9	20	OUT2C
OUT1B	10	19	OUT2B
AVDD1	11	18	AVDD2
OUT1D	12	17	OUT2D
OUT1A	13	16	OUT2A
AVSS1	14	15	AVSS2

2. Terminal Functions

Pin No.	Symbol	I/O	Function
1,2	DIN1, DIN2	I	Serial data input
3	WDCK	I	Word clock input
4	BCK	I	Bit clock input
5	DVDD2	--	Power supply for digital circuit
6	CKO	O	Clock output
7	DVSS2	--	GND for digital circuit
8	M1	I	Input for mode select
9,10	OUT1C, OUT1B	O	PEM signal output (Channel 1)
11	AVDD1	--	Power supply for analog circuit (Channel 1)
12,13	OUT1D, OUT1A	O	PEM signal output (Channel 1)
14	AVSS1	--	GND for analog circuit (Channel 1)
15	AVSS2	--	GND for analog circuit (Channel 2)
16,17	OUT2A, OUT2D	O	PEM signal output (Channel 2)
18	AVDD2	--	Power supply for analog circuit (Channel 2)
19,20	OUT2B, OUT2C	O	PEM signal output (Channel 2)
21	M2	I	Input for mode select
22	DVSS1	--	GND for clock circuit
23,24	XOUT, XIN	--	Oscillation terminal
25	DVDD1	--	Power supply for clock circuit
26,27	M3, M4	I	Input for mode select
28	RSTB	I	Reset input (Low active)

3. Block Diagram



■ TA8409S (IC451~454) : DC MOTOR DRIVER

IN2	1
VCC	2
OUT2	3
NC	4
GND	5
VS	6
OUT1	7
Vref	8
IN1	9

Function

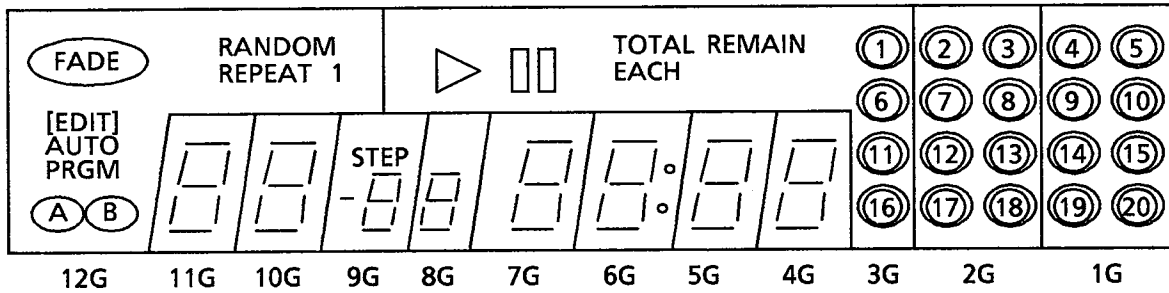
INPUT		OUTPUT		MODE
IN1	IN2	OUT1	OUT2	
0	0	∞	∞	STOP
1	0	H	L	OPEN
0	1	L	H	CLOSE
1	1	L	L	BRAKE

∞: High impedance

Internal Connections for the FL Display Tube

■ ELU0001-151:(FL991)

1. Grid Layout



2. Pin Connections

TERMINAL NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
ELECTRODE	F1	F1	NP	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G	NP	NP	NP

TERMINAL NO.	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
ELECTRODE	NP	NP	NP	NP	NP	NP	NP	S1	S2	S3	S4	S5	S6	S7	S8	S9	NP	F2	F2

(Note) F: Filament G: Grid NP: NoPin NC: No Connection P1~P9: Anode

3. Anode Connection Table

	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
S1	FADE	a	a	a	a	a	a	a	a	(1)	(2)	(4)
S2	[EDIT]	b	b	b	b	b	b	b	b	(6)	(7)	(9)
S3	AUTO	c	c	c	c	c	c	c	c	(11)	(12)	(14)
S4	PRGM	d	d	d	d	d	d	d	d	(16)	(17)	(19)
S5	A	e	e	e	e	e	e	e	e	▶	(3)	(5)
S6	B	f	f	f	f	f	f	f	f	▬▬	(8)	(10)
S7	RANDOM	g	g	g	g	g	g	g	g	TOTAL	(13)	(15)
S8	REPEAT	---	---	STEP	---	---	◦	---	---	EACH	(18)	(20)
S9	1	---	---	(-)	---	---	---	---	---	REMAIN	---	---

Disassembly Procedures

(NOTE) Cassette deck control P.C.Board

※ Install JB311 on the PCB. (ENJ-074-1) so that it's pin1 which is marked with white will face the front panel side.

■ Top cover removal

1. Remove the screws fastening both sides of the Top cover and rear side.
2. Remove the Top cover spreading both sides and lifting the rear up.

■ Front panel block removal

1. Remove the 2 screws (A).
2. Disconnect the connectors (P331,P333,P490,P491,P492,P493,P901,FW495,FW496).
3. Remove the 2 screws (F) fixing the front panel.
4. Remove the screw (C) on the bottom.
5. Release the 3 hooks (E) and remove the front panel block.

■ CD mechanism assembly removal

1. Remove the 3 screws of the rear side.
2. Remove the 2 screws (A) fixing the CD mechanism chassis.
3. Take out the CD mechanism assembly with CD PCB after unplugging the connectors (J701,J702,P901).
4. Remove the 3 screws (B) fixing the CD mechanism assembly.
5. Remove the connectors (P801,P802,P803) and CD the mechanism assembly.

■ Tray removal

1. Remove the CD mechanism assembly.
2. Switch on the power of RX-MXS4BK .
Press the OPEN / CLOSE switch to bring the tray forward and with the tray forward, switch off the power.
3. Remove the screw (C) on the tray .
4. Pull the tray toward the front to move it.

(Note)

If the power does not come on due to breakdown or the insert a Philips screwdriver through the hole at the bottom of the CD the mechanism assembly and turn it counter-clockwise to bring the tray forward (D).

■ Cassette mechanism assembly removal

1. Remove the front panel assembly.
2. Remove the 8 blue colored screws (H) (I) fixing the cassette mechanism.
3. Push the cassette button and remove the cassette mechanism assembly.

(Note)

The cassette mechanism is grounded through the bottom cover, so when checking the operations with the bottom cover removed (especially when checking the signal system), be sure to ground the chassis by using an alligator clip or other suitable gadget. Also, this mechanism is designed for pack sensing, remember that it can not be operated without any tape.

■ Cassette lid removal

1. Open the doors and slide them in the direction of the arrows.

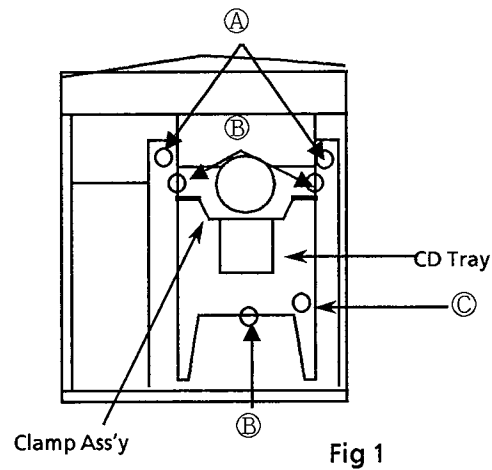


Fig 1

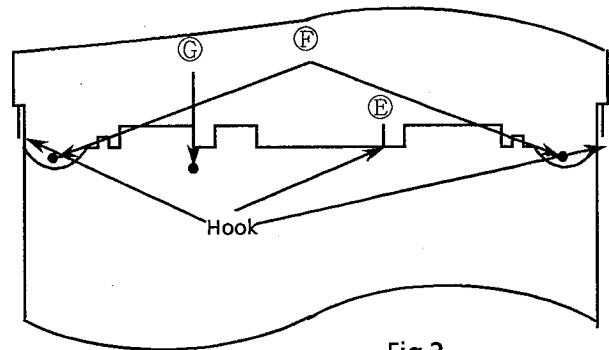


Fig 2

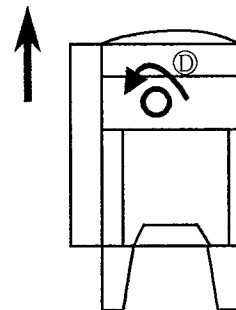


Fig 3

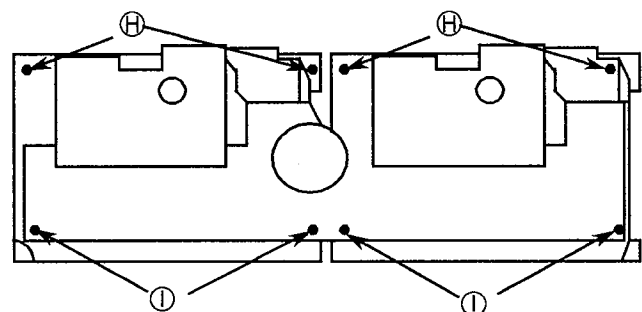


Fig 4

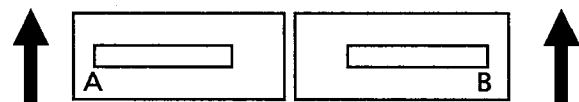


Fig 5

Disassemble of the CD mechanism assembly

■ Pickup removal

1. Remove the cd mechanism assembly.
2. Release the shaft to remove the pickup (Fig 6).

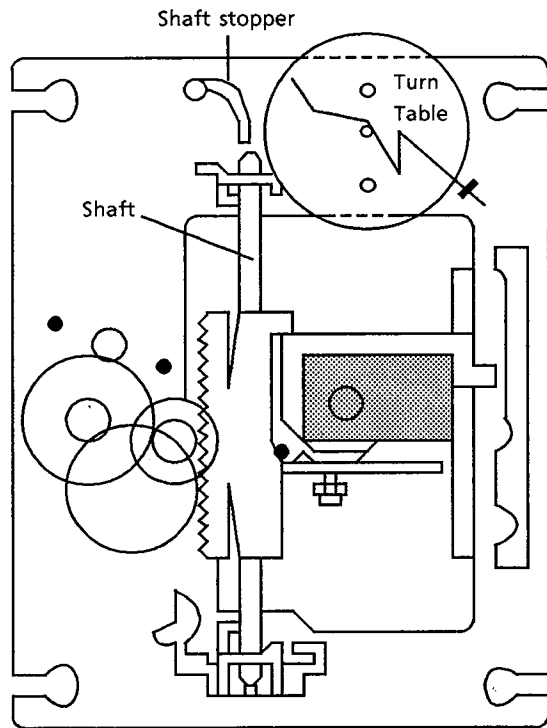


Fig 6 CD mechanism assembly

■ Spindle motor removal

1. Remove the cd mechanism assembly.
2. Remove the turntable, and remove the two screws retaining the spindle motor.
3. Remove the screws retaining the spindle and feed motor P.C. Board and unsolder it.

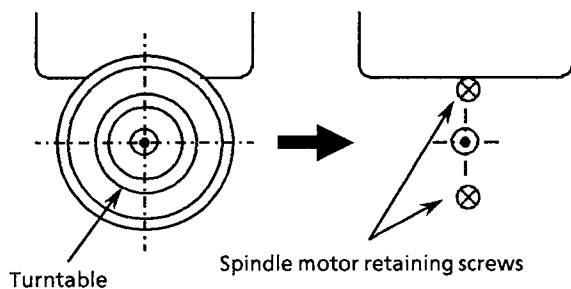


Fig 7

■ Spindle motor installation

1. Tighten the 2 screws to the same torque.
2. Fasten the spindle and feed motor P.C. board with the screw and solder.
3. Install the turntable. When installing, press straight down at the center of the turntable until the distance from the surface of the mechanism base to the turntable is exactly $19.4 \pm 0.1\text{mm}$.

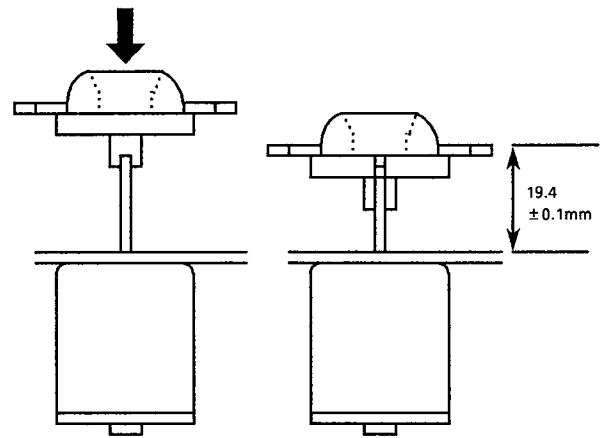


Fig 8

4. After inserting the turntable, bond the motor shaft and turntable together (at the section marked by an arrow in fig 9 on the left below).

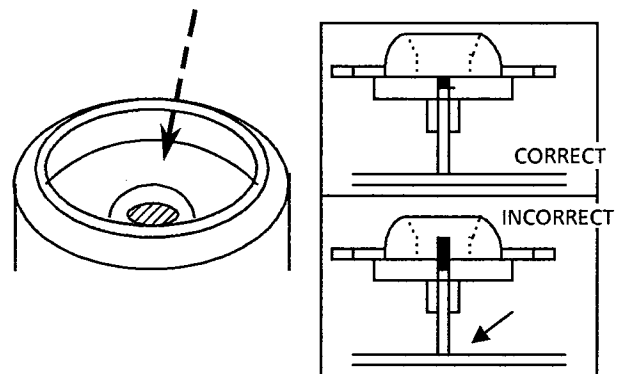


Fig 9

5. Use "LOKTITE" #460 bonding agent, and apply as little as possible. Take care not to allow any excess bonding agent to get onto the turntable. Be extremely careful not to allow bonding agent to adhere to the motor bearings (the section marked by an allow in fig 9 on the right).

Disassemble of the cassette mechanism

■ Cassette controller PCB (ENJ-074-2) removal

1. Remove the cassette mechanism assembly.
2. Release the 8 hooks to remove the controller PCB (Fig 10).

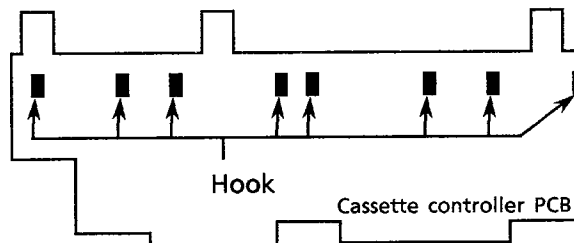


Fig 10

■ Head assembly removal

1. Remove the cassette mechanism assembly.
2. Unsolder the flexible wire (Fig 12).
3. Remove the 2 screws Ⓢ fixing the head assembly (Fig 17).

※ Note

The direction of the head is changed with the head gear. When servicing, install the head gear according to the direction of the head. Refer to fig 11.

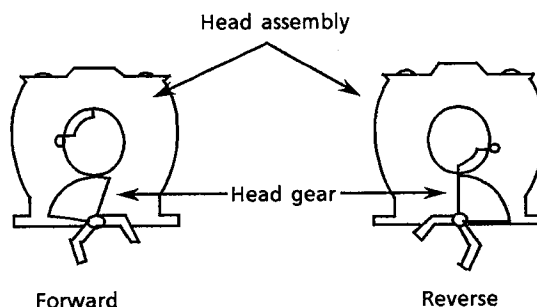


Fig 11

■ Pinch roller arm assembly removal

1. Release the return spring (Fig 17).
2. Release the hook holding the pinch roller arm assembly to remove the assembly (Fig 12).

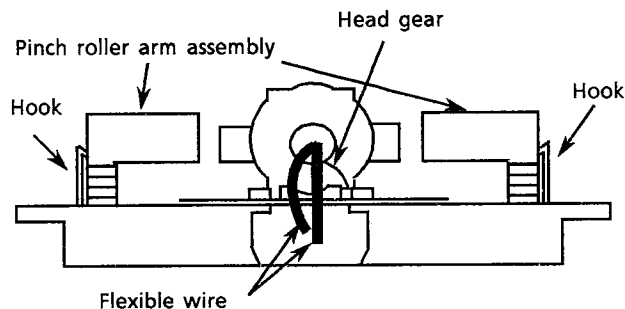


Fig 12

■ Reel motor PCB removal

1. Remove the cassette mechanism assembly.
 2. Remove the cassette controller PCB.
 3. Remove the screw Ⓢ fixing the reel motor PCB.
 4. Unsolder the reel motor PCB.
 5. Remove the PCB.
- Be careful so that stress is not added to the terminals of the motor.

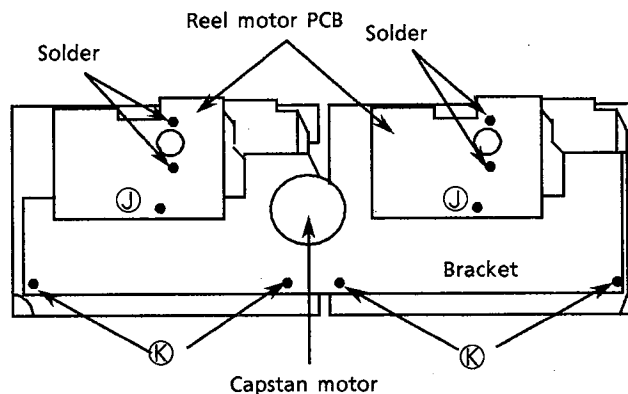


Fig 13

■ Capstan motor removal

1. Remove the cassette mechanism assembly.
2. Remove the reel motor PCBs.
3. Remove the 4 screws Ⓢ fixing the bracket (Fig 13).
4. Remove the motor with the bracket,
5. Remove the 2 screws fixing the motor and the bracket.

■ Reel motor removal

1. Remove the cassette mechanism assembly.
2. Remove the reel motor PCB.
3. Remove the FR arm assembly (Fig 17).
4. Remove the screw Ⓢ fixing the motor (Fig 17).
5. Remove the hooks fixing the motor to remove the motor.

■ Fly wheel removal

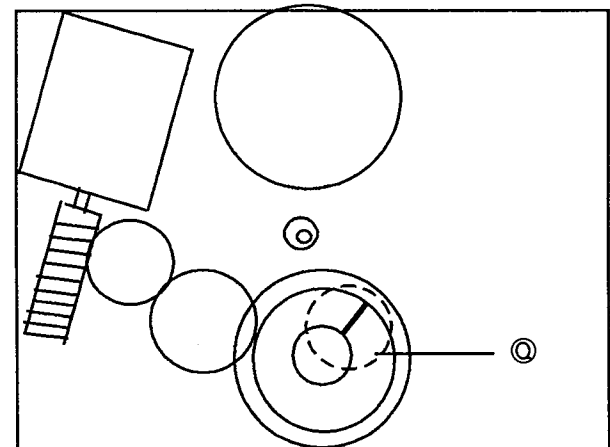
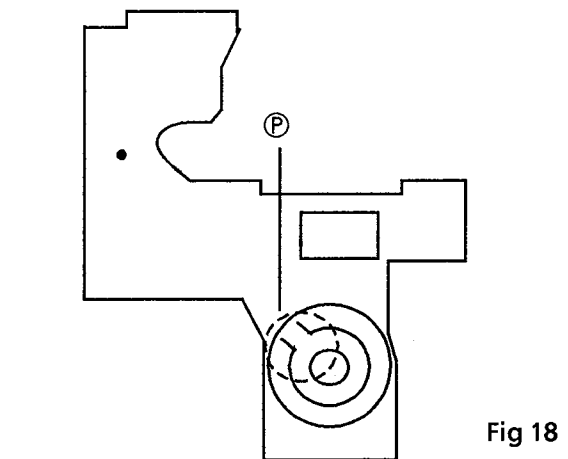
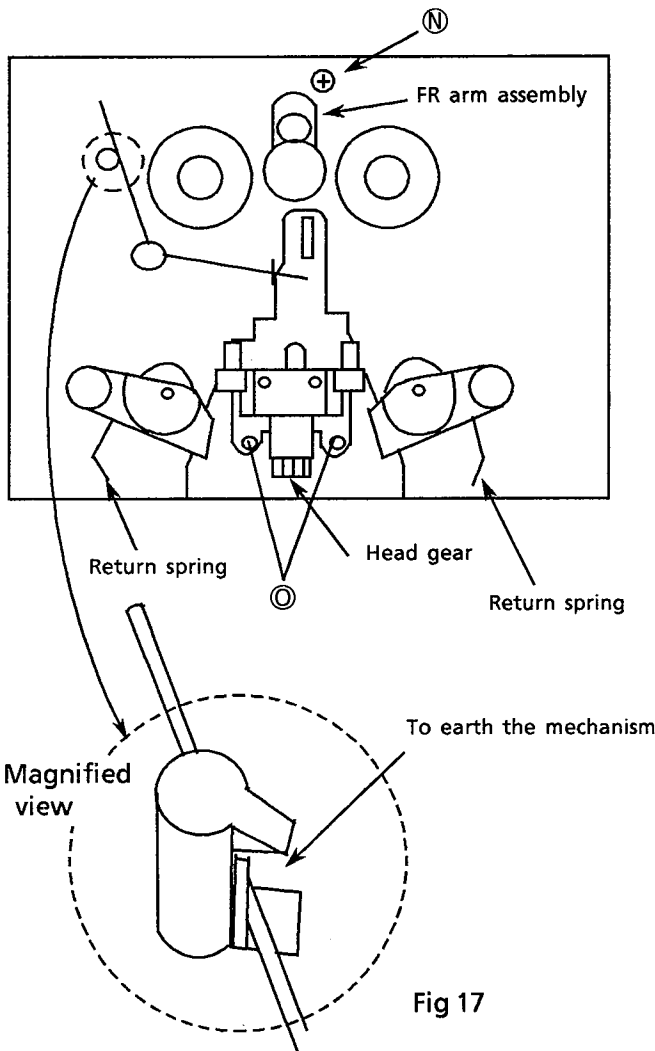
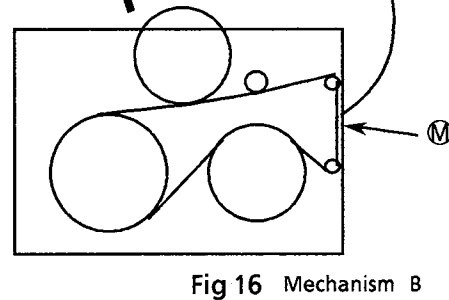
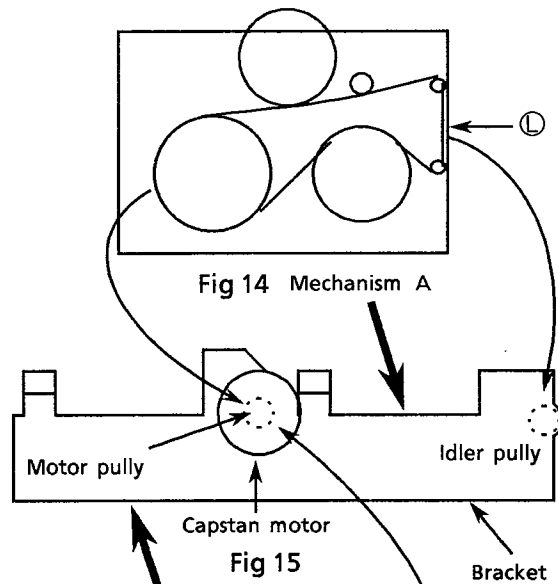
1. Remove the cassette mechanism assembly.
2. Remove the reel motor PCB.
3. Remove the screws ⊗ and the bracket (Fig 13).

※ To install the bracket

1. Install the belt of mechanism A as shown in fig 14.
2. Assemble the mechanism A and the bracket with the capstan motor.
3. Hang the belt of the mechanism A to the motor pulley using a tweezers and the like.
4. Hang the part ⊕ to the Idler pulley.
5. Install the mechanism B installed the belt as shown in fig 16 to the bracket which is assembled with the mechanism A.
6. Hang the part ⊖ to the motor pulley using a tweezers and the like.

■ Cam switch PCB removal

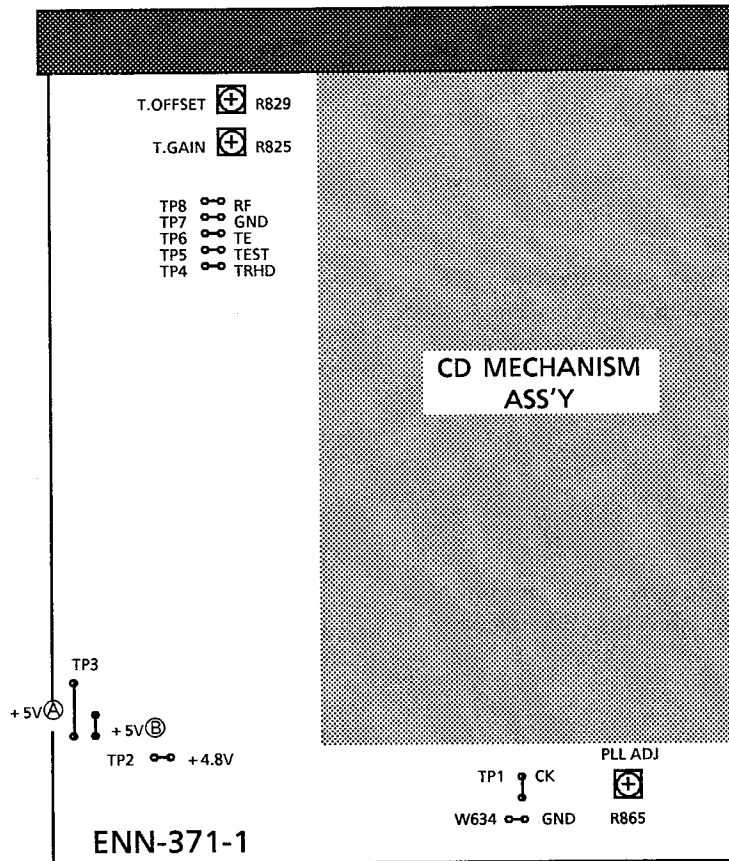
1. Remove the fly wheel.
2. Remove the hooks fixing the PCB to remove the cam switch. When assembling the cam switch, install it so that the part ⊕ meets the part ⊙ (Fig 18).



Adjustment Procedures

■ CD section

FRONT SIDE



* Use RX-MXS4BK when adjusting .

1. PLL free-running adjustment

1) Measuring instrument : Frequency counter

2) Adjusting procedure

- (1) Connect a frequency counter with TP1 (CK :W608) and W634 (GND) on the main PC board .
- (2) Adjust R865 for setting the frequency counter's value becomes $4.295 \pm 0.005\text{MHz}$.

2. Tracking gain adjustment

1) Measuring instruments : Oscilloscope, Normal disc

2) Adjusting procedure

- (1) Connect an oscilloscope with TP6 (TE) and TP7 (GND) on the main PC board.
- (2) Play a disc.
- (3) Short circuit TP5 (TEST) to TP7 (GND).
- (4) Adjust R825 for setting tracking error signal becomes $2.0 V_{p-p}$.

3. Tracking offset adjustment

1) Measuring instruments : Oscilloscope, Normal disc

2) Adjusting procedure

- (1) Connect an oscilloscope with TP6 (TE) and TP7 (GND) on the main PC board.
- (2) Play a disc.
- (3) Short circuit TP5 (TEST) to TP7 (GND).
- (4) Adjust R829 for setting the DC level of the tracking error (offset) becomes 0.

Note : Adjust R829 for setting the waveform becomes symmetrical around the 0 level.

Adjustment Procedures (Cassette Deck)

1. Measuring instruments

- Audio frequency signal generator (0dbs output at the 600 ohm output terminal from 50Hz to 20KHz)
- Electronic voltmeter
- Frequency counter
- Wow & Flutter meter
- Distortion Meter with band pass filter
- Attenuator (600 ohm impedance)
- A resistor with 600Ω

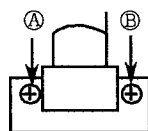
Standard Tape

0dbs = 0.775V

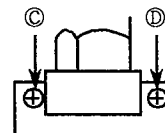
Tape No.	Frequency	Level (Wow & Fkutter)	Purpose
VTT-703L	10kHz	- 10dbs	Head azimuth , Frequency Response
VTT-712	3000Hz	0dbs 0.025%WRMS	Tape Speed , Wow & Flutter
VTT-724	1kHz	- 4dbs	Standard Level
TMT-6447	-	-	Blunk Skip
TMT-6247 , TMT-6237	-	-	Music Scan
TMT-7046	-	-	Recording standard Normal : UR
AC-712	-	-	Recording standard METAL :MA
AC-513	-	-	Recording standard CrO ₂ :SA
TW-2111, TW-2121	-	-	Forward /reverse play torque measuring
TW-2231	-	-	Feed forward /rewind torque measuring
C-120 Tape	-	-	Confirming the tape running

2. Adjustment and repairing the mechanism

Item	Adjustment method	Standard value	Remarks
Head azimuth	<p>Deck A</p> <ol style="list-style-type: none"> 1. Connect an electronic voltmeter to the DOLBY TP (figure 3) to playback VTT-703L. 2. Adjust screw Ⓐ so that the indication of the voltmeter becomes maximum when PLAY (▶) is pressed. 3. Adjust screw Ⓑ so that the indication of the voltmeter becomes maximum when PLAY (◀) is pressed. <p>Deck B</p> <ol style="list-style-type: none"> 4. Adjust screw Ⓒ so that the indication of the voltmeter becomes maximum when PLAY (▶) is pressed. 5. Adjust screw Ⓓ so that the indication of the voltmeter becomes maximum when PLAY (◀) is pressed. 6. After making the adjustment, apply screw lock to prevent screws Ⓐ , Ⓑ , Ⓒ and Ⓓ coming loose . 	Maximum	<ol style="list-style-type: none"> 1. Refer to figure 1. 2. When the specified characteristic cannot be obtained because of head wear, excessive magnetization, etc., replace the head assembly and adjust the head azimuth. Also, perform the electric adjustment. 3. When there is the difference of more than 3 ~ 4 dB between left and right output levels, replace the head assembly to avoid complaints.
Playback torque	1. Measure the torque in the playback mode by the torque meter.	26 ~ 62 g-cm	When the standard torque cannot be obtained, replace the FR arm assembly or motor.
Fast forward torque	1. Measure the torque in the fast forward mode by the torque meter.	80 ~ 200 g-cm	When the standard torque cannot be obtained, replace the FR arm assembly or motor.
Rewind torque	1. Measure the torque in the rewind mode by the torque meter.	80 ~ 200 g-cm	When the standard torque cannot be obtained, replace the FR arm assembly or motor.
Wow & flutter	<ol style="list-style-type: none"> 1. Connect the wow & flutter meter to the DOLBY TP (figure 3) and play back VTT-712 . 2. Its reading should be within 0.2% (WTD) . 	Less than 0.2%	As a complaint may occur if the wow & flutter fluctuates by 0.1% even though it is allowed in the standard, repairing is required.



Deck A



Deck B

Figure 1

3. Electrical Adjustments (Make the following adjustments after adjusting the head azimuth.)

In principle, the adjustments should be made in the following sequence.
 Set the NR switch to OFF and the BEAT CUT switch to "1".
 Adjustments marked with an asterisk (*) should always be made after the head is replaced

0dBs = 0.775V.

Item	Adjustment Method	Adjustment Location	Standard Value	Remarks
Tape Speed	1. Connect a frequency counter to the DOLBY TP (figure 3) and play back VTT-712. 2. Adjust the semi-fixed resistor VR481 on ENJ-074-1.	VR481	3,000 Hz ± 10Hz	Connect a wow & flutter meter with a built-in frequency counter to the speaker terminals.
Standard level (Playback Level)	1. Connect an electronic voltmeter to the DOLBY TP (figure 3). Play back VTT-724 (1 kHz : -4dBs) to adjust the semi-fixed resistors.	Deck A L: VR281 R: VR282 Deck B L: VR453 R: VR454	400mV	1) The playback level varies when the head is replaced so should be adjusted. Use an electronic voltmeter with an impedance of 100 kΩ or more.
Playback Frequency Response	1. Connect an electronic voltmeter to the DOLBY TP (figure 3). 2. Play VTT-703L (10kHz : -10dBs) and adjust semi-fixed resistors to obtain the standard values.	Deck A L: VR451 R: VR452 Deck B L: VR283 R: VR284	200mV	—
Recording Bias Frequency	1. Connect a frequency counter to the BIAS TP (figure 3), and perform a recording to adjust bias frequency.	L331	100 kHz ± 5 kHz	Set the BEAT CUT SWITCH to "1".
Record / Play Frequency Response (Bias current)	Supply 100Hz / 1kHz / 10kHz, 30mV signals to AUX terminal. Record them with the NR switch off. While playing back, adjust VR331 and VR332 so that the variation of output of 100Hz / 10kHz to the output of 1kHz satisfies the standard value.	L: VR331 R: VR332	0 ± 3 dB for 100Hz 0 ± 2dB for 10kHz	Refer to figure 2 below. 1) The recording and playback frequencies of a cassette deck are adjusted by adjusting the bias. 2) Perform the adjustment with normal tape and confirm that the values are within the range for metal tape.

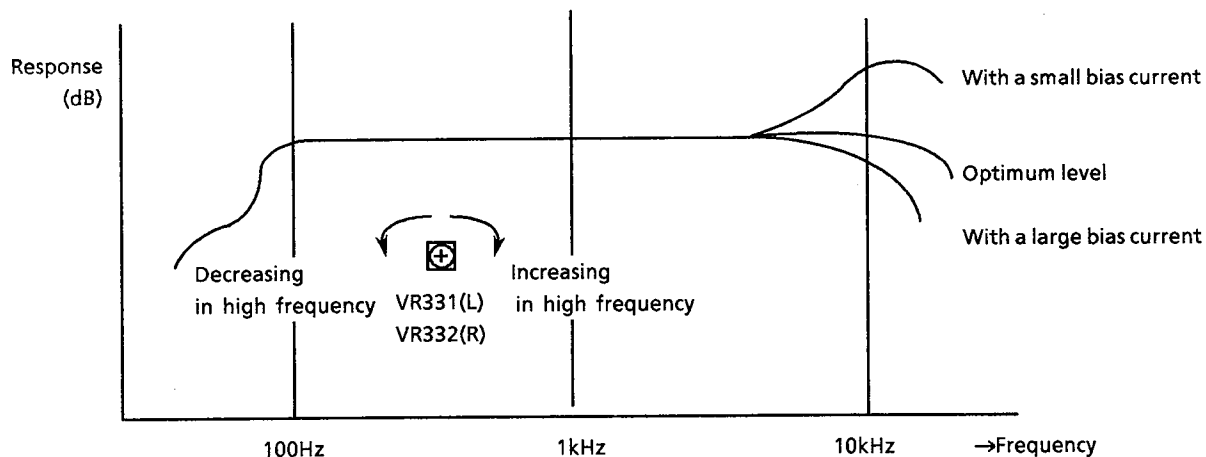


Figure 2

Item	Adjustment Method	Adjustment Location	Standard Value	Remarks
Record / Playback Sensitivity	<ol style="list-style-type: none"> 1. Input a 1kHz (300mV) signal to AUX terminal and record it with a normal tape. 2. Connect an electronic voltmeter to the DOLBY TP (figure 3) to confirm the values. 3. If the values are not satisfied, adjust the semi-fixed resistors and record the signal again to confirm the values. 	L: VR311 R: VR312	400mV	Adjust with normal tape and make sure that the left / right level difference is 1.0dB or less
Recording / playback distortion	<ol style="list-style-type: none"> 1) Input a 1 kHz (300mV) to AUX terminal and record it. 2) Play it back and check the speaker out with a distortion meter to make sure it is within the criterion. 		less than 3% (Normal/ CrO ₂)	Perform after the record / play frequency response and recording / playback sensitivity adjustments.
Recording / playback S/N ratio	<ol style="list-style-type: none"> 1) Input a 1 kHz (300mV) signal to AUX terminal and record it. While recording, remove the input and record without the signal. 2) Connect a electronic voltmeter to the speaker terminals to measure the output levels. 3) Confirm that the output level ratio between the signals with a 1kHz and no signal is more than 40dB. 		more than 40 dB (Normal/ CrO ₂)	
Erase ratio check	<ol style="list-style-type: none"> 1. Record a music source using the Metal tape. 2. Rewind and erase the recorded section. 3. Comfirm nothing can be heard. 	—	—	—
Music Scan	<ol style="list-style-type: none"> 1. Make sure not to work the music scanning operation at the start of tape wind. 2. Make sure to work the music scanning operation at the end of tape wind. 	—	—	—

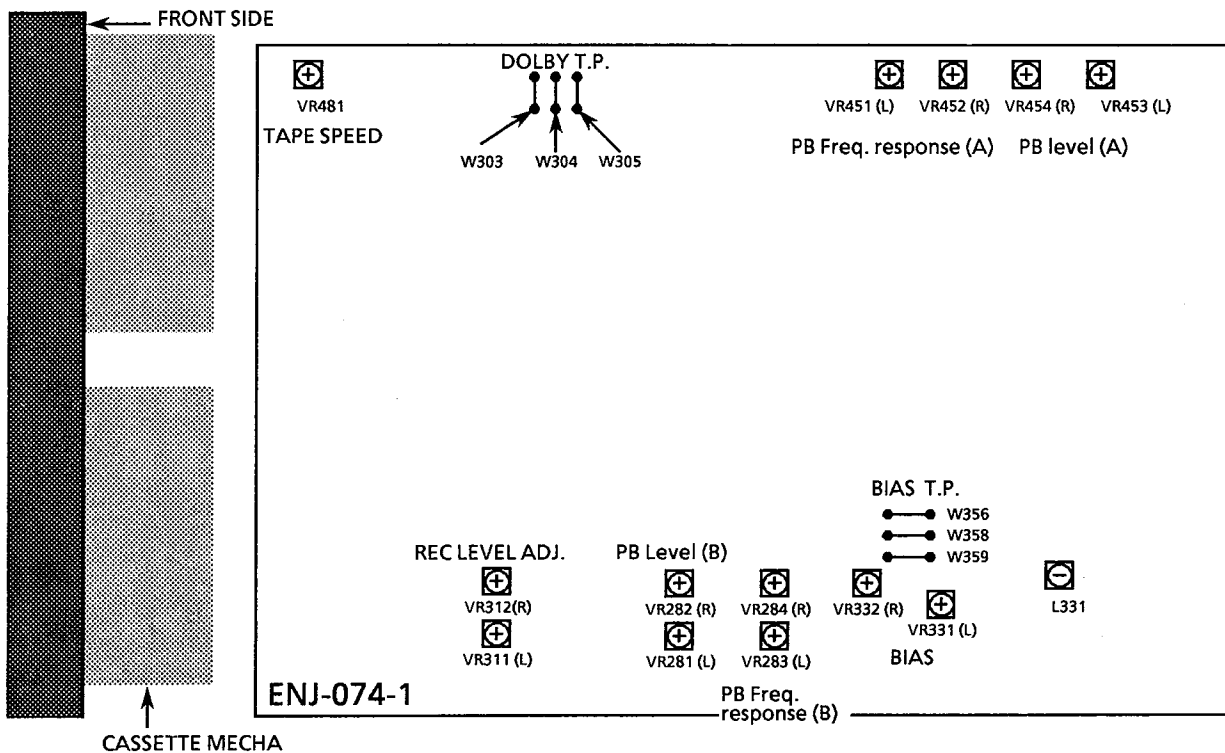


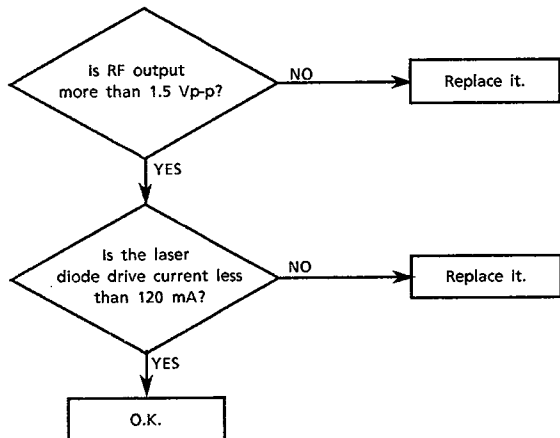
Figure 3

Maintenance of Laser Pickup

1. Life of the laser diode

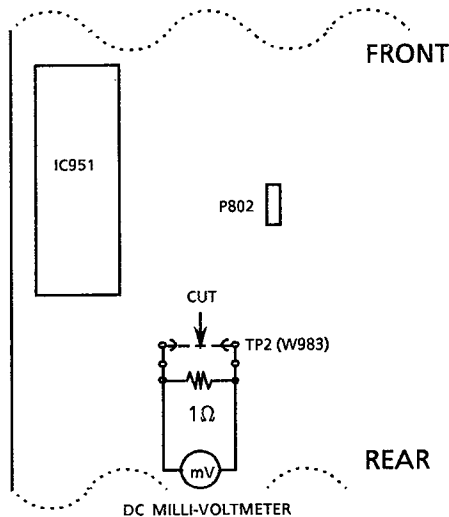
When the life of the laser diode has expired, the following symptoms will appear.

- (1) The level of RF output (EFM output: amplitude of eye pattern) will be low.
- (2) The drive current required by the laser diode be increased. In such a case, check the life of the laser diode following the flowchart below



2. Measurement of laser diode drive current

Replace the jump wire TP2(W983) shown below with the resistor (1Ω). Measure the voltage across the resistor with a milli-voltmeter. When the voltage is more than 180mV, it shows that the life of the laser diode has expired.



3. Semi-fixed resistor on the APC PC board

The semi-fixed resistor on the APC printed circuit board which is attached to the pickup is used to adjust the laser power. Since this adjustment should be performed to match the characteristics of the whole optical block, do not touch the semi-fixed resistor.

If the laser power is lower than the specified value, the laser diode is almost worn out, and the laser pickup should be replaced.

If the semi-fixed resistor is adjusted while the pickup is functioning normally, the laser pickup may be damaged due to excessive current.

Replacement of Laser Pickup

Turn off the power switch of RX-MXS4BK and, disconnect the power cord from the AC outlet, then disconnect the system connector.

Replace the pickup with a normal one. (Refer to "Laser pickup Removal" on the previous page.)

Plug in the system connector and the AC cord of RX-MXS4BK, then turn the power switch on. At this time, check that the laser emits for about 3 seconds and the objective lens moves up and down.

Play a disc, and when it starts rotating, short circuit between TP5 (TEST) and TP7 (GND).

Adjust tracking gain.

Adjust tracking offset.

Disconnect TP5 (TEST) from TP7 (GND).

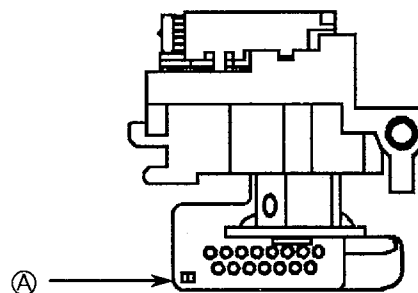
Check the eye-pattern at the TP8 (RF).

Finish.

Note : Since one adjustment may affect other settings, repeat these adjustments a few times.

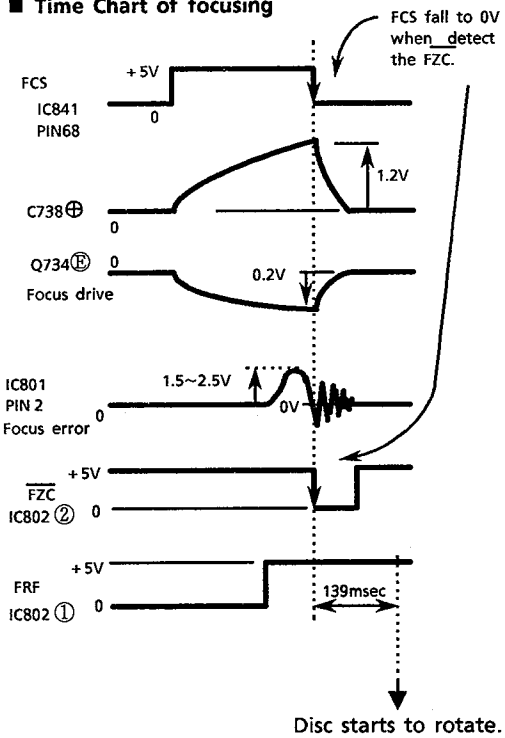
Before installing the pickup

Unsolder the part Ⓐ, which is used for countermeasure for static electricity.



Flow of Functional Operation Until TOC is Read

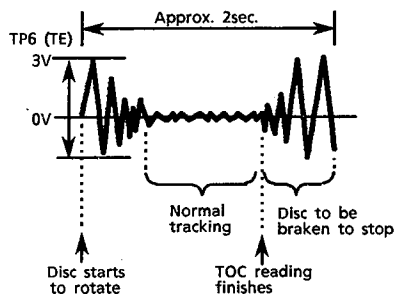
Time Chart of focusing



- When the lens moves up and down in a 2-seconds interval, FZC is not output.
- When the lens moves up and down in less than 1-second, FRF is not output or the focus servo loop is abnormal.

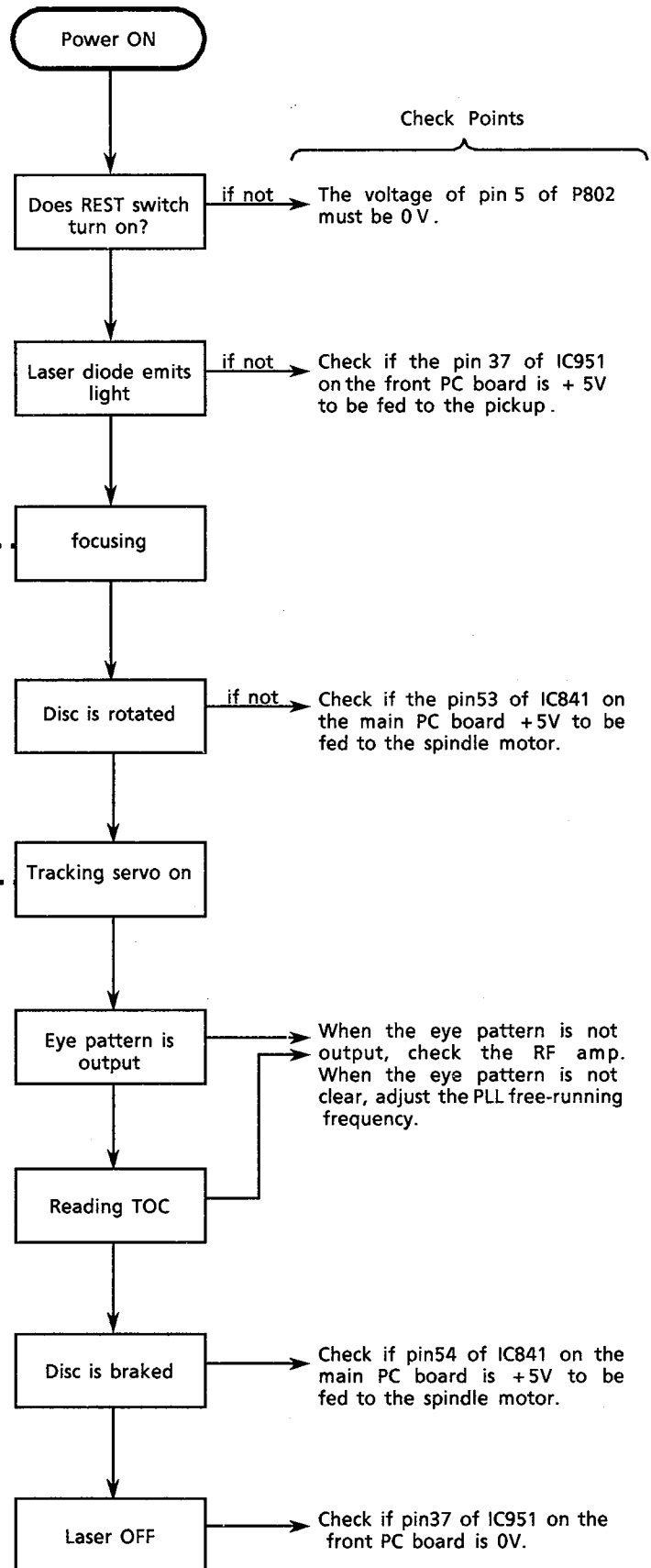
Fig-1

Tracking error waveform at TOC reading



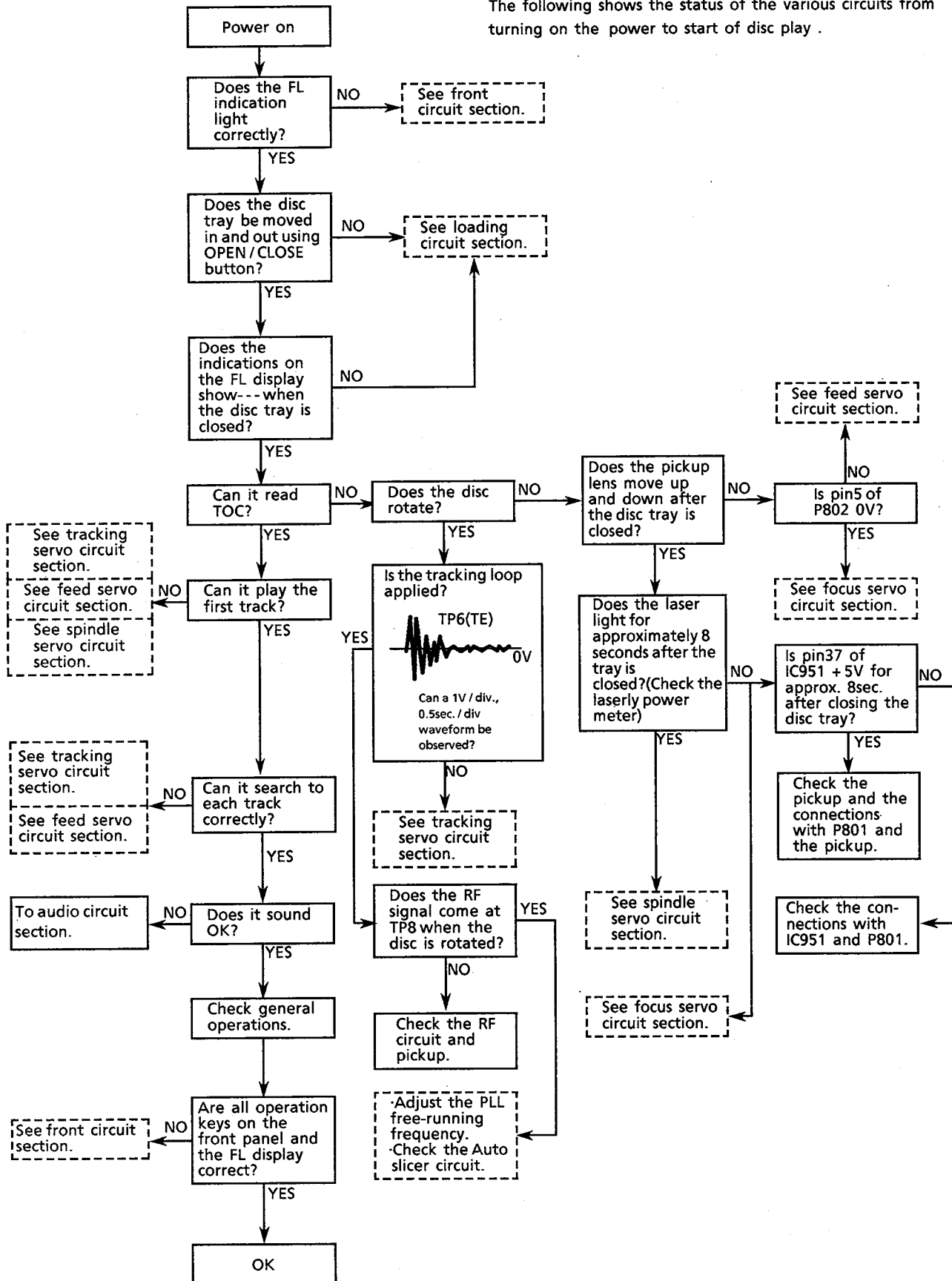
- When the tracking loop does not turn ON, check the tracking offset and align it to 0.

Fig-2

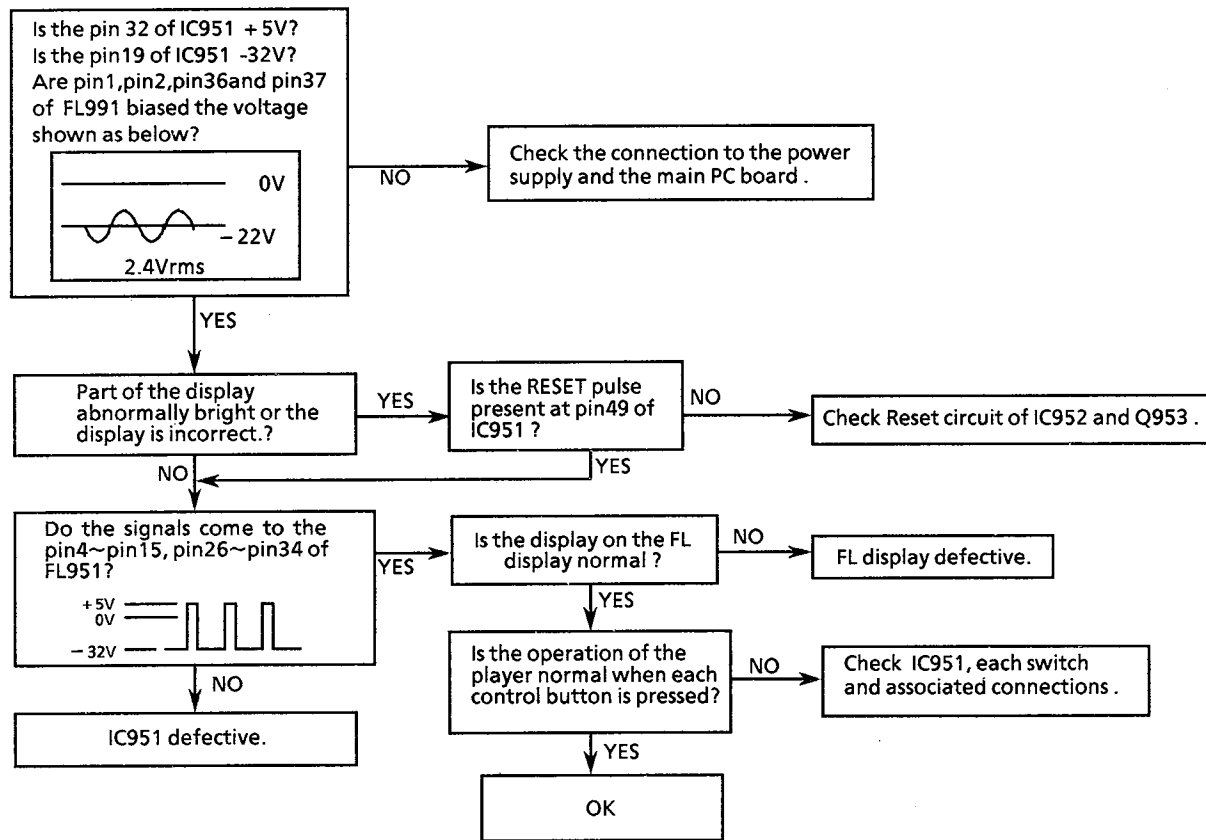


Troubleshooting

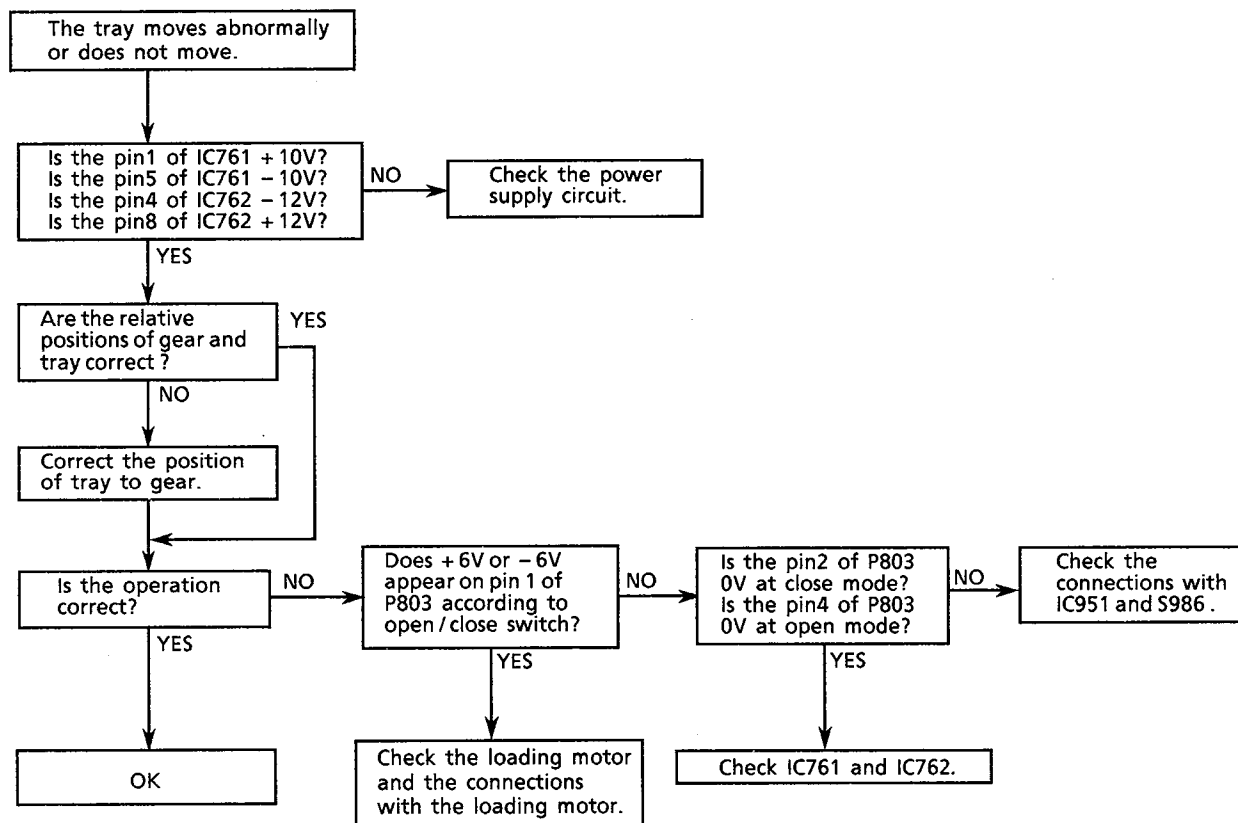
The following shows the status of the various circuits from turning on the power to start of disc play .



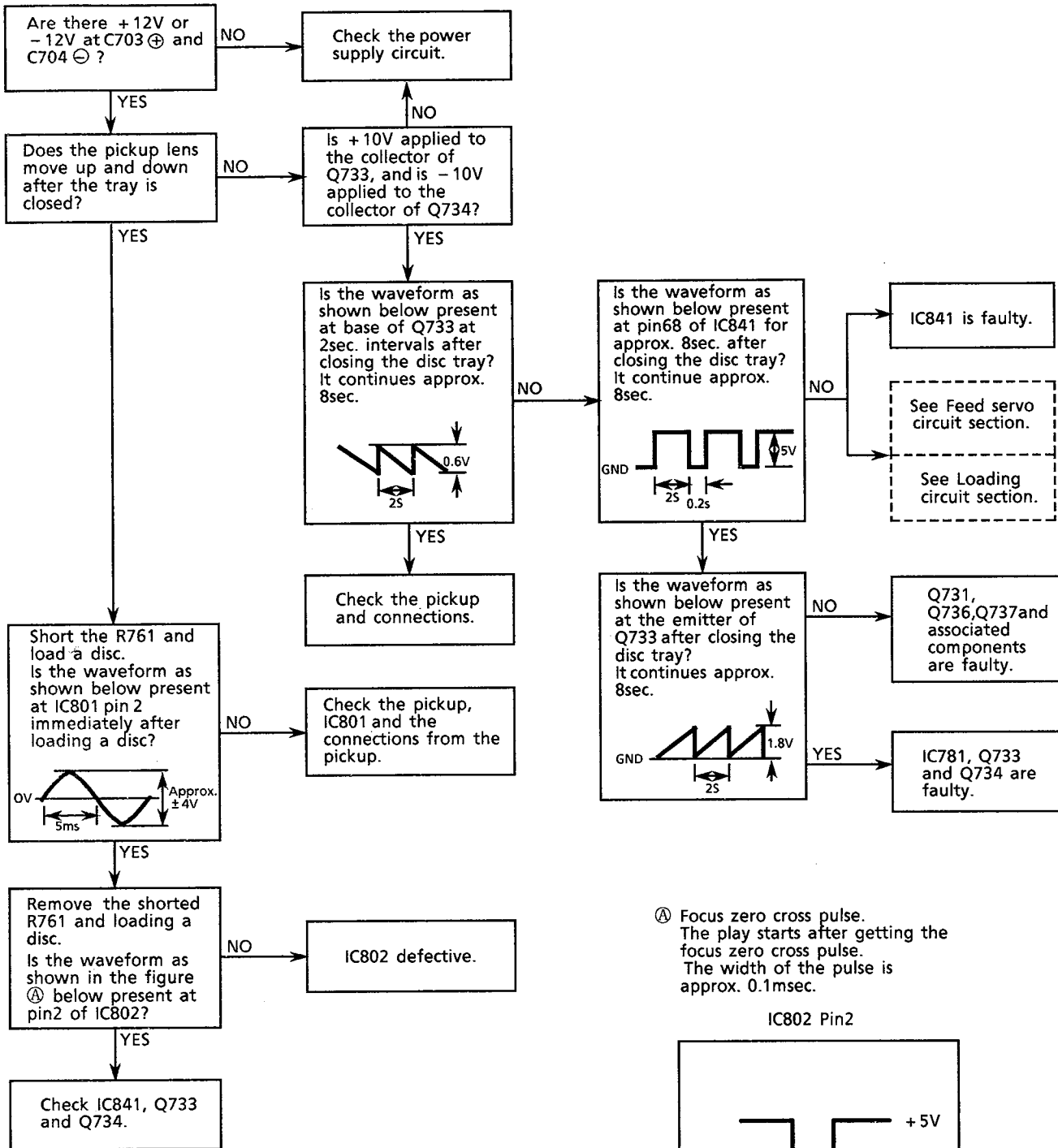
Front circuit Section



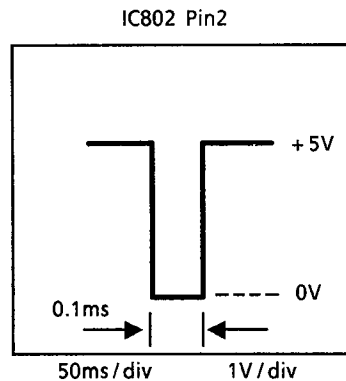
Loading circuit section



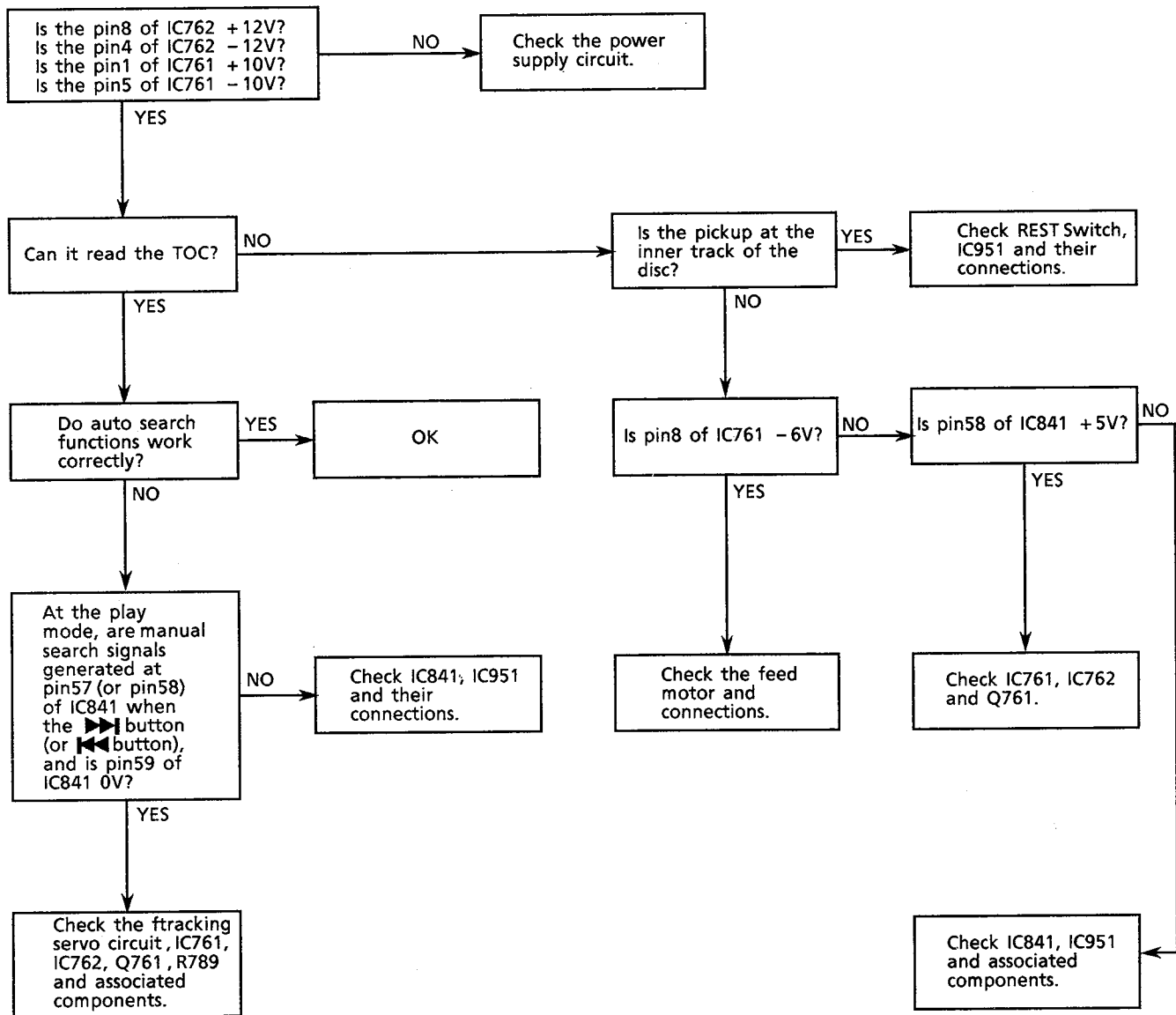
Focus circuit section



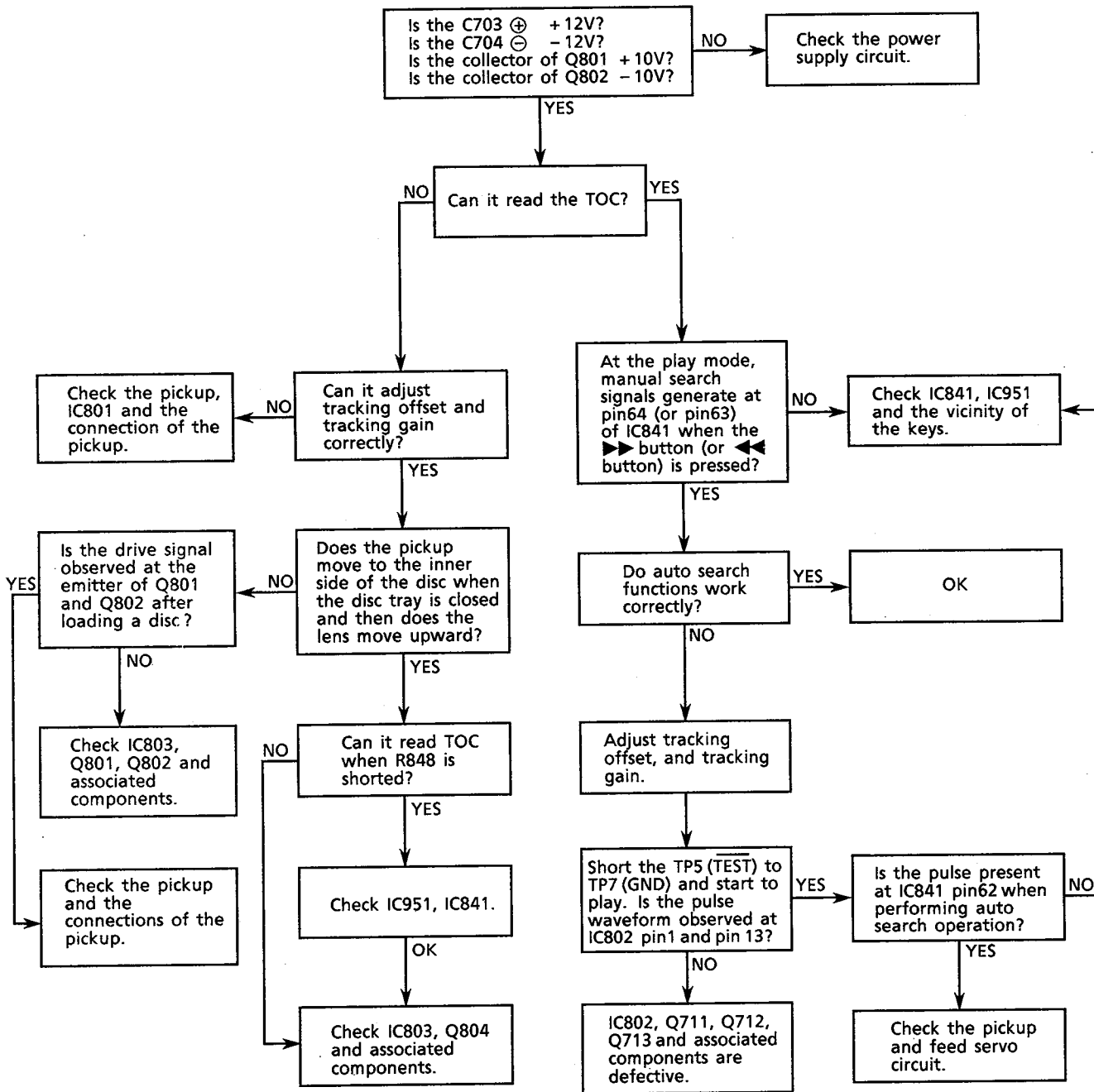
① Focus zero cross pulse. The play starts after getting the focus zero cross pulse. The width of the pulse is approx. 0.1msec.



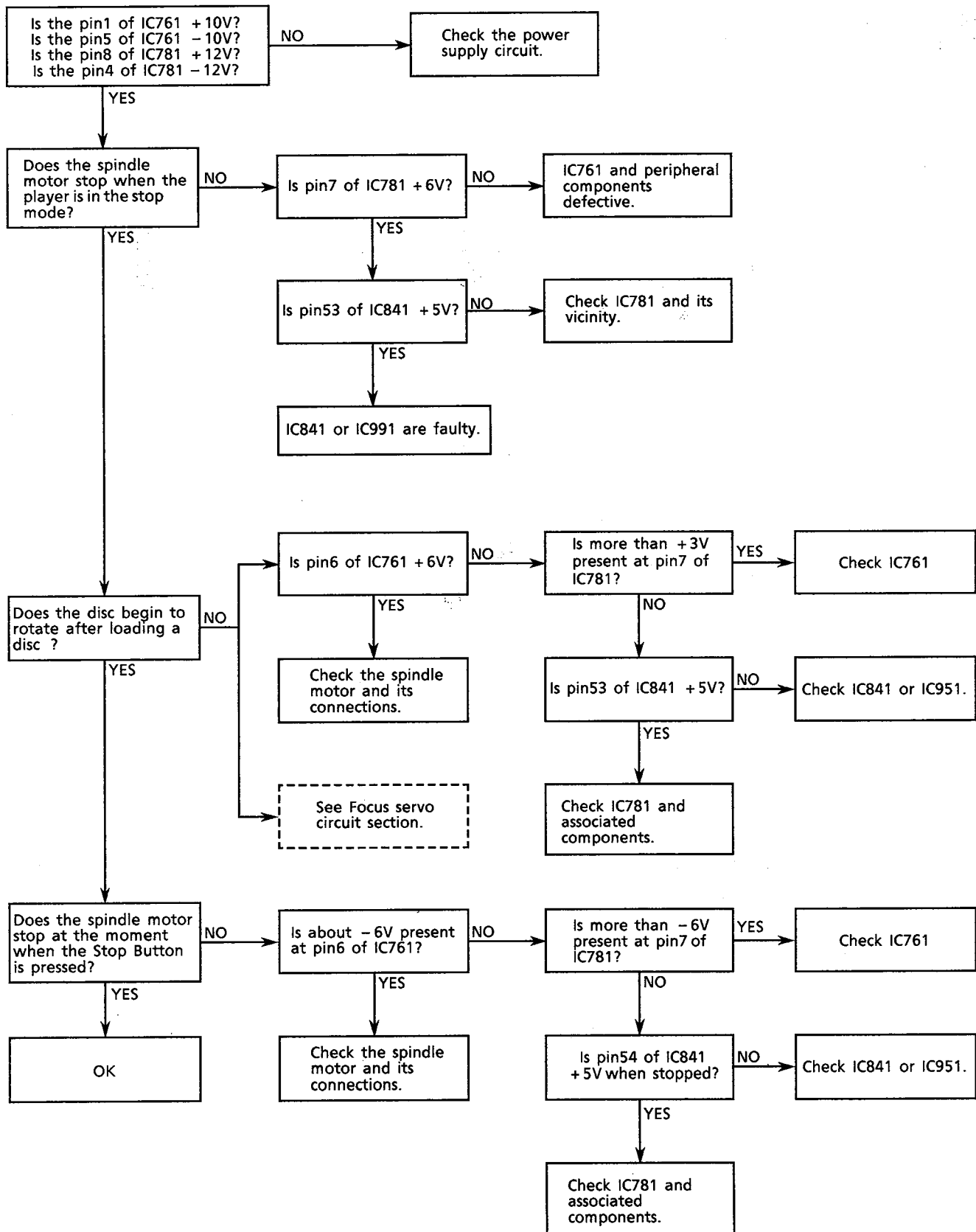
Feed circuit section



Tracking circuit section



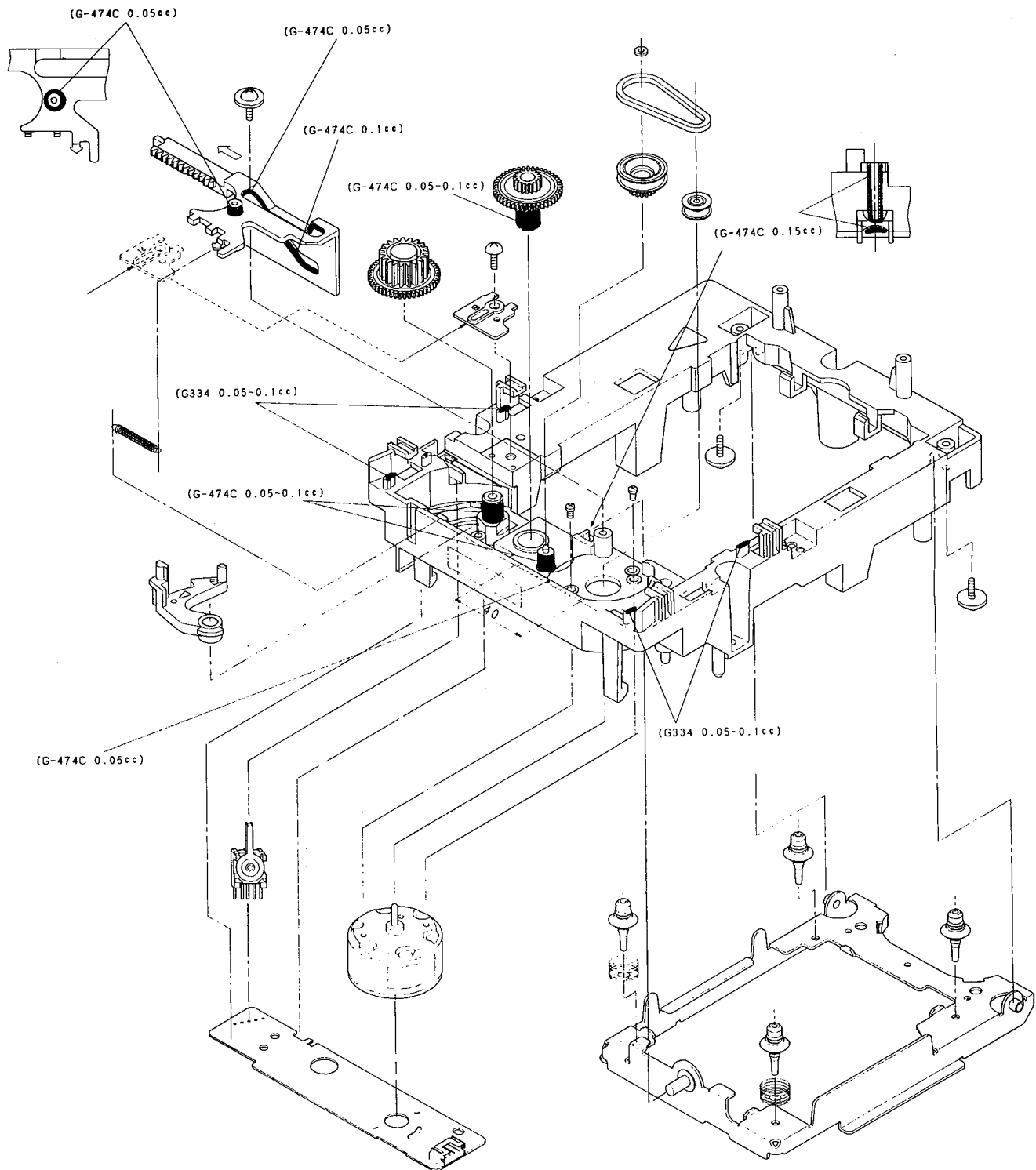
Spindle circuit section



Application Points for Grease

Grease used

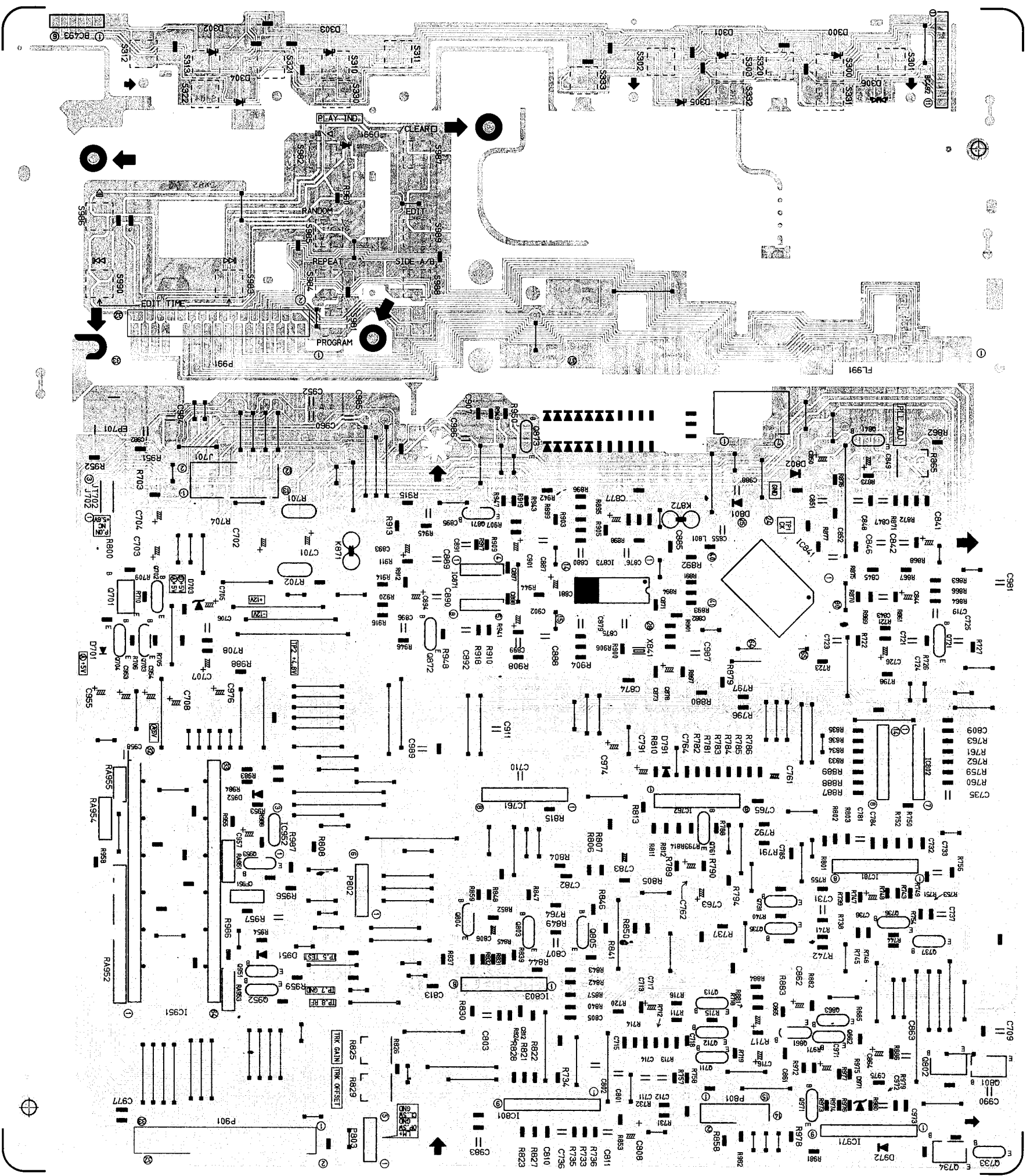
- G-334 (Shin-Etsu Chemical Co., Ltd.)
- G-474C (Kanto Chemical Co., Ltd.)

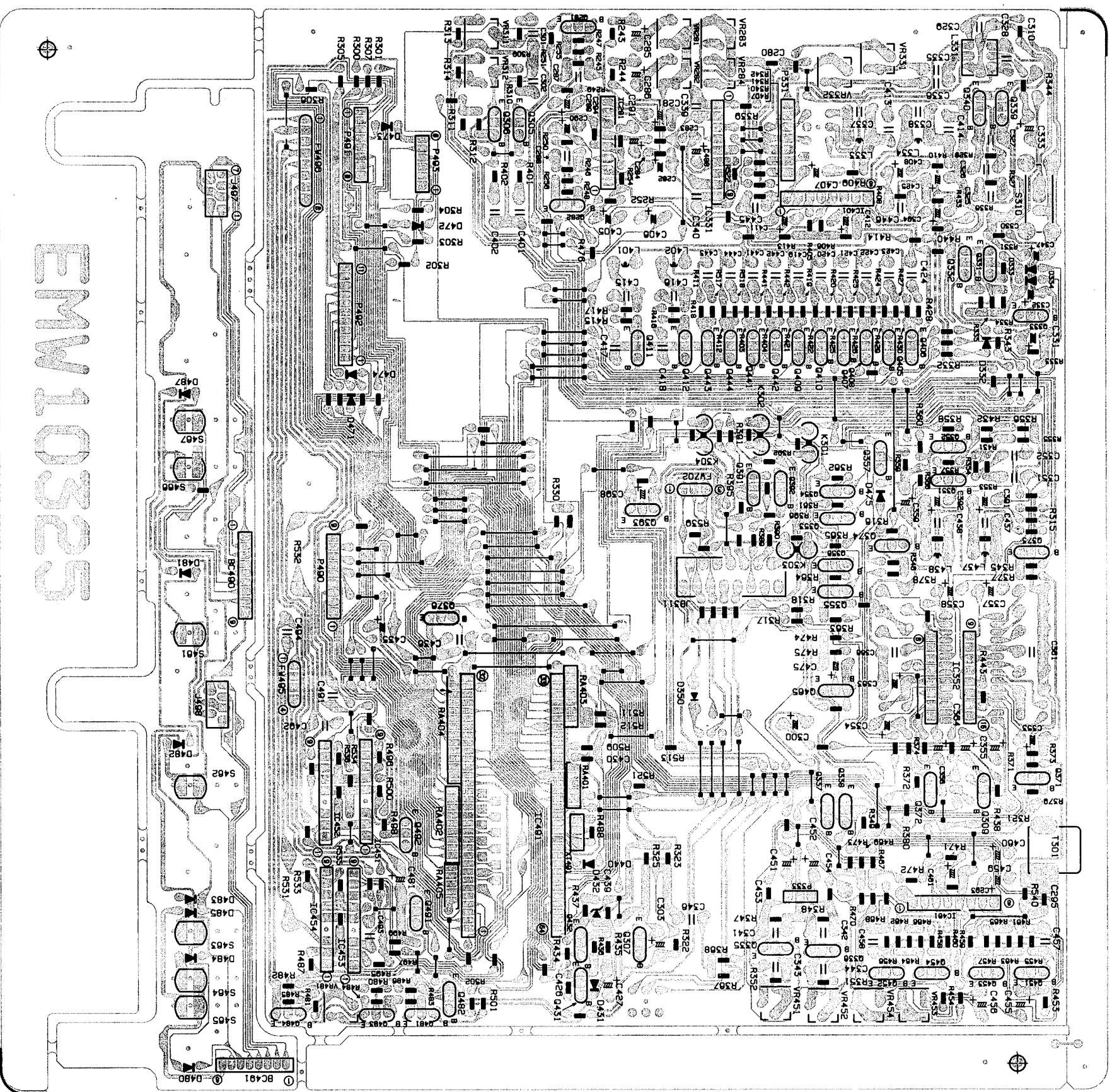


Grease part numbers

G-334: EBS0006-009B

G-474C: EBS0006-019B





EMW10325

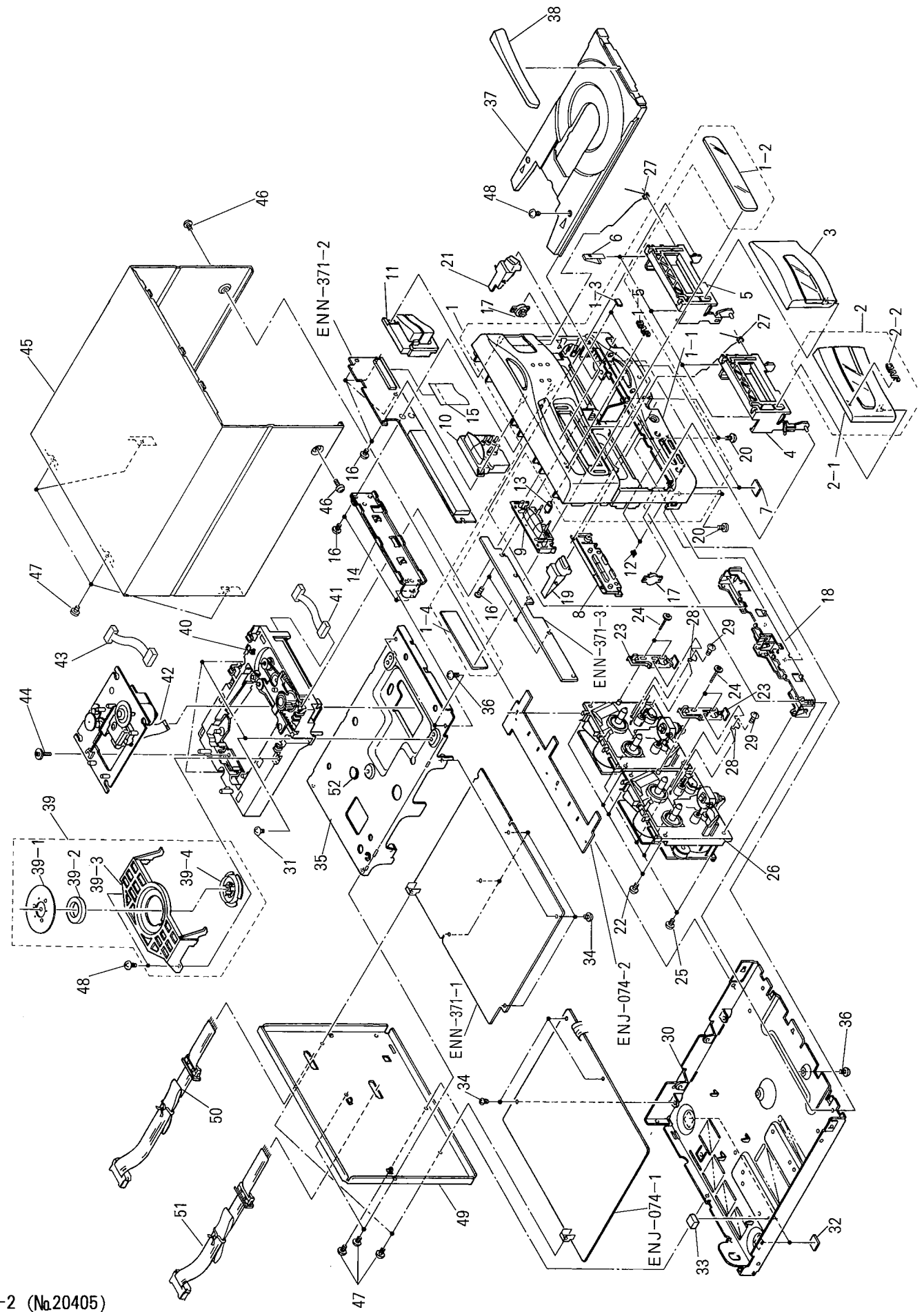
PARTS LIST

Note : All printed circuit boards and its assemblies are not available as service parts.

Contents

General Exploded View and Parts List	2-2
CD Mechanism Ass'y and Parts List	2-5
Cassete Mechanism Ass'y and Parts List	2-7
Printed Circuit Board Ass'y and Parts List	2-10
■ ENN-371 <input type="checkbox"/> CD PC Board Ass'y	2-10
■ ENA-074 <input type="checkbox"/> Deck PC Board Ass'y	2-14

General Exploded View and Parts List



Parts List

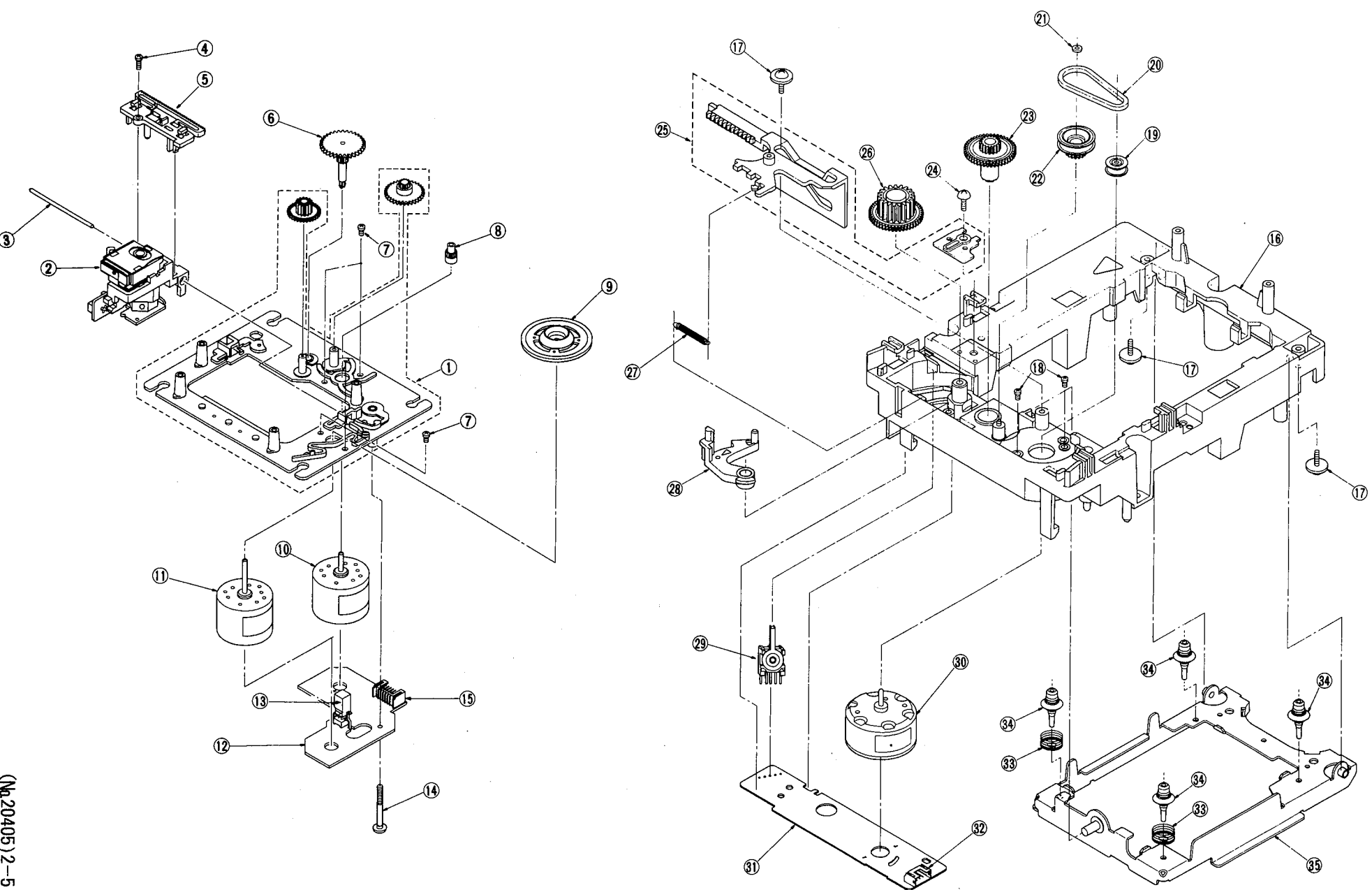
Item	Part Number	Part Name	Q'ty	Description	Area
1	EFP-XTMXS4BKE(S)	FRONT PANEL ASSY	1		
	EFP-XTMXS4BKJ(S)	FRONT PANEL ASSY	1		
1-1	E102686-001SM	FRONT PANEL	1		
1-2	E308430-001SM	WINDOW SCREEN	1		Except J
	E308430-002SM	WINDOW SCREEN	1		J
1-3	E69777-003	REFLECTION PLATE	2		
1-4	E70561-037SM	FLOURESCENT DISPL.SCREEN	1		J
1-5	E406971-221SM	JVC MARK	1		
2	E207803-003SA	CASSETE LID ASSY	1		
2-1	E207803-003	CASSETTE LID ASSY	1	DECK A	
2-2	E406971-221	JVC MARK	1		
3	E207806-003	CASSETTE LID ASSY	1	DECK B	
4	E207560-221	HOLDER	1	DECK A	
5	E207561-221	HOLDER	1	DECK B	
6	E406713-221SS	CASSETE SPRING	4		
7	E75896-001	SPACER	1		
8	E308151-002SS	PUSH BUTTON ASSY	1	DECK A	
9	E207545-003SS	PUSH BUTTON ASSY	1	DECK B	
10	E207796-001SS	PUSH BUTTON ASSY	1	PLAY	
11	E207859-001	PUSH BUTTON ASSY	1	OPEN/CLOSE,SEACH	
12	E407445-001SM	INDICATOR LENS	1	DOLBY	
13	E407446-001SS	INDICATOR LENS	1	REC PAUSE	
14	E308437-003	STAY BRACKET	1		
15	EWR633K-14PPJ3	FLAT WIRE	1		
16	SDSF2608Z	SCREW	10		
17	E304434-002	DAMPER ASSY	2		
18	E207567-001	HOLDER BRACKET	1		
19	E308160-001	EJECT BUTTON	1	DECK A	
20	SBST3006M	SCREW	4		
21	E308161-001SS	EJECT BUTTON	1	DECK B	
22	SBSF3010C	SCREW	4		
23	E308162-002	EJECT LEVER	1		
24	E407214-001	SPECIAL SCREW	4		
25	SBST3008C	SCREW	4		
26	-----	CASSETE MECHANISM ASSY	1	See page 2-7	
27	E407447-004	SPRING	2		
28	E407304-001	SPRING	2		
29	GBSF3006Z	SCREW	2		
30	E102616-003SS	CHASSIS BASE	4		
31	SBST3008Z	SCREW	3		
32	E75896-006	FELT SPACER	2		
33	EXO008008R40S	SPACER	1		
34	SBSG3008N	SCREW	8		
35	E102688-003SM	CHASSIS BASE	1		
36	SBST3006Z	SCREW	3		
37	E102358-222SS	CD TRAY	1		
38	E207534-002	FITTING	1		
39	E306837-005	CLAMPER ASSY	1		
39-1	E306836-003	YOKE PLATE	1		
39-2	E74897-002	MAGNET	1		

Item	Part Number	Part Name	Q'ty	Description	Area
39-3	E26756-002	CLAMPER BASE	1		
39-4	E306835-001	CD CLAMPER	1		
40	-----	CD MECHANISM ASSY	1	See page 2-5	
41	EWS265-B410	SOCKET WIRE	1		
42	EWR115M-11BB	FLAT WIRE	1	15pin	
43	EWS266-B412J6	SOCKET WIRE	1	6pin	
44	E406293-002	SPECIAL SCREW	1	5pin	
45	E207787-224	METAL COVER	1		
46	SDSG3006M	SCREW	2		
47	E73273-003	SPECIAL SCREW	9		
48	SBSF3008M	SCREW	3		
49	E207809-006SM	REAR PANEL	1		EF
	E207809-011SM	REAR PANEL	1		A
	E207809-006SM	REAR PANEL	1		BS
	E207809-011SM	REAR PANEL	1		C
	E207809-006SM	REAR PANEL	1		EN
	E207809-006SM	REAR PANEL	1		G
	E207809-006SM	REAR PANEL	1		GI
	E207809-012SM	REAR PANEL	1		J
	E207809-010SM	REAR PANEL	1		U
	E207809-010SM	REAR PANEL	1		UT
50	EWP907-015	FLAT WIRE ASSY	1		
51	EWP907-013	PLUG CORD ASSY	1		
52	E73967-001	SPACER	1		
-	E61029-005	NUMBER LABEL	1		Except J
-	E307570-001	NUMBER LABEL	1		J
-	E70891-001	LABEL	1		Except J,C
-	E406507-001	MECHA CAUTION LABEL	1		

The Marks for Designated Areas

J	the U.S.A.	A	Australia	C	Canada
G	Germany	U	Universal	UT	Taiwan
BS	the U.K.	EF	Continental Europe	EN	Scandinavia
GI	Italy	No mark indicates all area.			

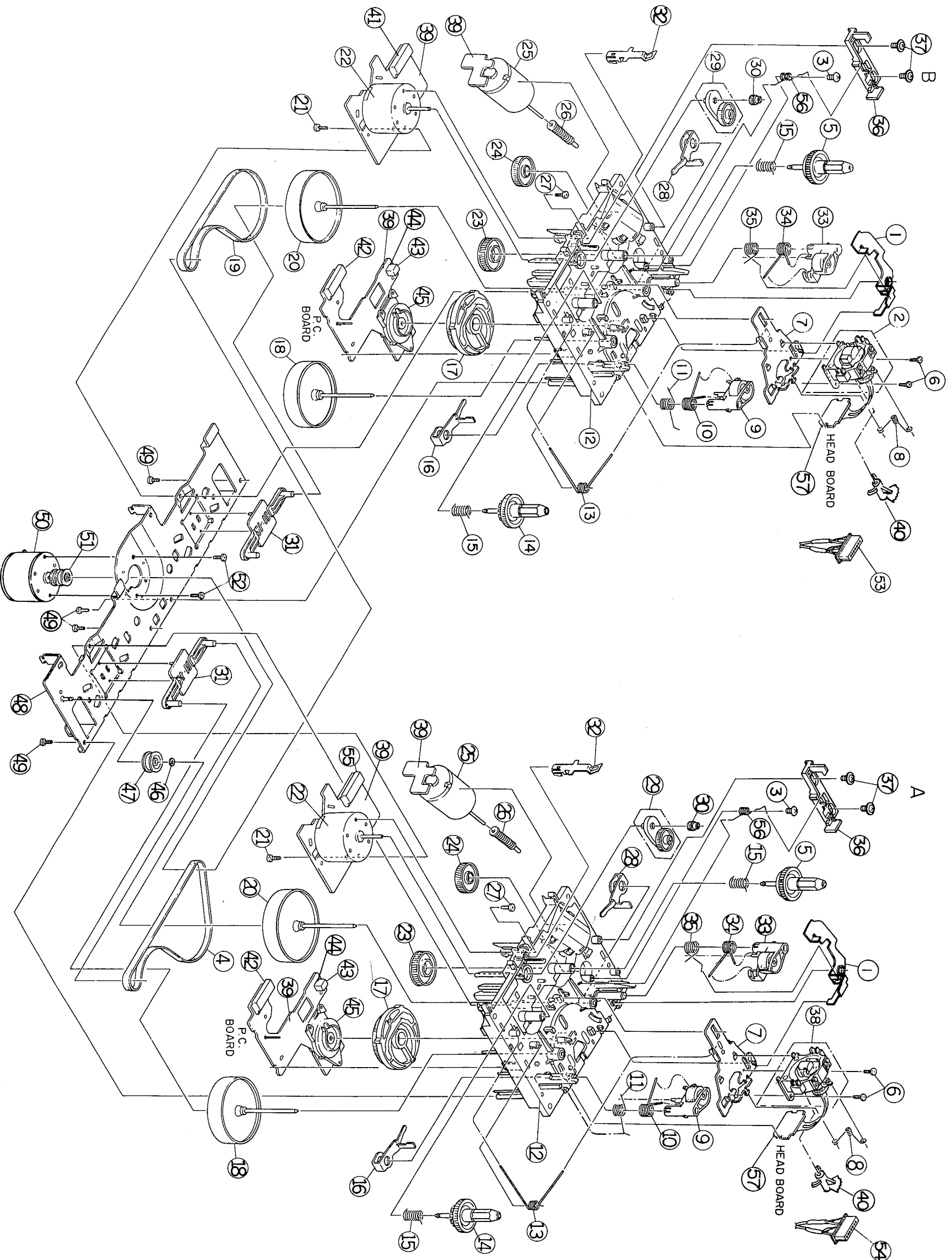
No mark indicates all area.



■ Parts List (CD Mechanism Ass'y)

Item	Part Number	Part Name	Qty	Description	Area
1	EPB-002A	MECHANISM BASE ASSY	1		
2	OPTIMA-6S	PICK UP ASS'Y	1		
3	E406777-001	SHAFT	1		
4	SDSF2006Z	SCREW	1		
5	E307746-001	CD RACK	1		
6	EPB-003A	MECHANISM BASE ASSY	1		
7	SDSP2003N	SCREW	4		
8	E406750-001	PINION GEAR	1		
9	EPB-001C	TURNTABLE	1		
10	E406784-001	DC MOTOR	1		
11	E406783-001	DC MOTOR	1		
12	EMW10190-001(S)	CIRCUIT BOARD	1		
13	ESB1100-005	LEAF SWITCH	1		
14	E75832-001	SPECIAL SCREW	1		
15	EMV5109-006B	PLUG ASSY	1		6PIN
16	E102357-221	LOADING BASE	1		
17	E65923-003	SCREW	3		
18	SPSK2640Z	SCREW	2		
19	E75984-001	MOTOR PULLEY	1		
20	E75950-002	BELT	1		
21	E72024-001	SPEED NUT	1		
22	E75985-001	GEAR	1		
23	E75986-002	GEAR	1		
24	SBSF3008Z	SCREW	1		
25	E307252-221	CAM - PLATE	1		
26	E75987-001	REEL GEAR	1		
27	E75989-001	SPRING	1		
28	E307162-221	LEVER	1		
29	ESS1200-002	SLIDE SWITCH	1		
30	RF-500TB-12560	MOTOR	1		
31	EMW10255-002(S)	CIRCUIT BOARD	1		
32	EMV5109-005B	PLUG ASSY	1	SPIN	
33	E406871-001	SPRING	2		
34	E406294-002	INSULATOR	4		
35	E307179-221	ELEVATOR BASE ASSY	1		

Cassette Mechanism Ass'y and Parts List



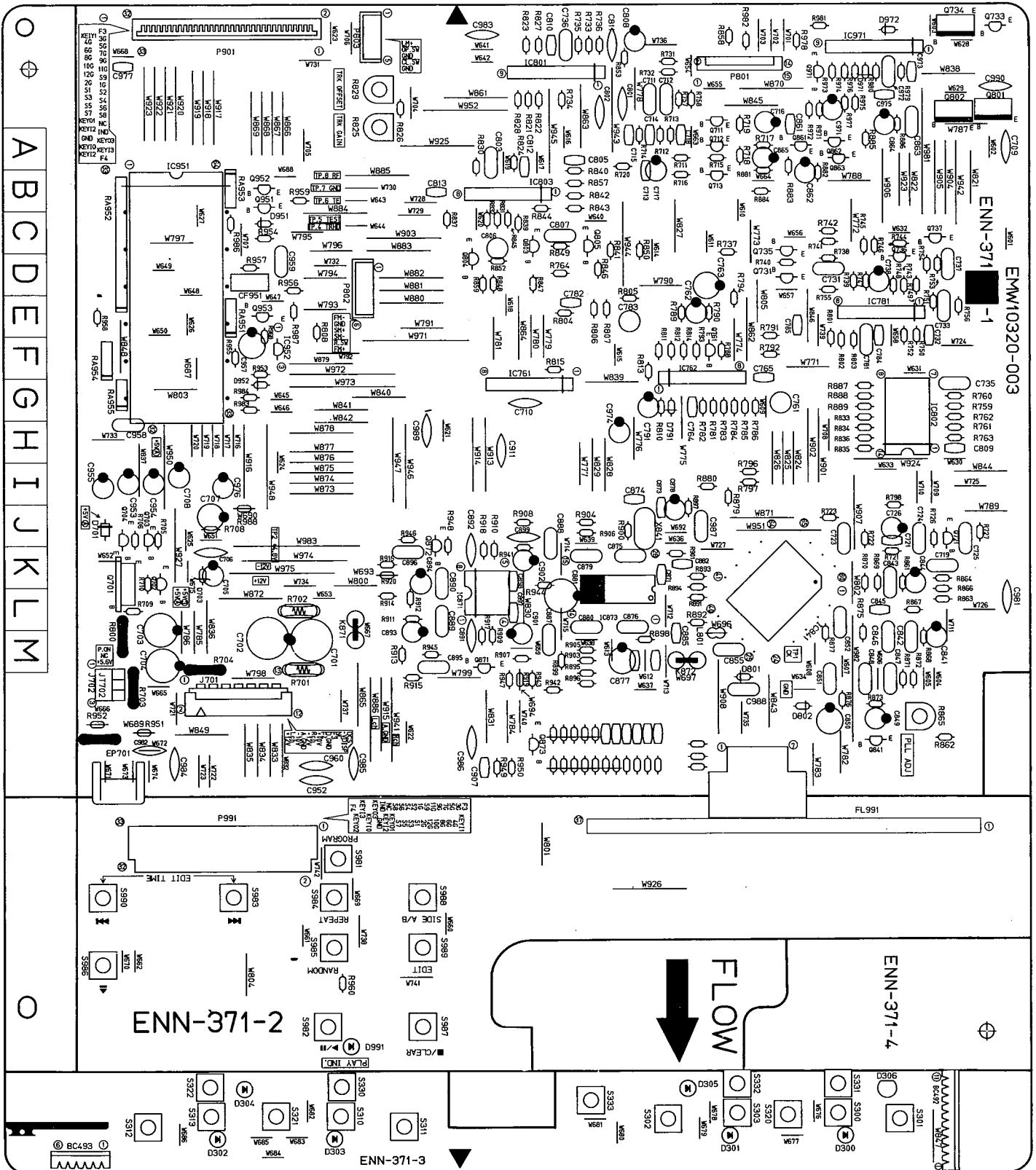
■ Parts List (Cassete Mechanism Ass'y)

Item	Part Number	Part Name	Q'ty	Description	Areas
1	VKL7246-001	EJECT BRACKET	2		
2	VKS3551-00B	HEAD MOUNT ASSY	1	(B)	
3	GBSF3008Z	SCREW	2		
4	VKB3001-054	CAPSTAN BELT	1	(A)	
5	VKS5321-00D	TAKE-UP REEL DISK	2	RIGHT	
6	SDST2004Z	SCREW	4	FOR HEAD MOUNT ASSY	
7	VKL6942-00E	HEAD BASE	2		
8	VKW4994-001	HEAD SPRING	2		
9	VKP4221-00C	PINCH ROLLER	2	LEFT	
10	VKW4982-001	PINCH ROLLER SPRING	2	LEFT	
11	VKW4933-005	TORSION SPRING	2	LEFT	
12	VKS1125-00A	CHASSIS BASE	2		
13	VKW4930-002	SPRING	2		
14	VKS3480-005	SUPPLY REEL DISK	2	LEFT	
15	VKW4928-003	SPRING	4	FOR REEL ASSY	
16	VKL6940-002	PINCH ROLLER LEVER	2	LEFT	
17	VKS2209-005	CONTROL CAM	2		
18	VKF3186-00C	FLYWHEEL	2	LEFT	
19	VKB3001-055	CAPSTAN BELT	1	(B)	
20	VKF3184-00C	FLYWHEEL	2	RIGHT	
21	SDSF2608Z	SCREW	2	PCB - FM BRACKET	
22	MMN-6F4RA38	DC MOTOR	2	REEL	
23	VKS5331-002	ACTUATER GEAR	2		
24	VKS5330-004	DRIVE GEAR	2		
25	MXN-13FB12F	DC MOTOR	2	CAM	
26	VKS5329-002	PINION GEAR	2		
27	SDSP2605Z	SCREW	2	CHASSIS BASE - MOTOR	
28	VKL6939-002	PINCH ROLLER LEVER	2	RIGHT	
29	VKS5325-00F	F.F/REW.ARM	2		
30	VKS5328-002	REEL GEAR	2		
31	VKS5327-003	MECHA PLATE	2		
32	VKY4628-002	SPRING	2		
33	VKP4219-00C	PINCH ROLLER	2	RIGHT	
34	VKW4981-001	TORSION SPRING	2	RIGHT	
35	VKW4932-005	TORSION SPRING	2	RIGHT	
36	E308162-001	EJECT LEVER	2		
37	E407214-001	SPECIAL SCREW	4		
38	VKS3550-00B	HEAD MOUNT	1	(A)	
39	VMW2362-001	PRINTED BOARD	2		
40	VKS3485-002	TIMING GEAR	2		
41	VMC0249-R08N	CONNECT TERMINAL	1	(B)	
42	VMC0234-R07	CONNECT TERMINAL	2		
43	DN6851A	I.C(DIGI-OTHER)	2		
44	VKS3487-002	IC HOLDER	2		
45	VKS3587-00A	CAM SWITCH	2		
46	WDL163525-4	WASHER	1		
47	VKR4631-003	IDLER PULLEY	1		
48	VKM3618-00A	FLYWHEEL BRACKET	1		
49	SDSF2605Z	SCREW	4	CHASSIS BASE - FM BRACKET	
50	MMI-6H2LWSK	DC MOTOR	1	CAPSTAN	
51	VKR4632-002	MOTOR PULLEY	1		
52	SPSP2603Z	SCREW	2		
53	VDM007P-024I	CONNECTOR WIRE ASSY	1	(B)	
54	VDM003P-040I	CONNECTOR WIRE ASSY	1	(A)	
55	VMC0249-R04N	CONNECT TERMINAL	1	(A)	
56	E407304-001	SPRING	2		
57	EMW4816-001	CIRCUIT BOARD	2		

Printed Circuit Board Ass'y and Parts List

■ ENN-371 □ CD PC Board Ass'y

Note: ENN-371 □ varies according to the areas employed. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Designated Areas
ENN-371 B	Australia the U.K. Canada Scandinavia Continental Europe
ENN-371 D	Germany Italy
ENN-371 A	the U.S.A.
ENN-371 C	Universal Type Taiwan

DIODES

ITEM	PART NUMBER	DESCRIPTION	AREA
D300	SLR-342MCA47	L.E.D. ROHM	
D301	SLR-342MCA47	L.E.D. ROHM	
D302	SLR-342MCA47	L.E.D. ROHM	
D303	SLR-342MCA47	L.E.D. ROHM	
D304	SLR-342VC3F	L.E.D. ROHM	
D305	SLR-342VC3F	L.E.D. ROHM	
D306	SPR-39MVWF	L.E.D. ROHM	
D701	1SR139-200	SILICON ROHM	
D703	MTZ5.6JB	ZENER ROHM	
D791	1SS119	SILICON HITACHI	
D951	1SS119	SILICON HITACHI	
D952	1SS119	SILICON HITACHI	
D971	MTZ2.4JB	ZENER ROHM	
D972	1SS119	SILICON HITACHI	
D991	SLR-342MCA47	L.E.D. ROHM	

TRANSISTORS

ITEM	PART NUMBER	DESCRIPTION	AREA
Q701	2SB1187(E,F)	SILICON ROHM	
Q702	2SC1740S(R,S)	SILICON ROHM	
Q703	2SA934(Q,R)	SILICON ROHM	
Q704	DTA144ES	SILICON ROHM	
Q711	2SC535(B,C)	SILICON HITACHI	
Q712	2SC1740S(R,S)	SILICON ROHM	
Q713	2SA933S(R,S)	SILICON ROHM	
Q721	2SD2144S(VW)	SILICON ROHM	
Q731	2SD2144S(VW)	SILICON ROHM	
Q733	2SC2060(Q,R)	SILICON ROHM	
Q734	2SB1357(E,F)	SILICON ROHM	
Q735	DTA144WS	SILICON ROHM	
Q736	2SA933S(R,S)	SILICON ROHM	
Q737	2SA933S(R,S)	SILICON ROHM	
Q761	2SD2144S(VW)	SILICON ROHM	
Q801	2SD2037(E,F)	SILICON ROHM	
Q802	2SB1357(E,F)	SILICON ROHM	
Q803	2SD2144S(VW)	SILICON ROHM	
Q804	2SD2144S(VW)	SILICON ROHM	
Q805	2SD2144S(VW)	SILICON ROHM	
Q841	2SD2144S(VW)	SILICON ROHM	
Q861	2SA933S(R,S)	SILICON ROHM	
Q862	2SC1740S(R,S)	SILICON ROHM	
Q863	2SC1740S(R,S)	SILICON ROHM	
Q871	2SD2144S(VW)	SILICON ROHM	
Q872	2SD2144S(VW)	SILICON ROHM	
Q873	DTA144ES	SILICON ROHM	
Q951	DTA114YS	SILICON ROHM	
Q952	DTC114YS	SILICON ROHM	
Q953	DTC114YS	SILICON ROHM	
Q971	2SA934(Q,R)	SILICON ROHM	

CAPACITORS

ITEM	PART NUMBER	DESCRIPTION	AREA
C701	QETB1CM-108	1000MF 16V ELECTRO	
C702	QETB1CM-108	1000MF 16V ELECTRO	
C703	QETB1CM-227	220MF 16V ELECTRO	
C704	QETB1CM-227	220MF 16V ELECTRO	
C705	QETB1CM-476	47MF 16V ELECTRO	
C706	QCF21HP-223	0.022MF 50V CERAMIC	
C707	QETB0JM-227	220MF 6.3V ELECTRO	
C708	QETB1AM-107	100MF 10V ELECTRO	
C709	QCF21HP-223	0.022MF 50V CERAMIC	
C710	QCF21HP-223	0.022MF 50V CERAMIC	
C711	QFLB1HJ-472	4700PF 50V MYLAR	
C712	QFLB1HJ-472	4700PF 50V MYLAR	
C713	QCHB1EZ-223	0.022MF 25V CERAMIC	
C714	QCSB1HK-3R9	3.9PF 50V CERAMIC	
C715	QCBB1HK-471	470PF 50V CERAMIC	
C716	QETB1EM-106	10MF 25V ELECTRO	
C717	QETB1CM-476	47MF 16V ELECTRO	
C718	QCBB1HK-101	100PF 50V CERAMIC	
C719	QFLB1HJ-183	0.018MF 50V MYLAR	
C721	QCSB1HJ-470	47PF 50V CERAMIC	
C723	QCZ0202-155	1.5MF 25V CERAMIC	
C724	QFLB1HJ-563	0.056MF 50V MYLAR	
C725	QFV81HJ-564	0.56MF 50V T.FILM	
C726	QETB1EM-106	10MF 25V ELECTRO	
C731	QFLB1HJ-183	0.018MF 50V MYLAR	
C732	QCBB1HK-271	270PF 50V CERAMIC	
C733	QFLB1HJ-393	0.039MF 50V MYLAR	
C735	QFV81HJ-104	0.1MF 50V T.FILM	
C736	QFV81HJ-224	0.22MF 50V T.FILM	
C737	QFV81HJ-104	0.1MF 50V T.FILM	
C738	QETB1CM-476	47MF 16V ELECTRO	
C761	QEN51HM-225	2.2MF 50V NON POLE	
C762	QETB1EM-226	22MF 25V ELECTRO	
C763	QETB0JM-227	220MF 6.3V ELECTRO	
C764	QCHB1EZ-223	0.022MF 25V CERAMIC	
C765	QCHB1EZ-223	0.022MF 25V CERAMIC	
C781	QFLB1HJ-272	2700PF 50V MYLAR	
C782	QCBB1HK-101	100PF 50V CERAMIC	
C783	QEN51HM-225	2.2MF 50V NON POLE	
C784	QCHB1EZ-223	0.022MF 25V CERAMIC	
C785	QCHB1EZ-223	0.022MF 25V CERAMIC	
C791	QETB1HM-475	4.7MF 50V ELECTRO	
C801	QCT26CH-151	150PF 50V CERAMIC	
C802	QCT26CH-101	100PF 50V CERAMIC	
C803	QFLB1HJ-223	0.022MF 50V MYLAR	
C805	QCSB1HJ-470	47PF 50V CERAMIC	
C806	QEN51HM-225	2.2MF 50V NON POLE	
C807	QFLB1HJ-563	0.056MF 50V MYLAR	
C808	QETB1CM-476	47MF 16V ELECTRO	
C809	QCHB1EZ-223	0.022MF 25V CERAMIC	
C810	QCHB1EZ-223	0.022MF 25V CERAMIC	
C811	QCF21HP-223	0.022MF 50V CERAMIC	
C812	QCHB1EZ-223	0.022MF 25V CERAMIC	
C813	QCHB1EZ-223	0.022MF 25V CERAMIC	
C841	QETB1AM-107	100MF 10V ELECTRO	
C842	QFV81HJ-104	0.1MF 50V T.FILM	
C843	QFV81HJ-104	0.1MF 50V T.FILM	
C844	QETB1EM-106	10MF 25V ELECTRO	
C845	QCBB1HK-101	100PF 50V CERAMIC	
C846	QFV81HJ-105	1MF 50V T.FILM	
C847	QFLB1HJ-182	1800PF 50V MYLAR	
C848	QFV81HJ-224	0.22MF 50V T.FILM	
C849	QETB1EM-106	10MF 25V ELECTRO	
C850	QETB0JM-227	220MF 6.3V ELECTRO	
C851	QFV81HJ-104	0.1MF 50V T.FILM	

I. C. S.

ITEM	PART NUMBER	DESCRIPTION	AREA
IC761	STA341M(A)	I.C. SANKEN	
IC762	M5218AL	I.C. MITSUBISHI	
IC781	M5218AL	I.C. MITSUBISHI	
IC801	NJM072S	I.C. DAINICHI	
IC802	XRA10339	I.C. EXAR JAPAN	
IC803	M5218AL	I.C. MITSUBISHI	
IC841	YM7121C	I.C. YAMAHA	
IC871	XRA15218	I.C. ROHM	
IC873	MN35501	I.C. MATSUSHITA	
IC951	HD404019RC11S	I.C. HITACHI	
IC952	MN1281(P,Q)	I.C. MATSUSHITA	
IC971	NJM2904S	I.C. DAINICHI	

△ : SAFETY PARTS

△ : SAFETY PARTS

CAPACITORS

Table with columns: ITEM, PART NUMBER, DESCRIPTION, AREA. Rows include capacitor specifications like C852 QFV81HJ-104, C855 QFLB1HJ-473, etc.

RESISTORS

Table with columns: ITEM, PART NUMBER, DESCRIPTION, AREA. Rows include resistor specifications like R701 QRD14CJ-4R7S, R702 PTH61G25AR4R7M, etc.

RESISTORS

Table with columns: ITEM, PART NUMBER, DESCRIPTION, AREA. Rows include resistor specifications like R836 QRD167J-562, R837 QRD167J-183, etc.

△ : ISAFETY PARTS

△ : ISAFETY PARTS

RESISTORS

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	R862	QRD161J-221	220 1/6W CARBON	
	R863	QRD167J-184	180K 1/6W CARBON	
	R864	QRD167J-393	39K 1/6W CARBON	
	R865	QVPA601-104A	100K VARIABLE	
	R866	QRD167J-224	220K 1/6W CARBON	
	R867	QRD167J-182	1.8K 1/6W CARBON	
	R868	QRD167J-122	1.2K 1/6W CARBON	
	R869	QRD167J-822	8.2K 1/6W CARBON	
	R870	QRD167J-822	8.2K 1/6W CARBON	
	R871	QRD167J-821	820 1/6W CARBON	
	R872	QRD167J-182	1.8K 1/6W CARBON	
	R873	QRD167J-101	100 1/6W CARBON	
	R875	QRD167J-682	6.8K 1/6W CARBON	
	R876	QRD167J-682	6.8K 1/6W CARBON	
	R877	QRD167J-102	1K 1/6W CARBON	
	R879	QRD167J-102	1K 1/6W CARBON	
	R880	QRD167J-102	1K 1/6W CARBON	
	R881	QRD167J-103	10K 1/6W CARBON	
	R882	QRD167J-272	2.7K 1/6W CARBON	
	R883	QRD167J-102	1K 1/6W CARBON	
	R884	QRD167J-271	270 1/6W CARBON	
	R885	QRD167J-103	10K 1/6W CARBON	
	R886	QRD167J-562	5.6K 1/6W CARBON	
	R887	QRD167J-472	4.7K 1/6W CARBON	
	R888	QRD167J-822	8.2K 1/6W CARBON	
	R889	QRD167J-103	10K 1/6W CARBON	
	R891	QRD167J-561	560 1/6W CARBON	
	R892	QRD167J-561	560 1/6W CARBON	
	R893	QRD167J-561	560 1/6W CARBON	
	R894	QRD167J-561	560 1/6W CARBON	
	R895	QRD167J-560	56 1/6W CARBON	
	R896	QRD167J-560	56 1/6W CARBON	
	R897	QRD167J-101	100 1/6W CARBON	
	R898	QRD167J-561	560 1/6W CARBON	
	R899	QRD167J-271	270 1/6W CARBON	
	R900	QRD167J-330	33 1/6W CARBON	
	R901	QRD167J-105	1M 1/6W CARBON	
	R903	QRD167J-273	27K 1/6W CARBON	
	R904	QRD167J-273	27K 1/6W CARBON	
	R905	QRD167J-273	27K 1/6W CARBON	
	R906	QRD167J-273	27K 1/6W CARBON	
	R907	QRD167J-392	3.9K 1/6W CARBON	
	R908	QRD167J-392	3.9K 1/6W CARBON	
	R909	QRD167J-472	4.7K 1/6W CARBON	
	R910	QRD167J-472	4.7K 1/6W CARBON	
	R911	QRD167J-273	27K 1/6W CARBON	
	R912	QRD167J-273	27K 1/6W CARBON	
	R913	QRD167J-561	560 1/6W CARBON	
	R914	QRD167J-561	560 1/6W CARBON	
	R915	QRD161J-221	220 1/6W CARBON	
	R916	QRD161J-221	220 1/6W CARBON	
	R917	QRD167J-183	18K 1/6W CARBON	
	R918	QRD167J-183	18K 1/6W CARBON	
	R941	QRD167J-182	1.8K 1/6W CARBON	
	R942	QRD167J-512	5.1K 1/6W CARBON	
	R943	QRD167J-181	180 1/6W CARBON	
	R944	QRD167J-682	6.8K 1/6W CARBON	
	R945	QRD167J-104	100K 1/6W CARBON	
	R946	QRD167J-104	100K 1/6W CARBON	
	R947	QRD167J-392	3.9K 1/6W CARBON	
	R948	QRD167J-392	3.9K 1/6W CARBON	
	R949	QRD167J-684	680K 1/6W CARBON	
	R950	QRD167J-154	150K 1/6W CARBON	
	R953	QRD167J-471	470 1/6W CARBON	
	R954	QRD167J-473	47K 1/6W CARBON	
	R955	QRD167J-103	10K 1/6W CARBON	
	R956	QRD167J-472	4.7K 1/6W CARBON	
	R957	QRD167J-105	1M 1/6W CARBON	
	R958	QRD167J-473	47K 1/6W CARBON	
	R959	QRD167J-472	4.7K 1/6W CARBON	
	R960	QRD167J-151	150 1/6W CARBON	
	R968	QRD167J-222	2.2K 1/6W CARBON	
	R971	QRD167J-220	22 1/6W CARBON	
	R972	QRD167J-220	22 1/6W CARBON	
	R973	QRD167J-102	1K 1/6W CARBON	
	R974	QRD167J-105	1M 1/6W CARBON	
	R975	QRD167J-331	330 1/6W CARBON	
	R976	QRD167J-183	18K 1/6W CARBON	
	R977	QRD167J-102	1K 1/6W CARBON	
	R978	QRD167J-103	10K 1/6W CARBON	
	R979	QRD167J-103	10K 1/6W CARBON	
	R980	QRD167J-104	100K 1/6W CARBON	
	R981	QRD167J-222	2.2K 1/6W CARBON	
	R982	QRD167J-910	91 1/6W CARBON	
	R986	QRD167J-103	10K 1/6W CARBON	
	R987	QRD167J-473	47K 1/6W CARBON	
	R988	QRD167J-102	1K 1/6W CARBON	
	RA951	QRB049J-102	1K 1/10W R.NETWORK	

Δ : S-A-F-E-T-Y : P-A-R-T-S

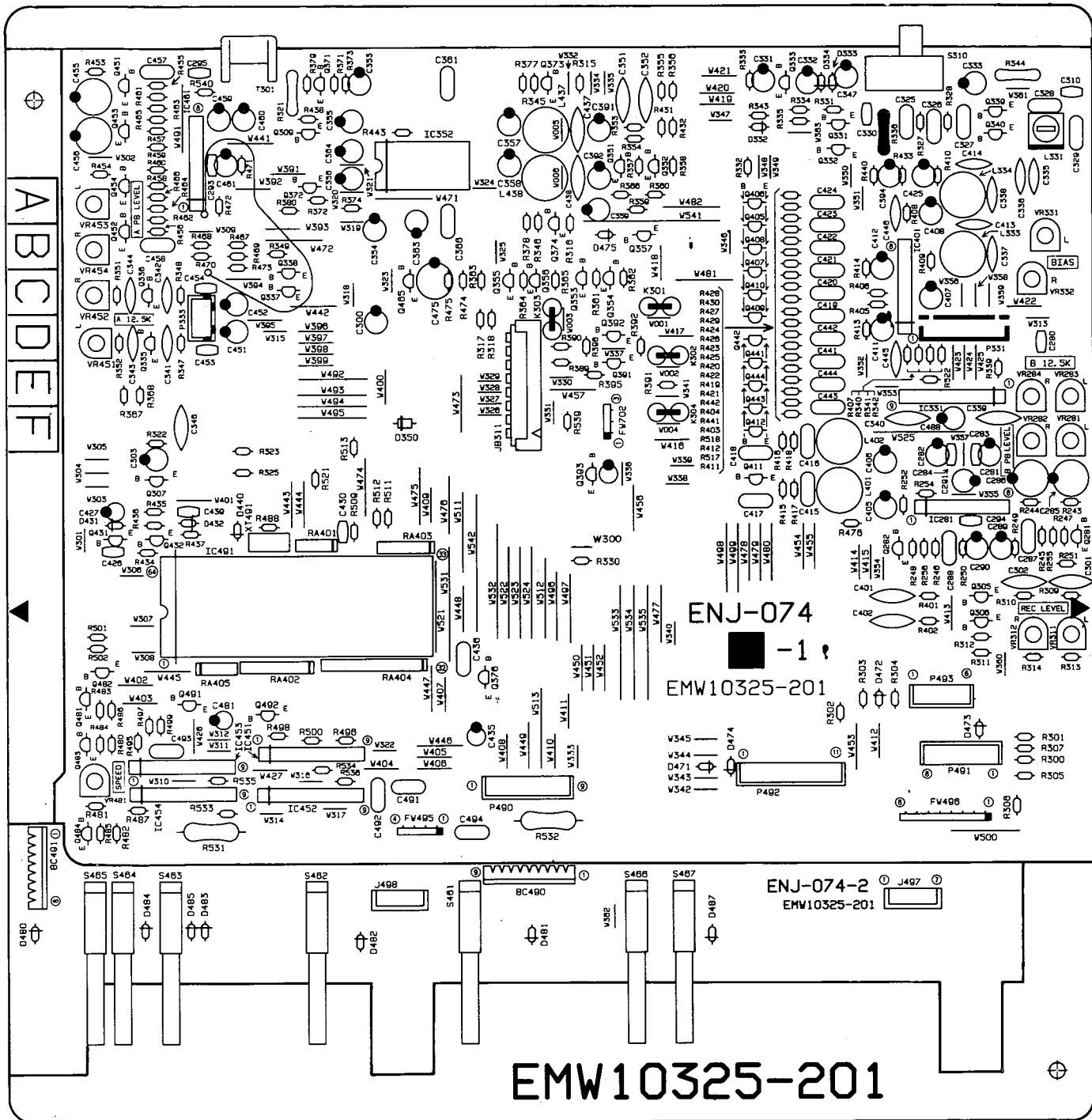
OTHERS

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
		E306805-075	FELT SPACER	
		E308432-001	FL HOLDER	
		E407620-001		
	J701	EMV7141-013M	CONNECTOR13PIN	
	P801	EMV7144-015	CONNECTOR15PIN	
	P802	EMV5109-006A	PLUG ASSY6PIN	
	P803	EMV5109-005A	PLUG ASSY5PIN	
	P901	EMV7123-033	CONNECTOR33PIN	
	P991	EMV7123-033R	CONNECTOR33PIN	
	S300	ESPO001-023M	TACT SWITCHB.W.PLAY(A Mecha)	
	S301	ESPO001-023M	TACT SWITCHREW(A Mecha)	
	S302	ESPO001-023M	TACT SWITCHFF(A Mecha)	
	S303	ESPO001-023M	TACT SWITCHF.W.PLAY(A Mecha)	
	S310	ESPO001-023M	TACT SWITCHB.W.PLAY(B Mecha)	
	S311	ESPO001-023M	TACT SWITCHREW(B Mecha)	
	S312	ESPO001-023M	TACT SWITCHFF(B Mecha)	
	S313	ESPO001-023M	TACT SWITCHF.W.PLAY(B Mecha)	
	S320	ESPO001-023M	TACT SWITCHSTOP(A Mecha)	
	S321	ESPO001-023M	TACT SWITCHSTOP(B Mecha)	
	S322	ESPO001-023M	TACT SWITCHREC.PAUSE(B Mecha)	
	S330	ESPO001-023M	TACT SWITCHHIGH SPEED DUBBING	
	S331	ESPO001-023M	TACT SWITCHDOLBY	
	S332	ESPO001-023M	TACT SWITCHREV.MODE	
	S333	ESPO001-023M	TACT SWITCHCD.REC	
	S981	ESPO001-023M	TACT SWITCHPROGRAM	
	S982	ESPO001-023M	TACT SWITCHPLAY/PAUSE	
	S983	ESPO001-023M	TACT SWITCHBACK.AUTO.SERCH	
	S984	ESPO001-023M	TACT SWITCHREPEAT	
	S985	ESPO001-023M	TACT SWITCHRANDOM	
	S986	ESPO001-023M	TACT SWITCHOPEN/CLOSE	
	S987	ESPO001-023M	TACT SWITCHSTOP/CLEAR	
	S988	ESPO001-023M	TACT SWITCHSIDE A/B	
	S989	ESPO001-023M	TACT SWITCHEDIT	
	S990	ESPO001-023M	TACT SWITCHFOW.AUTO SERCH	
	X841	ECX0169-344EA	RESONATOR	
	BC492	EWS32B-A930	SOCKET WIRE	
	BC493	EWS326-A920	SOCKET WIRE	
	CF951	ECX0004-194KM	RESONATOR	
	EP701	E70225-001	EARTH PLATE	
	FL991	ELU0001-151	FL TUBE	
	JT702	EMV7122-103	CONNECTOR	

Δ : S-A-F-E-T-Y : P-A-R-T-S

■ ENJ-074 □ Deck PC Board Ass'y

Note : ENJ-074 □ varies according to the areas employed. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Designated Areas
ENJ-074 [E]	Australia
ENJ-074 [D]	the U.K. Scandinavia Continental Europe
ENJ-074 [B]	Canada
ENJ-074 [E]	Germany Italy
ENJ-074 [A]	the U.S.A.
ENJ-074 [C]	Universal Type Taiwan

TRANSISTORS

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q281	2SK301(P,Q)	F.E.T	MATSUSHITA
	Q282	2SK301(P,Q)	F.E.T	MATSUSHITA
	Q305	2SD2144S(VW)	SILICON	ROHM
	Q306	2SD2144S(VW)	SILICON	ROHM
	Q307	2SC1740S(R,S)	SILICON	ROHM
	Q309	DTC144ES	SILICON	ROHM
	Q332	2SC1740S(R,S)	SILICON	ROHM
	Q333	2SC1740S(R,S)	SILICON	ROHM
	Q335	DTC144ES	SILICON	ROHM
	Q336	DTC144ES	SILICON	ROHM
	Q337	DTC144ES	SILICON	ROHM
	Q338	DTC144ES	SILICON	ROHM
	Q339	2SC1740S(R,S)	SILICON	ROHM
	Q340	2SC1740S(R,S)	SILICON	ROHM
	Q351	2SC1740S(R,S)	SILICON	ROHM

△ ISIA/FETY/PIPARTS

TRANSISTORS

Table with 4 columns: ITEM, PART NUMBER, DESCRIPTION, AREA. Lists various transistor models like 2SC1740S, 2SD2144S, etc.

CAPACITORS

Table with 4 columns: ITEM, PART NUMBER, DESCRIPTION, AREA. Lists various capacitor models like QETB1AM-107, QFLB1HJ-822, etc.

I. C. S.

Table with 4 columns: ITEM, PART NUMBER, DESCRIPTION, AREA. Lists integrated circuit models like UPC1228HA, HA12136AT, etc.

DIODES

Table with 4 columns: ITEM, PART NUMBER, DESCRIPTION, AREA. Lists diode models like 1SS119, MTZ3.9JB, etc.

CAPACITORS

Table with 4 columns: ITEM, PART NUMBER, DESCRIPTION, AREA. Lists capacitor models like QCVB1CM-103, QEK51HM-225G, etc.

SAFETY PARTS

SAFETY PARTS

CAPACITORS

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	C453	QCBB1HK-101	100PF 50V CERAMIC	F
	C454	QCBB1HK-101	100PF 50V CERAMIC	A
	C454	QCBB1HK-101	100PF 50V CERAMIC	B
	C454	QCBB1HK-101	100PF 50V CERAMIC	C
	C454	QCBB1HK-101	100PF 50V CERAMIC	D
	C454	QCBB1HK-471	470PF 50V CERAMIC	E
	C454	QCBB1HK-101	100PF 50V CERAMIC	F
	C455	QETB1AM-107	100MF 10V ELECTRO	
	C456	QETB1AM-107	100MF 10V ELECTRO	
	C457	QFLB1HJ-822	8200PF 50V MYLAR	
	C458	QFLB1HJ-822	8200PF 50V MYLAR	
	C459	QEK51HM-105G	1MF 50V ELECTRO	
	C460	QEK51HM-105G	1MF 50V ELECTRO	
	C461	QETB1CM-107	100MF 16V ELECTRO	
	C475	QETB1AM-476	47MF 10V ELECTRO	
	C481	QETB1CM-476	47MF 16V ELECTRO	
	C488	QEK51CM-107	100MF 16V ELECTRO	
	C490	QCGB1HK-102	1000PF 50V CERAMIC	E
	C491	QFLB1HJ-104	0.1MF 50V MYLAR	
	C492	QFLB1HJ-104	0.1MF 50V MYLAR	
	C493	QFLB1HJ-104	0.1MF 50V MYLAR	
	C494	QFLB1HJ-104	0.1MF 50V MYLAR	

RESISTORS

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	R241	QRD167J-470	47 1/6W CARBON	E
	R242	QRD167J-470	47 1/6W CARBON	E
	R243	QRD167J-470	47 1/6W CARBON	
	R244	QRD167J-470	47 1/6W CARBON	
	R245	QRD167J-334	330K 1/6W CARBON	
	R246	QRD167J-334	330K 1/6W CARBON	
	R247	QRD167J-562	5.6K 1/6W CARBON	
	R248	QRD167J-562	5.6K 1/6W CARBON	
	R249	QRD167J-682	6.8K 1/6W CARBON	
	R250	QRD167J-682	6.8K 1/6W CARBON	
	R251	QRD167J-105	1M 1/6W CARBON	
	R252	QRD167J-105	1M 1/6W CARBON	
	R254	QRD167J-471	470 1/6W CARBON	
	R255	QRD167J-272	2.7K 1/6W CARBON	
	R256	QRD167J-272	2.7K 1/6W CARBON	
	R300	QRD167J-431	430 1/6W CARBON	
	R301	QRD167J-431	430 1/6W CARBON	
	R302	QRD167J-181	180 1/6W CARBON	
	R303	QRD167J-181	180 1/6W CARBON	
	R304	QRD167J-331	330 1/6W CARBON	
	R305	QRD167J-561	560 1/6W CARBON	
	R306	QRD167J-561	560 1/6W CARBON	
	R307	QRD167J-821	820 1/6W CARBON	
	R309	QRD167J-473	47K 1/6W CARBON	
	R310	QRD167J-473	47K 1/6W CARBON	
	R311	QRD167J-103	10K 1/6W CARBON	
	R312	QRD167J-103	10K 1/6W CARBON	
	R313	QRD167J-153	15K 1/6W CARBON	
	R314	QRD167J-153	15K 1/6W CARBON	
	R315	QRD167J-103	10K 1/6W CARBON	
	R316	QRD167J-103	10K 1/6W CARBON	
	R317	QRD167J-153	15K 1/6W CARBON	A
	R317	QRD167J-473	47K 1/6W CARBON	B
	R317	QRD167J-473	47K 1/6W CARBON	C
	R317	QRD167J-473	47K 1/6W CARBON	D
	R317	QRD167J-473	47K 1/6W CARBON	E
	R317	QRD167J-473	47K 1/6W CARBON	F
	R318	QRD167J-153	15K 1/6W CARBON	A
	R318	QRD167J-473	47K 1/6W CARBON	B
	R318	QRD167J-473	47K 1/6W CARBON	C
	R318	QRD167J-473	47K 1/6W CARBON	D
	R318	QRD167J-473	47K 1/6W CARBON	E
	R318	QRD167J-473	47K 1/6W CARBON	F
	R321	QRD14CJ-220S	22 1/4W UNF. CARBON	A
	R321	QRZ0077-220	22 1/4W FUSIBLE	B
	R321	QRZ0077-220	22 1/4W FUSIBLE	C
	R321	QRZ0077-220	22 1/4W FUSIBLE	D
	R321	QRZ0077-220	22 1/4W FUSIBLE	E
	R321	QRZ0077-220	22 1/4W FUSIBLE	F
	R322	QRD167J-913	91K 1/6W CARBON	
	R323	QRD167J-105	1M 1/6W CARBON	
	R325	QRD167J-104	100K 1/6W CARBON	
	R327	QRD167J-473	47K 1/6W CARBON	
	R328	QRD167J-473	47K 1/6W CARBON	
	R330	QRD167J-103	10K 1/6W CARBON	
	R332	QRD167J-332	3.3K 1/6W CARBON	
	R333	QRD167J-104	100K 1/6W CARBON	
	R334	QRD167J-181	180 1/6W CARBON	
	R335	QRD167J-121	120 1/6W CARBON	
	R336	QRD14CJ-220S	22 1/4W UNF. CARBON	A

Δ ISIA/PETTY PARTS

RESISTORS

Δ	ITEM	PART NUMBER	DESCRIPTION	AREA
	R336	QRZ0077-220	22 1/4W FUSIBLE	B
	R336	QRZ0077-220	22 1/4W FUSIBLE	C
	R336	QRZ0077-220	22 1/4W FUSIBLE	D
	R336	QRZ0077-220	22 1/4W FUSIBLE	E
	R336	QRZ0077-220	22 1/4W FUSIBLE	F
	R341	QRD167J-100	10 1/6W CARBON	
	R342	QRD167J-100	10 1/6W CARBON	
	R343	QRD167J-222	2.2K 1/6W CARBON	
	R344	QRD14CJ-220S	22 1/4W UNF. CARBON	
	R345	QRD167J-562	5.6K 1/6W CARBON	
	R346	QRD167J-562	5.6K 1/6W CARBON	
	R347	QRD167J-224	220K 1/6W CARBON	
	R348	QRD167J-224	220K 1/6W CARBON	
	R349	QRD167J-223	22K 1/6W CARBON	
	R353	QRD167J-153	15K 1/6W CARBON	
	R354	QRD167J-153	15K 1/6W CARBON	
	R355	QRD167J-243	24K 1/6W CARBON	
	R356	QRD167J-243	24K 1/6W CARBON	
	R357	QRD167J-332	3.3K 1/6W CARBON	
	R358	QRD167J-332	3.3K 1/6W CARBON	
	R359	QRD167J-223	22K 1/6W CARBON	
	R360	QRD167J-223	22K 1/6W CARBON	
	R361	QRD167J-561	560 1/6W CARBON	
	R362	QRD167J-561	560 1/6W CARBON	
	R363	QRD167J-242	2.4K 1/6W CARBON	
	R364	QRD167J-242	2.4K 1/6W CARBON	
	R365	QRD167J-103	10K 1/6W CARBON	
	R366	QRD167J-105	1M 1/6W CARBON	
	R367	QRD167J-223	22K 1/6W CARBON	
	R368	QRD167J-223	22K 1/6W CARBON	
	R371	QRD167J-562	5.6K 1/6W CARBON	
	R372	QRD167J-562	5.6K 1/6W CARBON	
	R373	QRD167J-103	10K 1/6W CARBON	
	R374	QRD167J-103	10K 1/6W CARBON	
	R377	QRD167J-103	10K 1/6W CARBON	
	R378	QRD167J-103	10K 1/6W CARBON	
	R379	QRD167J-103	10K 1/6W CARBON	
	R380	QRD167J-103	10K 1/6W CARBON	
	R389	QRD161J-221	220 1/6W CARBON	
	R390	QRD161J-221	220 1/6W CARBON	
	R391	QRD167J-562	5.6K 1/6W CARBON	
	R392	QRD167J-562	5.6K 1/6W CARBON	
	R395	QRD167J-103	10K 1/6W CARBON	
	R396	QRD167J-103	10K 1/6W CARBON	
	R401	QRD167J-333	33K 1/6W CARBON	
	R402	QRD167J-333	33K 1/6W CARBON	
	R405	QRD167J-683	68K 1/6W CARBON	
	R406	QRD167J-683	68K 1/6W CARBON	
	R407	QRD167J-153	15K 1/6W CARBON	
	R408	QRD167J-153	15K 1/6W CARBON	
	R409	QRD167J-153	15K 1/6W CARBON	
	R410	QRD167J-153	15K 1/6W CARBON	
	R413	QRD167J-182	1.8K 1/6W CARBON	
	R414	QRD167J-182	1.8K 1/6W CARBON	
	R415	QRD161J-221	220 1/6W CARBON	
	R416	QRD161J-221	220 1/6W CARBON	
	R417	QRD161J-221	220 1/6W CARBON	
	R418	QRD161J-221	220 1/6W CARBON	
	R419	QRD167J-302	3K 1/6W CARBON	
	R420	QRD167J-302	3K 1/6W CARBON	
	R421	QRD167J-332	3.3K 1/6W CARBON	
	R422	QRD167J-332	3.3K 1/6W CARBON	
	R423	QRD167J-102	1K 1/6W CARBON	
	R424	QRD167J-102	1K 1/6W CARBON	
	R427	QRD167J-471	470 1/6W CARBON	
	R428	QRD167J-471	470 1/6W CARBON	
	R429	QRD167J-222	2.2K 1/6W CARBON	
	R430	QRD167J-222	2.2K 1/6W CARBON	
	R431	QRD167J-394	390K 1/6W CARBON	
	R432	QRD167J-394	390K 1/6W CARBON	
	R433	QRD161J-221	220 1/6W CARBON	
	R434	QRD167J-103	10K 1/6W CARBON	
	R435	QRD167J-223	22K 1/6W CARBON	
	R436	QRD167J-103	10K 1/6W CARBON	
	R437	QRD167J-102	1K 1/6W CARBON	
	R438	QRD167J-103	10K 1/6W CARBON	
	R440	QRD161J-221	220 1/6W CARBON	
	R443	QRD167J-183	18K 1/6W CARBON	
	R451	QRD167J-470	47 1/6W CARBON	
	R452	QRD167J-470	47 1/6W CARBON	E
	R453	QRD167J-470	47 1/6W CARBON	E
	R454	QRD167J-470	47 1/6W CARBON	
	R455	QRD167J-334	330K 1/6W CARBON	
	R456	QRD167J-334	330K 1/6W CARBON	
	R457	QRD167J-362	3.6K 1/6W CARBON	
	R458	QRD167J-362	3.6K 1/6W CARBON	
	R459	QRD167J-222	2.2K 1/6W CARBON	
	R460	QRD167J-222	2.2K 1/6W CARBON	
	R461	QRD167J-332	3.3K 1/6W CARBON	
	R462	QRD167J-332	3.3K 1/6W CARBON	
	R463	QRD167J-682	6.8K 1/6W CARBON	
	R464	QRD167J-682	6.8K 1/6W CARBON	
	R465	QRD167J-223	22K 1/6W CARBON	
	R466	QRD167J-223	22K 1/6W CARBON	
	R467	QRD167J-105	1M 1/6W CARBON	

Δ ISIA/PETTY PARTS

RESISTORS

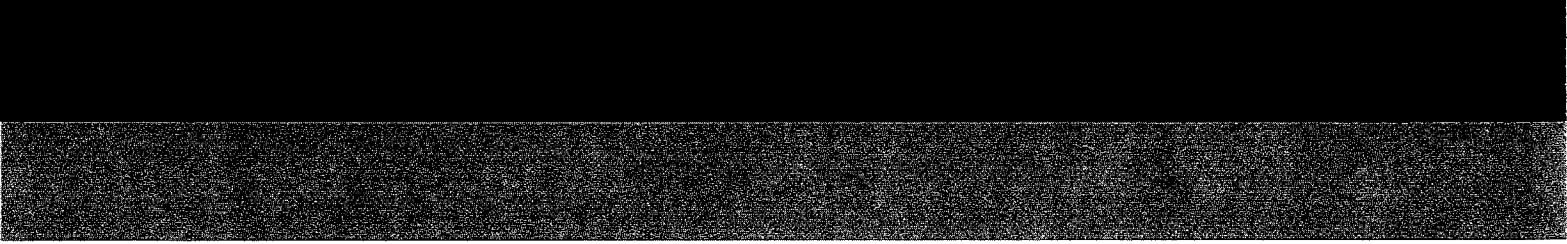
OTHERS

△	ITEM	PART NUMBER	DESCRIPTION			AREA
	R468	QRD167J-105	1M	1/6W	CARBON	
	R469	QRD167J-105	1M	1/6W	CARBON	
	R470	QRD167J-105	1M	1/6W	CARBON	
	R471	QRD167J-471	470	1/6W	CARBON	
	R472	QRD167J-472	4.7K	1/6W	CARBON	
	R473	QRD167J-472	4.7K	1/6W	CARBON	
	R474	QRD167J-274	270K	1/6W	CARBON	
	R475	QRD167J-104	100K	1/6W	CARBON	
	R476	QRD167J-472	4.7K	1/6W	CARBON	
	R480	QRD167J-242	2.4K	1/6W	CARBON	
	R481	QRD167J-153	15K	1/6W	CARBON	
	R482	QRD167J-273	27K	1/6W	CARBON	
	R483	QRD167J-184	180K	1/6W	CARBON	
	R484	QRD167J-224	220K	1/6W	CARBON	
	R485	QRD167J-683	68K	1/6W	CARBON	
	R486	QRD167J-224	220K	1/6W	CARBON	
	R487	QRD167J-224	220K	1/6W	CARBON	
	R488	QRD167J-105	1M	1/6W	CARBON	
	R495	QRD167J-123	12K	1/6W	CARBON	
	R496	QRD167J-123	12K	1/6W	CARBON	
	R497	QRD167J-682	6.8K	1/6W	CARBON	
	R498	QRD167J-682	6.8K	1/6W	CARBON	
	R499	QRD167J-563	56K	1/6W	CARBON	
	R500	QRD167J-563	56K	1/6W	CARBON	
	R501	QRD167J-103	10K	1/6W	CARBON	
	R502	QRD167J-103	10K	1/6W	CARBON	
	R509	QRD167J-103	10K	1/6W	CARBON	
	R513	QRD167J-151	150	1/6W	CARBON	
	R522	QRD161J-221	220	1/6W	CARBON	
	R525	QRD161J-221	220	1/6W	CARBON	
	R526	QRD161J-221	220	1/6W	CARBON	
	R527	QRD167J-220	22	1/6W	CARBON	E
△	R531	QRG022J-470A	47	2W	O.M.FILM	
△	R532	QRG022J-470A	47	2W	O.M.FILM	
	R533	QRD167J-163	16K	1/6W	CARBON	
	R534	QRD167J-163	16K	1/6W	CARBON	
	R535	QRD167J-183	18K	1/6W	CARBON	
	R536	QRD167J-183	18K	1/6W	CARBON	
	R539	QRD167J-472	4.7K	1/6W	CARBON	
	R540	QRD167J-220	22	1/6W	CARBON	A
	R540	QRD167J-220	22	1/6W	CARBON	B
	R540	QRD167J-220	22	1/6W	CARBON	C
	R540	QRD167J-220	22	1/6W	CARBON	D
	R540	QRD167J-220	22	1/6W	CARBON	F
	RA401	QRB049J-103	10K	1/10W	R.NETWORK	
	RA402	QRB089J-103	10K	1/10W	R.NETWORK	
	VR281	QVPA601-201A	200		VARIABLE	
	VR282	QVPA601-201A	200		VARIABLE	
	VR283	QVPA601-104A	100K		VARIABLE	
	VR284	QVPA601-104A	100K		VARIABLE	
	VR311	QVPA601-503A	50K		VARIABLE	
	VR312	QVPA601-503A	50K		VARIABLE	
	VR331	QVPA601-204A	200K		VARIABLE	
	VR332	QVPA601-204A	200K		VARIABLE	
	VR451	QVPA601-104A	100K		VARIABLE	
	VR452	QVPA601-104A	100K		VARIABLE	
	VR453	QVPA601-201A	200		VARIABLE	
	VR454	QVPA601-201A	200		VARIABLE	
	VR481	QVPA601-103A	10K		VARIABLE	

△ : SAFETY PARTS

△	ITEM	PART NUMBER	DESCRIPTION			AREA
	J497	VMC0234-P07	CONNECT TERMINAL 7PIN			
	J498	VMC0234-P07	CONNECT TERMINAL 7PIN			
	K302	ENZ8101-007	INDUCTOR			E
	K303	ENZ8101-007	INDUCTOR			E
	K304	ENZ8101-007	INDUCTOR			E
	L331	ENZ6002-010	OSCILLATOR COIL			
	L333	EQL2106-223	INDUCTOR			
	L334	EQL2106-223	INDUCTOR			
	L401	EQL2106-562	INDUCTOR			
	L402	EQL2106-562	INDUCTOR			
	L437	EQL2106-223	INDUCTOR			
	L438	EQL2106-223	INDUCTOR			
	P331	QMV5011-007K	PLUG ASSY 7PIN			
	P333	QMV5011-003K	PLUG ASSY 3PIN			
	P490	EMV5109-009A	PLUG ASSY 9PIN			
	P491	EMV5109-008A	PLUG ASSY 8PIN			
	P492	EMV5142-911	PLUG ASSY 11PIN			
	P493	EMV5142-906	PLUG ASSY 6PIN			
	S310	QSS7A12-E01	SLIDE SWITCH FWD REC			D
	S310	QSS7A12-E01	SLIDE SWITCH METAL TAPE			E
	S461	ESB1100-007	LEAF SWITCH B.PACK			
	S463	ESB1100-007	LEAF SWITCH B.Cro2			
	S464	ESB1100-007	LEAF SWITCH REV/REC			
	S465	ESB1100-007	LEAF SWITCH A.Cro2			
	S466	ESB1100-007	LEAF SWITCH			
	S467	ESB1100-007	LEAF SWITCH			
	T301	E70225-001	EARTH PLATE			
	BC490	EWS269-F413	SOCKET WIRE			
	BC491	EWS268-F413	SOCKET WIRE			
	FW495	EWR348-16LST	FLAT WIRE 4PIN			
	FW496	EWR388-16LST	FLAT WIRE 8PIN			
	FW702	EWR338-20LST	FLAT WIRE 3PIN			
	J8311	EMV7141-015	CONNECTOR 15PIN			
	XT491	ECX0004-194KM	RESONATOR			

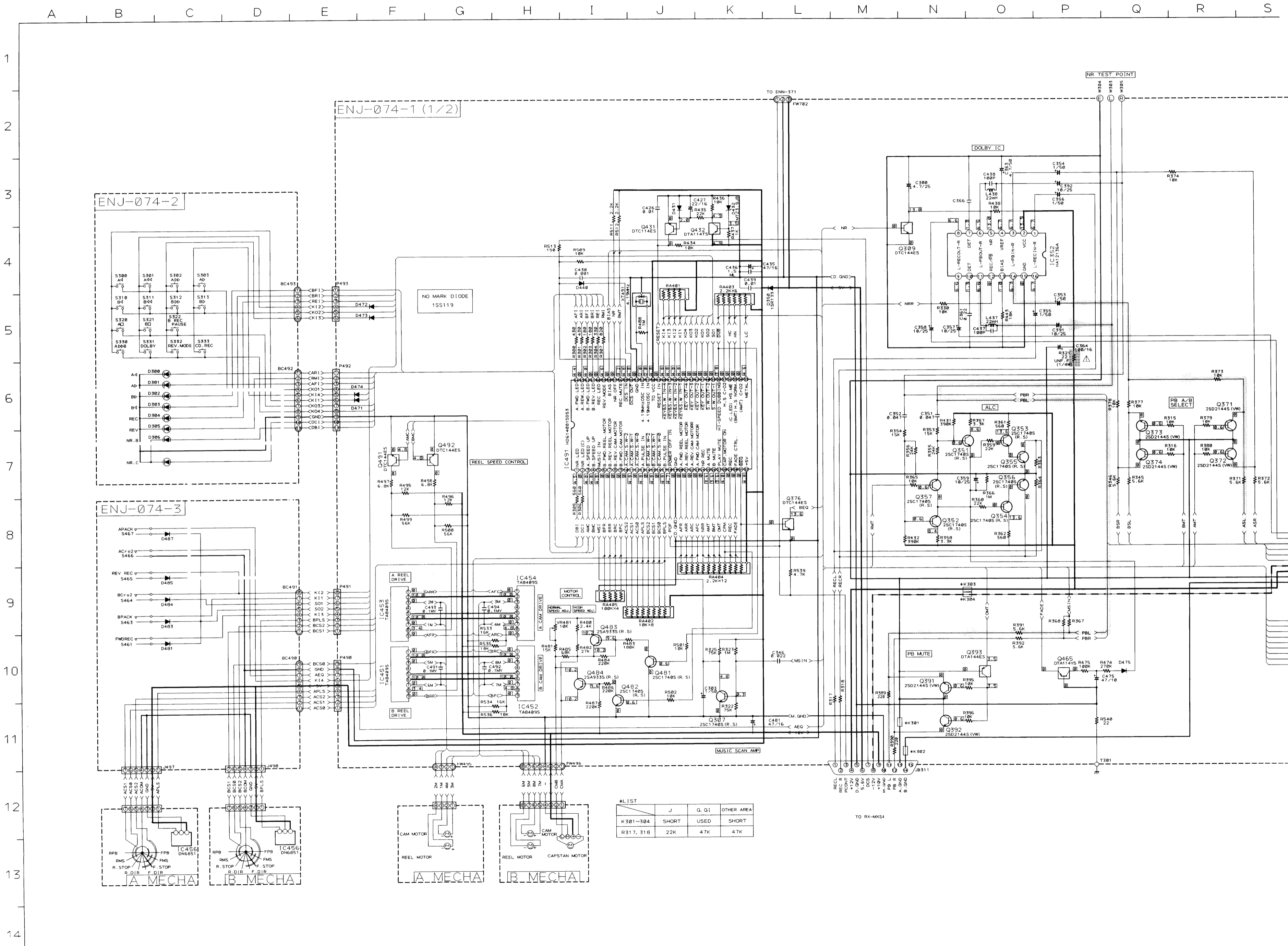
△ : SAFETY PARTS



JVC

VICTOR COMPANY OF JAPAN, LIMITED
AUDIO DIVISION, 1644, SHIMOTSURUMA, YAMATO-SHI, KANAGAWA-KEN, 242, JAPAN

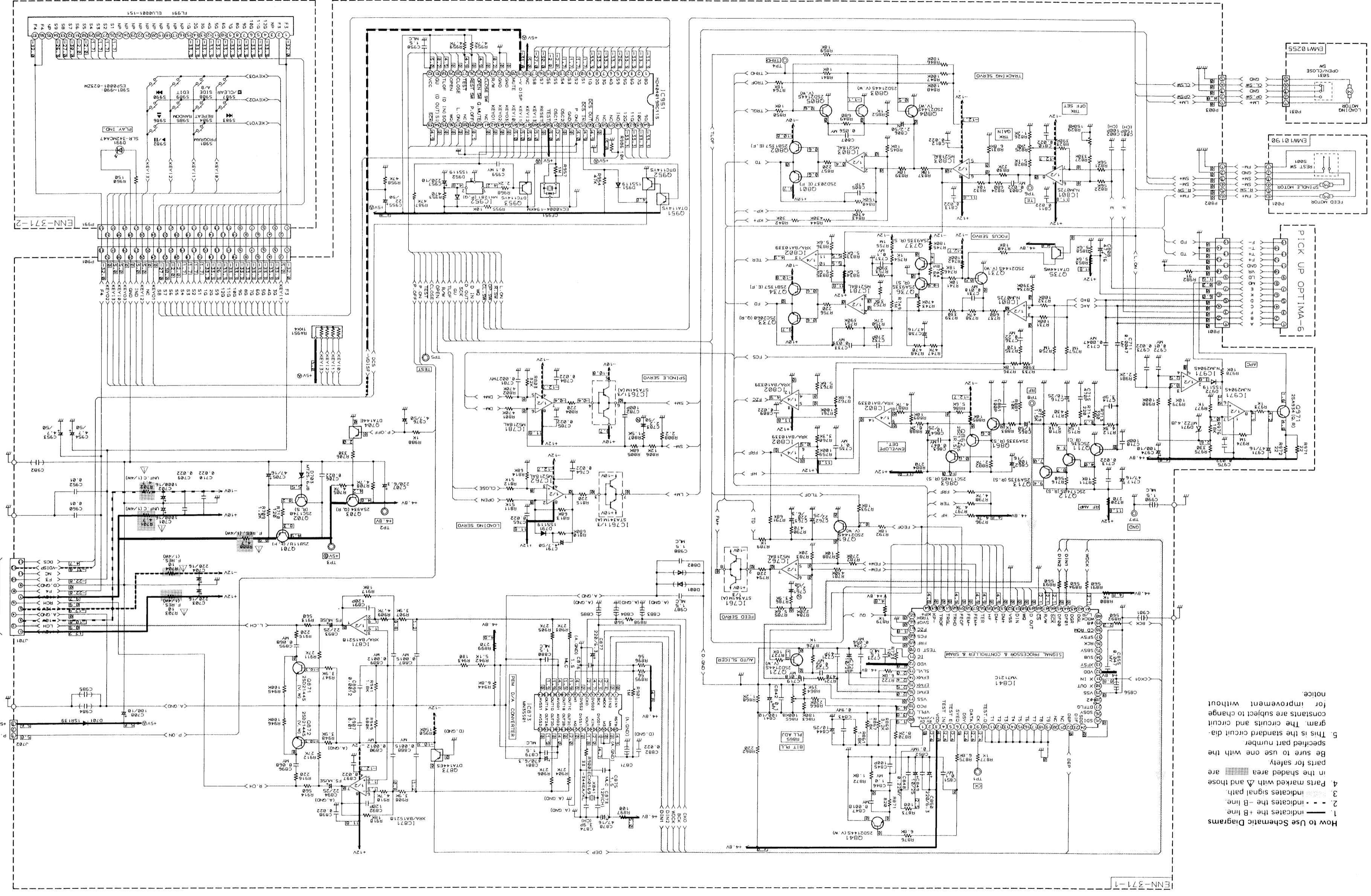
(2) Cassette Deck Control Section



SCHEMATIC DIAGRAM

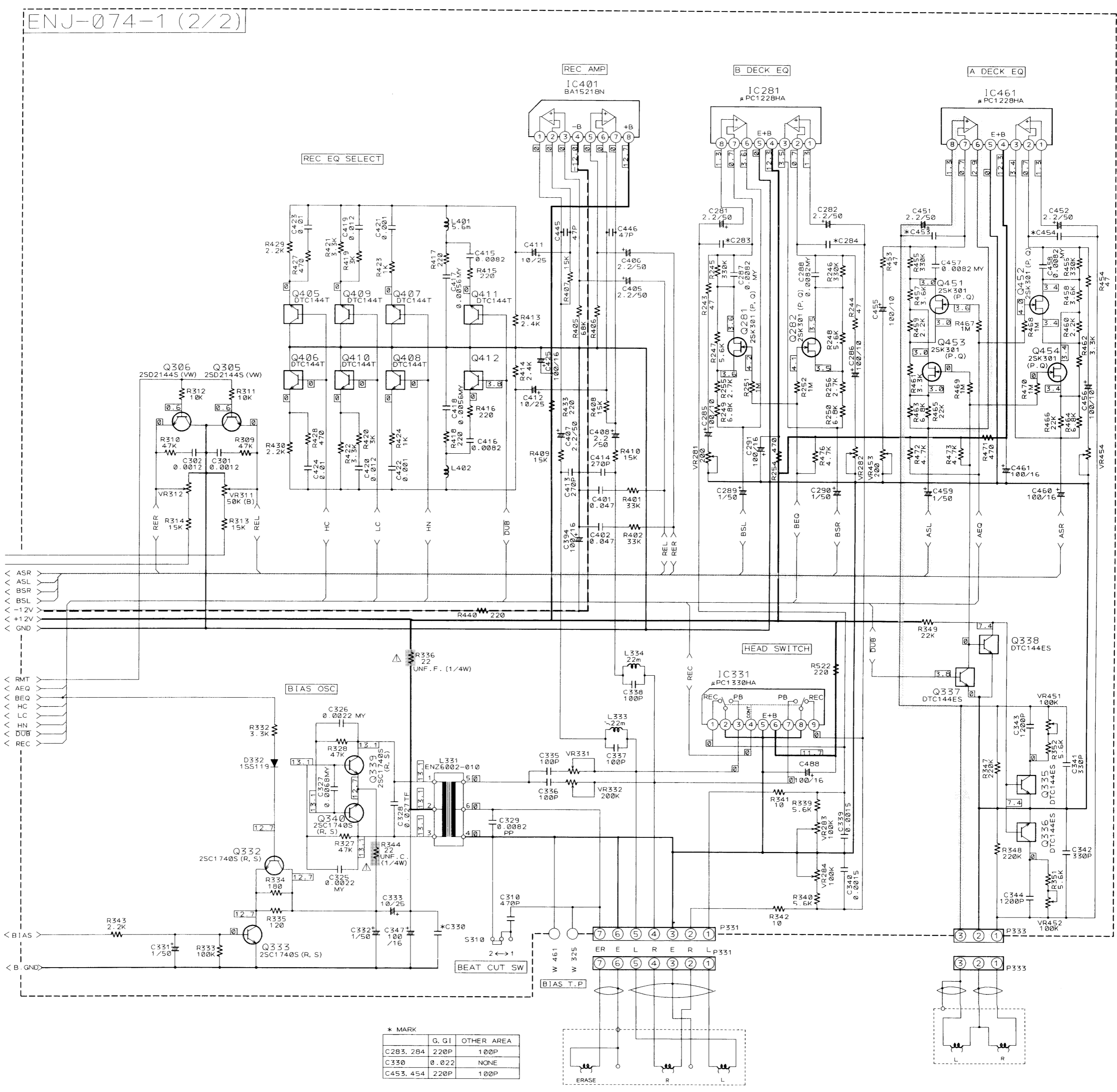
(1) CD Section

- How to Use Schematic Diagrams
1. — indicates the +B line.
 2. - - - indicates signal path.
 3. Parts marked with Δ and those in the shaded area are parts for safety.
 4. Be sure to use one with the specified part number.
 5. This is the standard circuit diagram. The circuits and circuit constants are subject to change for improvement without notice.

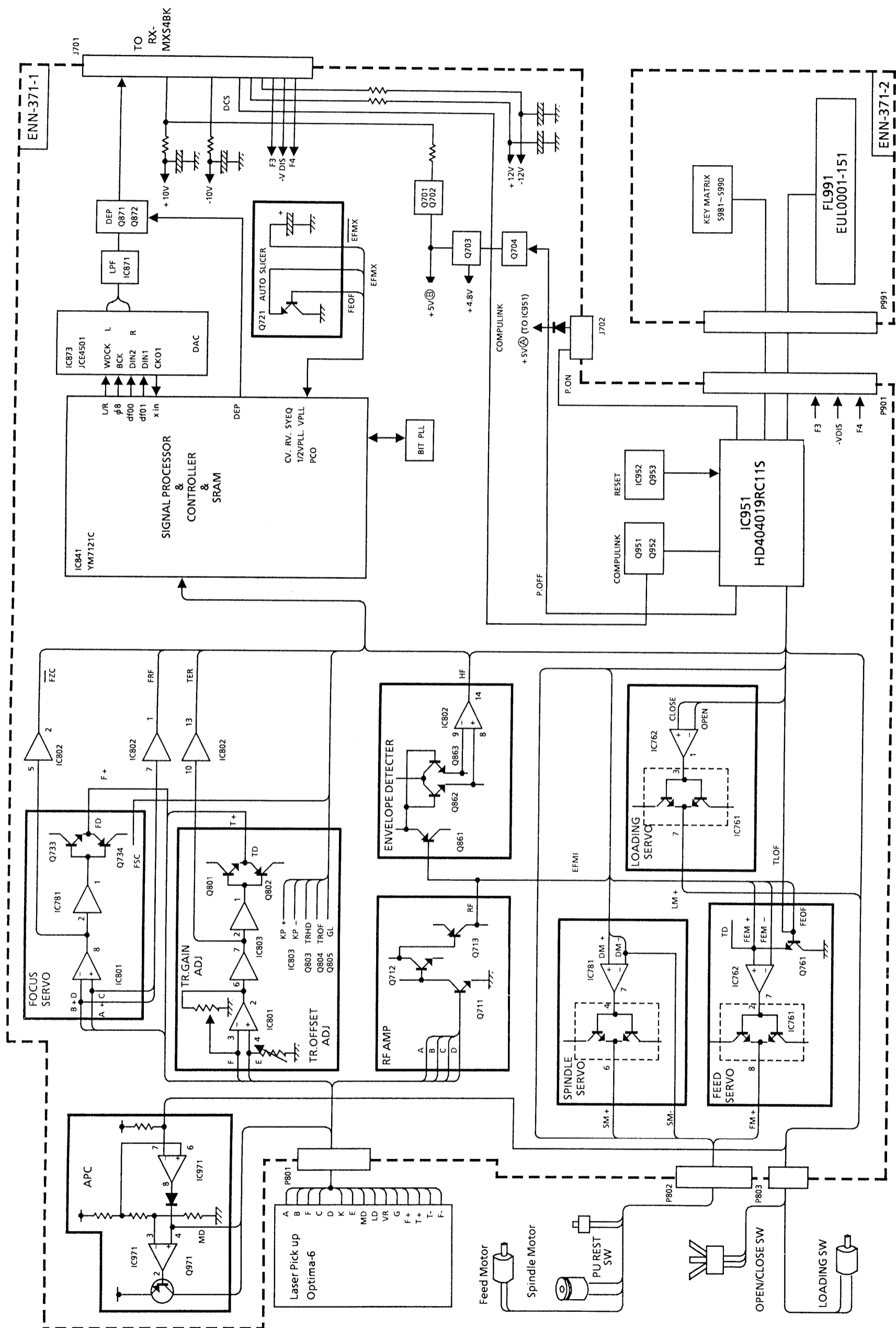


(3) Cassette Deck Section

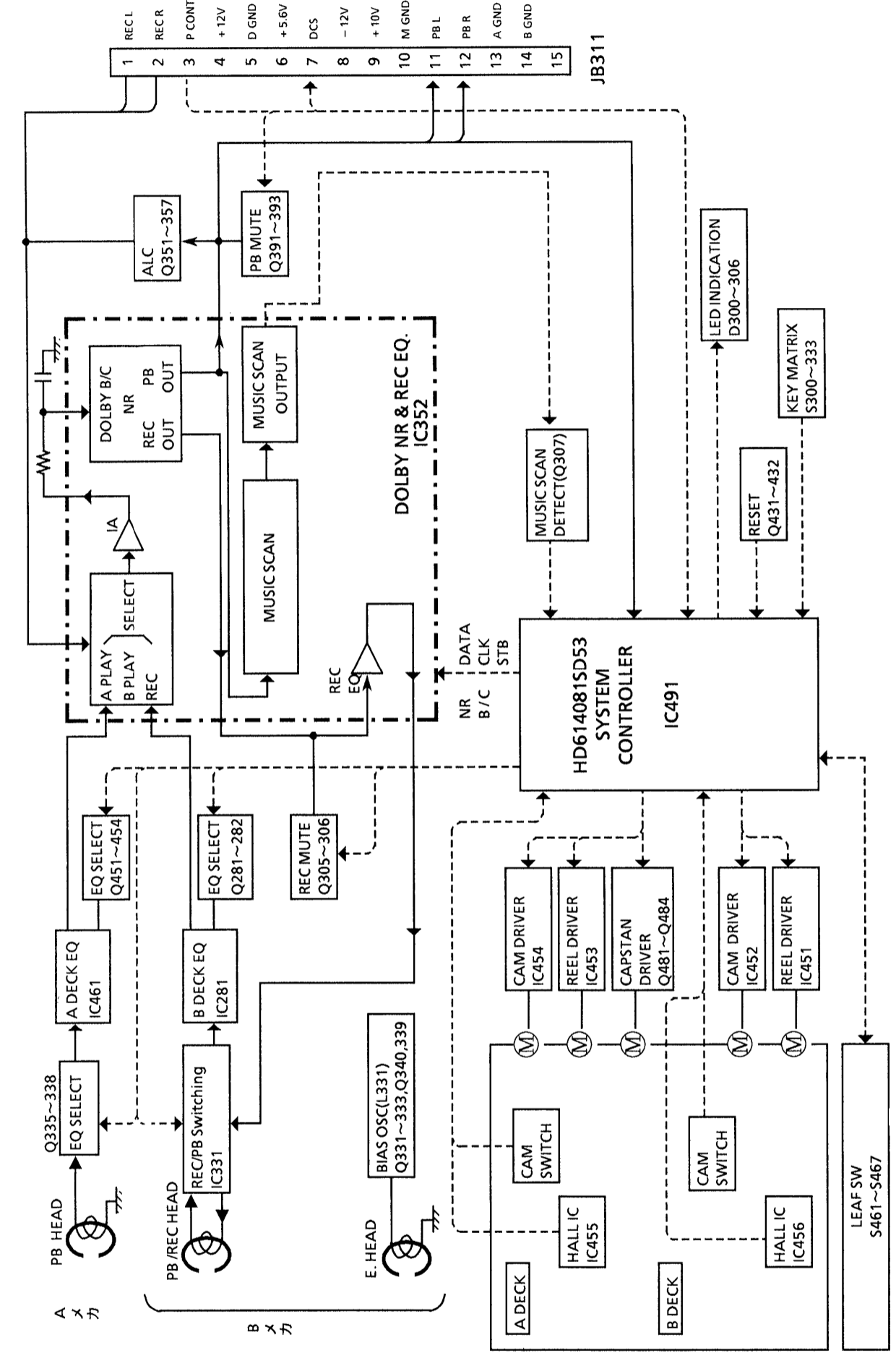
A B C D E F G H I J K L M N O P Q R S



Block Diagrams



■ CD Section



■ Deck Section