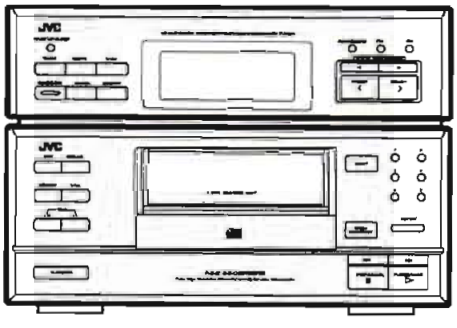
JVC

SERVICE MANUAL

COMPACT COMPONENT SYSTEM

CA-MX55MBK

(UNIT NO. XT-MX55MBK)



* *For instruction manual, please refer to the CA-MX55MBK(S.M.NO.20342).*

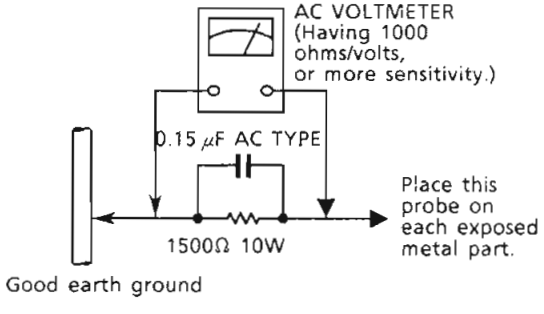
* *DX-MX55MBK is needed (for power supply etc.) when servicing.*

Contents

No. 20344
Mar. 1992

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 (⚠) on the Parts List in the Service Manual. The use of a substitute repalcement 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 currnet 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, contorl 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, particularily 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 1,500Ω 10 W resistor paralleled by a 0.15 μF 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 meausre 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 laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

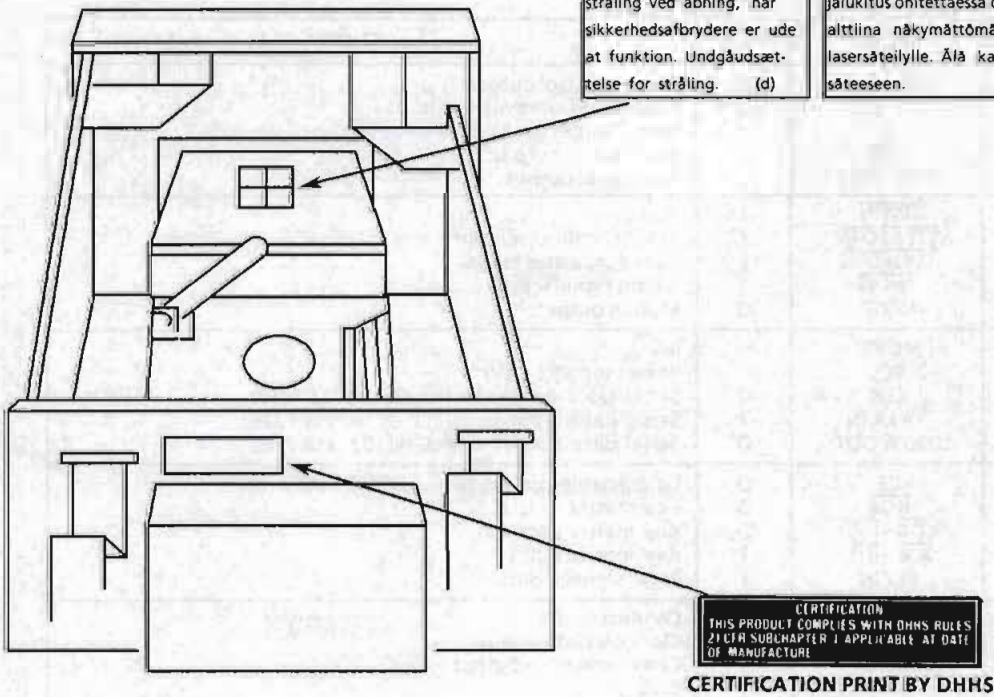
ADVARSEL : Usynlig laserstråling ved åpning, når sikkerhetsbryteren er avslott. unngå utsettelse for stråling.

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: Osynling laser-stråling när denna del å öppnad och spärren är urkoppled. Betrakta ej stålen. (s)
ADVARSEL: Usynling laser-stråling ved åbning, når sikkerhedsafbrydere er ude at funktion. Undgåudsæt-telse for stråling. (d)	VARO: Avattaessa ja suo-jalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen. (f)



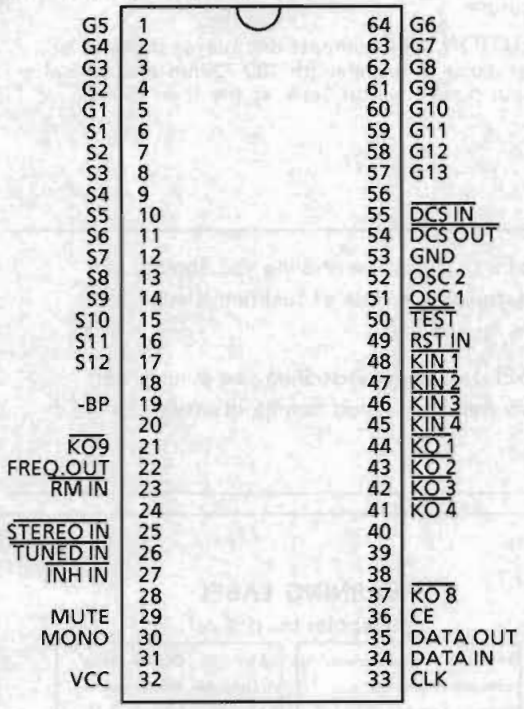
CERTIFICATION PRINT BY DHHS

(Only for the U.S.A.)

Description of Major LSIs

■ HD614089SC91 (IC201) : Tuner Control & FL Driver

(1) Terminal Layout



(2) Table of Key Matrix

	KEY-IN1	KEY-IN2	KEY-IN3	KEY-IN4
KEY-OUT1		TIMER 1	TIMER 2	DAILY
KEY-OUT2	WAKE-UP /SLEEP	CLOCK ADJ	CANCEL	MEMORY
KEY-OUT3	UP	DOWN	PRESET UP	PRESET DOWN
KEY-OUT4	FM	AM	FM MODE/MUTE	

(3) Pin Functions

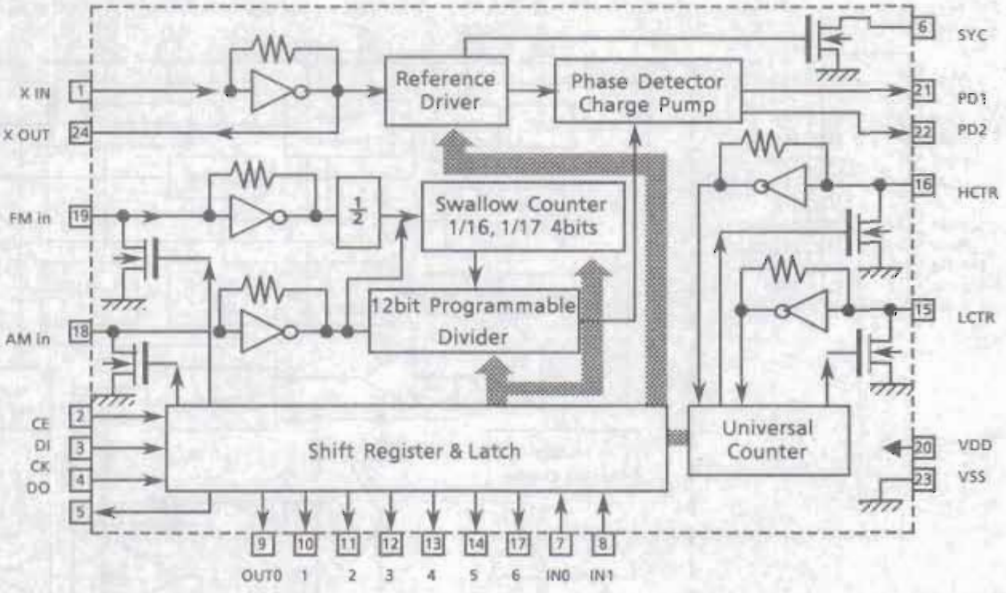
Pin No.	Name	I/O	Function
1~5	G5~G1	O	FL grid control output
6~17	S1~S12	O	FL segment control output
19	-BP	—	Power supply for FL drive circuit
21	KO9	O	Key matrix output
22	FREQ.OUT	O	Test signal output
23	RM IN	I	Pull up
25	STEREO IN	I	STEREO indicator input
26	TUNED IN	I	Tuned indicator input
27	INH IN	I	Inhibit signal input
29	MUTE	O	Muting output
30	MONO	—	NC
32	VCC	—	Power supply (+ 5V)
33	CLK	O	Serial clock output to PLL (IC102 : LC7218).
34	DATA IN	I	Serial data input from PLL (IC102 : LC7218).
35	DATA OUT	O	Serial data output to PLL (IC102 : LC7218).
36	CE	O	Chip enable output to PLL (IC102 : LC7218).
37	KO8	O	Key matrix output
41~44	KO4~KO1	O	Key matrix output
45~48	KI4~KI1	I	Key matrix input
49	RST IN	I	Reset signal input
50	TEST	—	Connect to Vcc
51	OSC 1	I	Clock oscillation input
52	OSC 2	O	Clock oscillation output
53	GND	—	GND
54	DCS OUT	O	COMPULINK signal output
55	DCS IN	I	COMPULINK signal input
57~64	G13~G6	O	FL grid control output

■ LC7218 (IC102) : PLL Synthesizer

1. The main function descriptions
   (1) It makes the local oscillation frequency by the control data from IC102.
   (2) Decode the control signal and transmit the signal for receiving conditions.
   (3) For the best tuning, count the internal-frequency and transmit the data to IC102.

2. Terminal Layout

3. Block Diagram



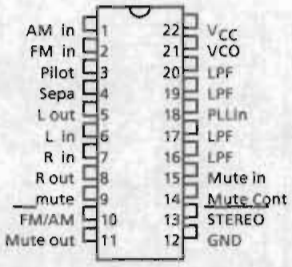
4. Pin Functions

Pin No.	Symbol	Name	I/O	Function
1, 24	X in, X out	X in, X out	I/O	Crystal oscillator (7.2MHz).
2	CE	CE	I	Fix the chip enable to "H" when inputting (DI) and outputting (DO) the serial data.
3	DI	DI	I	Receive the control data from the controller (IC201).
4	CK	CK	I	This clock is used to synchronize data when transmitting the data of DI and DO.
5	DO	DO	O	Transmit the data from LC7218 to the controller which is synchronized with CK.
6	SYC	$\overline{SYC}$	—	Not use
7	IN0	$\overline{Tuned\ in}$	I	Receive the tuned signal from IC104 (LA1266A).
8	IN1	Stop in	I	Not use
9	OUT 0	POWER	O	Not use
10	OUT 1	QSC	O	Not use
11	OUT2	MONO	O	It is "H" on FM-monaural, "L" on FM-stereo.
12	OUT3	$\overline{FM}$	O	It is "L" on FM mode.
13	OUT4	$\overline{MW}$	O	It is "L" on MW mode.
14	OUT5	$\overline{LW}$	O	Not use
15	LCTR	AM-IF	I	Universal counter input for AM-IF from IC104 (LA1266A).
16	HCTR	FM-IF	I	Universal counter input for FM-IF from IC104 (LA1266A).
17	OUT6	IF REQ	O	Output the "IF-signal request" to IC104 when the pin-7 (tuned in) goes to "H".
18	AM in	AM osc	I	Input the local oscillator signal of AM.
19	FM in	FM osc	I	Input the local oscillator signal of FM.
20	V_{DD}	V_{DD}	—	This is a terminal of power supply.
21	PD1	PD1	O	PLL charge pump output : When the local oscillator signal frequency is higher than the reference frequency, high level signals will output. When it is lower than the reference frequency, low level signals will output. When it is same as reference frequency signals, it will be floating.
22	PD2	PD2	O	Not use
23	Vss	Vss	—	GND

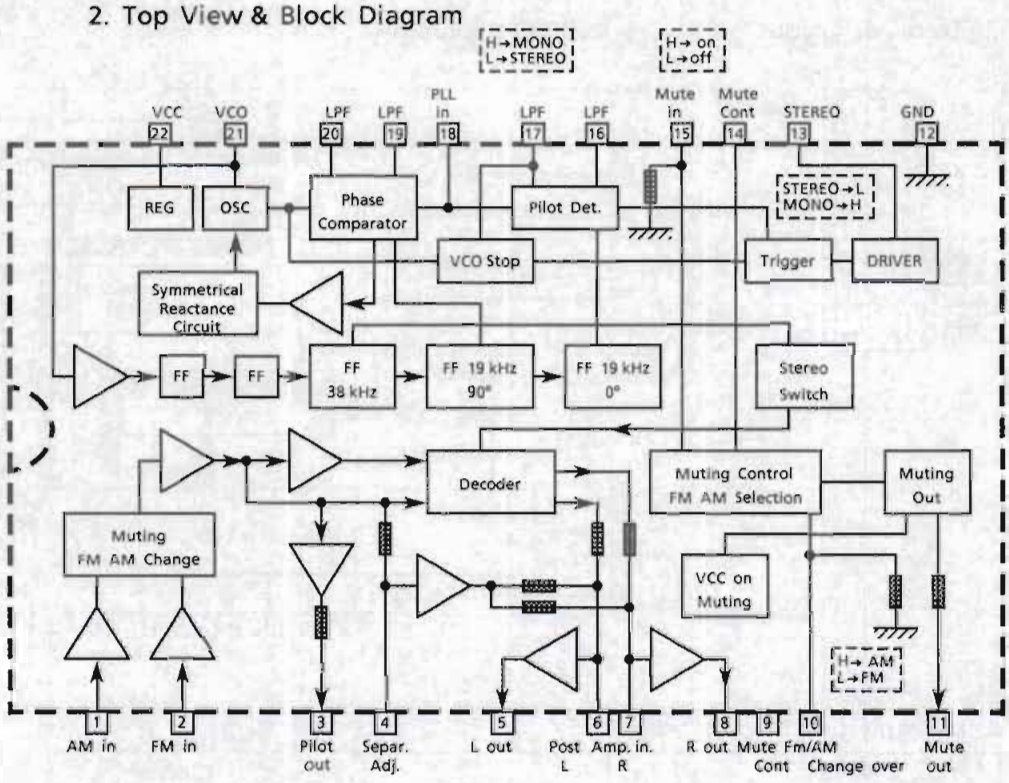
■ LA3401 (IC105) : FM MPX Demodulator

1. The main function descriptions
   (1) Demodulate the FM Multiplex Signal (Stereo signal).
   (2) When receiving FM Stereo Signal, it outputs the signal for indicator.
   (3) AM / FM Audio Amplifier.

(1) Terminal Layout



2. Top View & Block Diagram



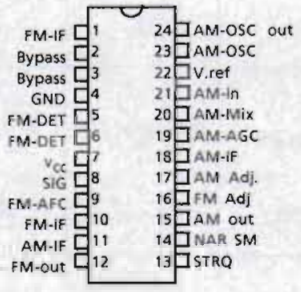
3. Pin Functions

Pin No.	Symbol	I/O	Function
1	AM in	I	This is an input terminal for AM detection signal.
2	FM in	I	This is an input terminal for FM detection signal.
3	Pilot out	O	Output of MPX pilot signal (Connect to Pin18).
4	Sepa. Adj.	---	Separation adjustment.
5	L. out	O	Left channel signal output.
6	L	O	Reversal output of Pin5.
7	R	O	Reversal output of Pin8.
8	R out	O	Right channel signal output
9	Mute Cont	---	The mute time is controlled by the connected capacitor when turning the power switch on.
10	$\overline{FM}$ / AM	I	Change over the FM / AM input. "H" : AM, "L" : FM
11	Mute out	---	Not use
12	GND	---	Ground terminal.
13	$\overline{Stereo}$	O	Stereo indicator output. Stereo : "L", Mono : "H"
14	Mute Cont	---	The mute time is controlled by the connected capacitor when changing over the FM / AM .
15	Mute in	I	Mute signal input. "H" : Mute on, "L" : Mute off.
16	LPF	---	Low pass filter of pilot detector.
17	LPF	---	While this terminal goes to "H", the VCO stop.
18	Pilot in	I	PLL input.
19	LPF	---	Low-pass filter of PLL.
20	LPF	---	Low-pass filter of PLL.
21	VCO	I	Voltage controlled oscillator terminal.
22	V_{CC}	---	Power supply.

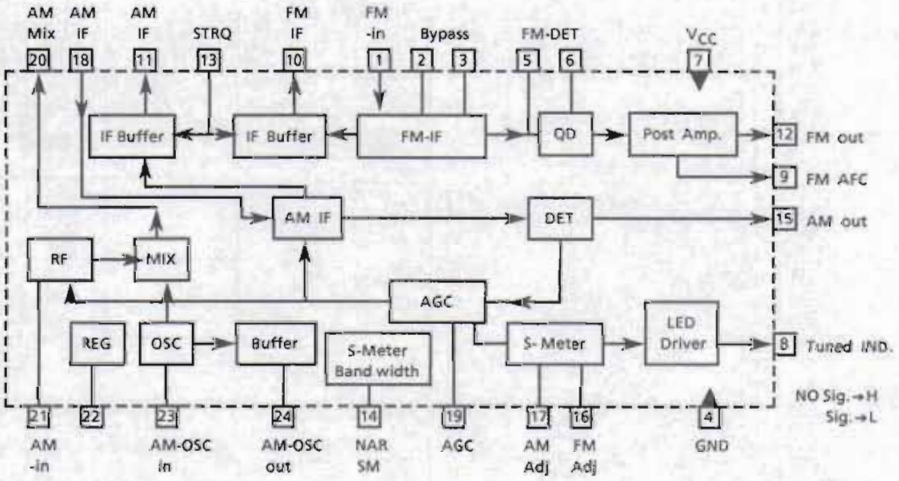
■ LA1266A (IC104) : FM AM IF AMP & detector

1. The main function descriptions
   (1) Amplify and detect of FM intermodulation frequencies.
   (2) It has local oscillator and mixer for AM, and amplify the AM-IF signal.

2. Top View



3. Block Diagram

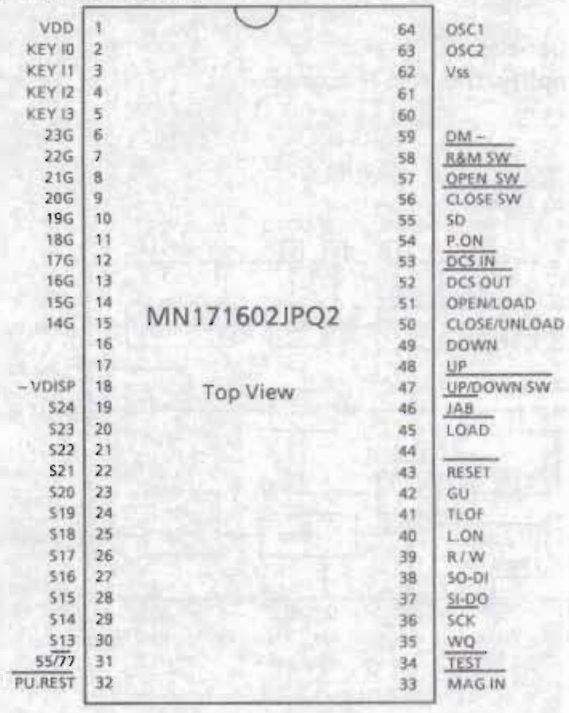


4. Pin Functions

Pin No.	Symbol	I/O	Function
1	FM IF	I	This is an input terminal of FM IF Signal.
2, 3	Bypass	-	Bypass of FM IF Amp.
4	GND	-	This is the device ground terminal.
5, 6	FM DET	-	FM detect transformer.
7	V_{CC}	-	This is the power supply terminal.
8	SIGNAL	O	Mute drive and signal stop drive output when tuning. Active Low
9	FM AFC	O	This is an output terminal of voltage for FM - AFC.
10	FM IF	O	When the IF REQ signal of IC102(LC7218) applies to pin13, the signal of FM IF outputs.
11	AM IF	O	When the IF REQ signal of IC102(LC7218) applies to pin13, the signal of AM IF outputs.
12	FM out	O	FM detection output.
13	STRQ	I	The IF-signals come out from pin10 (FM-IF) or pin11 (AM-IF) while this terminal goes to "High".
14	NAR SM	-	Control the Band-width of AM signal meter.
15	AM out	O	AM detection output.
16	FM Adj	-	For adjust the stop level (or mute level) of FM.
17	AM Adj	-	For adjust the stop level (or mute level) of AM.
18	AM-IF	I	Input of AM IF Signal.
19	AM-AGC	I	This is an AGC voltage Input terminal for AM.
20	AM-MIX	O	This is an output terminal for AM mixer.
21	AM-IN	I	This is an input terminal for AM RF Signal.
22	V.REF	-	Control the Band-width of FM signal meter.
23	AM-OSC	-	This is a terminal of AM Local oscillation circuit.
24	AM-OSC out	O	AM Local Oscillation Signal output.

■ MN171602JPQ2 (IC901) : CD SYSTEM CONTROLLER

1. Terminal Layout



2. Key Matrix

	KEY IN 0	KEY IN 1	KEY IN2	KEY IN3
G14	2	4	6	P
G15	EJECT	1	3	5
G16	+10 ⏮	+1 ⏭	■ /CANCEL	▶ / II
G19	SIDEA/B	CALL	REPEAT	⏏
G20	EDIT	MEMORY	INTRO	P.MODE

3. Pin Functions Description

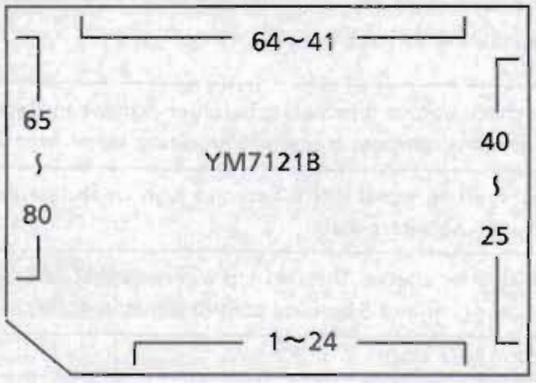
Pin NO.	symbol	I/O	Function	Pin NO.	symbol	I/O	Function
1	VDD	I	Power supply	33	MAG-IN	I	Magazine in signal
2	KEY I0	I	Key matrix input	34	TEST	I	Entering test mode with "L"
3	KEY I1	I	Key matrix input	35	WQ	I	Write request input
4	KEY I2	I	Key matrix input	36	SCK	O	Clock output for data transfers
5	KEY I3	I	Key matrix input	37	SI-DO	I	Serial data input
6	23G	O	FL grid control output	38	SO-DI	O	Serial data output
7	22G	O	FL grid control output	39	R/W	O	Read / Write signal output
8	21G	O	FL grid control output	40	L.ON	O	Turns on laser
9	20G	O	FL grid control output	41	TLOF	O	Tracking servo off signal
10	19G	O	FL grid control output	42	GU	O	Increases tracking gain
11	18G	O	FL grid control output	43	RESET	I	Reset signal input
12	17G	O	FL grid control output	44		-	Connect to GND
13	16G	O	FL grid control output	45	LOAD	I	Disc load detect signal
14	15G	O	FL grid control output	46	JAB	I	JAB switch signal
15	14G	O	FL grid control output	47	UP/DOWN SW	I	Height detection signal
16		-	Non connect	48	UP	O	Lifter driving control signal
17		-	Non connect	49	DOWN	O	Lifter driving control signal
18	-VDISP	I	FL power supply	50	CLOSE/UNLOAD	O	P1 CLOSE or UNLOAD driving control signal.
19	S24	O	FL segment control output	51	OPEN/LOAD	O	P1 OPEN or LOAD.
20	S23	O	FL segment control output	52	DCS OUT	O	Compulink signal output
21	S22	O	FL segment control output	53	DCS IN	I	Compulink signal input
22	S21	O	FL segment control output	54	P.ON	O	H:power off, L:power oN.
23	S20	O	FL segment control output	55	SD	O	LOAD drive speed Down output.
24	S19	O	FL segment control output	56	CLOSE SW	I	"L" with tray closed
25	S18	O	FL segment control output	57	OPEN SW	I	"L" with tray opened
26	S17	O	FL segment control output	58	R&M SW	I	Reset&Memory SW input.
27	S16	O	FL segment control output	59	DM-	I	Spindle signal input
28	S15	O	FL segment control output	60		-	Connect to GND
29	S14	O	FL segment control output	61		-	Non connect
30	S13	O	FL segment control output	62	Vss	-	GND
31	55/77	I	Chip select input (H:55,L:77)	63	OSC2	O	Clock oscillation output
32	PU.REST	I	"L" with pickup at rest position	64	OSC1	I	Clock oscillation input

■YM7121B(IC401)

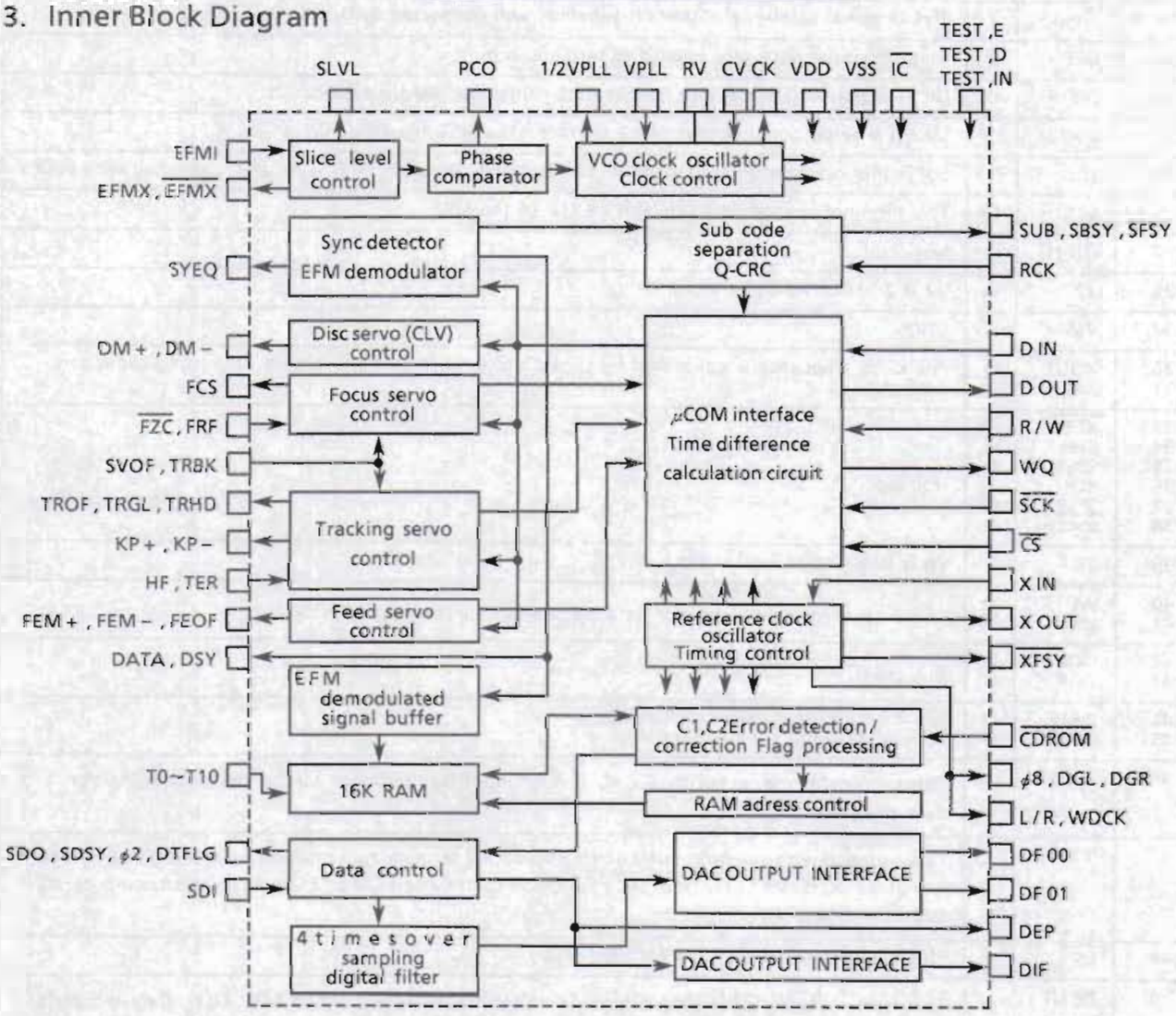
1. Outline

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. Pin Functions Description

Pin No.	Symbol	I/O	Function
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	DTFLG	O	Not used.
28	$\phi 2$	O	$\phi 2$ is 2.1168 MHz crystal clock.
29, 52, 77	VSS	—	GND
30 31	XOUT XIN	O I	The clock frequency is generated by crystal oscillator (16.9344MHz) and connecting capacitors each pin.
33 34 35 36 37 38	$\overline{\text{XFSY}}$ SUB SBSY RCK $\overline{\text{SFSY}}$ CDROM	O O O I O O	Not used.
39	$\phi 8$	O	$\phi 8$ is 8.4672MHz crystal clock.
40 41	WDCK L/R	O O	This is synchronizing signal for data transfer and it connects with DAC.
42 43	DGL DGR	O O	Not used.
44 45	DF01 DF00	O O	Serial data output. (Right channel.) Serial data output. (Left channel.)
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/M is "L" and from microcomputer to SVC when R/W is "H".
48	$\overline{\text{CS}}$	I	This is a chip select terminal for YM7121B.
49	DOUT	O	This terminal is the data output terminal connected to μCOM. When R / W is low, data is transferred from YM7121B to μCOM, according to theSCK clock input.

Pin No.	Symbol	I/O	Function
50	WQ	O	This terminal is connected to μCOM. It is a request signal which demands to μCOM inputting the data transfer (YM7121B 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 YM7121B according to the SCK clock input.
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 srvo set to OFF. TROF and FEOF become "H" with high input, and TRHD, KP+, KP− become low.
67 68 69	$\overline{FZC}$ 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	$\overline{IC}$	I	YM7121B 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 $\overline{EFMX}$	O O O	Amplitude limited, mutually anti-phased signals are output from EFMX and $\overline{EMFX}$. 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. YM7121B 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.

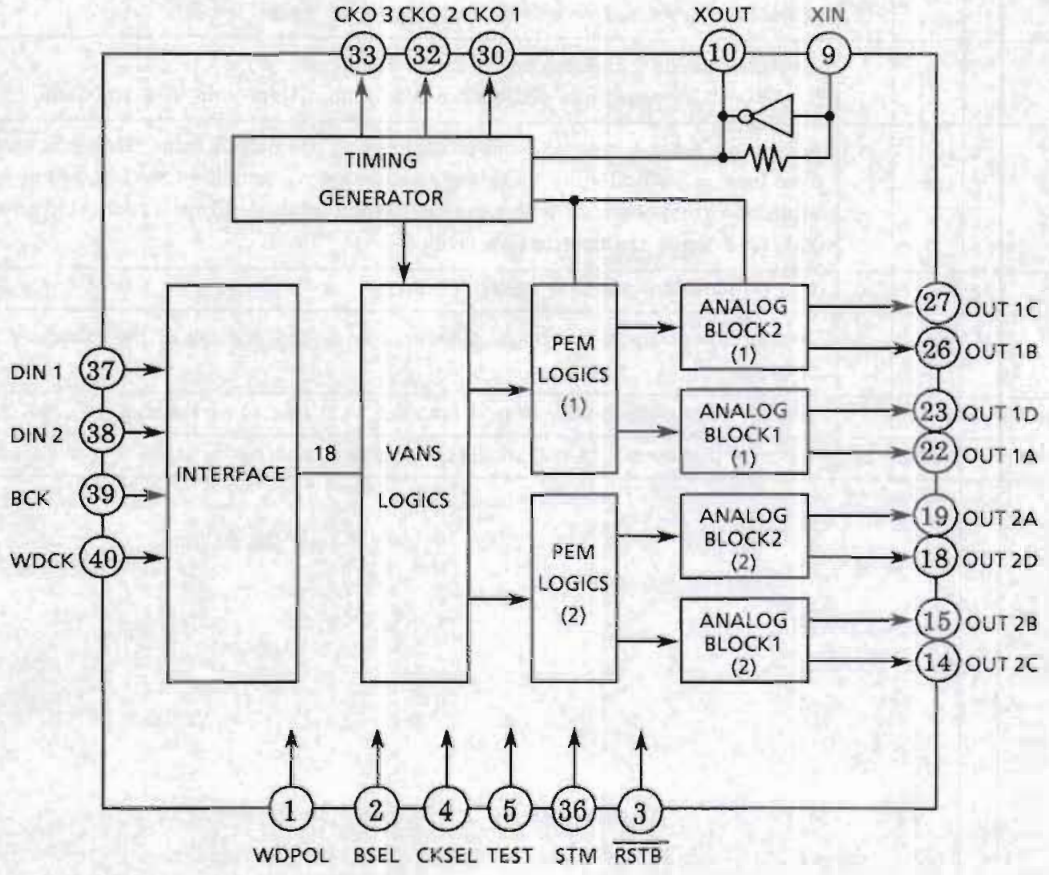
■ JCE4501(IC703)··· D/A CONVERTER

1. Outline

The JCE4501 is a CMOS digital-analog converter with independent left and right channels. It was developed for PCM digital audio equipment. It features pulse edge modulation (PEM) and Victor advanced noise shaping (VANS) for resolution equivalent to 20 bits (0-20 kHz) and a low distortion ratio. At JVC, this type of digital-analog converter is called a DD converter.

2. Terminal Layout

3. Internal Block Diagram

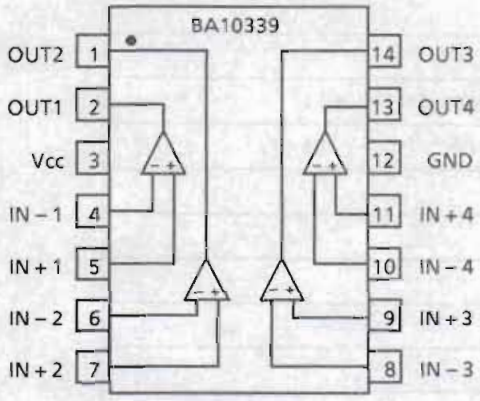


4. Pin Functions Description

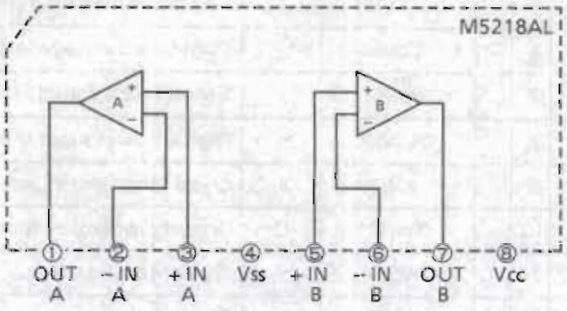
Pin No.	Symbol	I/O	Function
1	WDPOL	I	Word data polarity switching pin
2	BSEL	I	High : CXD 2554P format, low : YM3414 format
3	$\overline{\text{RSTB}}$	I	Reset pin (low active)
4	CLKSEL	I	High: 256Fs mode, low: 384 Fs mode
5	TEST	I	Test mode switching pin
6	COM	I	COM board voltage fastening pin (connected to D-VDD)
7	NSUB	I	Silicon board voltage fastening pin (connected to D-VDD)
8	DVDD1	—	Digital power supply pin 1
9	XIN	I	Crystal oscillator input pin
10	XOUT	O	Crystal oscillator output pin
11	DVSS1	—	Digital ground pin 1
12	NC	—	To ground
13	AVSS1	—	Analog ground pin 1
14	OUT2C	O	2C PEM output pin
15	OUT2B	O	2B PEM output pin
16	AVDD1	—	Analog power supply pin 1
17	AVDD2	—	Analog power supply pin 2
18	OUT2D	O	2D PEM output pin
19	OUT2A	O	2A PEM output pin
20	AVSS2	—	Analog ground pin 2
21	AVSS3	—	Analog ground pin 3
22	OUT1A	O	1A PEM output pin
23	OUT1D	O	1D PEM output pin
24	AVDD3	—	Analog power supply pin 3
25	AVDD4	—	Analog power supply pin 4
26	OUT1B	O	1B PEM output pin
27	OUT1C	O	1C PEM output pin
28	AVSS4	—	Analog ground pin 4
29	NC	—	To ground
30	CKO1	O	Clock output pin 1 (384 Fs output)
31	DVSS2	—	Digital ground pin 2
32	CKO2	O	Clock output pin 2 (192 Fs output)
33	CKO3	O	Clock output pin 3 (128 Fs output)
34	DVDD2	—	Digital power supply pin 2
35	NC	—	Not connected
36	STM	I	Stereo/monaural switching pin (high: stereo output, low: left channel, reversed polarity left channel)
37	DIN1	I	Left channel 18-bits 8Fs serial data input pin
38	DIN2	I	Right channel 18-bits 8Fs serial data input pin
39	BCK	I	Bit clock input pin
40	WDCK	I	Word clock input pin

Internal Block Diagrams of Other ICs

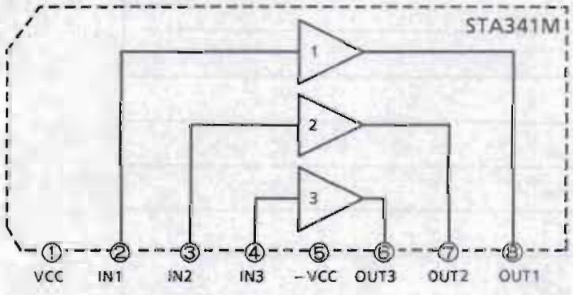
■ BA10339 (IC502) : Comparator



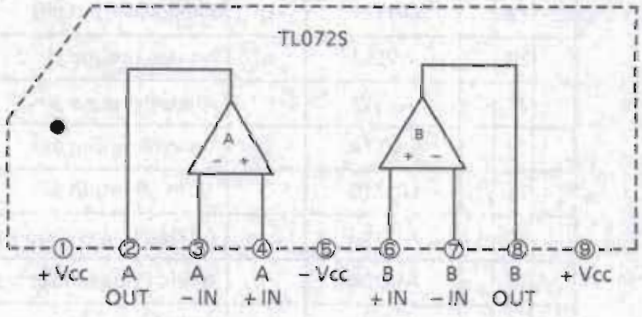
■ M5218AL (IC503,701,702,802,851,871)
: Dual OP Amp.



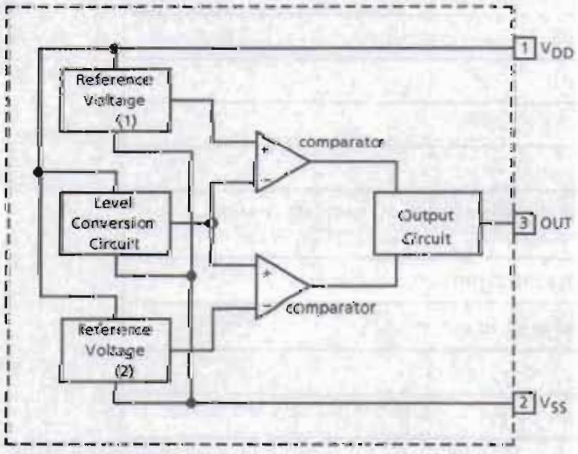
■ STA341M (IC801) : Motor Driver



■ TL072S (IC501) : Dual OP Amp.



■ MN1280 (P.Q) : IC902 RESET IC
MN1281 (P.Q) : IC902 RESET IC

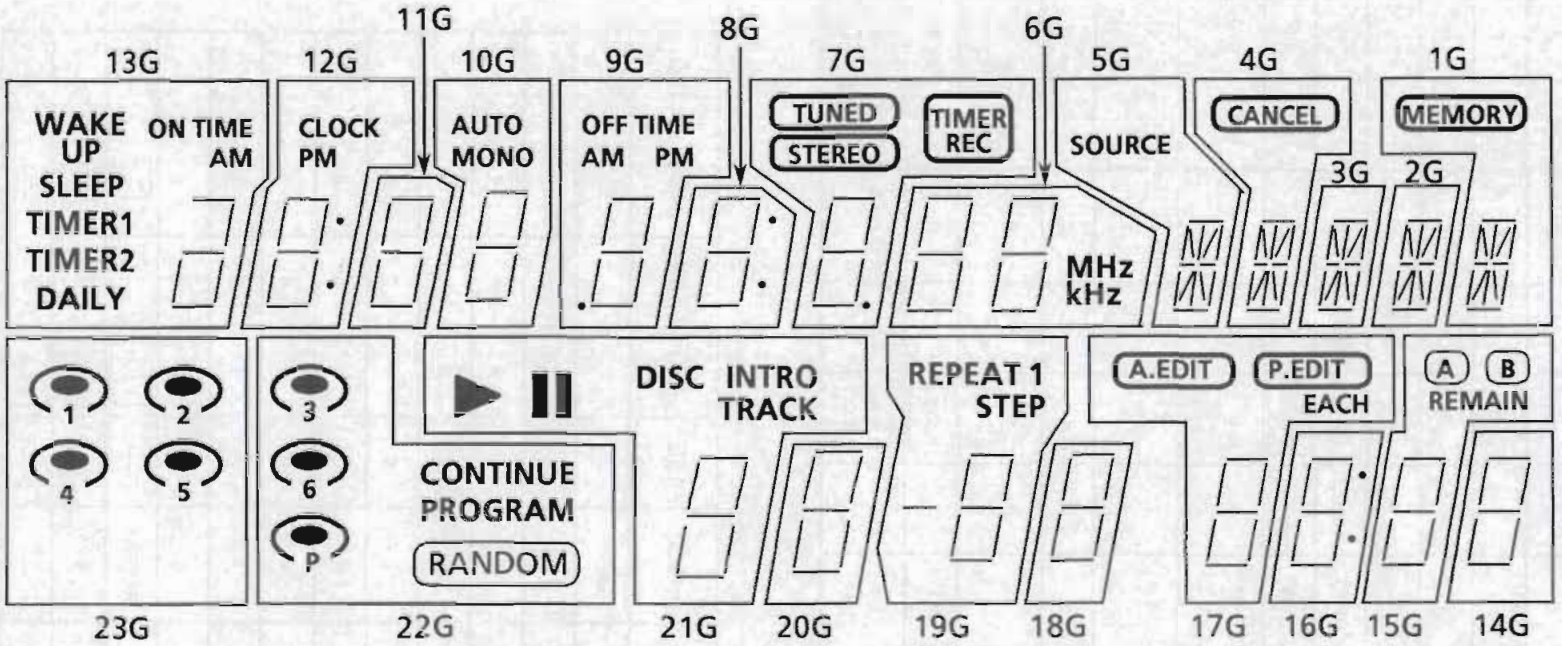


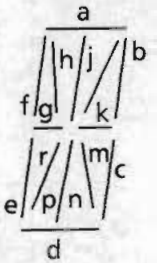
Pin No.	Pin Name	Functions
1	V_{DD}	Power supply
2	V_{SS}	Ground
3	OUT	Reset signal output : Low level is output when resetting : High level is output when cancelling the reset.

Internal Wiring of the FL Display Tube

■ ELU0001-135:(FL201)

1.Grid Assignment





2.Pin Connection

TERMINAL NO. ELECTRODE	1 F1	2 F1	3 F1	4 NP	5 NP	6 13G	7 12G	8 11G	9 10G	10 9G	11 8G	12 7G	13 6G	14 5G	15 4G	16 3G	17 2G	18 1G	19 P S1	20 P S2
TERMINAL NO. ELECTRODE	21 P S3	22 P S4	23 P S5	24 P S6	25 P S7	26 P S8	27 P S9	28 P S10	29 P S11	30 P S12	31 NP	32 NP	33 23G	34 22G	35 21G	36 20G	37 19G	38 18G	39 17G	40 16G
TERMINAL NO. ELECTRODE		41 15G	42 14G	43 P S24	44 P S23	45 P S22	46 P S21	47 P S20	48 P S19	49 P S18	50 P S17	51 P 16	52 P S15	53 P S14	54 P S13	55 NP	56 NP	57 F2	58 F2	59 F2

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

3.Anode Connection Table

	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
S1	d	d	d	d	d	d	d	d	d	d	d	d	d
S2	-----	e	e	e	e	e	e	e	e	e	e	e	e
S3	c	c	c	c	c	c	c	c	c	c	c	c	c
S4	g	-----	-----	-----	-----	-----	-----	KHz	r	r	r	r	m
S5	b	col (:)	-----	-----	DP (.)	col (:)	DP (.)	MHz	k	n	n	n	n
S6	DAILY	-----	-----	-----	AM	-----	STEREO	i	j,p	j,p	j,p	j,p	j,p
S7	TIMER 2	g	g	g	g	g	g	g	g,m	g,m	g,m	g,m	g
S8	TIMER 1	f	f	f	f	f	f	f	f	f	f	f	f
S9	SLEEP	b	b	b	b	b	b	b	b	b	b	b	b
S10	WAKE UP	a	a	a	a	a	a	a	a	a	a	a	a
S11	AM	PM	-----	MONO	PM	-----	TUNED	j	h	h	h	h	h,k
S12	ON TIME	CLOCK	-----	AUTO	OFF TIME	-----	TIMER REC	h	SOURCE	CANCEL	k	k	MEMORY

	23G	22G	21G	20G	19G	18G	17G	16G	15G	14G
S13	⬭	CONTINUE	DISC	-----	▭	-----	-----	-----	-----	-----
S14	⬭	⬭	TRACK	-----	STEP	-----	EACH	col (:)	REMAIN	-----
S15	●	●	a	a	a	a	a	a	a	a
S16	5	6	b	b	b	b	b	b	b	b
S17	⬭	●	c	c	c	c	c	c	c	c
S18	4	RANDOM	d	d	d	d	d	d	d	d
S19	●	P	e	e	e	e	e	e	e	e
S20	●	PROGRAM	f	f	f	f	f	f	f	f
S21	1	⬭	g	g	g	g	g	g	g	g
S22	⬭	⬭	▶	-----	REPEAT	-----	P.EDIT	-----	A	-----
S23	●	●	▮▮	-----	1	-----	-----	-----	B	-----
S24	2	3	INTRO	-----	-----	-----	A.EDIT	-----	-----	-----

Disassembly Procedures

1. Removing the top cover

1) Remove the 2 screws fastening both sides of the Top Cover, and the 2 screws fastening the rear sides.
2) Remove the Top Cover.

2. Removing the front panel

1) Remove the 3 hooks.
2) Remove the 1 screw fastening bottom of the Front Panel.
3) Disconnect the connectors. (JB221,JB222)
4) Remove the Front Panel.

3. Removing the changer assembly

1) Remove the top cover.
2) Remove the front panel.
3) Remove the 2 screws Ⓑ fastening the changer assembly.
4) Disconnect the connectors. (ⒸⒹⒺⒻⒼ)
5) Slide the changer assembly to arrow direction ①.
6) Remove the changer assembly.
   * NOTICE (for reinstalling)
     Wire Ⓗ should be set as Fig.2.

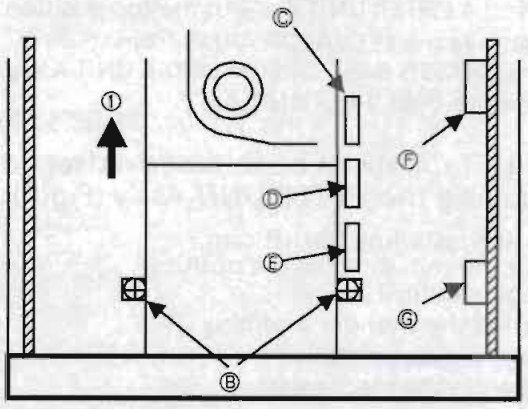


Fig.1

4. Removing the turntable base (Fig.2)

1) Remove the changer assembly.
2) Turn over the changer assembly.
3) Remove the 3 screws ①.
   * NOTICE : The left side spring differs from the right side ones.
4) Take the turntable base out.

5. Exchanging the pickup (Fig.2)

1) Remove the screw Ⓙ, and remove the feed nut support .
2) Remove the screw Ⓚ.
3) Remove the Feed Screw assembly, and remove the Pickup with the pickup shaft .
4) Exchange the pickup.

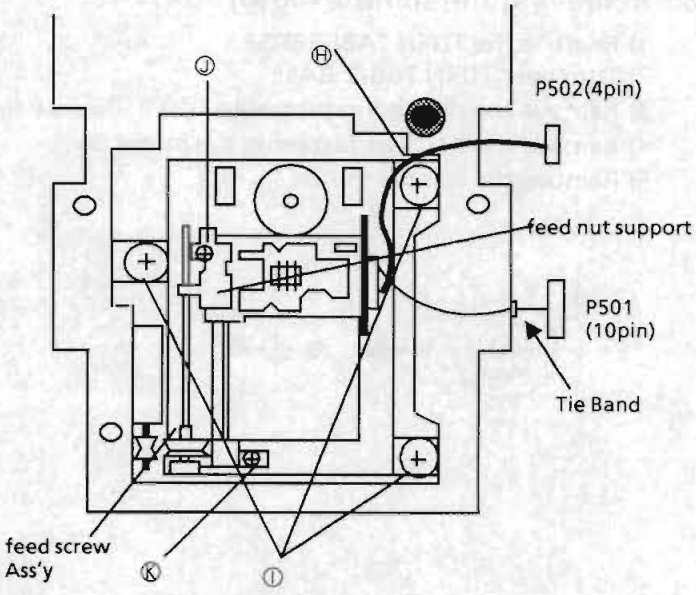
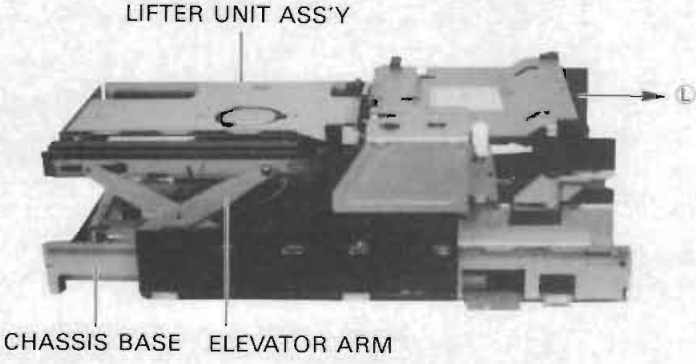


Fig.2

6. Removing the magazine holder (Fig.3)

1) Remove the 2 screws fastening the magazine holder .
2) Slide the magazine holder to arrow direction Ⓛ.
3) Remove the magazine holder to upside , and remove the tray stopper at the same time.



7. Removing the LIFTER UNIT Ass'y (Fig.3)

1) Remove the MAGAZINE HOLDER.
2) Lift the LIFTER UNIT Ass'y to the top position.
3) Remove the ELEVATOR ARMS from the CHASSIS BASE and the LIFTER UNIT Ass'y.
4) Remove the LIFTER UNIT Ass'y.

※ The LIFT CAM can be released, After removing the LIFTER UNIT Ass'y (Fig.7)

1) When installing the lift cam, Put the cam slider to the position shown in fig 7.
2) Install the changer assembly.
3) Set the power ON to operate the mechanism.
4) Set the power OFF while the disc is playing.
5) Connect the AC power again. In this case the unit will be reseted.

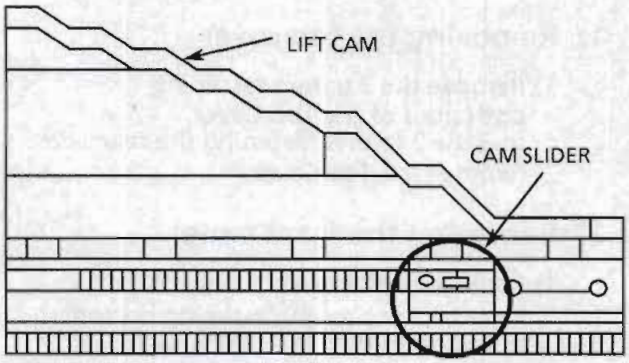
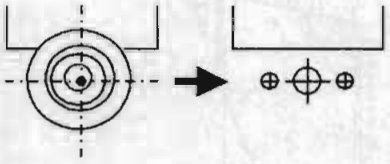


Fig.4

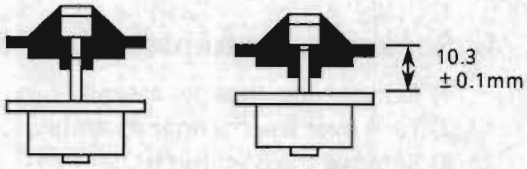
8. Removing the spindle motor

1) Remove the TURN TABLE BASE.
2) Turn over TURN TABLE BASE.
3) Remove the pressed-in turntable.
4) Remove the 2 screws fastening the motor.
5) Remove the spindle motor.

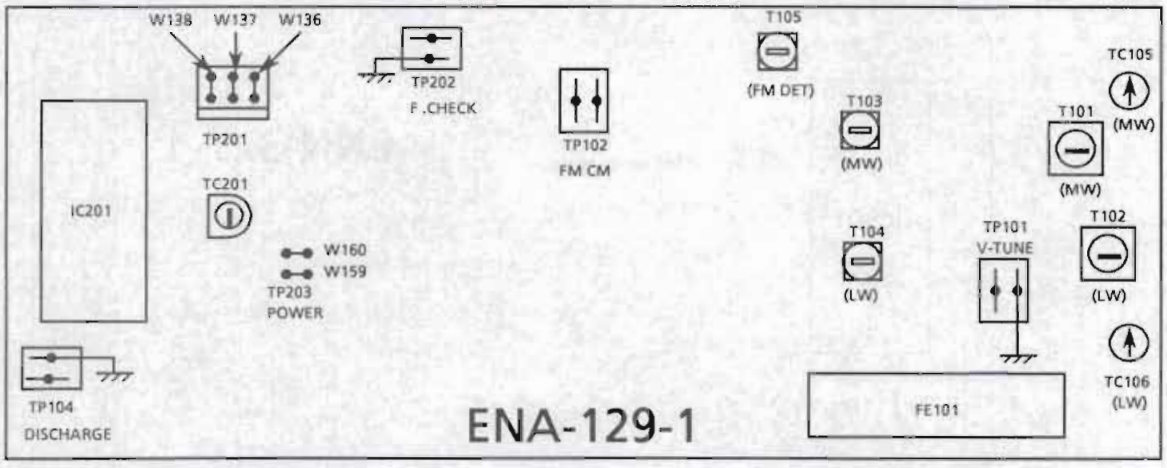


9. Mounting the spindle motor

1) Alternately tighten the 2 screws.
2) Fit the turntable by pressing gently at the centre to obtain a distance of 10.3mm ± 0.1mm from the mechanism base to the top of the turntable.



FM / AM Tuner Alignment Procedures



1. FM section

■ FM oscillator

(1) Set the frequency display to "108.0MHz".
(2) Confirm that the FM inter-station noise is received.
(3) Confirm that the voltage of test point "TP101" becomes 8.0 ± 2.0V.
(4) Set the frequency display to "87.5MHz" and confirm the voltage of test point "TP101" becomes 1.6 ± 1.0V.

■ FM detector coil : T105

(1) Connect a digital voltmeter to test point "TP 102", and receive to "100.1MHz" signal with SSG ATT 70dB.
(2) Adjust T105 so that the digital voltmeter reads 0 ± 1.5mV.

2. LW section

Note : < > : Italy

■ LW oscillator : T104

(1) Set the frequency display to 144kHz and adjust T104 so that the voltage of TP101 becomes 0.8 ± 0.4V <0.8 ± 0.1V> .
(2) Set the frequency display to 353kHz <290kHz> and confirm that the voltage of test point TP101 becomes 8.0 ± 0.9V <5.7 ±0.5V>.

■ LW antenna coil : T102

(1) Connect a loop antenna to the "AM Loop" terminal on the rear panel.
(2) Adjust T102 to obtain the best receiving sensitivity on 164kHz <164kHz> .

■ LW antenna trimmer : TC106

(1) Adjust TC106 to obtain the best receiving sensitivity on 353kHz <245kHz> .

3. MW section

Note : ( ) : Australia, the U.K. and Continental Europe
{ } : Channel space 9kHz for universal version
「 」 : Channel space 10kHz for universal version

■ MW oscillator : T103

(1) Set the frequency display to (522kHz) {531kHz}「 530kHz」 and confirm that the voltage of test point TP101 becomes (0.9 ± 0.2V) {1.0 ± 0.2V} 「 1.0 ± 0.2V」 .
(2) Set the frequency display to (1629kHz) {1602kHz} 「 1600kHz」 and confirm that the voltage of test point TP101 becomes (7.5 ± 0.8V) { 7.2 ± 0.7V } 「 7.2 ± 0.7V 」 .
(3) If its voltage exceeds the allowance, adjust T103 to obtain the voltage.

■ MW antenna coil : T101

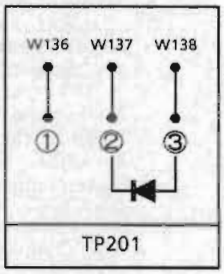
(1) Connect a loop antenna to the "AM Loop" terminal on the rear panel.
(2) Adjust T101 to obtain the best receiving sensitivity on 600kHz or 603kHz.

■ MW antenna trimmer : TC105

(1) Adjust TC105 to obtain the best receiving sensitivity on 1400kHz or 1404kHz.

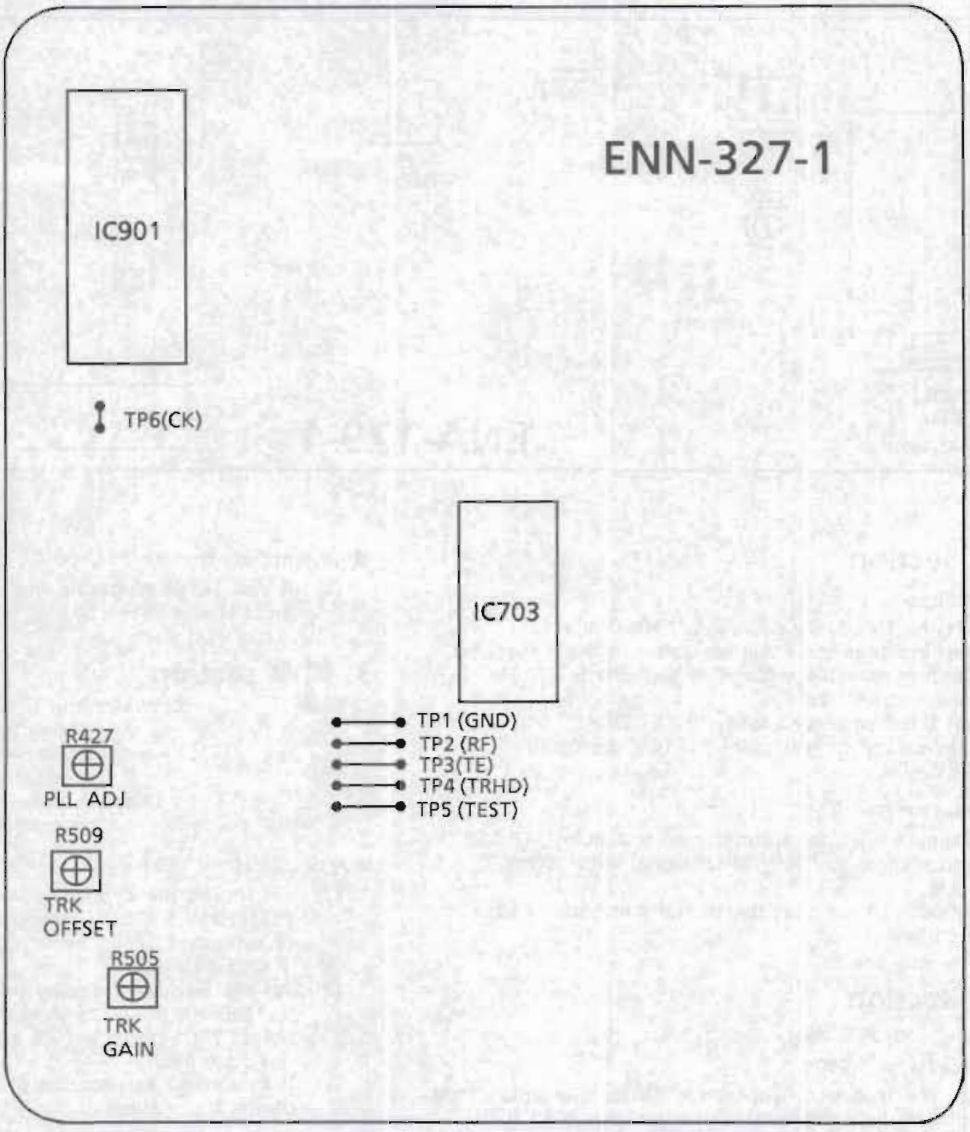
Clock Generator Frequency Adjustment

1. Switch OFF the DX-MX55MBK's power source, then pull out the AC plug.
2. Short circuit TP201's terminals ② and ③ with the diode as shown in the accompanying diagram, then insert the AC plug into the receptacle to switch the power ON.
3. Confirm that the tuner's FL display is off, then remove the diode and connect the frequency counter to TP 202(FREQ. CHECK).
4. Adjust TC201 so that the counter becomes 34,952.5 ± 0.15 Hz.



Example :
1SS133
1SS119
1S2473

CD Adjustment Procedures



(1) PLL free-running adjustment

a. Measuring instrument
Frequency counter

b. Adjusting procedure
1. Connect a frequency counter with TP6 (CK) and TP1 (GND) on the main PC board.
2. Adjust R427 for setting the frequency counter's value becomes 4.295 ± 0.005MHz. (On the STOP MODE)
3. Perform this adjustment immediately after the power is turned on.

(2) Tracking offset adjustment

a. Measuring instruments
Oscilloscope, Normal disc

b. Adjusting procedure
1. Connect an oscilloscope with TP3 (TE) and TP1 (GND) on the main PC board.
2. Play the disc.
3. Short circuit TP5 (TEST) to TP1 (GND).
4. Adjust R509 for Zero DC offset of the tracking error waveform.

Note: The tracking error waveform should be symmetrical around the 0V level.

(3) Tracking gain adjustment

a. Measuring instruments
Oscilloscope, Normal disc

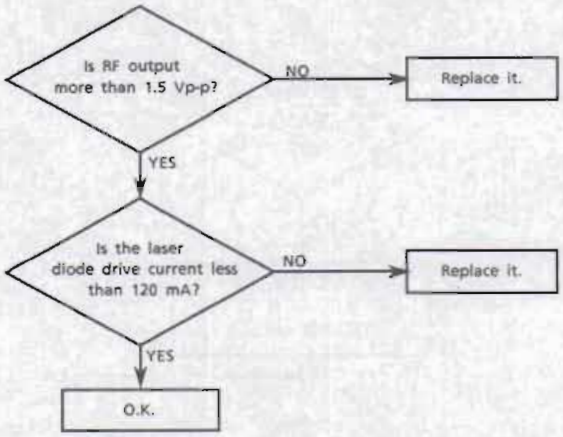
b. Adjusting procedure
1. Connect an oscilloscope with TP3 (TE) and TP1(GND) on the main PC board.
2. Play the disc.
3. Short circuit TP5 (TEST) to TP1 (GND).
4. Adjust R505 for 2.0 VP-P of tracking error signal.

Maintenance of Laser Pickup

(1) Life of the laser diode

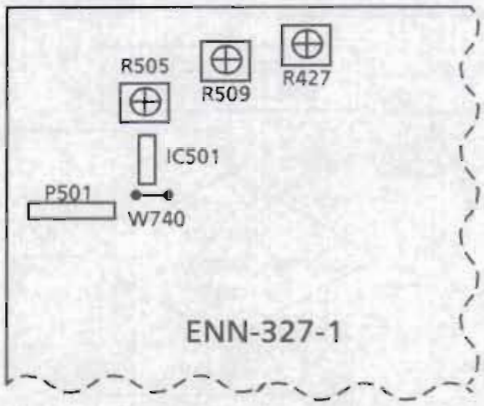
When the life of the laser diode has expired, the following symptoms will appear.

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



(2) Measurement of laser diode drive current

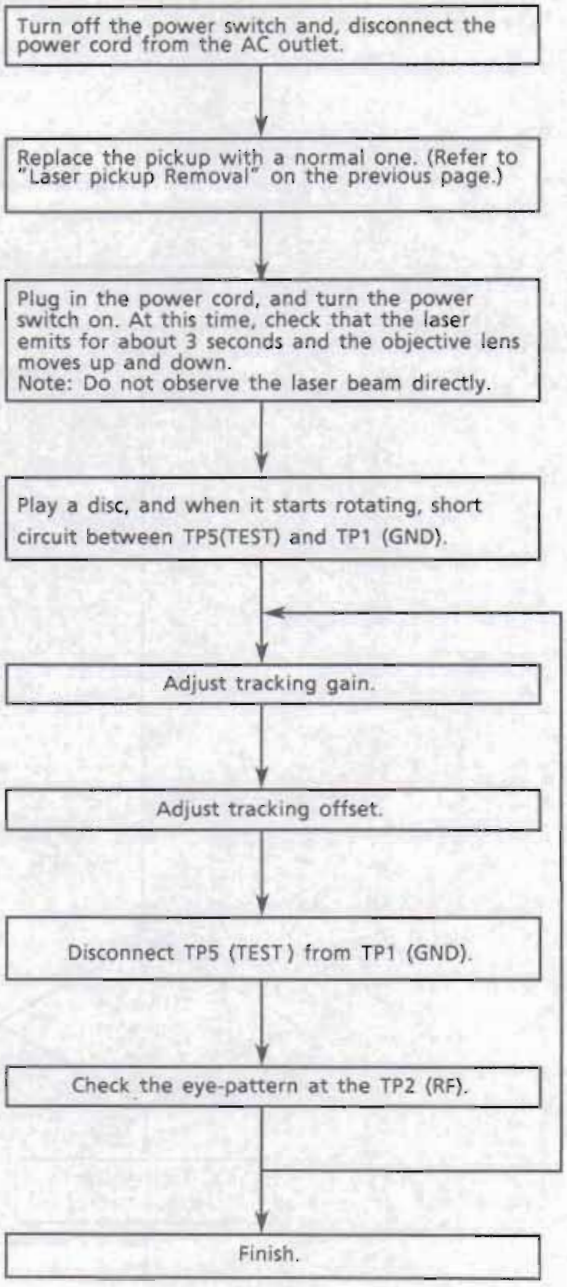
Replace the jump wire (W740) shown below with the resistor (1Ω).
Measure the voltage across the resistor with a milli-voltmeter. When the voltage is more than 120mV, it shows that the life of the laser diode has expired



(3) Semi-fixed resistor on the APC PC board

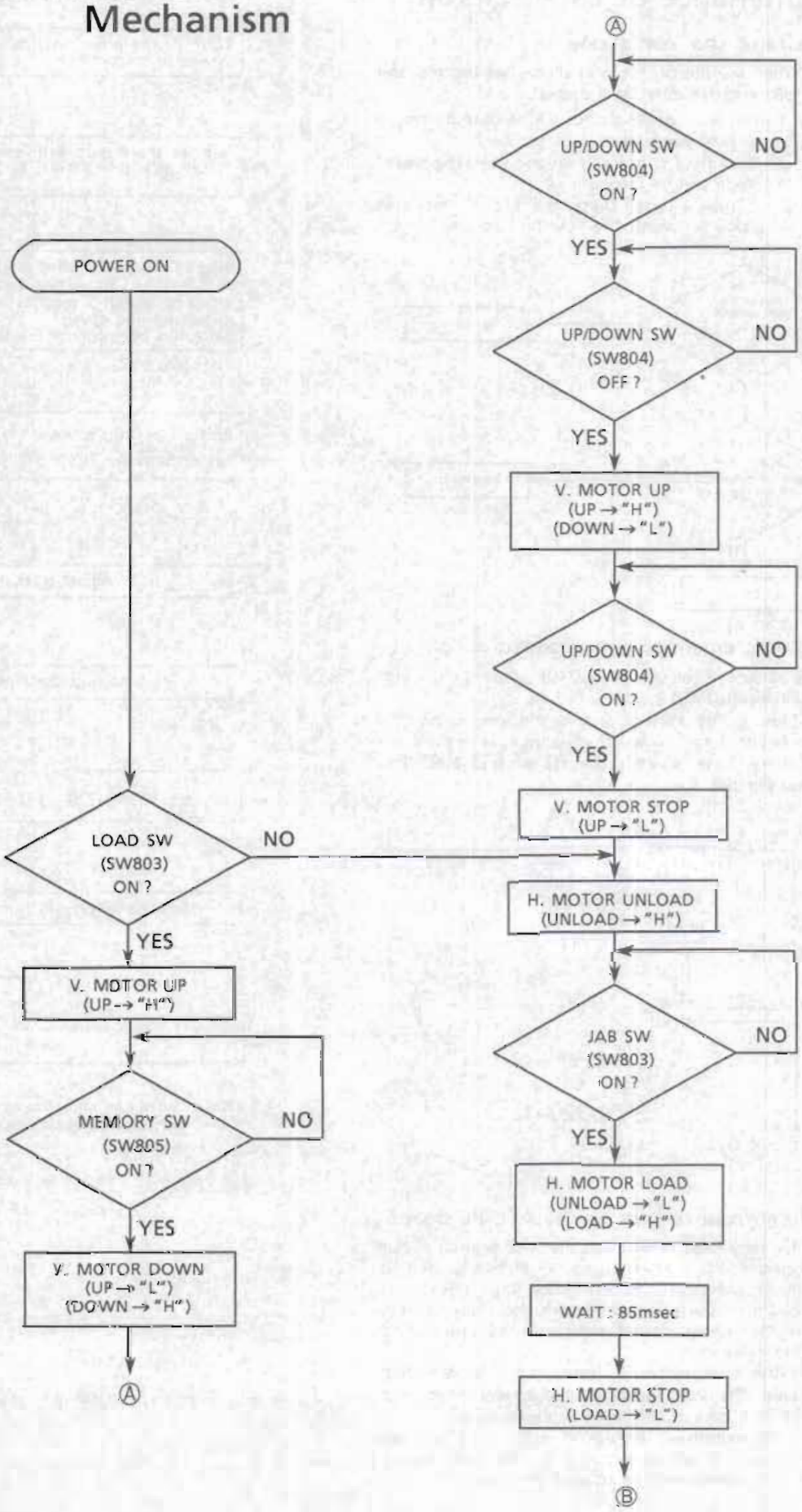
The semi-fixed resistor on the APC printed circuit board which is attached to the pickup is used to adjust the laser power. Since this adjustment should be performed to match the characteristics of the whole optical block, do not touch the semi-fixed resistor.
If the laser power is lower than the specified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

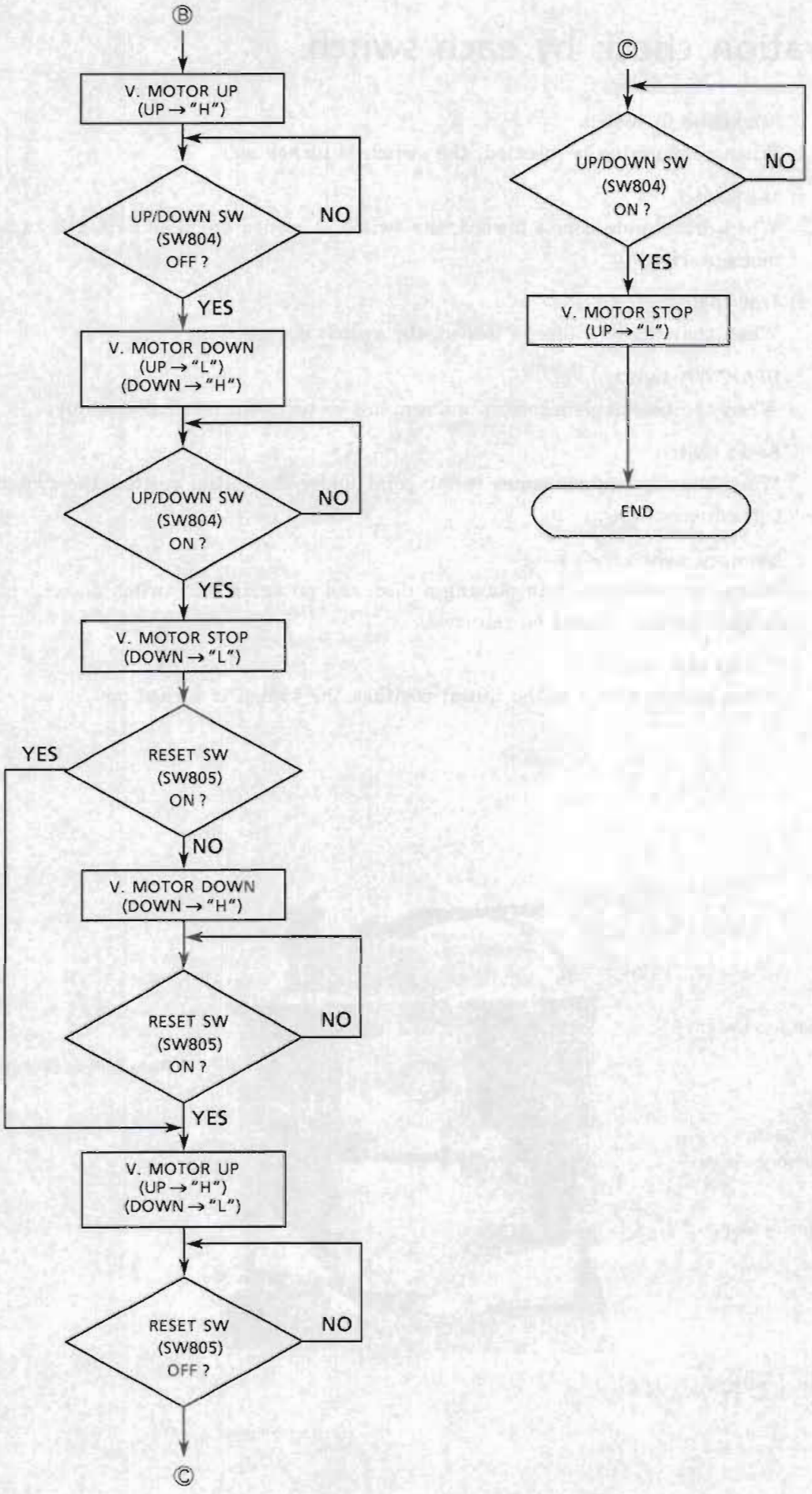
Replacement of Laser Pickup



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

Initial Operation of Mechanism




Ⓑ
V. MOTOR UP
(UP → "H")
UP/DOWN SW
(SW804)
OFF ?
NO
YES
V. MOTOR DOWN
(UP → "L")
(DOWN → "H")
UP/DOWN SW
(SW804)
ON ?
NO
YES
V. MOTOR STOP
(DOWN → "L")
YES
RESET SW
(SW805)
ON ?
NO
V. MOTOR DOWN
(DOWN → "H")
RESET SW
(SW805)
ON ?
NO
YES
V. MOTOR UP
(UP → "H")
(DOWN → "L")
RESET SW
(SW805)
OFF ?
NO
Ⓒ
Ⓒ
UP/DOWN SW
(SW804)
ON ?
NO
YES
V. MOTOR STOP
(UP → "L")
END

Operation check by each switch.

SW802 : Magazine in switch.
When a magazine is inserted, the switch is turned on.

SW803 : JAB switch.
When drive plate comes toward, the switch is turned on. (The switch is turned on momentarily.)

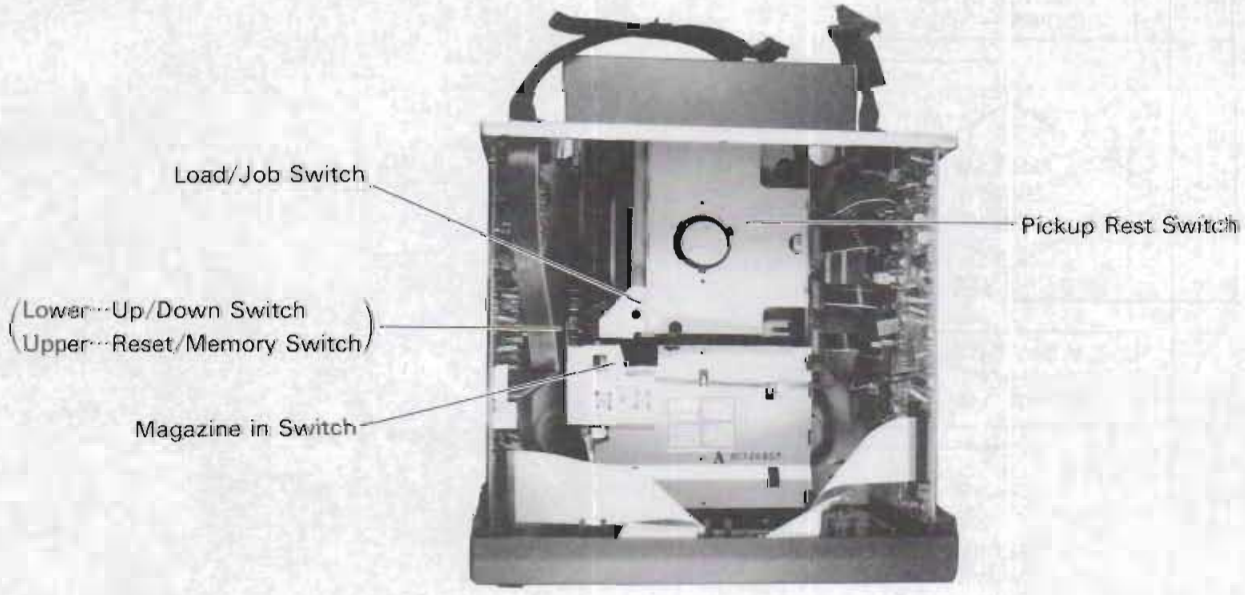
SW803 : Tray load switch.
When the tray of a disc is loaded, the switch is turned on.

SW804 : UP/DOWN switch.
When the mecmanism goes up or down, this sw turns on and off alternately.

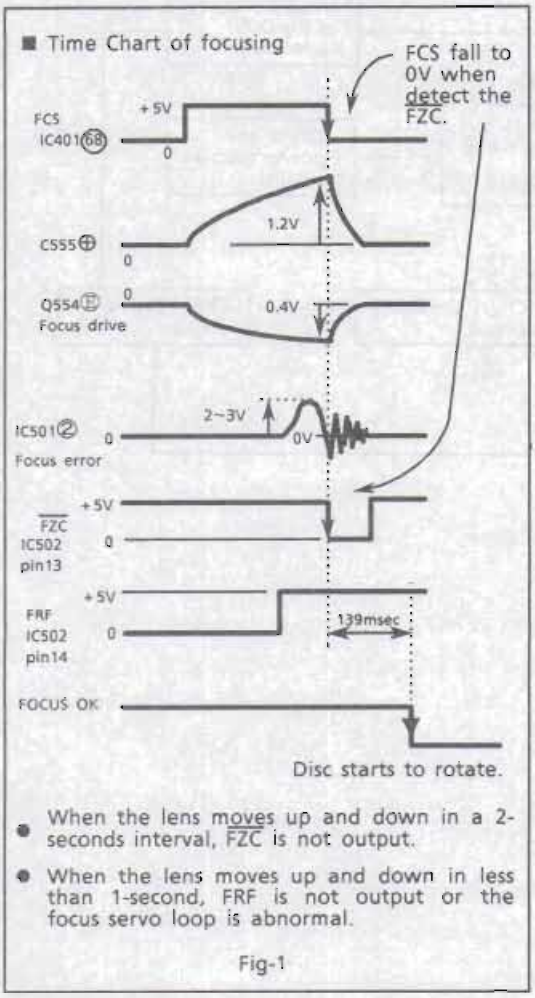
SW805 : Reset switch.
When the mechanism comes to the point under the initial position,the switch is turned on.

SW805 : Memory switch.
When the power is off in playing a disc, and on again, the switch detect which height the tray should be returned.

SW807 : Pickup rest switch.
When pickup comes to the initial position, the switch is turned on.

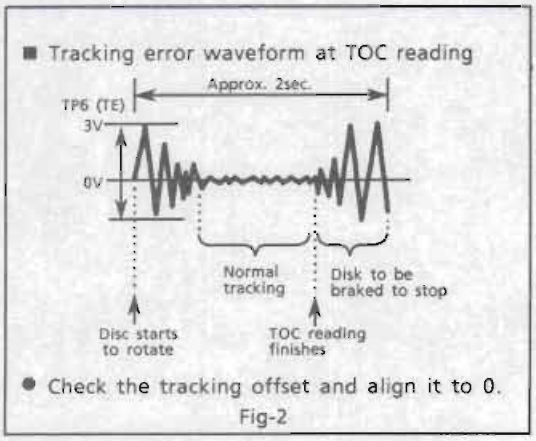


Flow of Functional Operation Until TOC is Read



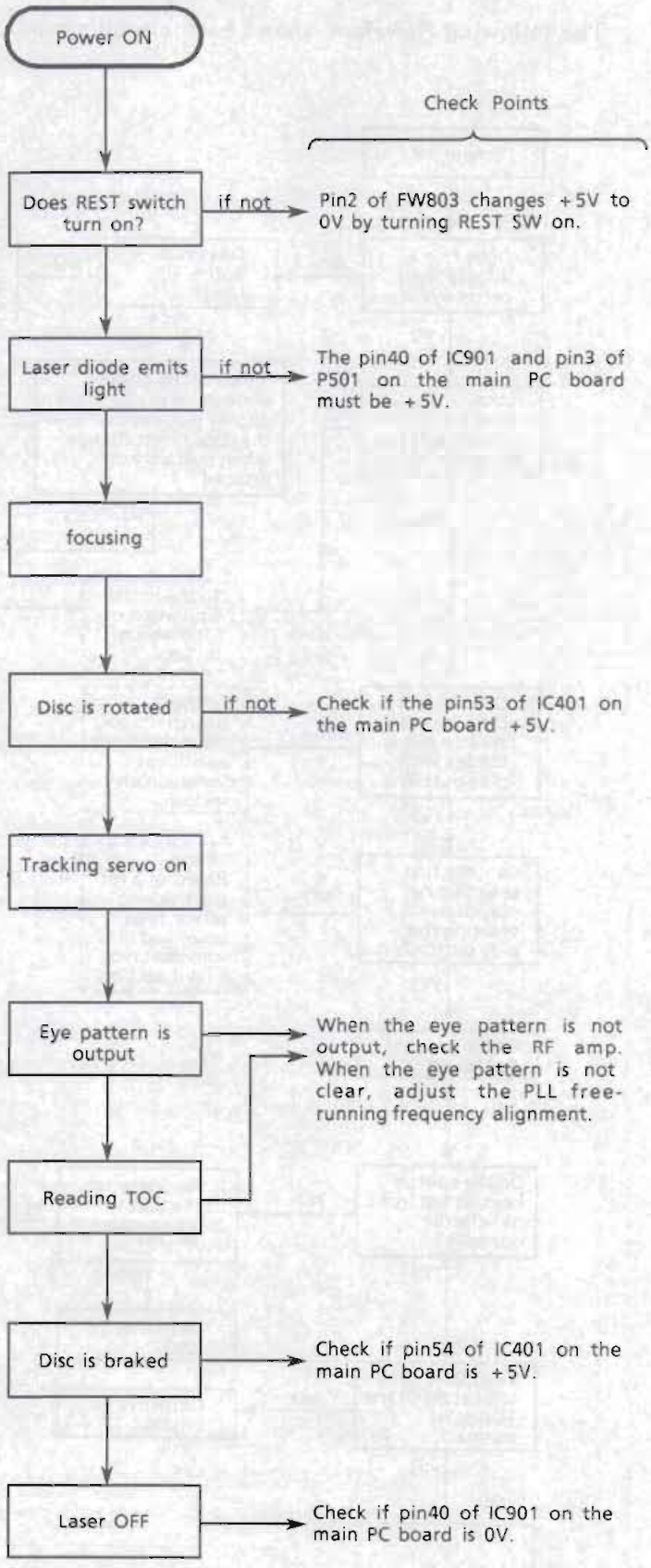
- When the lens moves up and down in a 2-seconds interval, FZC is not output.
- When the lens moves up and down in less than 1-second, FRF is not output or the focus servo loop is abnormal.

Fig-1



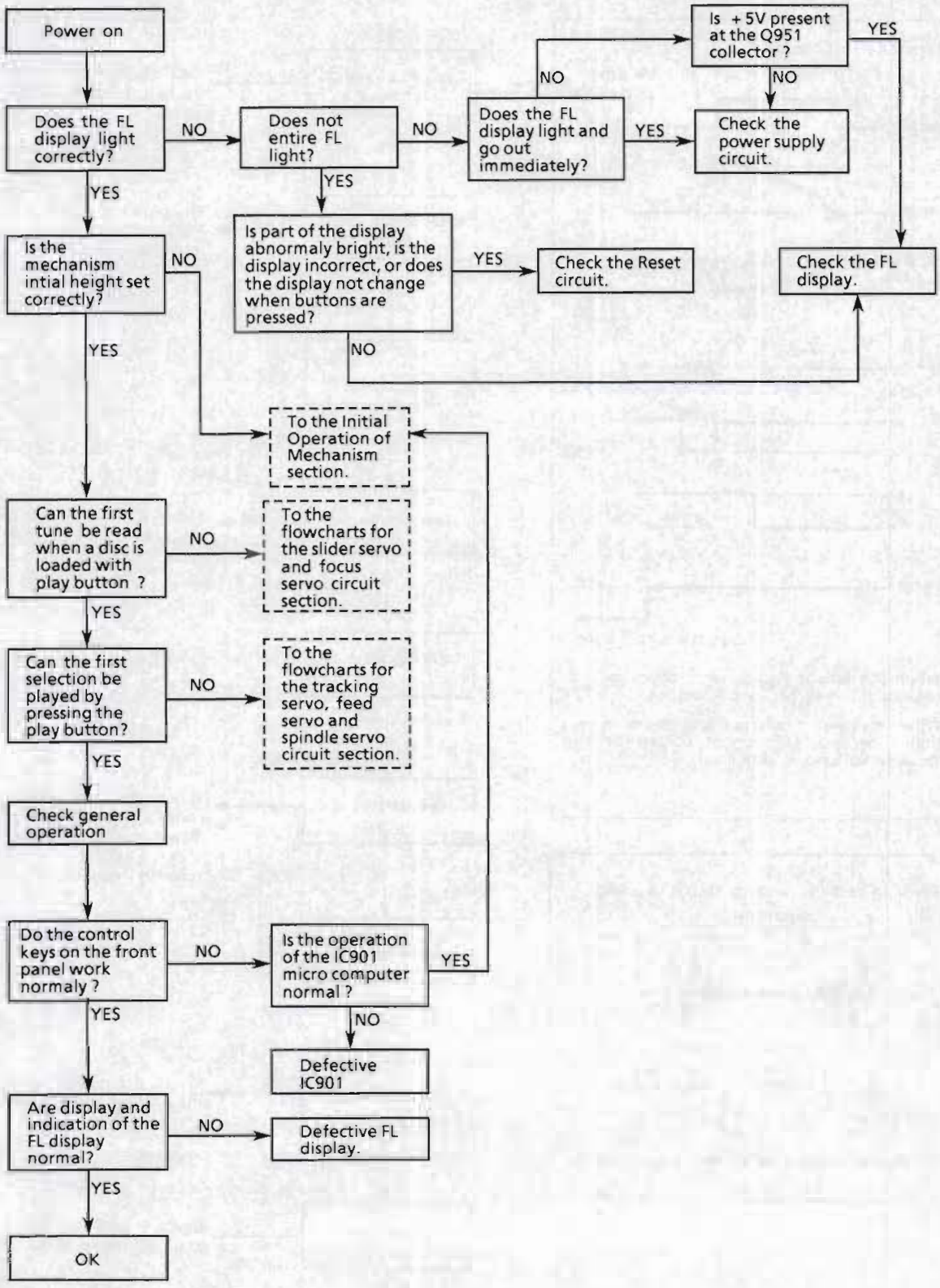
- Check the tracking offset and align it to 0.

Fig-2

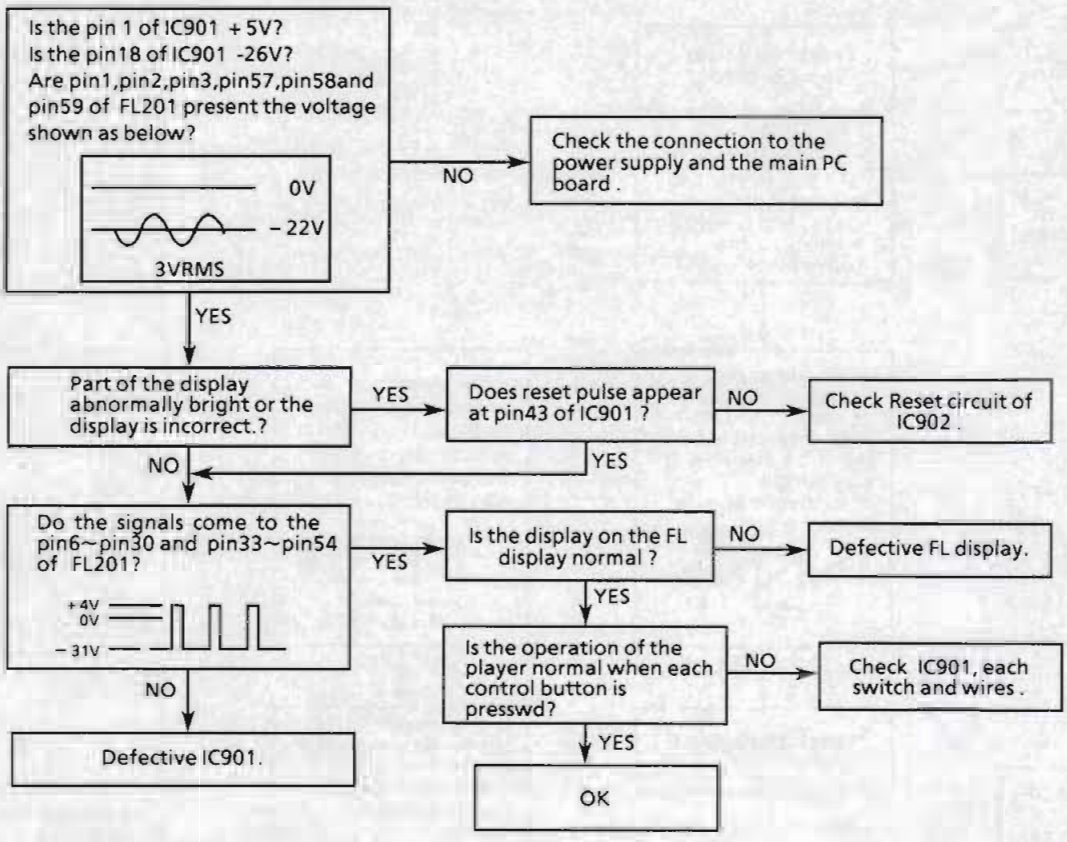


Troubleshooting

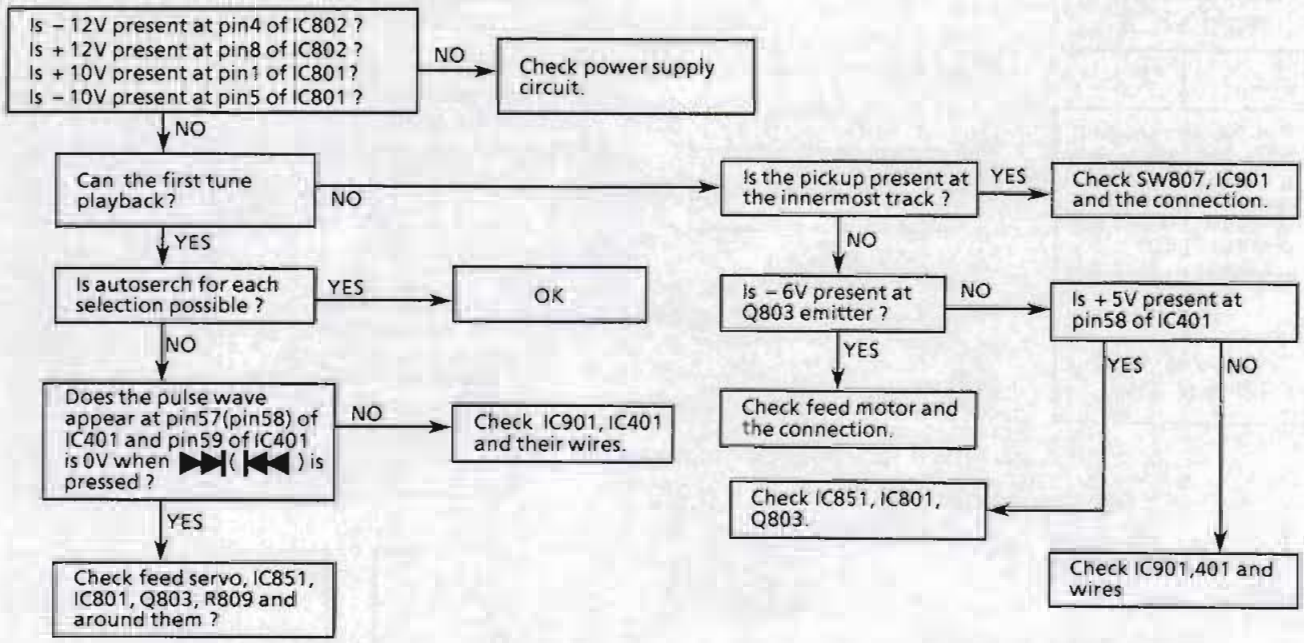
The following flowchart shows each circuit's condition about from "power on" until "ready to play".



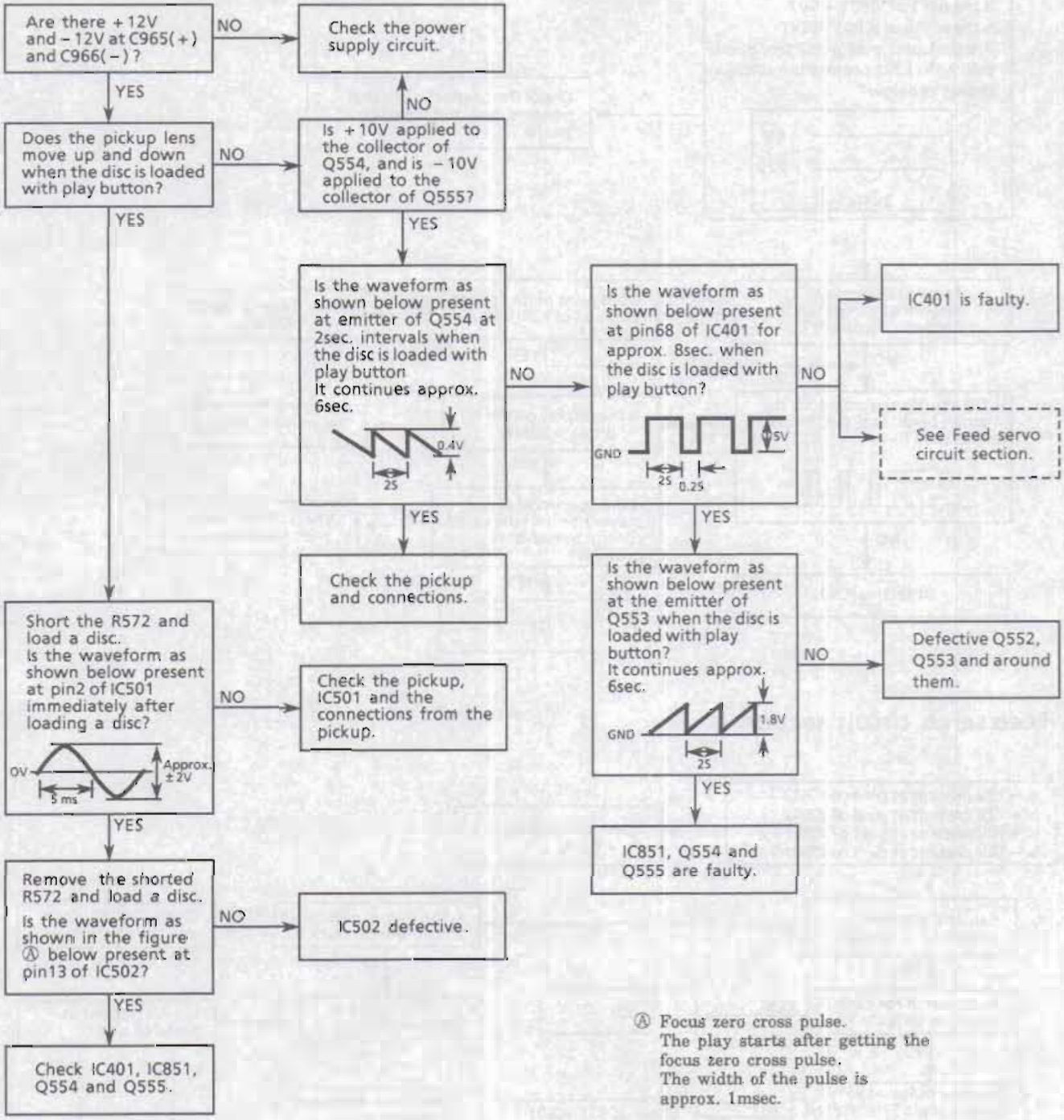
Front circuit Section



Feed servo circuit section

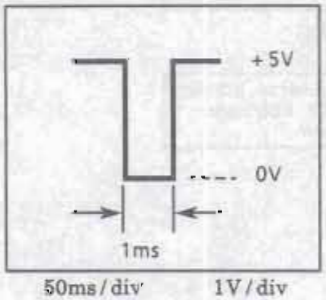


Focus servo circuit section

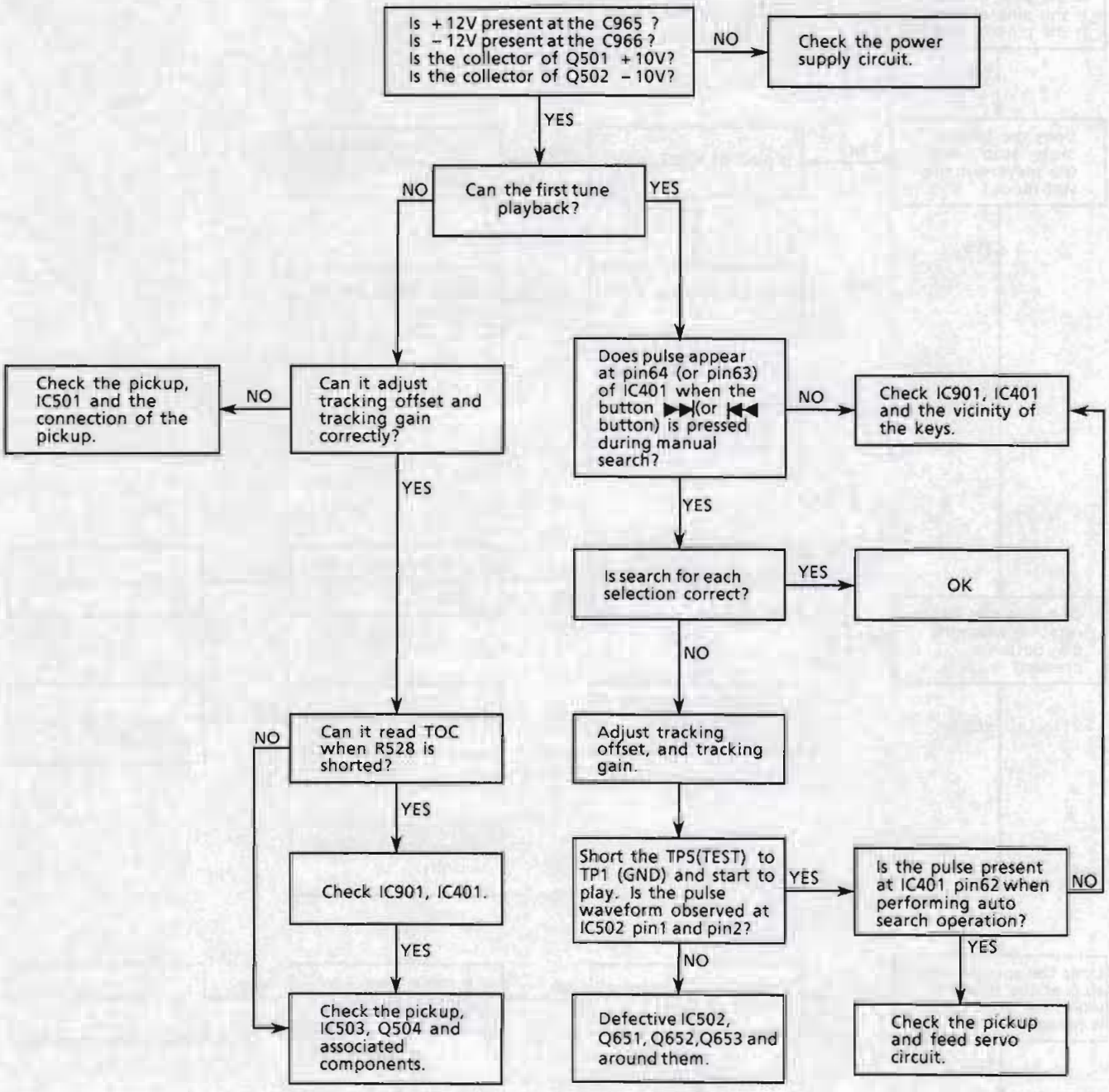


Ⓐ Focus zero cross pulse.
The play starts after getting the focus zero cross pulse.
The width of the pulse is approx. 1msec.

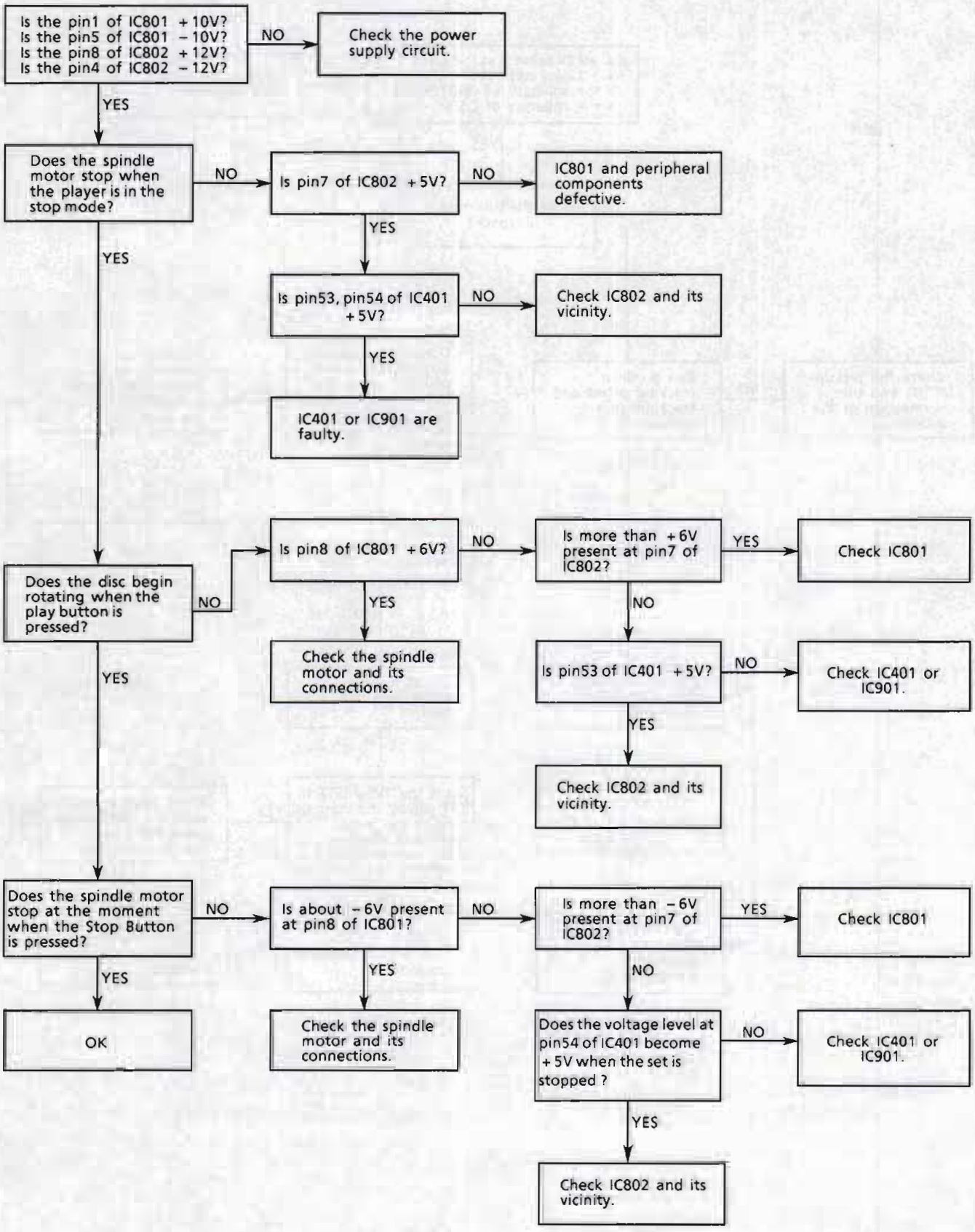
IC502 Pin13



Tracking servo circuit section



Spindle servo circuit section



PARTS LIST

Contents

General Exploded View and Parts List

■ Parts List

⚠	Item	Part Number	Part Name	Q'ty	Description	Areas
	1	EFP-XTMX55MBKJS	Front Panel Ass'y	1		J
		EFP-XTMX55MBKES	Front Panel Ass'y	1		Except J, C, A, U
		EFP-XTMX55MBJUS	Front Panel Ass'y	1		C, A, U
	1-1	E102557-002	Front Panel	1		J, C, A, U
		E102557-003	Front Panel	1		Except J, C, A, U
	1-2	E307973-002	Lid	1		
	1-3	E307975-001	Tuner Window Screen	1		J
		E307975-002	Tuner Window Screen	1		Except J
	1-4	E72405-001	Special Screw	2		
	1-5	E73534-001	Spring	1		
	1-6	E75130-007	FL Screen	1		J
	1-7	E406971-001	JVC Mark	2		
	2	SDSG3006M	Screw	5		
	3	E406855-006	Spacer	2	Front Foot	
	4	E207411-002	Push Button	1	CD EDIT	
	5	E307987-002	Push Button	1	TIMER	
	6	E207420-002	Push Button	1	CD FF	
	7	E307958-222	Push Button	1	TUNING	
	8	E307925-222	Push Button	1	PRESET	
	9	E207409-002	Push Button	1	CD DISK	
	10	EWR133K-17TT	Flat Wire	1	FC221 (33PIN)	
	11	EWR129K-15TT	Flat Wire	1	FC222 (29PIN)	
	12	SDSF2610Z	Screw	8		
	13	E207399-003	Metal Cover	1		
	14	E67000-018	Caution Label	1		
	15	SBSG3008CC	Screw	14		
	16	GBSG3008Z	Screw	2		
	17	E406507-001	Caution Label	1		Except J
	18	E306805-065	Spacer	1		
	19	————	CD Changer Mechanism Unit Ass'y	1	See page 2-5	
	20	E102564-001	Chassis Base	1		
	21	E406855-007	Spacer	2	Rear Foot	
	22	EXO015008H05S11	Spacer	6		
	23	E307977-001	Bracket	1		
	24	SBST3004CC	Screw	3		
	25	E207413-001	Rear Cover	1		
	26	E207402-003	Rear Panel	1		J
		E207402-004	Rear Panel	1		C, A
		E207402-005	Rear Panel	1		U
		E207402-006	Rear Panel	1		BS
		E207402-007	Rear Panel	1		EN, EF, G, GI, VX
	27	EWP907-010	Flat Wire Ass'y	1	for CD	
	28	EWP907-011	Flat Wire Ass'y	1	for Tuner	
	—	E61029-009	Number Label	1		
	—	E70891-001	Class 1 Label	1		Except J, C

The Marks for Designated Areas

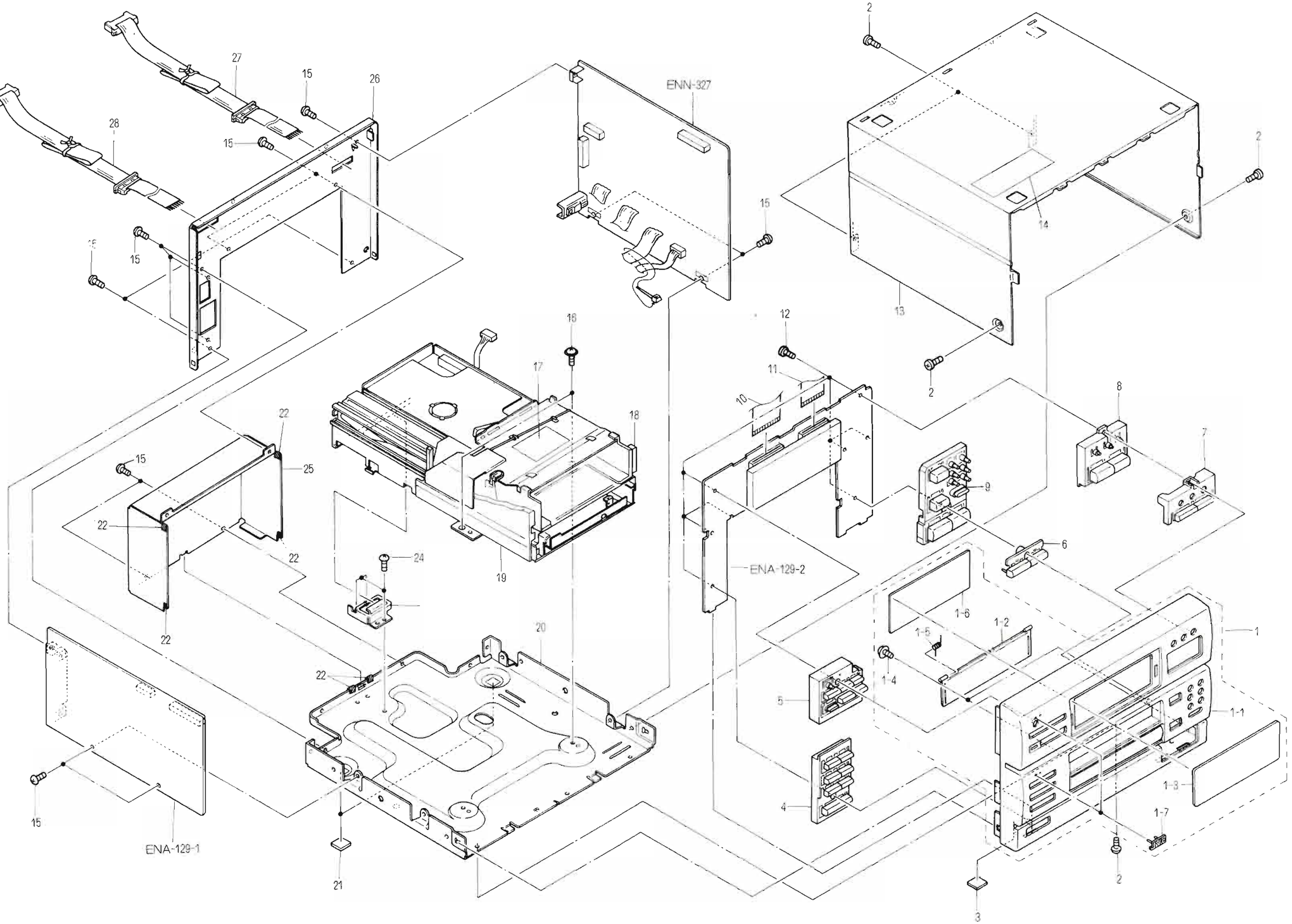
⚠ Safety Parts

J·····the U.S.A.
C·····Canada
A·····Australia
EN·····Scandinavia
EF·····Continental Europe
G·····Germany
GI·····Italy
BS·····the U.K.
VX·····Eastern Europe
U·····Universal Type

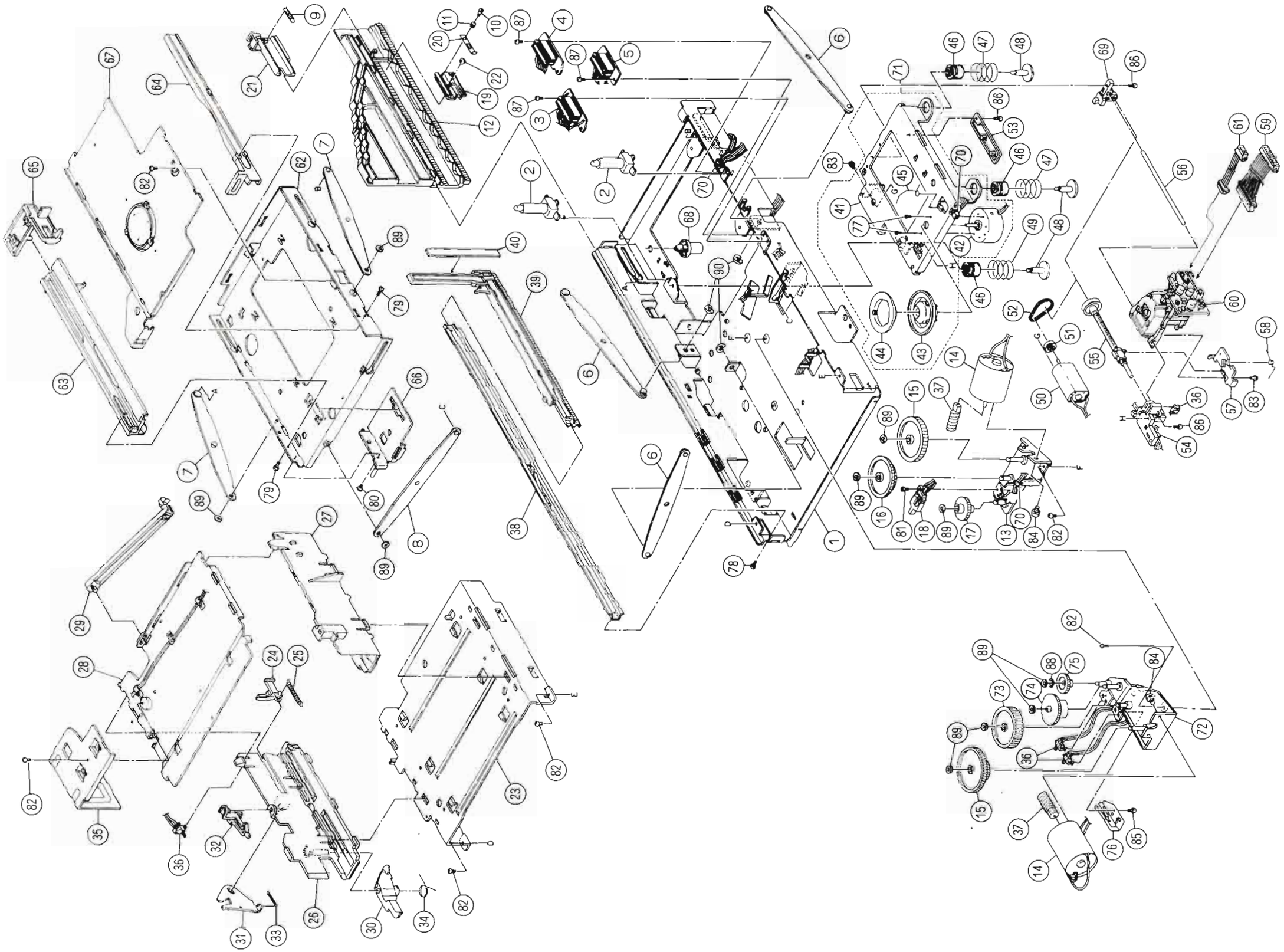
No mark indicates all areas.

XT-MX55MBK	XT-MX55MBK

■ Exploded View



CD Changer Ass'y and Parts List



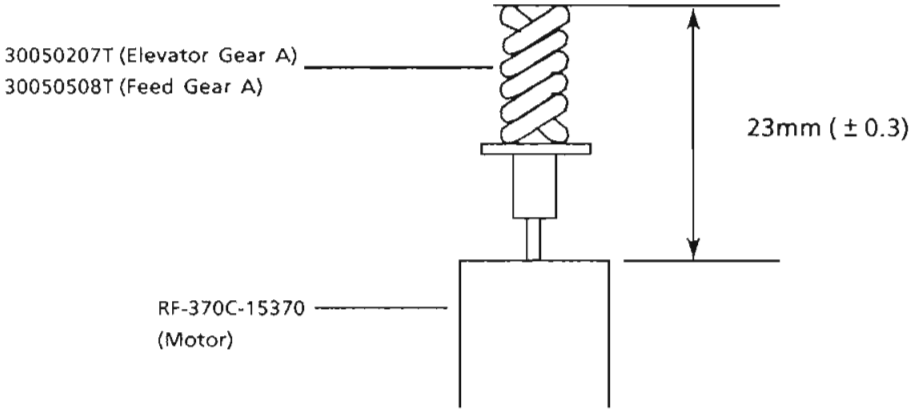
■ Parts List (**CD Changer Ass'y**)

Item	Part Number	Part Name	Q'ty	Description	Areas
1	30100101T	Chassis Base	1		
2	30050115T	Guide Boss	2		
3	301001302T	Connector PC Board A Ass'y	1		
4	301001301T	Connector PC Board D Ass'y	1		
5	300501304T	Connector PC Board P Ass'y	1		
6	301002502T	Elevator Arm A Ass'y	3		
7	301002503T	Elevator Side Arm B Ass'y	2		
8	301002504T	Elevator Front Arm A Ass'y	1		
9	30100221T	Cam Lever Spring	1		
10	30100222T	Collar Screw	1		
11	30100223T	Cam Spring	1		
12	30100202T	Lift Cam	1		
13	301002501T	Elevator Motor Bracket Ass'y	1		
14	RF-370C-15370	Loading Motor	2		
15	30100210T	Elevator Gear B	2		
16	30100212T	Elevator Gear C	1		
17	30100213T	Elevator Gear D	1		
18	640101167T	Leaf Switch	1		
19	30100204T	Cam Slider	1		
20	30100205T	Cam Spring Plate	1		
21	30100206T	Cam Lever	1		
22	30100207T	Cam Roller	1		
23	30100301T	Guide Base	1		
24	30100311T	Elevator Slide Lever	1		
25	30100312T	Elevator Slide Lever Spring	1		
26	301003703T	Magazine Guide	1	Left	
27	30050303T	Magazine Guide	1	Right	
28	30100305T	Guide Cover	1		
29	30050309T	Tray Stopper	1		
30	30100310T	Open Lever	1		
31	30100308T	Elevator Kick Lever	1		
32	30100307T	Lock Lever	1		
33	30100309T	Elevator Kick Lever Spring	1		
34	30100313T	Open Lever Spring	1		
35	301003706T	Cam Stabilizer	1		
36	64020403T	Push Switch	4		
37	30050508T	Feed Gear A	2		
38	301005501T	Feed Rail Ass'y	1		
39	30100504T	Hook Slide Gear	1		
40	30100505T	Slide Gear Plate	1		
41	30050738T	Turn Table Base	1		
42	60020705T	Spindle Motor	1		
43	30050729T	Turn Table	1		
44	30050713T	Turn Table Plate	1		
45	30050742T	Controller Spring	1		
46	30050721T	Floating Rubber	3		
47	30050715T	Floating Spring (B)	2		
48	30050743T	Floating Screw	3		
49	30050740T	Floating Spring	1		
50	60021102T	Feed Motor	1		
51	30050709T	Motor Pulley	1		
52	30050714T	Feed Motor Belt	1		
53	30050737T	Pick up Support	1		
54	30050724T	Shaft Holder A	1		
55	300507303T	Feed Screw Ass'y	1		
56	30050728T	Pick up Shaft	1		
57	30050735T	Feed Nut Support	1		
58	30050739T	Feed Nut Spring	1		
59	EWS26A-B921	Wire	1	10PIN	
60	OPTIMA-5S	Pick up	1		

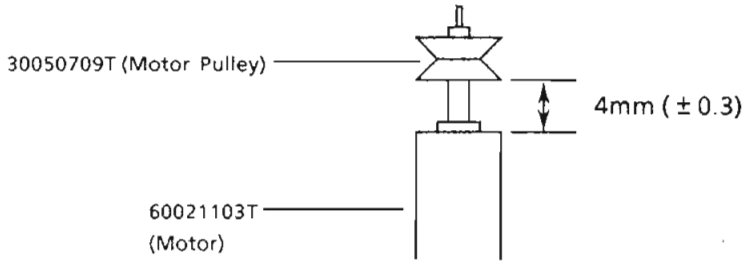
Item	Part Number	Part Name	Q'ty	Description	Areas
61	EWS264-B924	Wire	1	4PIN	
62	301008503T	Rail Base Ass'y	1		
63	30100802T	Rail	1	Left	
64	30100803T	Rail	1	Right	
65	30100804T	Hook Lever	1		
66	301008502T	LP Bracket Ass'y	1		
67	301008302T	Magazine Holder Ass'y	1		
68	30050114T	Chassis Support	1		
69	30050725T	Shaft Holder B	1		
70	12030105T	Tie Band	4		
71	300507305T	Turn Table Base Ass'y	1		
72	301005502T	Feed Motor Bracket Ass'y	1		
73	30100515T	Feed Gear C	1		
74	30100506T	Feed Gear D	1		
75	30100516T	Feed Gear E	1		
76	30100414T	Switch Actuator	1		
77	SPSK1722M	Screw	2		
78	9C0420253T	Screw	1		
79	9C0820601T	Screw	2		
80	9C0420303T	Screw	1		
81	9C0420403T	Screw	1		
82	9P0420031T	Screw	6		
83	LPSP2003Z	Screw	2		
84	9P0230041T	Screw	2		
85	9P1120032T	Screw	1		
86	9P0420051T	Screw	3		
87	9P0420041T	Screw	3		
88	9W0113080T	Washer	1		
89	9W0250110T	Washer	10		
90	REE3000	E. Ring	3		

■ How to install the gears and pulley when servicing.

1. Elevator Motor , Loading Motor



2. Feed Motor

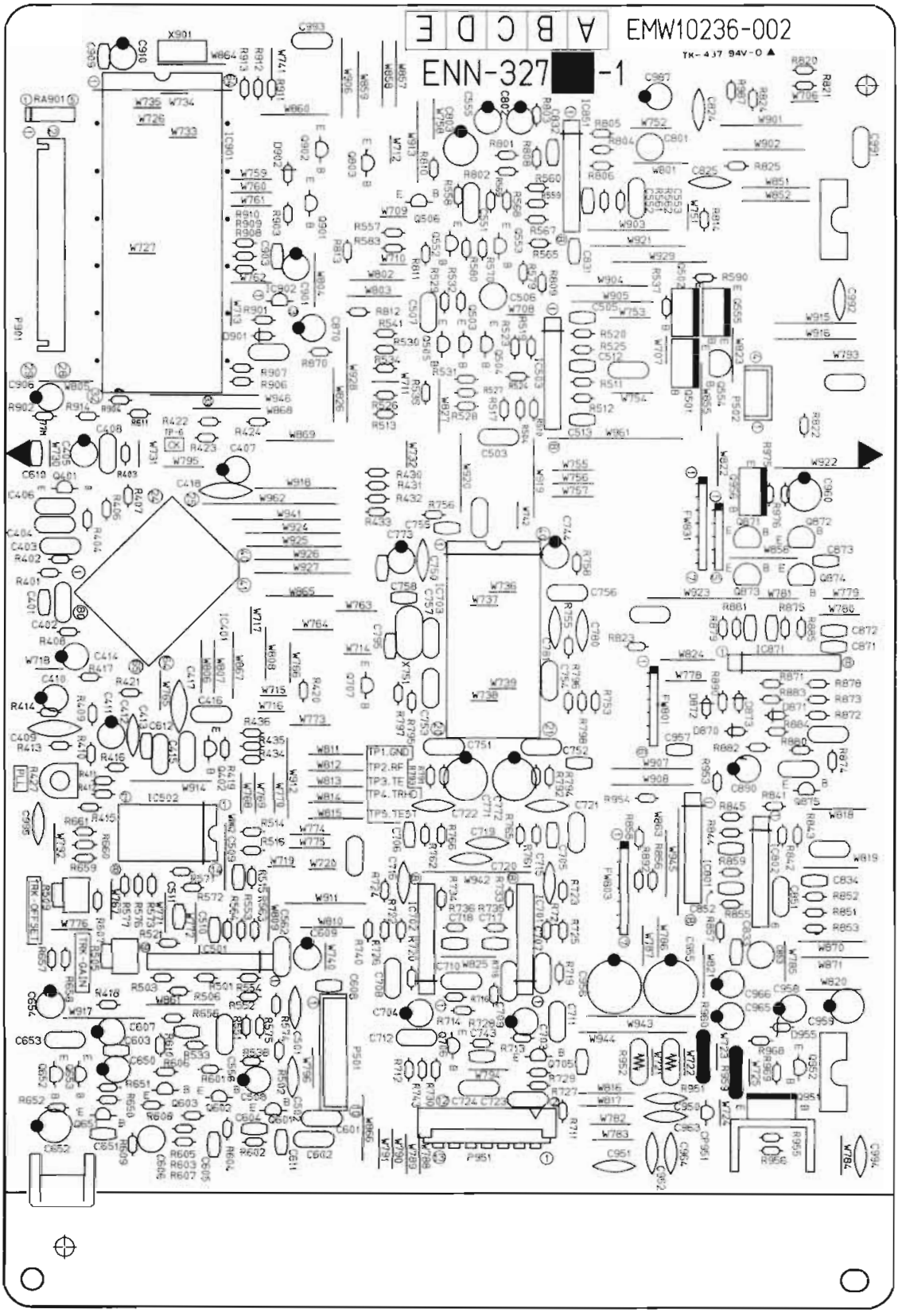


Printed Circuit Board Ass'y and Parts List

■ENN-327☐ CD Main PC Board Ass'y

Note : ENN-327☐ varies according to the areas employed. See note (1) when placing an order.

※ All printed circuit board assemblies are not available as service parts.



Note(1)

PC Board Ass'y	Designated Areas
ENN-327 C	the U.S.A.
ENN-327 D	Canada , Australia, the U.K. Scandinavia Continental Europe Italy , Eastern Europe Universal Type
ENN-327 E	Germany

Transistors

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	Q401	2SD2144S(VW)	SILICON	ROHM	
	Q402	2SD2144S(VW)	SILICON	ROHM	
	Q501	2SD2037(E,F)	SILICON	ROHM	
	Q502	2SB1357(E,F)	SILICON	ROHM	
	Q503	2SD2144S(VW)	SILICON	ROHM	
	Q504	2SD2144S(VW)	SILICON	ROHM	
	Q505	2SD2144S(VW)	SILICON	ROHM	
	Q506	DTA144WS	SILICON	ROHM	
	Q552	2SD2144S(VW)	SILICON	ROHM	
	Q553	2SA933S(R,S)	SILICON	ROHM	
	Q554	2SC2060(Q,R)	SILICON	ROHM	
	Q555	2SB1357(E,F)	SILICON	ROHM	
	Q601	2SC535(B,C)	SILICON	HITACHI	
	Q602	2SC1740S(R,S)	SILICON	ROHM	
	Q603	2SA933S(R,S)	SILICON	ROHM	
	Q651	2SA933S(R,S)	SILICON	ROHM	
	Q652	2SC1740S(R,S)	SILICON	ROHM	
	Q653	2SC1740S(R,S)	SILICON	ROHM	
	Q705	2SD1302(S,T)	SILICON	MATSUSHITA	
	Q706	2SD1302(S,T)	SILICON	MATSUSHITA	
	Q707	DTA144ES	SILICON	ROHM	
	Q803	2SD2144S(VW)	SILICON	ROHM	
	Q871	2SC2060(Q,R)	SILICON	ROHM	
	Q872	2SC2060(Q,R)	SILICON	ROHM	
	Q873	2SA934(Q,R)	SILICON	ROHM	
	Q874	2SA934(Q,R)	SILICON	ROHM	
	Q875	DTC144ES	SILICON	ROHM	
	Q901	DTA114YS	SILICON	ROHM	
	Q902	DTC144ES	SILICON	ROHM	
	Q951	2SB1187(E,F)	SILICON	ROHM	
	Q952	2SC1740S(R,S)	SILICON	ROHM	
	Q956	2SB1357(E,F)	SILICON	ROHM	

⚠ : SAFETY PARTS

I.C.s

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	IC401	YM7121B	I.C.	YAMAHA	
	IC501	TL072S	I.C.	DAINICHI	
	IC502	BA10339	I.C.	ROHM	
	IC503	M5218AL	I.C.	MITSUBISHI	
	IC701	M5218AL	I.C.	MITSUBISHI	
	IC702	M5218AL	I.C.	MITSUBISHI	
	IC703	JCE4501	I.C.	MATSUSHITA	
	IC801	STA341M(A)	I.C.	SANKEN	
	IC802	M5218AL	I.C.	MITSUBISHI	
	IC851	M5218AL	I.C.	MITSUBISHI	
	IC871	M5218AL	I.C.	MITSUBISHI	
	IC901	MN171602JPQ2	I.C.	MATSUSHITA	
	IC902	MN1281(P,Q)	I.C.	MATSUSHITA	

⚠ : SAFETY PARTS

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	D440	1SS133	SILICON	ROHM	
	D870	1SS133	SILICON	ROHM	
	D871	1SS133	SILICON	ROHM	
	D872	1SS133	SILICON	ROHM	
	D873	1SS133	SILICON	ROHM	
	D901	1SS133	SILICON	ROHM	
	D902	1SS133	SILICON	ROHM	
	D955	MTZ5.6JB	ZENER	ROHM	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C401	QCBB1HK-101	100PF	50V	CERAMIC	
	C402	QFV81HJ-105	1MF	50V	T.FILM	
	C403	QFN81HJ-182	1800PF	50V	MYLAR	
	C404	QFV81HJ-224	0.22MF	50V	T.FILM	
	C405	QETB1EM-106	10MF	25V	ELECTRO	
	C406	QCZ0205-155	1.5MF	25V	CERAMIC	
	C407	QETB1AM-107	100MF	10V	ELECTRO	
	C408	QFV81HJ-104	0.1MF	50V	T.FILM	
	C409	QCF21HP-473	0.047MF	50V	CERAMIC	
	C410	QETB1EM-106	10MF	25V	ELECTRO	
	C411	QETB1AM-107	100MF	10V	ELECTRO	
	C412	QCC21EM-473	0.047MF	25V	CERAMIC	
	C413	QCS81HJ-470	47PF	50V	CERAMIC	
	C414	QETB1EM-106	10MF	25V	ELECTRO	
	C415	QFV81HJ-563	0.056MF	50V	T.FILM	
	C416	QFV81HJ-564	0.56MF	50V	T.FILM	
	C417	QCC21EM-473	0.047MF	25V	CERAMIC	
	C418	QCF21HP-473	0.047MF	50V	CERAMIC	
	C501	QCT26CH-151	150PF	50V	CERAMIC	
	C502	QCT26CH-121	120PF	50V	CERAMIC	
	C503	QFV81HJ-223	0.022MF	50V	T.FILM	
	C505	QCS81HK-4R7	4.7PF	50V	CERAMIC	
	C506	QEN51HM-225	2.2MF	50V	NON POLE	
	C507	QFV81HJ-563	0.056MF	50V	T.FILM	
	C508	QETB1AM-476	47MF	10V	ELECTRO	
	C509	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C510	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C511	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C512	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C513	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C551	QFV81HJ-183	0.018MF	50V	T.FILM	
	C552	QCBB1HK-271	270PF	50V	CERAMIC	
	C553	QFV81HJ-393	0.039MF	50V	T.FILM	
	C555	QETB1CM-226	22MF	16V	ELECTRO	
	C556	QFV81HJ-104	0.1MF	50V	T.FILM	
	C562	QFV81HJ-224	0.22MF	50V	T.FILM	
	C601	QFN81HJ-472	4700PF	50V	MYLAR	
	C602	QFN81HJ-472	4700PF	50V	MYLAR	
	C603	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C604	QCS81HK-3R9	3.9PF	50V	CERAMIC	
	C605	QCBB1HK-471	470PF	50V	CERAMIC	
	C606	QEN51HM-106	10MF	50V	NON POLE	
	C607	QETB1CM-476	47MF	16V	ELECTRO	
	C608	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C609	QETB1AM-476	47MF	10V	ELECTRO	
	C610	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C611	QCBB1HK-101	100PF	50V	CERAMIC	
	C612	QFV81HJ-183	0.018MF	50V	T.FILM	
	C650	QETB1HM-105	1MF	50V	ELECTRO	
	C651	QCBB1HK-101	100PF	50V	CERAMIC	
	C652	QETB1CM-107	100MF	16V	ELECTRO	
	C653	QFV81HJ-473	0.047MF	50V	T.FILM	
	C654	QETB1EM-106	10MF	25V	ELECTRO	
	C703	QETB1CM-476	47MF	16V	ELECTRO	
	C704	QETB1CM-476	47MF	16V	ELECTRO	
	C705	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C706	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C707	QFV81HJ-103	0.01MF	50V	T.FILM	
	C708	QFV81HJ-103	0.01MF	50V	T.FILM	
	C709	QFN81HJ-182	1800PF	50V	MYLAR	
	C710	QFN81HJ-182	1800PF	50V	MYLAR	
	C711	QFV81HJ-683	0.068MF	50V	T.FILM	
	C712	QFV81HJ-683	0.068MF	50V	T.FILM	
	C713	QCS21HJ-221	220PF	50V	CERAMIC	
	C714	QCS21HJ-221	220PF	50V	CERAMIC	
	C717	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C718	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C719	QCS21HJ-221	220PF	50V	CERAMIC	
	C720	QCS21HJ-221	220PF	50V	CERAMIC	
	C721	QCS21HJ-221	220PF	50V	CERAMIC	
	C722	QCS21HJ-221	220PF	50V	CERAMIC	
	C723	QFN81HJ-562	5600PF	50V	MYLAR	
	C724	QFN81HJ-562	5600PF	50V	MYLAR	
	C743	QCV81CM-103	0.01MF	16V	CERAMIC	
	C744	EEZ2505-107	100MF	10V	ELECTRO	
	C750	QCS21HJ-680	68PF	50V	CERAMIC	
	C751	QCZ0205-155	1.5MF	25V	CERAMIC	
	C752	QCZ0205-155	1.5MF	25V	CERAMIC	
	C753	QCZ0205-155	1.5MF	25V	CERAMIC	
	C754	QCZ0205-155	1.5MF	25V	CERAMIC	
	C755	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C756	QCZ0205-155	1.5MF	25V	CERAMIC	
	C757	QCZ0205-155	1.5MF	25V	CERAMIC	
	C758	QCT30CH-120	12PF	50V	CERAMIC	
	C771	QETB0JM-477	470MF	6.3V	ELECTRO	
	C772	QETB0JM-477	470MF	6.3V	ELECTRO	
	C773	QETB1AM-107	100MF	10V	ELECTRO	
	C780	QCS21HJ-5R0	5PF	50V	CERAMIC	
	C781	QCS21HJ-5R0	5PF	50V	CERAMIC	
	C795	QCT30CH-3R9	3.9PF	50V	CERAMIC	
	C801	QEN51HM-225	2.2MF	50V	NON POLE	
	C802	QETB1EM-106	10MF	25V	ELECTRO	
	C803	QETB1AM-107	100MF	10V	ELECTRO	
	C824	QCF21HP-223	0.022MF	50V	CERAMIC	
	C825	QCF21HP-223	0.022MF	50V	CERAMIC	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C831	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C832	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C833	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C834	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C851	QFN81HJ-272	2700PF	50V	MYLAR	
	C852	QCBB1HK-101	100PF	50V	CERAMIC	
	C853	QEN51HM-225	2.2MF	50V	NON POLE	
	C870	QETB1HM-474	0.47MF	50V	ELECTRO	
	C871	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C872	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C873	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C890	QETB1HM-474	0.47MF	50V	ELECTRO	
	C901	QETB1EM-106	10MF	25V	ELECTRO	
	C903	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C906	QETB1HM-226	22MF	50V	ELECTRO	
	C909	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C910	QETB1AM-476	47MF	10V	ELECTRO	
	C950	QCC21EM-473	0.047MF	25V	CERAMIC	
	C951	QCC21EM-473	0.047MF	25V	CERAMIC	
	C952	QCC21EM-473	0.047MF	25V	CERAMIC	
	C955	QETB1CM-108	1000MF	16V	ELECTRO	
	C956	QETB1CM-108	1000MF	16V	ELECTRO	
	C957	QCF21HP-223	0.022MF	50V	CERAMIC	
	C958	QETB1AM-476	47MF	25V	ELECTRO	
	C959	QETB1AM-107	100MF	10V	ELECTRO	
	C960	QETB1AM-107	100MF	10V	ELECTRO	
	C963	QCC21EM-473	0.047MF	25V	CERAMIC	
	C964	QCC21EM-473	0.047MF	25V	CERAMIC	
	C965	QETB1CM-476	47MF	16V	ELECTRO	
	C966	QETB1CM-476	47MF	16V	ELECTRO	
	C987	QETB1HM-475	4.7MF	50V	ELECTRO	

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R401	QRD167J-182	1.8K	1/6W	CARBON	
	R402	QRD167J-821	820	1/6W	CARBON	
	R403	QRD167J-682	6.8K	1/6W	CARBON	
	R404	QRD167J-101	100	1/6W	CARBON	
	R406	QRD167J-682	6.8K	1/6W	CARBON	
	R407	QRD167J-102	1K	1/6W	CARBON	
	R408	QRD167J-822	8.2K	1/6W	CARBON	
	R409	QRD167J-822	8.2K	1/6W	CARBON	
	R410	QRD167J-224	220K	1/6W	CARBON	
	R411	QRD167J-184	180K	1/6W	CARBON	
	R412	QRD167J-393	39K	1/6W	CARBON	
	R413	QRD167J-182	1.8K	1/6W	CARBON	
	R414	QRD167J-182	1.8K	1/6W	CARBON	
	R415	QRD167J-122	1.2K	1/6W	CARBON	
	R416	QRD167J-221	220	1/6W	CARBON	
	R417	QRD167J-682	6.8K	1/6W	CARBON	
	R418	QRD167J-471	470	1/6W	CARBON	
	R419	QRD167J-102	1K	1/6W	CARBON	
	R420	QRD167J-183	18K	1/6W	CARBON	
	R421	QRD167J-103	10K	1/6W	CARBON	
	R422	QRD167J-221	220	1/6W	CARBON	
	R423	QRD167J-221	220	1/6W	CARBON	
	R424	QRD167J-221	220	1/6W	CARBON	
	R427	QVPA601-104A	100K		VARIABLE	
	R430	QRD167J-561	560	1/6W	CARBON	
	R431	QRD167J-561	560	1/6W	CARBON	
	R432	QRD167J-561	560	1/6W	CARBON	
	R433	QRD167J-561	560	1/6W	CARBON	
	R434	QRD167J-472	4.7K	1/6W	CARBON	
	R435	QRD167J-472	4.7K	1/6W	CARBON	
	R436	QRD167J-472	4.7K	1/6W	CARBON	
	R440	QRD167J-102	1K	1/6W	CARBON	
	R501	QRD167J-563	56K	1/6W	CARBON	
	R502	QRD167J-563	56K	1/6W	CARBON	
	R503	QRD167J-394	390K	1/6W	CARBON	
	R504	QRD167J-681	680	1/6W	CARBON	
	R505	QVPA603-202M	2K		VARIABLE	
	R506	QRD167J-561	560	1/6W	CARBON	
	R507	QRD167J-334	330K	1/6W	CARBON	
	R509	QVPA603-154A	150K		VARIABLE	
	R510	QRD167J-223	22K	1/6W	CARBON	
	R511	QRD167J-682	6.8K	1/6W	CARBON	
	R512	QRD167J-103	10K	1/6W	CARBON	
	R513	QRD167J-562	5.6K	1/6W	CARBON	
	R514	QRD167J-562	5.6K	1/6W	CARBON	
	R515	QRD167J-562	5.6K	1/6W	CARBON	
	R516	QRD167J-562	5.6K	1/6W	CARBON	
	R517	QRD167J-183	18K	1/6W	CARBON	
	R519	QRD167J-103	10K	1/6W	CARBON	
	R520	QRD167J-224	220K	1/6W	CARBON	
	R521	QRD167J-222	2.2K	1/6W	CARBON	

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R523	QRD167J-434	430K	1/6W	CARBON	
	R524	QRD167J-434	430K	1/6W	CARBON	
	R525	QRD167J-103	10K	1/6W	CARBON	
	R526	QRD167J-183	18K	1/6W	CARBON	
	R527	QRD167J-104	100K	1/6W	CARBON	
	R528	QRD167J-104	100K	1/6W	CARBON	
	R529	QRD167J-681	680	1/6W	CARBON	
	R530	QRD167J-183	18K	1/6W	CARBON	
	R531	QRD167J-184	180K	1/6W	CARBON	
	R532	QRD167J-102	1K	1/6W	CARBON	
	R533	QRD167J-562	5.6K	1/6W	CARBON	
	R534	QRD167J-183	18K	1/6W	CARBON	
	R535	QRD167J-183	18K	1/6W	CARBON	
	R537	QRD167J-470	47	1/6W	CARBON	
	R538	QRD167J-562	5.6K	1/6W	CARBON	
	R541	QRD167J-103	10K	1/6W	CARBON	
	R551	QRD167J-104	100K	1/6W	CARBON	
	R552	QRD167J-104	100K	1/6W	CARBON	
	R553	QRD167J-394	390K	1/6W	CARBON	
	R554	QRD167J-394	390K	1/6W	CARBON	
	R557	QRD167J-681	680	1/6W	CARBON	
	R558	QRD167J-473	47K	1/6W	CARBON	
	R559	QRD167J-331	330	1/6W	CARBON	
	R560	QRD167J-333	33K	1/6W	CARBON	
	R561	QRD167J-273	27K	1/6W	CARBON	
	R562	QRD167J-394	390K	1/6W	CARBON	
	R563	QRD167J-182	1.8K	1/6W	CARBON	
	R564	QRD167J-121	120	1/6W	CARBON	
	R565	QRD167J-335	3.3M	1/6W	CARBON	
	R567	QRD167J-105	1M	1/6W	CARBON	
	R568	QRD167J-470	47	1/6W	CARBON	
	R569	QRD167J-473	47K	1/6W	CARBON	
	R570	QRD167J-272	2.7K	1/6W	CARBON	
	R571	QRD167J-682	6.8K	1/6W	CARBON	
	R572	QRD167J-104	100K	1/6W	CARBON	
	R573	QRD167J-562	5.6K	1/6W	CARBON	
	R574	QRD167J-105	1M	1/6W	CARBON	
	R575	QRD167J-105	1M	1/6W	CARBON	
	R576	QRD167J-104	100K	1/6W	CARBON	
	R577	QRD167J-562	5.6K	1/6W	CARBON	
	R579	QRD167J-104	100K	1/6W	CARBON	
	R580	QRD167J-103	10K	1/6W	CARBON	
	R583	QRD167J-183	18K	1/6W	CARBON	
	R590	QRD167J-470	47	1/6W	CARBON	
	R601	QRD167J-183	18K	1/6W	CARBON	
	R602	QRD167J-432	4.3K	1/6W	CARBON	
	R603	QRD167J-391	390	1/6W	CARBON	
	R604	QRD167J-221	220	1/6W	CARBON	
	R605	QRD167J-152	1.5K	1/6W	CARBON	
	R606	QRD167J-561	560	1/6W	CARBON	
	R607	QRD167J-561	560	1/6W	CARBON	
	R608	QRD167J-562	5.6K	1/6W	CARBON	
	R609	QRD167J-152	1.5K	1/6W	CARBON	
	R610	QRD167J-271	270	1/6W	CARBON	
	R611	QRD167J-222	2.2K	1/6W	CARBON	
	R650	QRD167J-102	1K	1/6W	CARBON	
	R651	QRD167J-103	10K	1/6W	CARBON	
	R652	QRD167J-272	2.7K	1/6W	CARBON	
	R656	QRD167J-391	390	1/6W	CARBON	
	R657	QRD167J-103	10K	1/6W	CARBON	
	R658	QRD167J-562	5.6K	1/6W	CARBON	
	R659	QRD167J-472	4.7K	1/6W	CARBON	
	R660	QRD167J-822	8.2K	1/6W	CARBON	
	R661	QRD167J-103	10K	1/6W	CARBON	
	R711	QRD167J-151	150	1/6W	CARBON	
	R712	QRD167J-151	150	1/6W	CARBON	
	R713	QRD167J-273	27K	1/6W	CARBON	
	R714	QRD167J-273	27K	1/6W	CARBON	
	R715	QRD167J-472	4.7K	1/6W	CARBON	
	R716	QRD167J-472	4.7K	1/6W	CARBON	
	R719	QRD167J-112	1.1K	1/6W	CARBON	
	R720	QRD167J-112	1.1K	1/6W	CARBON	
	R721	QRD167J-681	680	1/6W	CARBON	
	R722	QRD167J-681	680	1/6W	CARBON	
	R723	QRD167J-511	510	1/6W	CARBON	
	R724	QRD167J-511	510	1/6W	CARBON	
	R725	QRD167J-241	240	1/6W	CARBON	
	R726	QRD167J-241	240	1/6W	CARBON	
	R727	QRD167J-104	100K	1/6W	CARBON	
	R728	QRD167J-104	100K	1/6W	CARBON	
	R729	QRD167J-392	3.9K	1/6W	CARBON	
	R730	QRD167J-392	3.9K	1/6W	CARBON	
	R733	QRD167J-183	18K	1/6W	CARBON	
	R734	QRD167J-183	18K	1/6W	CARBON	
	R735	QRD167J-183	18K	1/6W	CARBON	
	R736	QRD167J-183	18K	1/6W	CARBON	
	R740	QRD167J-154	150K	1/6W	CARBON	
	R743	QRD167J-684	680K	1/6W	CARBON	
	R753	QRD167J-101	100	1/6W	CARBON	
	R755	QRD167J-181	180	1/6W	CARBON	
	R756	QRD167J-472	4.7K	1/6W	CARBON	
	R758	QRD167J-222	2.2K	1/6W	CARBON	
	R761	QRD167J-243	24K	1/6W	CARBON	
	R762	QRD167J-243	24K	1/6W	CARBON	
	R765	QRD167J-243	24K	1/6W	CARBON	

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R766	QRD167J-243	24K	1/6W	CARBON	
⚠	R791	QRV144F-1802	18K	1/4W	M.FILM	
⚠	R792	QRV144F-1802	18K	1/4W	M.FILM	
⚠	R793	QRV144F-1802	18K	1/4W	M.FILM	
⚠	R794	QRV144F-1802	18K	1/4W	M.FILM	
⚠	R795	QRV144F-1802	18K	1/4W	M.FILM	
⚠	R796	QRV144F-1802	18K	1/4W	M.FILM	
⚠	R797	QRV144F-1802	18K	1/4W	M.FILM	
⚠	R798	QRV144F-1802	18K	1/4W	M.FILM	
	R801	QRD167J-334	330K	1/6W	CARBON	
	R802	QRD167J-564	560K	1/6W	CARBON	
	R803	QRD167J-153	15K	1/6W	CARBON	
	R804	QRD167J-184	180K	1/6W	CARBON	
	R805	QRD167J-562	5.6K	1/6W	CARBON	
	R806	QRD167J-392	3.9K	1/6W	CARBON	
	R808	QRD167J-103	10K	1/6W	CARBON	
	R809	QRD167J-302	3K	1/6W	CARBON	
	R810	QRD167J-102	1K	1/6W	CARBON	
	R811	QRD167J-394	390K	1/6W	CARBON	
	R812	QRD167J-183	18K	1/6W	CARBON	
	R813	QRD167J-273	27K	1/6W	CARBON	
	R814	QRD167J-470	47	1/6W	CARBON	
	R822	QRD167J-221	220	1/6W	CARBON	
	R823	QRD167J-221	220	1/6W	CARBON	
	R824	QRD167J-221	220	1/6W	CARBON	
	R825	QRD167J-221	220	1/6W	CARBON	
	R841	QRD167J-243	24K	1/6W	CARBON	
	R842	QRD167J-183	18K	1/6W	CARBON	
	R843	QRD167J-203	20K	1/6W	CARBON	
	R844	QRD167J-183	18K	1/6W	CARBON	
	R845	QRD167J-820	82	1/6W	CARBON	
	R851	QRD167J-684	680K	1/6W	CARBON	
	R852	QRD167J-684	680K	1/6W	CARBON	
	R853	QRD167J-823	82K	1/6W	CARBON	
	R855	QRD167J-683	68K	1/6W	CARBON	
	R856	QRD167J-123	12K	1/6W	CARBON	
	R857	QRD167J-152	1.5K	1/6W	CARBON	
	R858	QRD167J-2R2	2.2	1/6W	CARBON	
	R859	QRD167J-470	47	1/6W	CARBON	
	R870	QRD167J-103	10K	1/6W	CARBON	
	R871	QRD167J-153	15K	1/6W	CARBON	
	R872	QRD167J-103	10K	1/6W	CARBON	
	R873	QRD167J-123	12K	1/6W	CARBON	
	R874	QRD167J-362	3.6K	1/6W	CARBON	
	R875	QRD167J-393	39K	1/6W	CARBON	
	R878	QRD167J-153	15K	1/6W	CARBON	
	R879	QRD167J-470	47	1/6W	CARBON	
	R880	QRD167J-153	15K	1/6W	CARBON	
	R881	QRD167J-393	39K	1/6W	CARBON	
	R882	QRD167J-123	12K	1/6W	CARBON	
	R883	QRD167J-153	15K	1/6W	CARBON	
	R884	QRD167J-103	10K	1/6W	CARBON	
	R885	QRD167J-470	47	1/6W	CARBON	
	R890	QRD167J-104	100K	1/6W	CARBON	
	R892	QRD167J-151	150	1/6W	CARBON	
	R901	QRD167J-821	820	1/6W	CARBON	
	R902	QRD167J-473	47K	1/6W	CARBON	
	R903	QRD167J-472	4.7K	1/6W	CARBON	
	R904	QRD167J-103	10K	1/6W	CARBON	
	R906	QRD167J-103	10K	1/6W	CARBON	
	R907	QRD167J-103	10K	1/6W	CARBON	
	R908	QRD167J-103	10K	1/6W	CARBON	
	R909	QRD167J-103	10K	1/6W	CARBON	
	R910	QRD167J-103	10K	1/6W	CARBON	
	R912	QRD167J-103	10K	1/6W	CARBON	
	R913	QRD167J-103	10K	1/6W	CARBON	
	R914	QRD167J-103	10K	1/6W	CARBON	
⚠	R951	PTH61G30B02R2N			FUSIBLE	D
⚠	R951	PTH61G30B02R2N			FUSIBLE	E
⚠	R952	PTH61G30B02R2N			FUSIBLE	D
⚠	R952	PTH61G30B02R2N			FUSIBLE	E
	R953	QRD167J-104	100K	1/6W	CARBON	
	R954	QRD167J-104	100K	1/6W	CARBON	
	R955	QRD167J-222	2.2K	1/6W	CARBON	
	R956	QRD167J-221	220	1/6W	CARBON	
⚠	R959	QRZ0077-100	10	1/4W	FUSIBLE	D
⚠	R959	QRZ0077-100	10	1/4W	FUSIBLE	E
⚠	R960	QRZ0077-100	10	1/4W	FUSIBLE	D
⚠	R960	QRZ0077-100	10	1/4W	FUSIBLE	E
	R968	QRD167J-222	2.2K	1/6W	CARBON	
	R969	QRD167J-221	220	1/6W	CARBON	
	R975	QRD167J-102	1K	1/6W	CARBON	
	R976	QRD167J-821	820	1/6W	CARBON	
	R987	QRD167J-101	100	1/6W	CARBON	
	RA901	QRB049J-473	47K	1/10W	R.NETWORK	

⚠ : SAFETY PARTS

Others

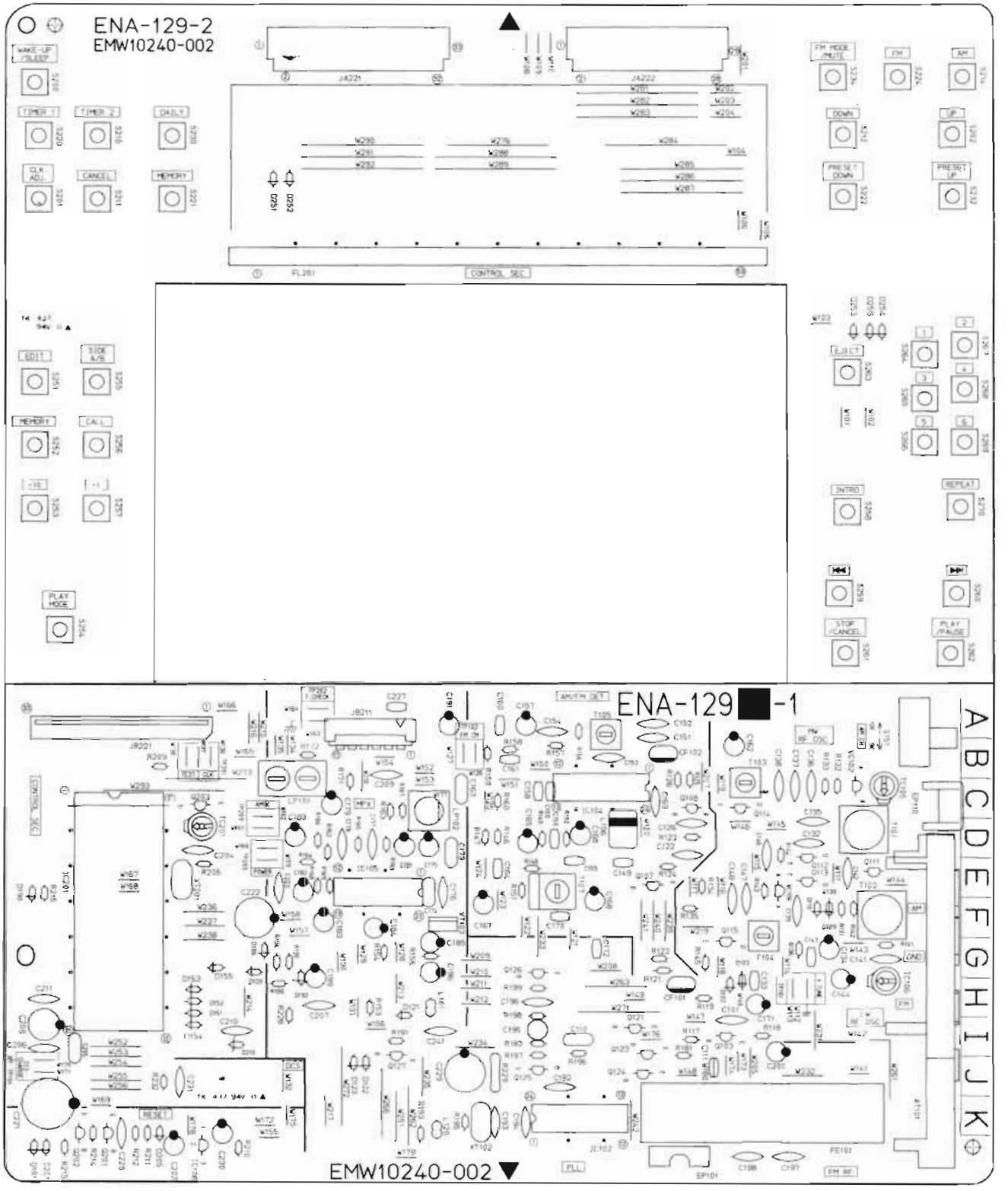
⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		EMW10236-002	CIRCUIT BOARD	
		E70225-001	EARTH PLATE	
		E70306-001	HEAT SINK	
		E70859-001	EARTH PLATE	
		SBSE3008Z	SCREW	
	P501	EMV5109-010A	PLUG ASSY(10PIN)	
	P502	EMV5109-004A	PLUG ASSY(4PIN)	
	P901	EMV7123-029	CONNECTOR(29PIN)	
	P951	EMV7141-013M	CONNECTOR(13PIN)	
	X751	ECX0169-344EA	RESONATOR	
	X901	ECX0060-000EM	RESONATOR	
⚠	CP951	ICP-N5	I.C. PROTECTOR	D
⚠	CP951	ICP-N5	I.C. PROTECTOR	E
	FW801	EWR368-10KST	FLAT WIRE(6PIN)	
	FW803	EWR37B-10KST	FLAT WIRE(7PIN)	
	FW831	EWR35B-10KST	FLAT WIRE(5PIN)	

⚠ : SAFETY PARTS

■ENA-129 □ Tuner PC Board Ass'y

Note : ENA-129 □ varies according to the areas employed. See note (1) when placing an order.

※ All printed circuit board assemblies are not available as service parts.



Note(1)

PC Board Ass'y	Designated Areas
ENA-129 A	the U.S.A., Canada
ENA-129 B	Universal Type
ENA-129 C	Australia
ENA-129 D	Scandinavia Continental Europe
ENA-129 E	Germany
ENA-129 F	the U.K.
ENA-129 G	Italy
ENA-129 H	Eastern Europe

Transistors

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	Q103	2SC461(B,C)	SILICON	HITACHI	
	Q107	2SC535(B,C)	SILICON	HITACHI	
	Q108	2SC461(B,C)	SILICON	HITACHI	
	Q111	2SD2144S(VW)	SILICON	ROHM	D
	Q111	2SD2144S(VW)	SILICON	ROHM	E
	Q111	2SD2144S(VW)	SILICON	ROHM	F
	Q111	2SD2144S(VW)	SILICON	ROHM	G
	Q111	2SD2144S(VW)	SILICON	ROHM	H
	Q112	2SK301(Q,R)	F.E.T	MATSUSHITA	
	Q113	2SK301(Q,R)	F.E.T	MATSUSHITA	D
	Q113	2SK301(Q,R)	F.E.T	MATSUSHITA	E
	Q113	2SK301(Q,R)	F.E.T	MATSUSHITA	F
	Q113	2SK301(Q,R)	F.E.T	MATSUSHITA	G
	Q113	2SK301(Q,R)	F.E.T	MATSUSHITA	H
	Q114	2SK301(P,Q)	F.E.T	MATSUSHITA	D
	Q114	2SK301(P,Q)	F.E.T	MATSUSHITA	E
	Q114	2SK301(P,Q)	F.E.T	MATSUSHITA	F
	Q114	2SK301(P,Q)	F.E.T	MATSUSHITA	G
	Q114	2SK301(P,Q)	F.E.T	MATSUSHITA	H
	Q115	2SK301(P,Q)	F.E.T	MATSUSHITA	D
	Q115	2SK301(P,Q)	F.E.T	MATSUSHITA	E
	Q115	2SK301(P,Q)	F.E.T	MATSUSHITA	F
	Q115	2SK301(P,Q)	F.E.T	MATSUSHITA	G
	Q115	2SK301(P,Q)	F.E.T	MATSUSHITA	H
	Q121	DTA144ES	SILICON	ROHM	D
	Q121	DTA144ES	SILICON	ROHM	E
	Q121	DTA144ES	SILICON	ROHM	F
	Q121	DTA144ES	SILICON	ROHM	G
	Q121	DTA144ES	SILICON	ROHM	H
	Q123	DTA144ES	SILICON	ROHM	
	Q124	DTA144ES	SILICON	ROHM	
	Q125	2SK301(Q2)	F.E.T	MATSUSHITA	
	Q126	2SC458(D)	SILICON	HITACHI	
	Q127	DTC144ES	SILICON	ROHM	
	Q201	2SC1740(R,S)	SILICON	ROHM	
	Q202	DTC114YS	SILICON	ROHM	
	Q203	DTA114YS	SILICON	ROHM	

⚠ : SAFETY PARTS

I.C.s

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	IC102	LC7218	I.C.	SANYO	
	IC104	LA1266A	I.C.	SANYO	
	IC105	LA3401	I.C.	SANYO	
	IC106	MM1281(P,Q)	I.C.	MATSUSHITA	
	IC201	M66L40B9SC2(	I.C.	HITACHI	

⚠ : SAFETY PARTS

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	D102	1SS133	SILICON	ROHM	D
	D102	1SS133	SILICON	ROHM	E
	D102	1SS133	SILICON	ROHM	F
	D102	1SS133	SILICON	ROHM	G
	D102	1SS133	SILICON	ROHM	H
	D103	1SS133	SILICON	ROHM	D
	D103	1SS133	SILICON	ROHM	E
	D103	1SS133	SILICON	ROHM	F
	D103	1SS133	SILICON	ROHM	G
	D103	1SS133	SILICON	ROHM	H

⚠ : SAFETY PARTS

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	D106	1SS133	SILICON	ROHM	
	D109	1SS133	SILICON	ROHM	D
	D109	1SS133	SILICON	ROHM	E
	D109	1SS133	SILICON	ROHM	F
	D109	1SS133	SILICON	ROHM	G
	D109	1SS133	SILICON	ROHM	H
	D110	1SS133	SILICON	ROHM	D
	D110	1SS133	SILICON	ROHM	E
	D110	1SS133	SILICON	ROHM	F
	D110	1SS133	SILICON	ROHM	G
	D110	1SS133	SILICON	ROHM	H
	D120	1SS133	SILICON	ROHM	
	D121	1SS133	SILICON	ROHM	
	D122	1SS133	SILICON	ROHM	
	D123	1SS133	SILICON	ROHM	
	D151	1SS133	SILICON	ROHM	C
	D152	1SS133	SILICON	ROHM	A
	D152	1SS133	SILICON	ROHM	H
	D153	1SS133	SILICON	ROHM	B
	D153	1SS133	SILICON	ROHM	H
	D154	1SS133	SILICON	ROHM	A
	D154	1SS133	SILICON	ROHM	G
	D155	1SS133	SILICON	ROHM	A
	D155	1SS133	SILICON	ROHM	B
	D155	1SS133	SILICON	ROHM	C
	D190	1SS133	SILICON	ROHM	
	D191	1SS133	SILICON	ROHM	
	D192	MTZ5.1JC	ZENER	ROHM	
	D201	1SS133	SILICON	ROHM	
	D205	1SS133	SILICON	ROHM	
	D210	MTZ5.6JC	ZENER	ROHM	
	D251	1SS133	SILICON	ROHM	
	D252	1SS133	SILICON	ROHM	
	D253	1SS133	SILICON	ROHM	
	D254	1SS133	SILICON	ROHM	
	D255	1SS133	SILICON	ROHM	
	VC102	SVC342(L)	VARICAP	SANYO	
	VC106	SVC342(L)	VARICAP	SANYO	D
	VC106	SVC342(L)	VARICAP	SANYO	E
	VC106	SVC342(L)	VARICAP	SANYO	F
	VC106	SVC342(L)	VARICAP	SANYO	G
	VC106	SVC342(L)	VARICAP	SANYO	H

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C101	QCF21HP-223	0.022MF	50V	CERAMIC	
	C110	QCZ0202-155	1.5MF	25V	CERAMIC	
	C111	QCV81CM-103	0.01MF	16V	CERAMIC	H
	C122	QCF21HP-223	0.022MF	50V	CERAMIC	
	C126	QCF21HP-223	0.022MF	50V	CERAMIC	
	C132	QCS21HJ-561	560PF	50V	CERAMIC	
	C133	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C134	QETB1EM-106	10MF	25V	ELECTRO	
	C135	QCC21EM-223	0.022MF	25V	CERAMIC	
	C136	QCT26CH-180	18PF	50V	CERAMIC	
	C137	QCT26CH-221	220PF	50V	CERAMIC	
	C138	QCT26CH-241	240PF	50V	CERAMIC	
	C139	QCC21EM-223	0.022MF	25V	CERAMIC	D
	C139	QCC21EM-223	0.022MF	25V	CERAMIC	E
	C139	QCC21EM-223	0.022MF	25V	CERAMIC	F
	C139	QCC21EM-223	0.022MF	25V	CERAMIC	G
	C139	QCC21EM-223	0.022MF	25V	CERAMIC	H
	C141	QCS21HJ-270	27PF	50V	CERAMIC	D
	C141	QCS21HJ-270	27PF	50V	CERAMIC	E
	C141	QCS21HJ-270	27PF	50V	CERAMIC	F
	C141	QCS21HJ-270	27PF	50V	CERAMIC	G
	C141	QCS21HJ-270	27PF	50V	CERAMIC	H
	C142	QCY21HK-272	2700PF	50V	CERAMIC	D
	C142	QCY21HK-272	2700PF	50V	CERAMIC	E
	C142	QCY21HK-272	2700PF	50V	CERAMIC	F
	C142	QCY21HK-272	2700PF	50V	CERAMIC	G
	C142	QCY21HK-272	2700PF	50V	CERAMIC	H
	C143	QCHB1EZ-223	0.022MF	25V	CERAMIC	D
	C143	QCHB1EZ-223	0.022MF	25V	CERAMIC	E
	C143	QCHB1EZ-223	0.022MF	25V	CERAMIC	F
	C143	QCHB1EZ-223	0.022MF	25V	CERAMIC	G
	C143	QCHB1EZ-223	0.022MF	25V	CERAMIC	H
	C144	QETB1EM-106	10MF	25V	ELECTRO	D
	C144	QETB1EM-106	10MF	25V	ELECTRO	E
	C144	QETB1EM-106	10MF	25V	ELECTRO	F
	C144	QETB1EM-106	10MF	25V	ELECTRO	G
	C144	QETB1EM-106	10MF	25V	ELECTRO	H
	C146	QCT26CH-680	68PF	50V	CERAMIC	D
	C146	QCT26CH-680	68PF	50V	CERAMIC	E
	C146	QCT26CH-680	68PF	50V	CERAMIC	F

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C146	QCT26CH-680	68PF	50V	CERAMIC	G
	C146	QCT26CH-680	68PF	50V	CERAMIC	H
	C147	QCT26CH-220	22PF	50V	CERAMIC	D
	C147	QCT26CH-220	22PF	50V	CERAMIC	E
	C147	QCT26CH-220	22PF	50V	CERAMIC	F
	C147	QCT26CH-220	22PF	50V	CERAMIC	G
	C147	QCT26CH-220	22PF	50V	CERAMIC	H
	C148	QCT26CH-121	120PF	50V	CERAMIC	D
	C148	QCT26CH-121	120PF	50V	CERAMIC	E
	C148	QCT26CH-121	120PF	50V	CERAMIC	F
	C148	QCT26CH-121	120PF	50V	CERAMIC	G
	C148	QCT26CH-121	120PF	50V	CERAMIC	H
	C149	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C150	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C151	QCF21HP-223	0.022MF	50V	CERAMIC	
	C152	QCF21HP-223	0.022MF	50V	CERAMIC	
	C153	QCC21EM-223	0.022MF	25V	CERAMIC	
	C154	QCF21HP-223	0.022MF	50V	CERAMIC	
	C155	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C157	QETB1HM-474	0.47MF	50V	ELECTRO	
	C158	QCBB1HK-101	100PF	50V	CERAMIC	
	C159	QCBB1HK-101	100PF	50V	CERAMIC	
	C160	QCBB1HK-221	220PF	50V	CERAMIC	
	C161	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C162	QETB1EM-106	10MF	25V	ELECTRO	
	C163	QFLB1HJ-102	1000PF	50V	MYLAR	
	C164	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C165	QETB1HM-474	0.47MF	50V	ELECTRO	
	C166	QETB1HM-225	2.2MF	50V	ELECTRO	
	C167	QETB1HM-225	2.2MF	50V	ELECTRO	
	C168	QETB1HM-475	4.7MF	50V	ELECTRO	
	C169	QCF21HP-223	0.022MF	50V	CERAMIC	
	C170	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C171	QETB1EM-106	10MF	25V	ELECTRO	
	C172	QCVB1CM-103	0.01MF	16V	CERAMIC	
	C173	QFLB1HJ-393	0.039MF	50V	MYLAR	A
	C173	QFLB1HJ-393	0.039MF	50V	MYLAR	B
	C173	QFLB1HJ-223	0.022MF	50V	MYLAR	C
	C173	QFLB1HJ-223	0.022MF	50V	MYLAR	D
	C173	QFLB1HJ-223	0.022MF	50V	MYLAR	E
	C173	QFLB1HJ-223	0.022MF	50V	MYLAR	F
	C173	QFLB1HJ-223	0.022MF	50V	MYLAR	G
	C173	QFLB1HJ-223	0.022MF	50V	MYLAR	H
	C174	QFLB1HJ-473	0.047MF	50V	MYLAR	
	C175	QETB1EM-106	10MF	25V	ELECTRO	
	C176	QCY21HK-102	1000PF	50V	CERAMIC	
	C177	QCS21HJ-821	820PF	50V	CERAMIC	A
	C177	QCS21HJ-821	820PF	50V	CERAMIC	B
	C177	QCS21HJ-561	560PF	50V	CERAMIC	C
	C177	QCS21HJ-561	560PF	50V	CERAMIC	D
	C177	QCS21HJ-561	560PF	50V	CERAMIC	E
	C177	QCS21HJ-821	820PF	50V	CERAMIC	F
	C177	QCS21HJ-561	560PF	50V	CERAMIC	G
	C177	QCS21HJ-561	560PF	50V	CERAMIC	H
	C178	QCS21HJ-821	820PF	50V	CERAMIC	A
	C178	QCS21HJ-821	820PF	50V	CERAMIC	B
	C178	QCS21HJ-561	560PF	50V	CERAMIC	C
	C178	QCS21HJ-561	560PF	50V	CERAMIC	D
	C178	QCS21HJ-561	560PF	50V	CERAMIC	E
	C178	QCS21HJ-821	820PF	50V	CERAMIC	F
	C178	QCS21HJ-561	560PF	50V	CERAMIC	G
	C178	QCS21HJ-561	560PF	50V	CERAMIC	H
	C179	QETB1HM-225	2.2MF	50V	ELECTRO	
	C180	QETB1HM-225	2.2MF	50V	ELECTRO	
	C181	QETB1EM-106	10MF	25V	ELECTRO	
	C182	QETB1HM-225	2.2MF	50V	ELECTRO	
	C183	QETB1HM-105	1MF	50V	ELECTRO	
	C184	QETB1HM-105	1MF	50V	ELECTRO	
	C185	QETB1HM-225	2.2MF	50V	ELECTRO	
	C186	QETB1HM-474	0.47MF	50V	ELECTRO	
	C191	QETB1HM-475	4.7MF	50V	ELECTRO	
	C192	QCC21EM-473	0.047MF	25V	CERAMIC	
	C193	QCS21HJ-180	18PF	50V	CERAMIC	
	C194	QCS21HJ-180	18PF	50V	CERAMIC	
	C195	QEMB1HM-474	0.47MF	50V	NON POLE	
	C196	QCY21HK-102	1000PF	50V	CERAMIC	
	C197	QCF21HP-223	0.022MF	50V	CERAMIC	
	C198	QCF21HP-103	0.01MF	50V	CERAMIC	
	C199	QETB1HM-475	4.7MF	50V	ELECTRO	
	C200	QETB1HM-476	47MF	50V	ELECTRO	E
	C200	QETB1HM-476	47MF	50V	ELECTRO	G
	C202	QETB1HM-225	2.2MF	50V	ELECTRO	
	C204	QCT26CH-120	12PF	50V	CERAMIC	
	C205	QCZ0202-155	1.5MF	25V	CERAMIC	
	C206	QCY21HK-102	1000PF	50V	CERAMIC	
	C207	QCF21HP-223	0.022MF	50V	CERAMIC	
	C208	QETB1AM-477	470MF	10V	ELECTRO	
	C209	QCF21HP-103	0.01MF	50V	CERAMIC	
	C210	QCF21HP-103	0.01MF	50V	CERAMIC	
	C211	QCF21HP-103	0.01MF	50V	CERAMIC	
	C220	QCF21HP-103	0.01MF	50V	CERAMIC	
	C221	QEA40MZ-10AB			ELECTRO	
	C222	QETB1CM-477	470MF	16V	ELECTRO	
	C223	QCF21HP-103	0.01MF	50V	CERAMIC	
	C227	QCVB1CM-103	0.01MF	16V	CERAMIC	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C229	QETB1CM-227	220MF	16V	ELECTRO	
	C230	QETB1EM-476	47MF	25V	ELECTRO	
	C231	QCF21HP-103	0.01MF	50V	CERAMIC	
	C241	QCF21HP-223	0.022MF	50V	CERAMIC	

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R117	QRD167J-223	22K	1/6W	CARBON	H
	R118	QRD167J-332	3.3K	1/6W	CARBON	
	R119	QRD167J-221	220	1/6W	CARBON	
	R121	QRD167J-391	390	1/6W	CARBON	
	R122	QRD167J-272	2.7K	1/6W	CARBON	
	R123	QRD167J-102	1K	1/6W	CARBON	
	R124	QRD167J-681	680	1/6W	CARBON	
	R125	QRD167J-332	3.3K	1/6W	CARBON	
	R126	QRD167J-221	220	1/6W	CARBON	
	R131	QRD167J-331	330	1/6W	CARBON	
	R132	QRD167J-103	10K	1/6W	CARBON	
	R133	QRD167J-473	47K	1/6W	CARBON	
	R134	QRD167J-103	10K	1/6W	CARBON	D
	R134	QRD167J-103	10K	1/6W	CARBON	E
	R134	QRD167J-103	10K	1/6W	CARBON	F
	R134	QRD167J-103	10K	1/6W	CARBON	G
	R134	QRD167J-103	10K	1/6W	CARBON	H
	R135	QRD167J-470	47	1/6W	CARBON	
	R136	QRD167J-103	10K	1/6W	CARBON	
	R141	QRD167J-472	4.7K	1/6W	CARBON	D
	R141	QRD167J-472	4.7K	1/6W	CARBON	E
	R141	QRD167J-472	4.7K	1/6W	CARBON	F
	R141	QRD167J-472	4.7K	1/6W	CARBON	G
	R141	QRD167J-472	4.7K	1/6W	CARBON	H
	R142	QRD167J-331	330	1/6W	CARBON	D
	R142	QRD167J-331	330	1/6W	CARBON	E
	R142	QRD167J-331	330	1/6W	CARBON	F
	R142	QRD167J-331	330	1/6W	CARBON	G
	R142	QRD167J-331	330	1/6W	CARBON	H
	R143	QRD167J-103	10K	1/6W	CARBON	D
	R143	QRD167J-103	10K	1/6W	CARBON	E
	R143	QRD167J-103	10K	1/6W	CARBON	F
	R143	QRD167J-103	10K	1/6W	CARBON	G
	R143	QRD167J-103	10K	1/6W	CARBON	H
	R144	QRD167J-473	47K	1/6W	CARBON	D
	R144	QRD167J-473	47K	1/6W	CARBON	E
	R144	QRD167J-473	47K	1/6W	CARBON	F
	R144	QRD167J-473	47K	1/6W	CARBON	G
	R144	QRD167J-473	47K	1/6W	CARBON	H
	R145	QRD167J-103	10K	1/6W	CARBON	D
	R145	QRD167J-103	10K	1/6W	CARBON	E
	R145	QRD167J-103	10K	1/6W	CARBON	F
	R145	QRD167J-103	10K	1/6W	CARBON	G
	R145	QRD167J-103	10K	1/6W	CARBON	H
	R146	QRD167J-560	56	1/6W	CARBON	
	R147	QRD167J-103	10K	1/6W	CARBON	
	R148	QRD167J-103	10K	1/6W	CARBON	
	R149	QRD167J-223	22K	1/6W	CARBON	A
	R149	QRD167J-223	22K	1/6W	CARBON	B
	R149	QRD167J-223	22K	1/6W	CARBON	C
	R149	QRD167J-223	22K	1/6W	CARBON	D
	R149	QRD167J-273	27K	1/6W	CARBON	E
	R149	QRD167J-273	27K	1/6W	CARBON	F
	R149	QRD167J-273	27K	1/6W	CARBON	G
	R149	QRD167J-153	15K	1/6W	CARBON	H
	R150	QRD167J-103	10K	1/6W	CARBON	
	R151	QRD167J-222	2.2K	1/6W	CARBON	
	R153	QRD167J-103	10K	1/6W	CARBON	
	R154	QRD167J-103	10K	1/6W	CARBON	
	R155	QRD167J-562	5.6K	1/6W	CARBON	
	R156	QRD167J-822	8.2K	1/6W	CARBON	
	R157	QRD167J-103	10K	1/6W	CARBON	
	R158	QRD167J-183	18K	1/6W	CARBON	A
	R158	QRD167J-273	27K	1/6W	CARBON	B
	R158	QRD167J-273	27K	1/6W	CARBON	C
	R158	QRD167J-273	27K	1/6W	CARBON	D
	R158	QRD167J-273	27K	1/6W	CARBON	E
	R158	QRD167J-273	27K	1/6W	CARBON	F
	R158	QRD167J-273	27K	1/6W	CARBON	G
	R158	QRD167J-273	27K	1/6W	CARBON	H
	R159	QRD167J-561	560	1/6W	CARBON	
	R160	QRD167J-562	5.6K	1/6W	CARBON	A
	R160	QRD167J-562	5.6K	1/6W	CARBON	B
	R160	QRD167J-103	10K	1/6W	CARBON	C
	R160	QRD167J-103	10K	1/6W	CARBON	D
	R160	QRD167J-103	10K	1/6W	CARBON	E
	R160	QRD167J-102	1K	1/6W	CARBON	F
	R160	QRD167J-103	10K	1/6W	CARBON	G
	R160	QRD167J-103	10K	1/6W	CARBON	H
	R161	QRD167J-823	82K	1/6W	CARBON	A
	R161	QRD167J-823	82K	1/6W	CARBON	B
	R161	QRD167J-104	100K	1/6W	CARBON	C
	R161	QRD167J-104	100K	1/6W	CARBON	D
	R161	QRD167J-104	100K	1/6W	CARBON	E
	R161	QRD167J-683	68K	1/6W	CARBON	F

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R161	QRD167J-104	100K 1/6W CARBON	G
	R161	QRD167J-104	100K 1/6W CARBON	H
	R162	QRD167J-823	82K 1/6W CARBON	A
	R162	QRD167J-823	82K 1/6W CARBON	B
	R162	QRD167J-104	100K 1/6W CARBON	C
	R162	QRD167J-104	100K 1/6W CARBON	D
	R162	QRD167J-104	100K 1/6W CARBON	E
	R162	QRD167J-683	68K 1/6W CARBON	F
	R162	QRD167J-104	100K 1/6W CARBON	G
	R162	QRD167J-104	100K 1/6W CARBON	H
	R163	QRD167J-472	4.7K 1/6W CARBON	A
	R163	QRD167J-472	4.7K 1/6W CARBON	B
	R163	QRD167J-332	3.3K 1/6W CARBON	C
	R163	QRD167J-332	3.3K 1/6W CARBON	D
	R163	QRD167J-332	3.3K 1/6W CARBON	E
	R163	QRD167J-332	3.3K 1/6W CARBON	F
	R163	QRD167J-332	3.3K 1/6W CARBON	G
	R163	QRD167J-332	3.3K 1/6W CARBON	H
	R164	QRD167J-472	4.7K 1/6W CARBON	A
	R164	QRD167J-472	4.7K 1/6W CARBON	B
	R164	QRD167J-332	3.3K 1/6W CARBON	C
	R164	QRD167J-332	3.3K 1/6W CARBON	D
	R164	QRD167J-332	3.3K 1/6W CARBON	E
	R164	QRD167J-332	3.3K 1/6W CARBON	F
	R164	QRD167J-332	3.3K 1/6W CARBON	G
	R164	QRD167J-332	3.3K 1/6W CARBON	H
	R165	QRD167J-184	180K 1/6W CARBON	A
	R165	QRD167J-184	180K 1/6W CARBON	B
	R165	QRD167J-274	270K 1/6W CARBON	C
	R165	QRD167J-274	270K 1/6W CARBON	D
	R165	QRD167J-274	270K 1/6W CARBON	E
	R165	QRD167J-274	270K 1/6W CARBON	F
	R165	QRD167J-274	270K 1/6W CARBON	G
	R165	QRD167J-274	270K 1/6W CARBON	H
	R166	QRD167J-184	180K 1/6W CARBON	A
	R166	QRD167J-184	180K 1/6W CARBON	B
	R166	QRD167J-274	270K 1/6W CARBON	C
	R166	QRD167J-274	270K 1/6W CARBON	D
	R166	QRD167J-274	270K 1/6W CARBON	E
	R166	QRD167J-274	270K 1/6W CARBON	F
	R166	QRD167J-274	270K 1/6W CARBON	G
	R166	QRD167J-274	270K 1/6W CARBON	H
	R167	QRD167J-393	39K 1/6W CARBON	A
	R167	QRD167J-393	39K 1/6W CARBON	B
	R167	QRD167J-473	47K 1/6W CARBON	C
	R167	QRD167J-473	47K 1/6W CARBON	D
	R167	QRD167J-473	47K 1/6W CARBON	E
	R167	QRD167J-473	47K 1/6W CARBON	F
	R167	QRD167J-473	47K 1/6W CARBON	G
	R167	QRD167J-473	47K 1/6W CARBON	H
	R168	QRD167J-103	10K 1/6W CARBON	
	R169	QRD167J-103	10K 1/6W CARBON	
	R171	QRD167J-682	6.8K 1/6W CARBON	
	R172	QRD167J-682	6.8K 1/6W CARBON	
	R180	QRD167J-103	10K 1/6W CARBON	
	R181	QRD167J-222	2.2K 1/6W CARBON	
	R182	QRD167J-181	180 1/6W CARBON	
	R190	QRD167J-103	10K 1/6W CARBON	
	R191	QRD167J-562	5.6K 1/6W CARBON	
	R193	QRD167J-103	10K 1/6W CARBON	
	R194	QRD167J-103	10K 1/6W CARBON	
	R195	QRD167J-473	47K 1/6W CARBON	
	R196	QRD167J-103	10K 1/6W CARBON	A
	R196	QRD167J-103	10K 1/6W CARBON	B
	R196	QRD167J-103	10K 1/6W CARBON	C
	R196	QRD167J-222	2.2K 1/6W CARBON	D
	R196	QRD167J-222	2.2K 1/6W CARBON	E
	R196	QRD167J-222	2.2K 1/6W CARBON	F
	R196	QRD167J-222	2.2K 1/6W CARBON	G
	R196	QRD167J-222	2.2K 1/6W CARBON	H
	R197	QRD167J-222	2.2K 1/6W CARBON	
	R198	QRD167J-332	3.3K 1/6W CARBON	A
	R198	QRD167J-332	3.3K 1/6W CARBON	B
	R198	QRD167J-332	3.3K 1/6W CARBON	C
	R198	QRD167J-822	8.2K 1/6W CARBON	D
	R198	QRD167J-822	8.2K 1/6W CARBON	E
	R198	QRD167J-822	8.2K 1/6W CARBON	F
	R198	QRD167J-822	8.2K 1/6W CARBON	G
	R198	QRD167J-822	8.2K 1/6W CARBON	H
	R199	QRD167J-472	4.7K 1/6W CARBON	
	R205	QRD167J-473	47K 1/6W CARBON	
	R209	QRD167J-104	100K 1/6W CARBON	
	R210	QRD167J-222	2.2K 1/6W CARBON	
	R211	QRD167J-103	10K 1/6W CARBON	
	R212	QRD167J-473	47K 1/6W CARBON	
	R213	QRD167J-472	4.7K 1/6W CARBON	
	R214	QRD167J-102	1K 1/6W CARBON	
	R215	QRD167J-470	47 1/6W CARBON	
	R228	QRD167J-222	2.2K 1/6W CARBON	
⚠	R229	QRD14CJ-680S	68 1/4W UNF.CARBON	A
⚠	R229	QRZ0077-680	68 1/4W FUSIBLE	B
⚠	R229	QRZ0077-680	68 1/4W FUSIBLE	C
⚠	R229	QRZ0077-680	68 1/4W FUSIBLE	D
⚠	R229	QRZ0077-680	68 1/4W FUSIBLE	E
⚠	R229	QRZ0077-680	68 1/4W FUSIBLE	F

⚠ :SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
⚠	R229	QRZ0077-680	68 1/4W FUSIBLE	G
⚠	R229	QRZ0077-680	68 1/4W FUSIBLE	H
	R232	QRD167J-153	15K 1/6W CARBON	

⚠ :SAFETY PARTS

Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		EMW10240-002	CIRCUIT BOARD	
	L101	EQL4004-180	INDUCTOR	
	L106	EQL3001-102K	INDUCTOR	
	L120	EQL4004-180	INDUCTOR	
	S151	QSS6A12-E01	SLIDE SWITCH	B
	S200	ESP0001-023M	TACT SWITCH(WAKE-UP/SLEEP)	
	S201	ESP0001-023M	TACT SWITCH(CLOCK ADJ)	
	S202	ESP0001-023M	TACT SWITCH(UP)	
	S210	ESP0001-023M	TACT SWITCH(TIMER 2)	
	S211	ESP0001-023M	TACT SWITCH(CANCEL)	
	S212	ESP0001-023M	TACT SWITCH(DOWN)	
	S216	ESP0001-023M	TACT SWITCH(AM)	
	S220	ESP0001-023M	TACT SWITCH(TIMER 1)	
	S221	ESP0001-023M	TACT SWITCH(MEMORY)	
	S222	ESP0001-023M	TACT SWITCH(PRESET DOWN)	
	S224	ESP0001-023M	TACT SWITCH(FM)	
	S230	ESP0001-023M	TACT SWITCH(DAILY)	
	S232	ESP0001-023M	TACT SWITCH(PRESET UP)	
	S234	ESP0001-023M	TACT SWITCH(FM MODE/MUTE)	
	S251	ESP0001-023M	TACT SWITCH(EDIT)	
	S252	ESP0001-023M	TACT SWITCH(MEMORY)	
	S253	ESP0001-023M	TACT SWITCH(+10)	
	S254	ESP0001-023M	TACT SWITCH(P.MODE)	
	S255	ESP0001-023M	TACT SWITCH(SIDE A/B)	
	S256	ESP0001-023M	TACT SWITCH(CALL)	
	S257	ESP0001-023M	TACT SWITCH(+1)	
	S258	ESP0001-023M	TACT SWITCH(INTRO)	
	S259	ESP0001-023M	TACT SWITCH(⏮)	
	S260	ESP0001-023M	TACT SWITCH(⏭)	
	S261	ESP0001-023M	TACT SWITCH(STOP/CANCEL)	
	S262	ESP0001-023M	TACT SWITCH(PLAY/PAUSE)	
	S263	ESP0001-023M	TACT SWITCH(EJECT)	
	S264	ESP0001-023M	TACT SWITCH(1)	
	S265	ESP0001-023M	TACT SWITCH(3)	
	S266	ESP0001-023M	TACT SWITCH(5)	
	S267	ESP0001-023M	TACT SWITCH(2)	
	S268	ESP0001-023M	TACT SWITCH(4)	
	S269	ESP0001-023M	TACT SWITCH(6)	
	S270	ESP0001-023M	TACT SWITCH(REPEAT)	
	T101	EQR1111-014	AM RF COIL	
	T102	EQR1111-005	AM RF COIL	D
	T102	EQR1111-005	AM RF COIL	E
	T102	EQR1111-005	AM RF COIL	F
	T102	EQR1111-005	AM RF COIL	G
	T102	EQR1111-005	AM RF COIL	H
	T103	EQR1207-017	MW OSC COIL	
	T104	EQR1307-010	LW OSC COIL	D
	T104	EQR1307-010	LW OSC COIL	E
	T104	EQR1307-010	LW OSC COIL	F
	T104	EQR1307-010	LW OSC COIL	G
	T104	EQR1307-010	LW OSC COIL	H
	T105	EQT2140-01F	I.F. TRANSFORMER	
	T107	ECB1560-010	CERAMIC FILTER	
	AT201	EMB41YY-401K	ANTENNA TERMINAL	A
	AT201	EMB41YY-401K	ANTENNA TERMINAL	B
	AT201	EMB41YY-401K	ANTENNA TERMINAL	C
	AT101	EMB41YY-301K	ANTENNA TERMINAL	D
	AT101	EMB41YY-301K	ANTENNA TERMINAL	E
	AT101	EMB41YY-301K	ANTENNA TERMINAL	F
	AT101	EMB41YY-301K	ANTENNA TERMINAL	G
	AT101	EMB41YY-301K	ANTENNA TERMINAL	H
	CF101	ECB2123-006A	CERAMIC FILTER	A
	CF101	ECB2123-006A	CERAMIC FILTER	B
	CF101	ECB2123-006A	CERAMIC FILTER	C
	CF101	ECB2118-007A	CERAMIC FILTER	D
	CF101	ECB2118-007A	CERAMIC FILTER	E
	CF101	ECB2118-007A	CERAMIC FILTER	F
	CF101	ECB2118-007A	CERAMIC FILTER	G
	CF101	ECB2118-007A	CERAMIC FILTER	H
	CF102	ECB2123-006A	CERAMIC FILTER	A
	CF102	ECB2123-006A	CERAMIC FILTER	B
	CF102	ECB2123-006A	CERAMIC FILTER	C
	CF102	ECB2118-007A	CERAMIC FILTER	D
	CF102	ECB2118-007A	CERAMIC FILTER	E
	CF102	ECB2118-007A	CERAMIC FILTER	F
	CF102	ECB2118-007A	CERAMIC FILTER	G
	CF102	ECB2118-007A	CERAMIC FILTER	H
	EP101	E70859-001	EARTH PLATE	
	EP110	E70225-001	EARTH PLATE	
	FE101	EAF2203-001	FRONT END	A

⚠ :SAFETY PARTS

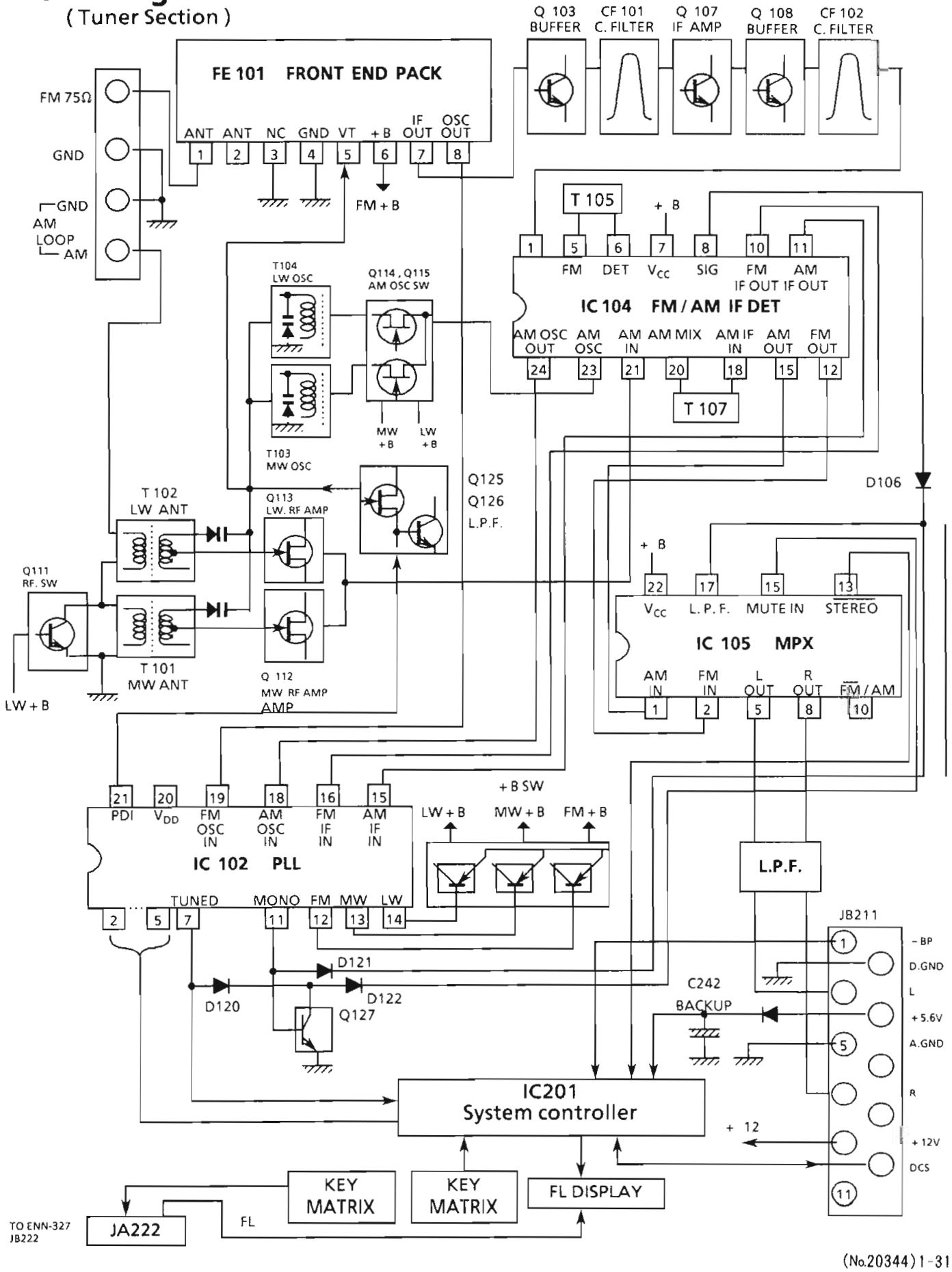
Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	FE101	EAF2203-001	FRONT END	B
	FE101	EAF2203-001	FRONT END	C
	FE101	EAF2203-001	FRONT END	D
	FE101	EAF2203-003	FRONT END	E
	FE101	EAF2203-001	FRONT END	F
	FE101	EAF2203-003	FRONT END	G
	FE101	EAF2302-001	FRONT END	H
	FH201	E307978-001	FL HOLDER	
	FL201	ELU0001-135	FL TUBE	
	FS201	E306805-014	FELT SPACER	
	JA221	EMV7123-033R	CONNECTOR(33PIN)	
	JA222	EMV7123-029R	CONNECTOR(29PIN)	
	JB211	EMV7141-011	CONNECTOR(11PIN)	
	JB221	EMV7123-033	CONNECTOR(33PIN)	
	LP101	EQF0101-002	LOW PASS FILTER	
	LP102	EQF0102-001	LOW PASS FILTER	E
	LP102	EQF0102-001	LOW PASS FILTER	G
	TC105	ENZ1003-006	TRIMMER	
	TC106	ENZ1003-006	TRIMMER	D
	TC106	ENZ1003-006	TRIMMER	E
	TC106	ENZ1003-006	TRIMMER	F
	TC106	ENZ1003-006	TRIMMER	G
	TC106	ENZ1003-006	TRIMMER	H
	TC201	ENZ1003-015	TRIMMER	
	XT102	ECX0007-200KC	RESONATOR	
	XT103	ECX0000-456KR	RESONATOR	
	XT201	ECX4194-304CF	RESONATOR	

⚠ :SAFETY PARTS

Block Diagram

(Tuner Section)



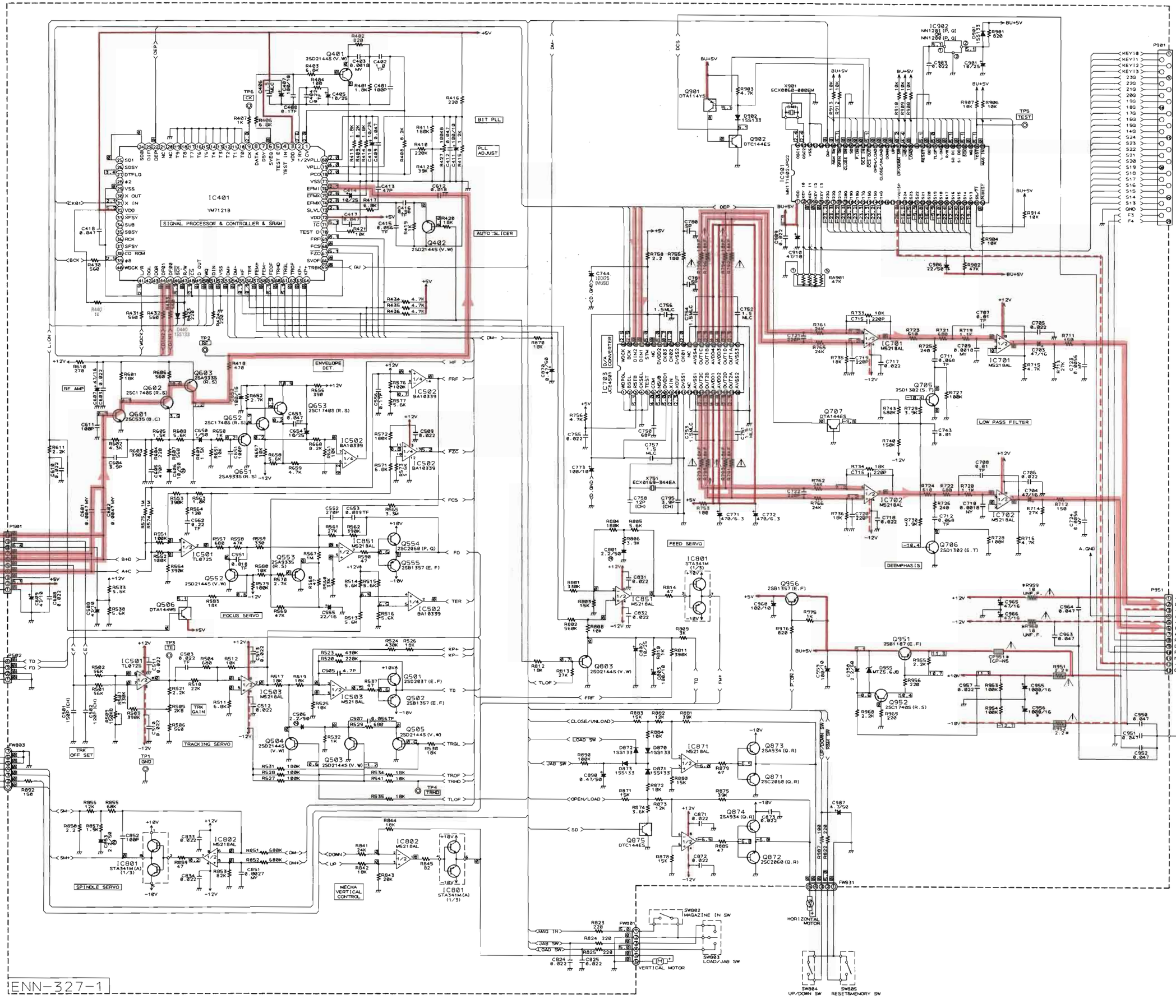
JVC
VICTOR COMPANY OF JAPAN, LIMITED
AUDIO DIVISION, 1644, SHIMOTSURUMA, YAMATO-SHI, KANAGAWA-KEN, 242, JAPAN

(No.20344)

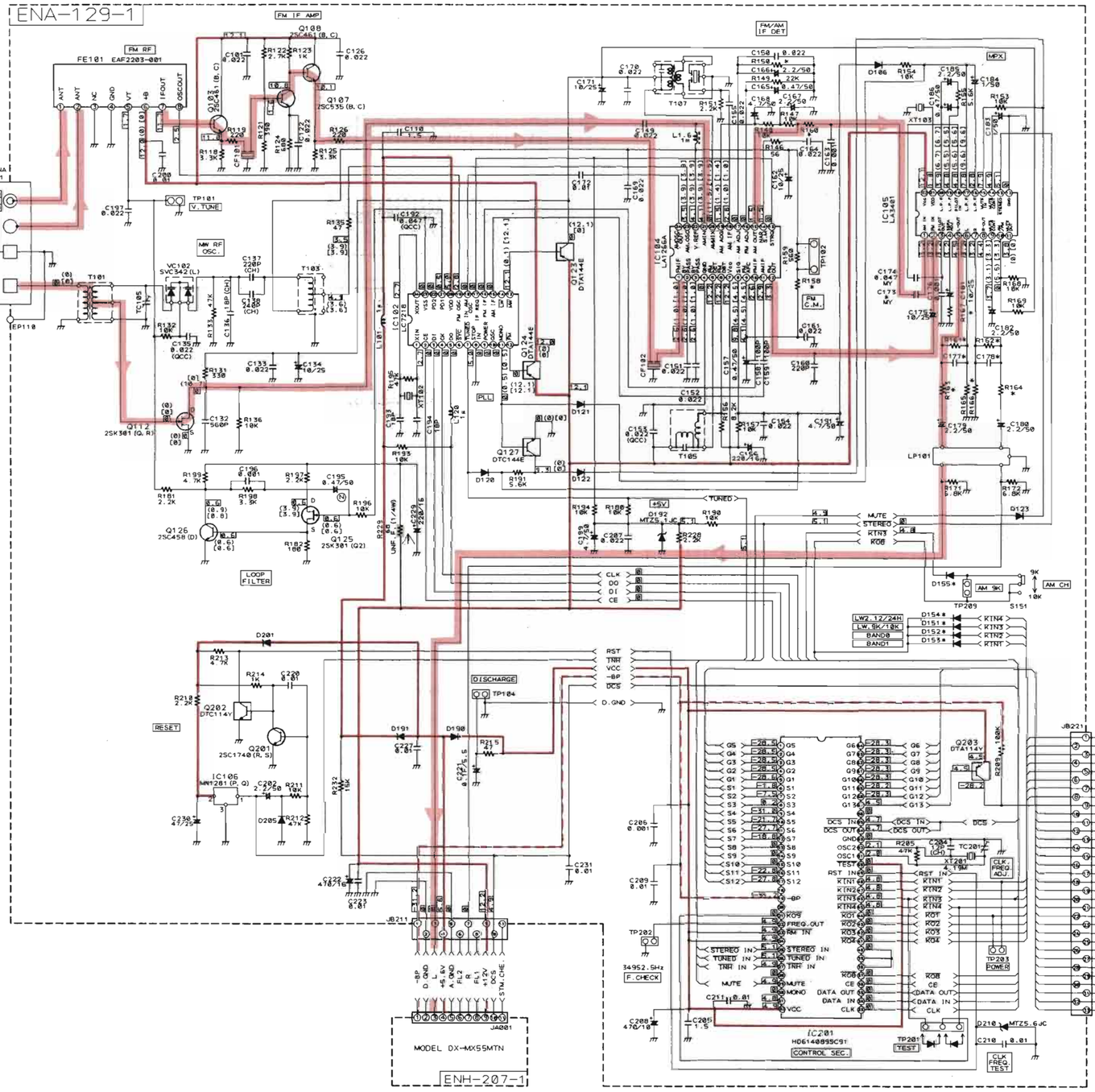
Printed in
9203[N]

SCHEMATIC DIAGRAM

■ CD Section



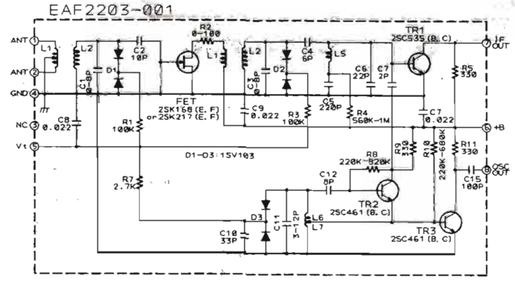
■ Tuner Section



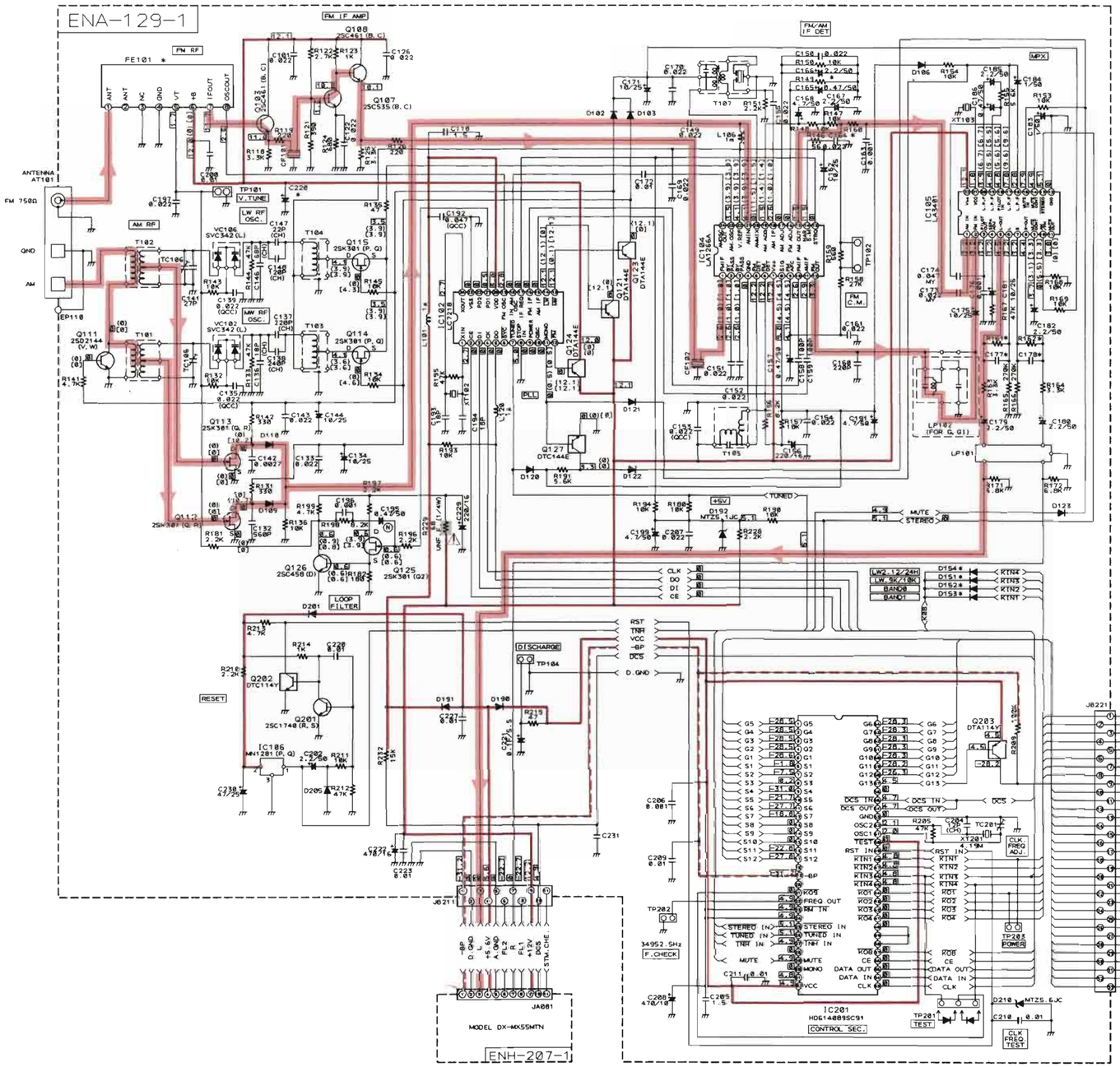
* MARK

	J, C	U	A
R158	18K	27K	27K
R160	5.6K	5.6K	10K
R161, 162	82K	82K	100K
R163, 164	4.7K	4.7K	3.3K
R165, 166	180K	180K	270K
R167	39K	39K	47K
C173	0.039	0.039	0.022
C177, 178	820P	820P	560P
S151	NONE	USED	NONE
D151	NONE	NONE	USED
D152	USED	NONE	NONE
D153	NONE	USED	NONE
D154	USED	NONE	NONE
D155	NONE	USED	NONE

NO MARK DIODES ARE 1SS133
[ ] FM AUTO NO SIGNAL (87.5MH)
( ) MW NO SIGNAL (522KHz)

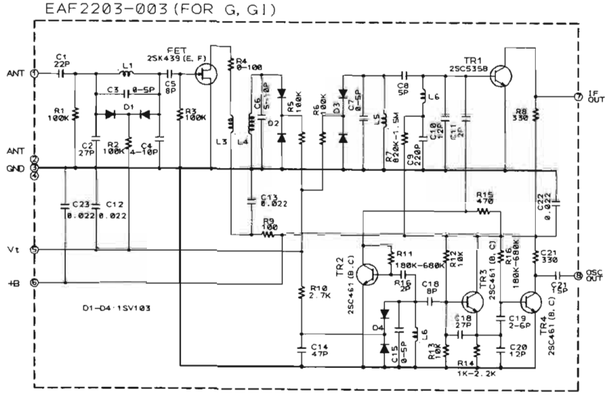


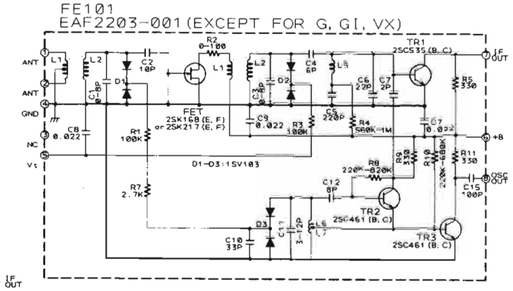
■ Tuner Section



* MARK	E, EF	G, GI	BS
R160	10K	10K	1K
R161, 162	100K	100K	68K
C177, 178	560P	560P	820P
D151	NONE	NONE	NONE
D152	NONE	NONE	NONE
D153	NONE	NONE	NONE
D154	NONE	USED (GI)	NONE
R149	22K	27K	22K
C220	NONE	470/50	NONE

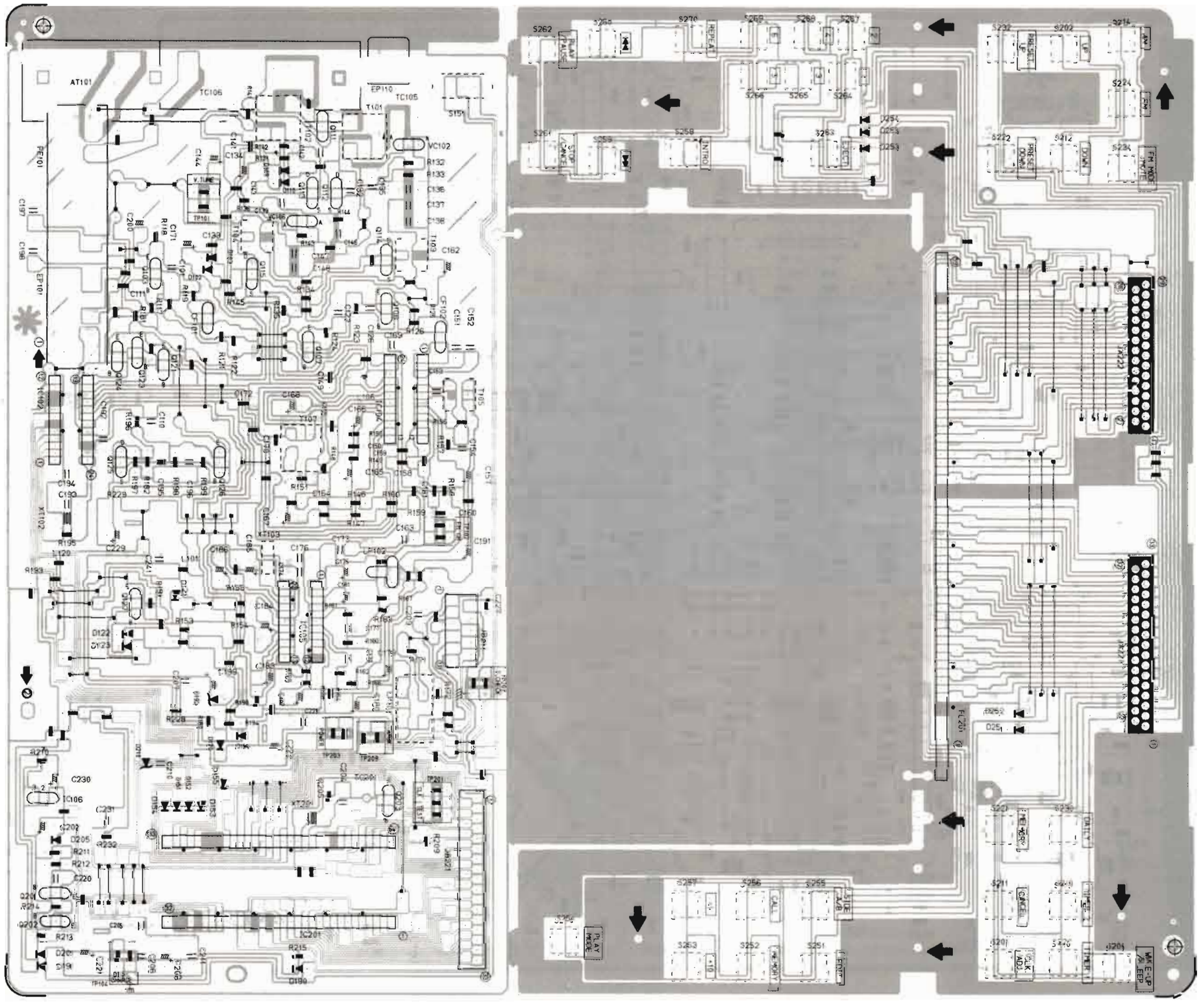
NO MARK DIODES ARE 1SS133
[ ] FM AUTO NO SIGNAL (87.5MH)
( ) MW NO SIGNAL (522KHz)
[ ] LW NO SIGNAL (144KHz)



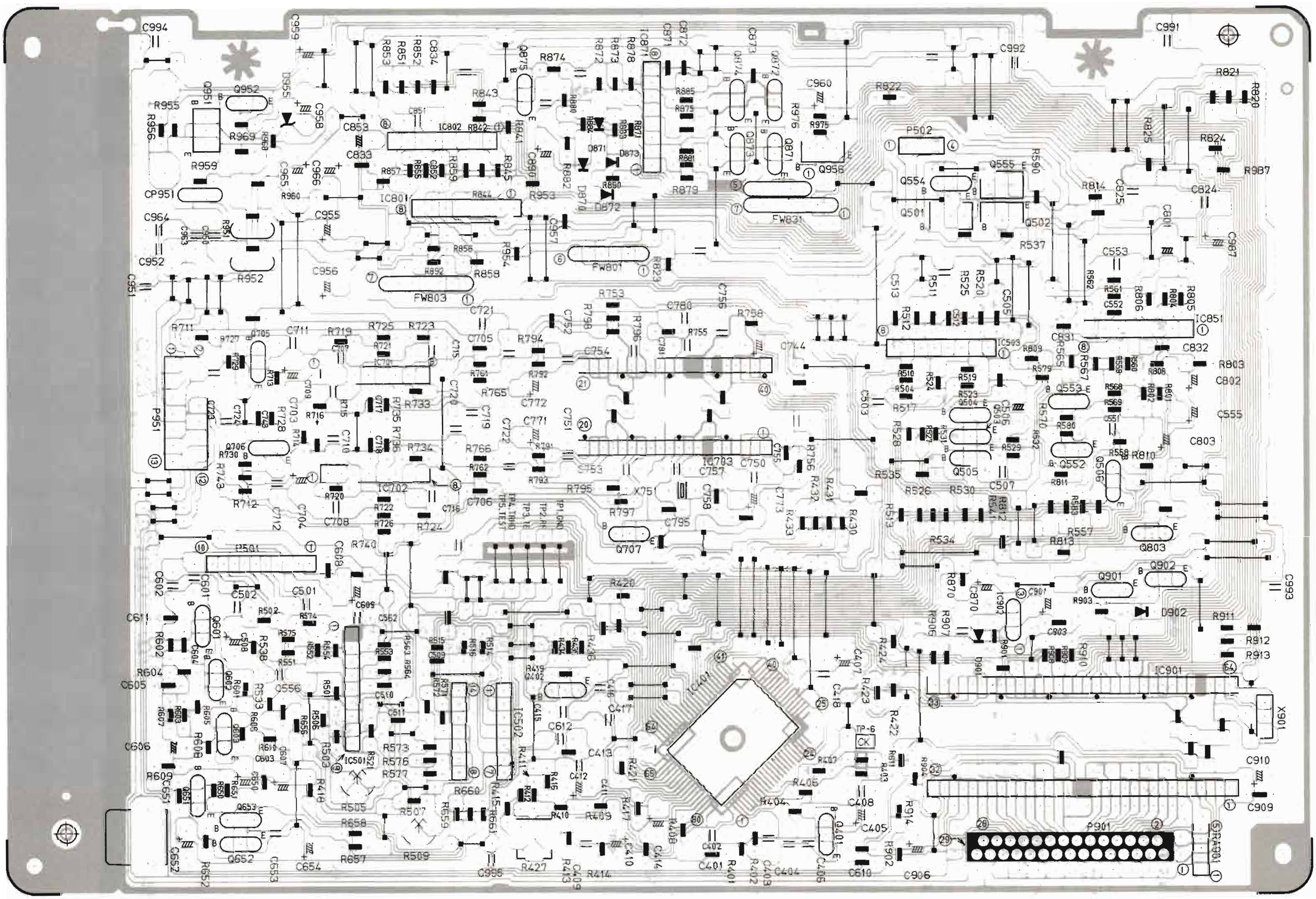


Printed Circuit Board

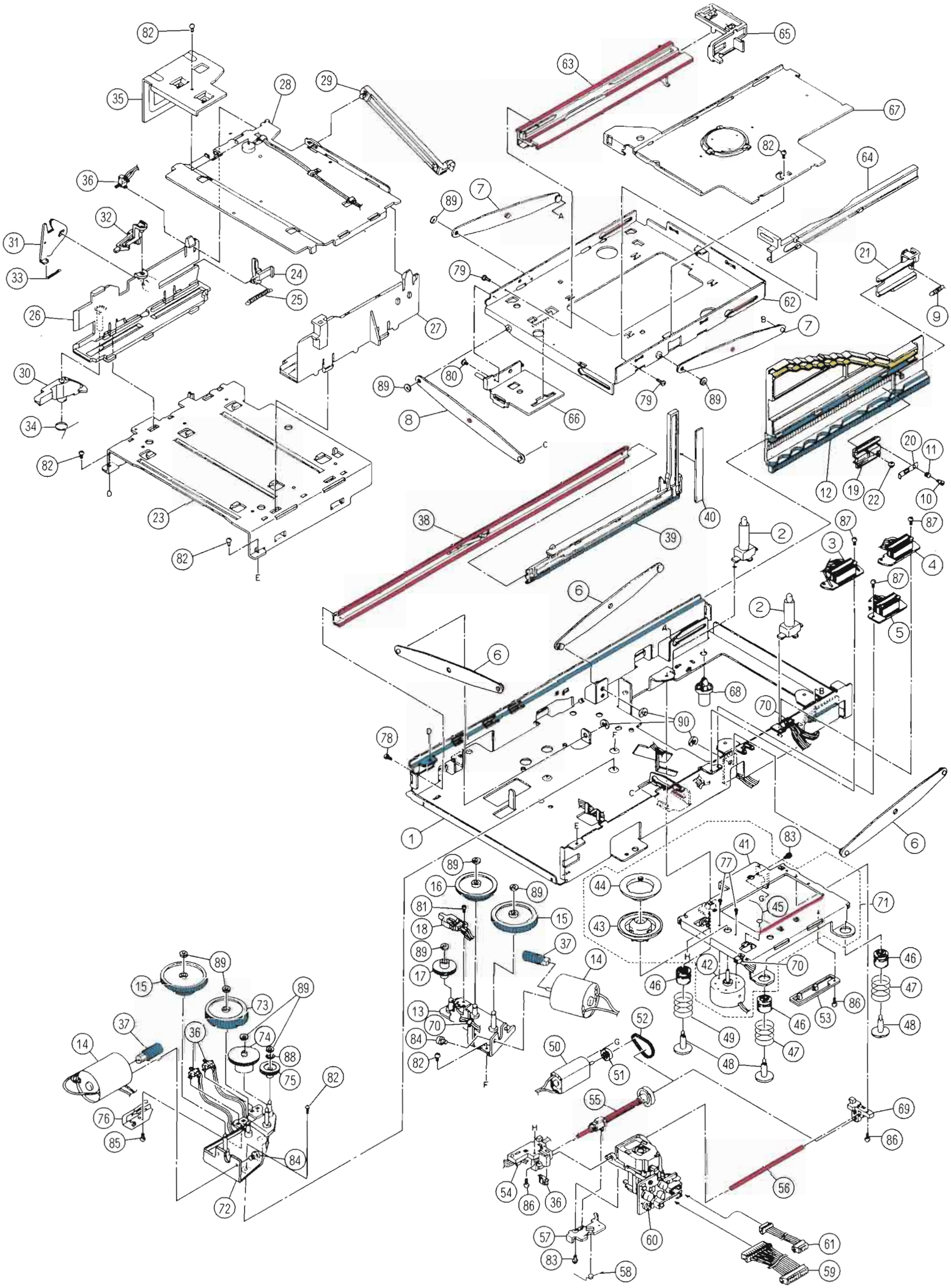
■ Tuner PC Board (ENA-129)



■ CD PC Board (ENN-327)



Exploded View of Assemblies and Application points for Grease



G-425A

G-474C

G-331

Connection Diagram