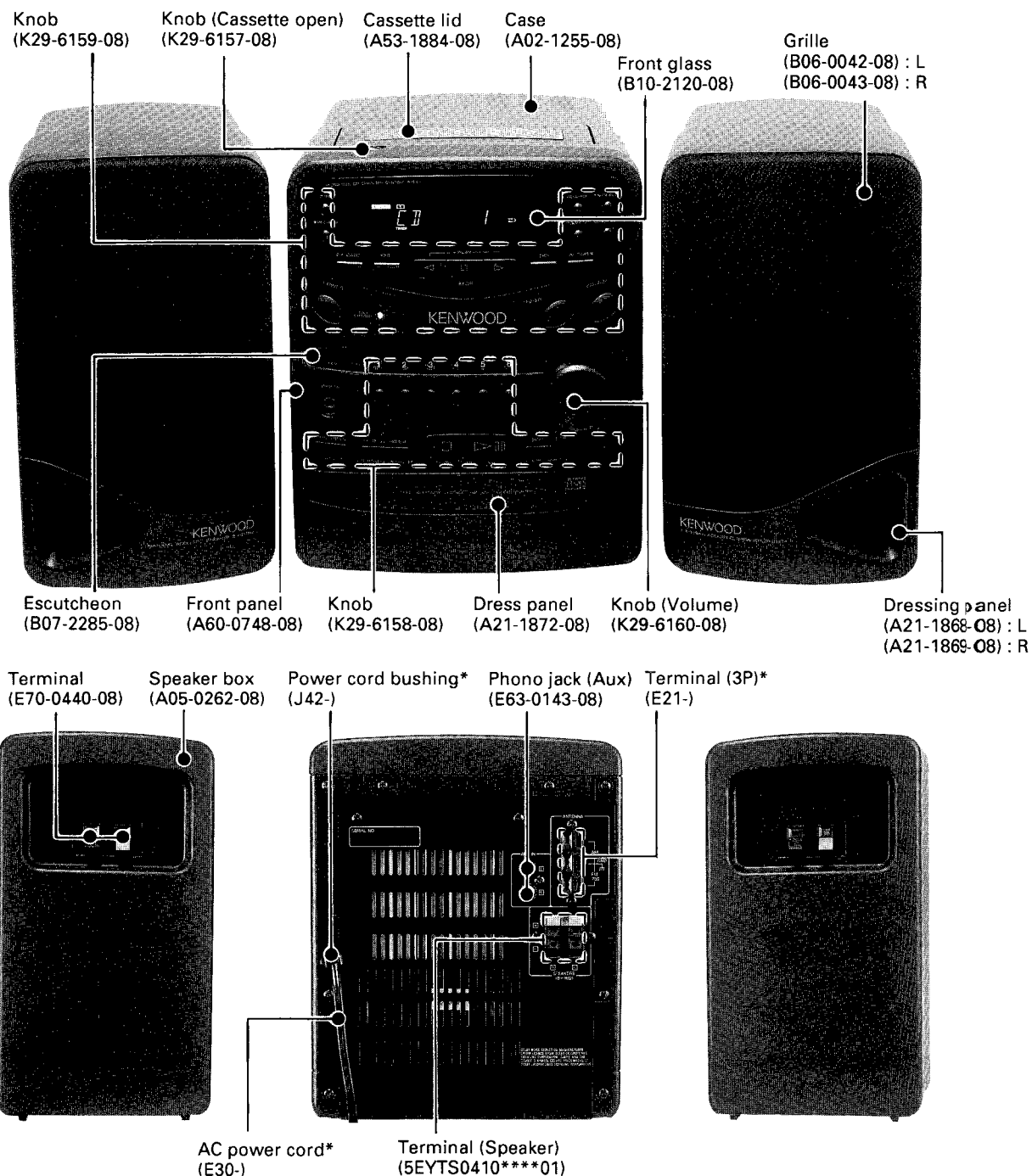


COMPACT CD SYSTEM

MS-D7**SERVICE MANUAL****KENWOOD**© 1995-1 PRINTED IN JAPAN
B51-5032-00 (N) 1757

In compliance with Federal Regulations, following are reproductions of labels on, or inside the product relating to laser product safety.

KENWOOD-Corp. certifies this equipment conforms to DHHS Regulations No. 21 CFR 1040. 10, Chapter 1, Subchapter J.

DANGER : Laser radiation when open and interlock defeated. AVOID DIRECT EXPOSURE TO BEAM.

*Refer to parts list on page 57.

Do not carry this unit with the disc loaded.

Refer to X-ME5 [Mechanism] service manual (B51-5011-00), if need Mechanism operation description in detail.

MS-D7

CONTENTS / ACCESSORIES / CAUTION

CONTENTS

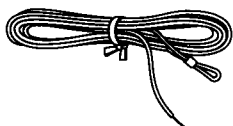
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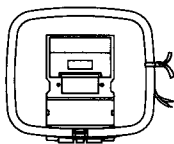
***Refer to X-ME5 [Mechanism] service manual (B51-5011-00),
if need Mechanism Operation Description in detail.**

ACCESSORIES

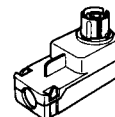
- FM indoor antenna 1
(T90-0189-08) : E, T type only
(5AACZZ985GEA) : Y, M, X type only



- AM Loop antenna 1
(T90-0200-08)

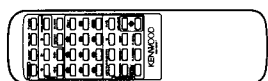


- Antenna adaptor 1
(T90-0194-08) : E, T type only



For U.K. and Europe.

- Remote control unit (RC-MD7) 1
(A70-1023-08)

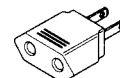


Battery cover
(A09-0172-08)

- Speaker cords 2
(E30-2743-08)

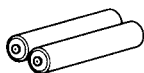


- AC plug adaptor 1
(E03-0115-05) : M type only



Except for some areas.

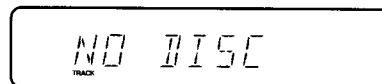
- Batteries 2
(-)



■ Note related to transportation and movement

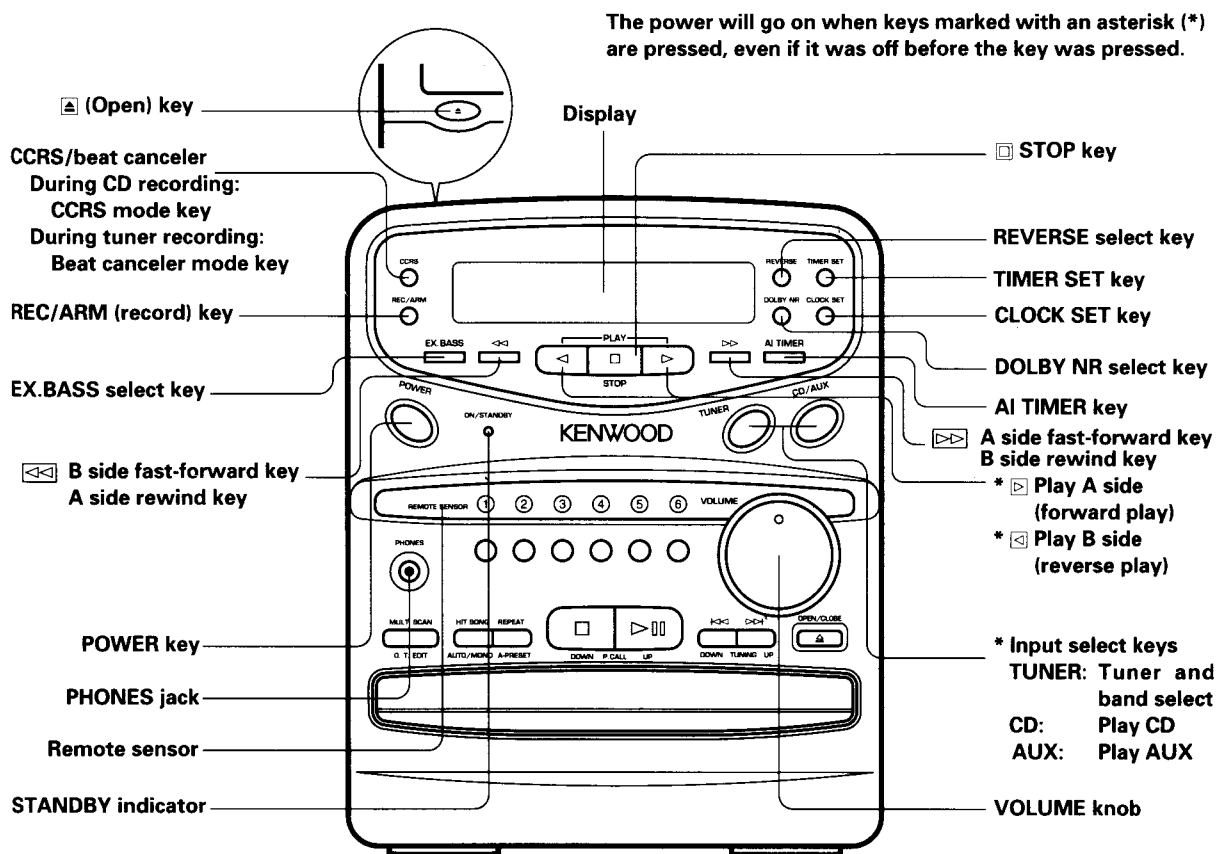
Before transporting or moving this unit, carry out the following operations.

1. While no disc is loaded in the unit, unplug the power cord from the power outlet then plug it again.
2. Switch the power ON and wait for a few seconds; the display should become as shown on the right.
3. Turn the power OFF.

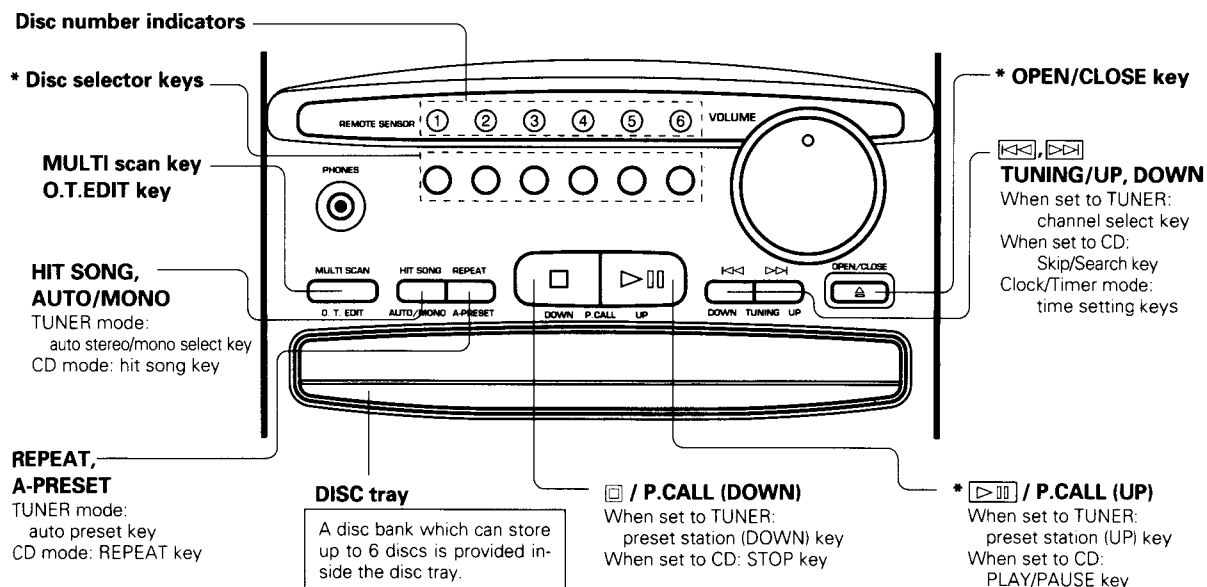


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CONTROLS

Cassette deck / Amplifier section

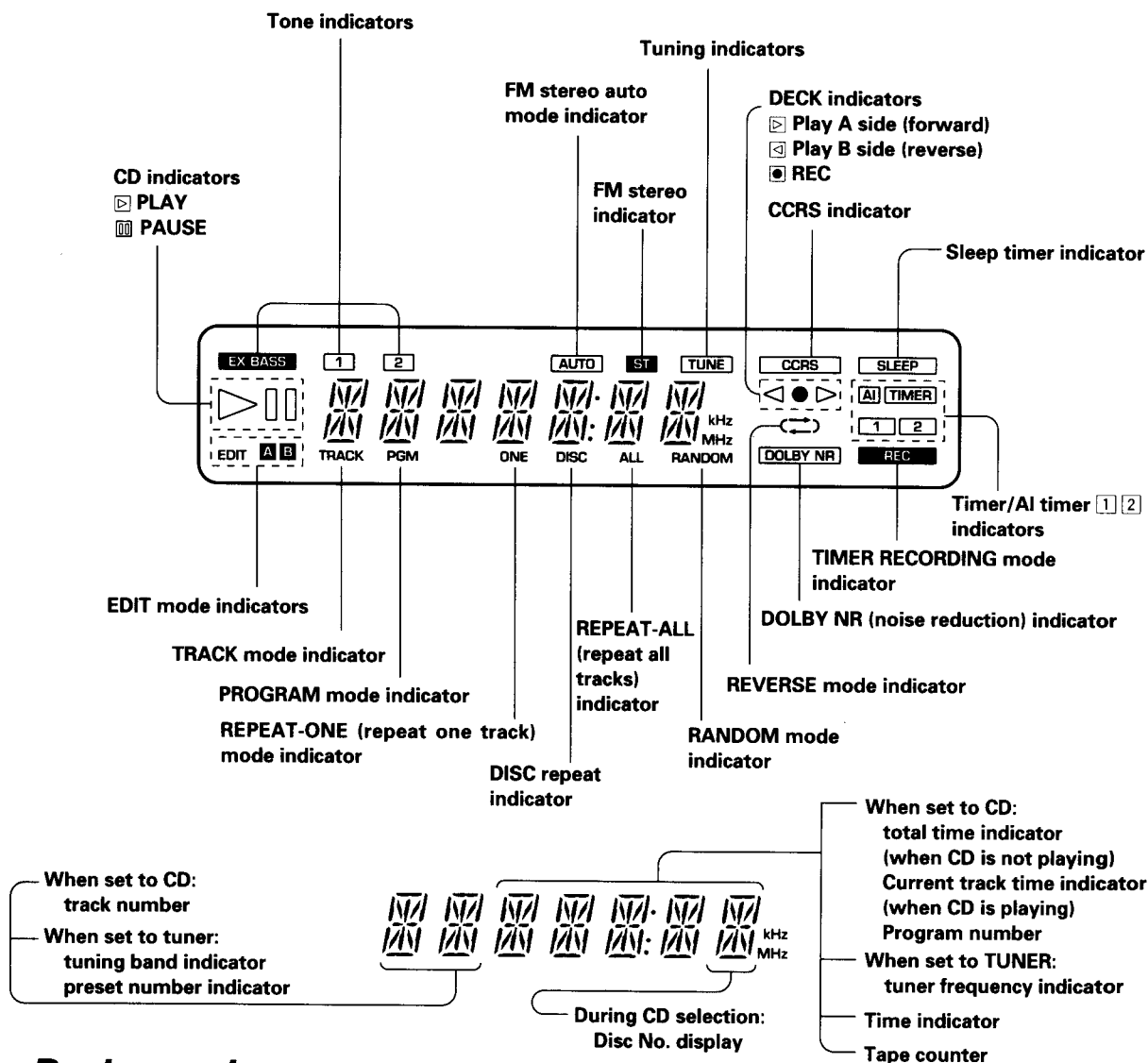
Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

Tuner / CD player section

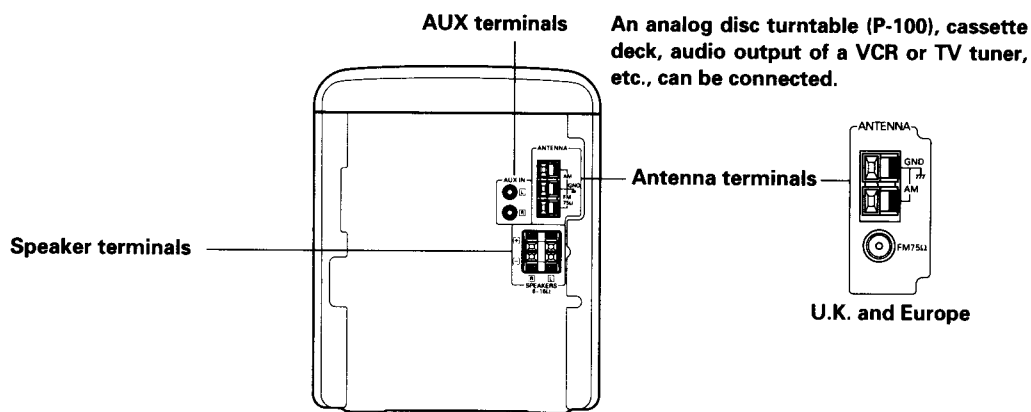
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CONTROLS

Display section



Back panel



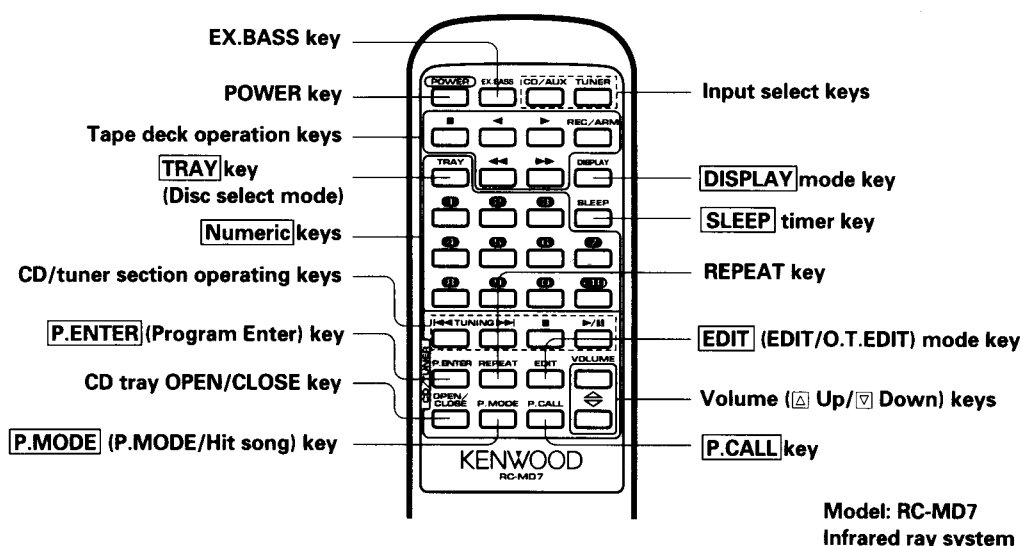
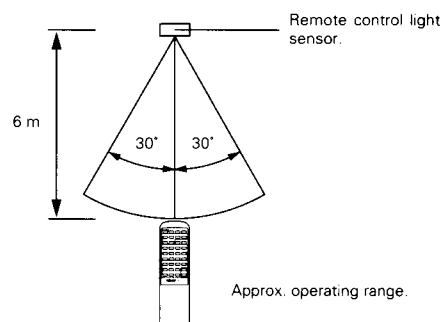
MS-D7

REMOTE CONTROL OPERATION / CAUTIONS

Operation procedure

Plug the power cord of the system into an AC wall outlet, and press the **POWER** key to turn the power on. The remote control unit is effective only in the range shown in the figure right.

- When two operation keys on the remote control unit are pressed successively, press each key securely reserving an interval of more than 1 second for each press.



Keys marked are provided only on the remote control unit.

STANDBY mode of POWER switch

When the power cord is plugged into an AC outlet, the STANDBY indicator lights regardless of the power ON/OFF setting. This is because, even when the power is set to OFF, a small amount of power is supplied to the system to back up the memory. This status is called the standby mode of the system. While the STANDBY indicator is lit, the power can also be turned ON/OFF from the remote control unit.

Notes:

- The supplied batteries are intended for use in operation checks. Therefore, their lives may be shorter than ordinary batteries.
- When the remote-controllable distance gets shorter than before, replace both batteries with new ones.
- Malfunction may occur if direct sunlight or the light of a fluorescent lamp using an inverter enters the remote control light sensor. In such a case, change the system installation position to prevent the malfunction.

Demonstration mode

Press and hold the **POWER** key for more than 5 seconds to put the unit to the demonstration mode which is designed for use in store-front display. "KENWOOD..." appears on the display. To cancel the demonstration mode, unplug the power cord from the power outlet then plug it again.

■ Beware of condensation

When water vapor comes into contact with the surface of cold material, water drops are produced.

If condensation occurs, correct operation may not be possible, or the unit may not function correctly.

This is not a malfunction, however, and the unit should be dried. (To do this, turn the POWER switch ON and leave the unit as it is for several hours.)

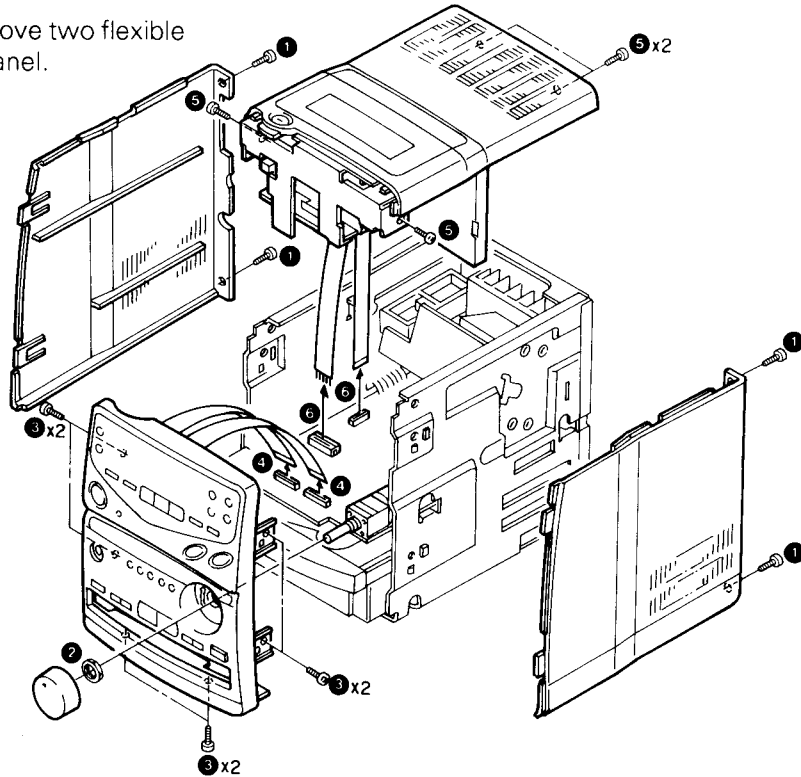
Be especially careful in the following conditions:

- When the unit is brought from a cold place to a warm place, and there is a large temperature difference.
- When a heater starts operating.
- When the unit is brought from an air-conditioned place to a place of high temperature with high humidity.
- When there is a large difference between the internal temperature of the unit and the ambient temperature, or in conditions where condensation occurs easily.

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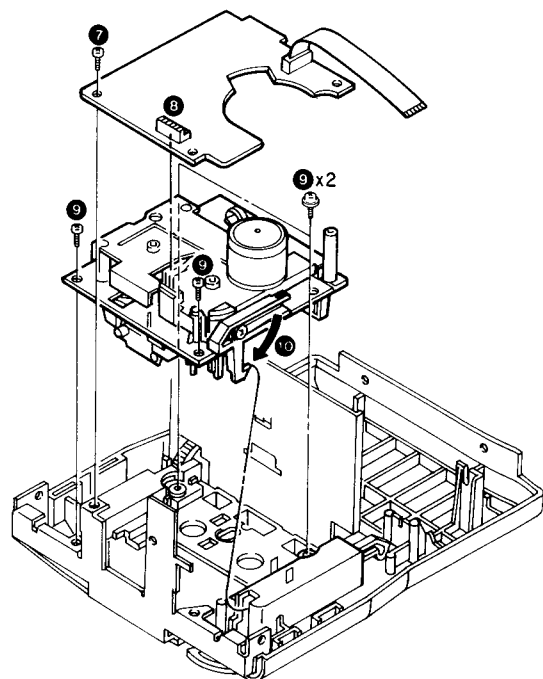
DISASSEMBLY FOR REPAIR

1. Remove four screws (1), then remove the side panel.
2. Remove one knob and one nut (2).
3. Remove six screws (3).
4. Remove two flexible joints (4), then remove the front panel.
5. Remove four screws (5), then remove two flexible joints (6) and remove the upper panel.



How to Remove the Cassette Mechanism

1. Remove one screw (7), and disconnecting connector (8), then remove the PC board.
2. Remove four screws (9), disengage the hook (10), then remove the cassette mechanism.



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DISASSEMBLY FOR REPAIR

How to Remove the Transformer

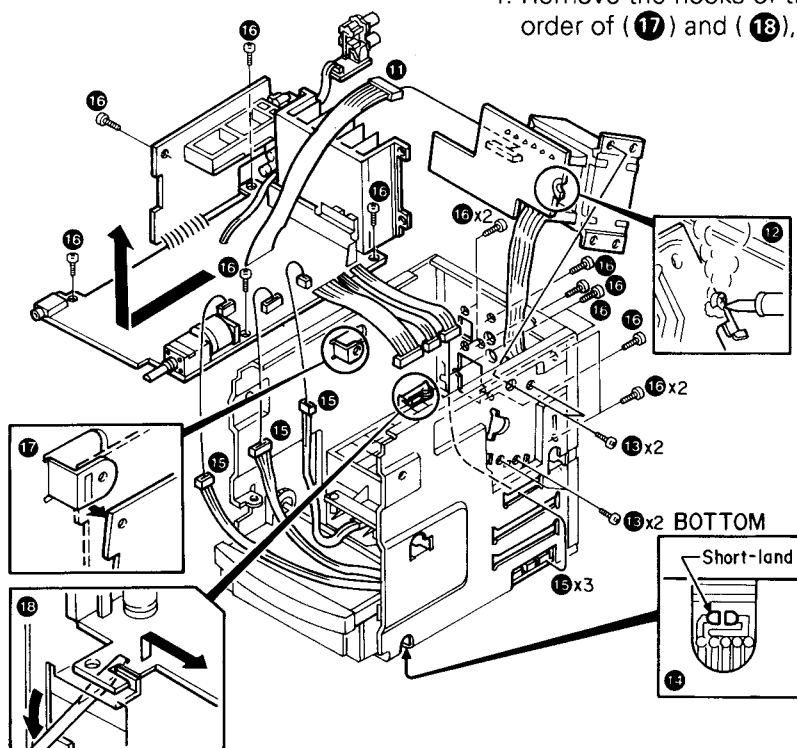
Disconnect one connector (11).

Remove one screw (12) of the transformer board by melting its solder, then remove four screws (13).

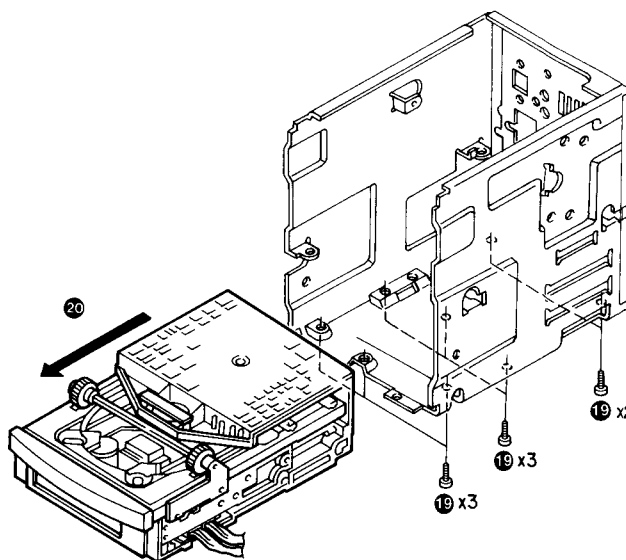
Remove the transformer.

How to Remove the Main Board, etc.

1. Before disconnecting the connectors for the main board and CD mechanism, short-circuit short land (14) of the CD mechanism.
2. Disconnect six connectors (15).
3. Remove fourteen screws (16).
4. Remove the hooks of the board and chassis, etc. in order of (17) and (18), then remove the board.

**How to Remove the CD Mechanism Unit**

Remove eight screws (19), then remove the mechanism unit (20).



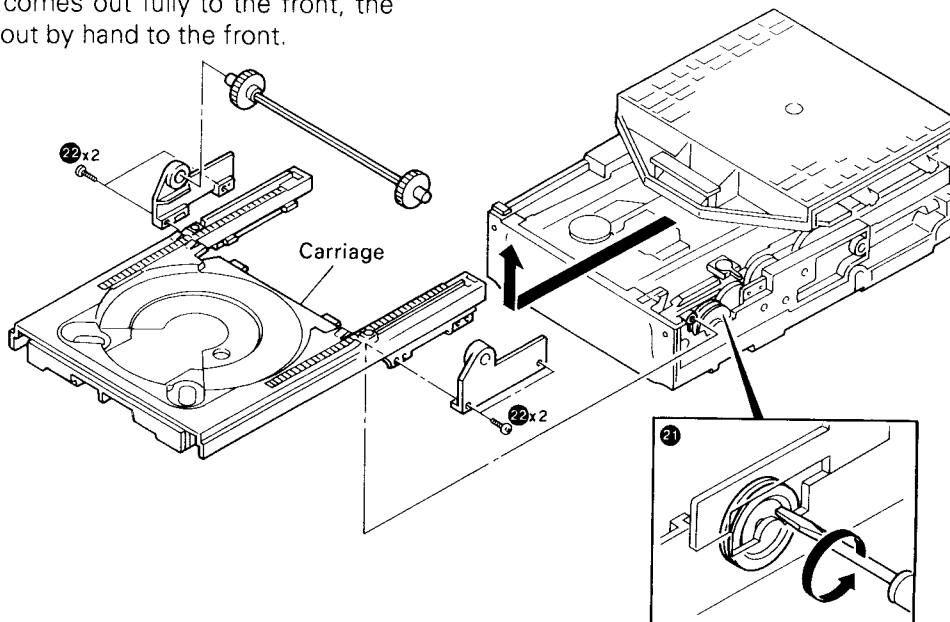
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DISASSEMBLY FOR REPAIR

How to Remove the Tray

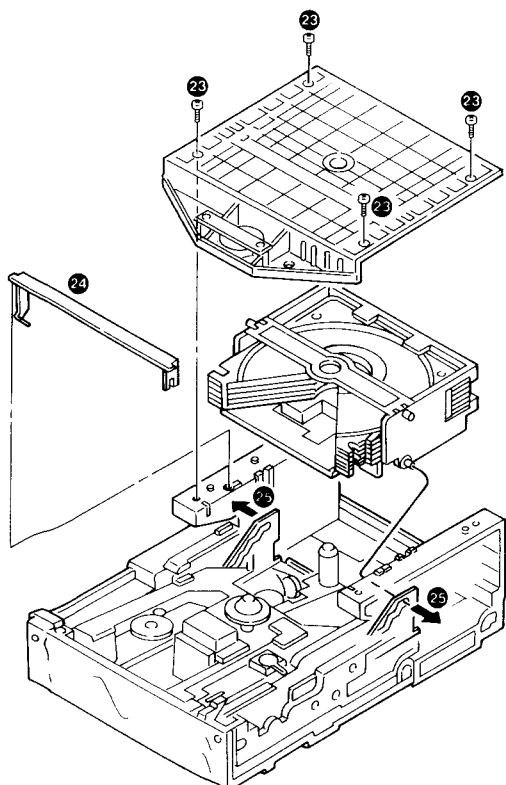
1. Turn the gear (SP) in the direction of the arrow shown in the figure with a screwdriver, etc. At this time, take care not to damage it (21). After the carriage comes out fully to the front, the tray can be pulled out by hand to the front.

2. Remove four screws (22), then remove the tray.



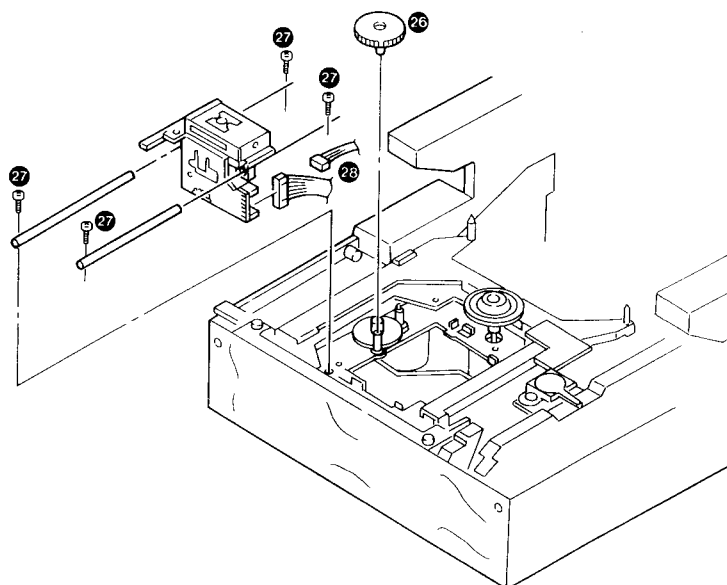
How to Remove the Stocker Ass'y

1. Remove four screws (23), then remove the top cover.
2. Remove assistant arm (24).
3. Push the stocker arm outward with a blade-tip screwdriver (25), then remove the stocker ass'y.



How to Remove the Pickup

1. Remove gear (26).
2. Remove four screws (27).
3. Disconnect two connector (28), then remove the pickup.



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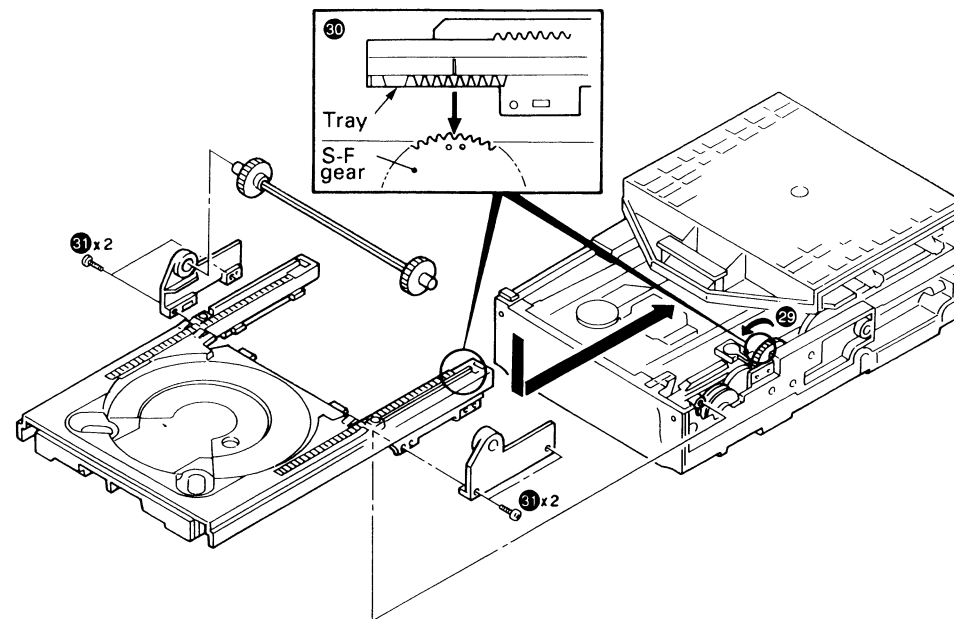
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DISASSEMBLY FOR REPAIR

DISASSEMBLY FOR REPAIR

How to Install the Tray

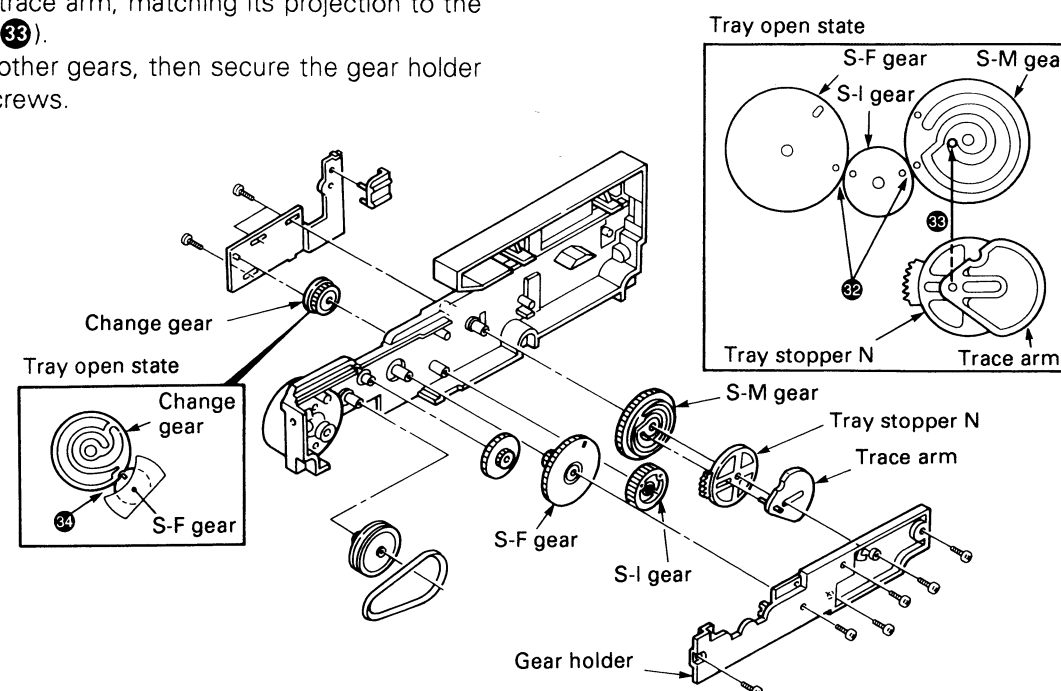
1. Turn the gear fully in the direction of the arrow (29) (to open the tray).
 2. Match the mark of the tray gear to that of the S-F gear (30), then install the tray.
 3. Pushing both sides of the tray with a hand from above, close the tray.
 4. Install four screws (31).
- * If gear (30) is not in position, the tray does not close completely. In this case, check and correct the gear.



Adjustment Method of Gears

* When the tray does not operate normally When the gears have been disassembled

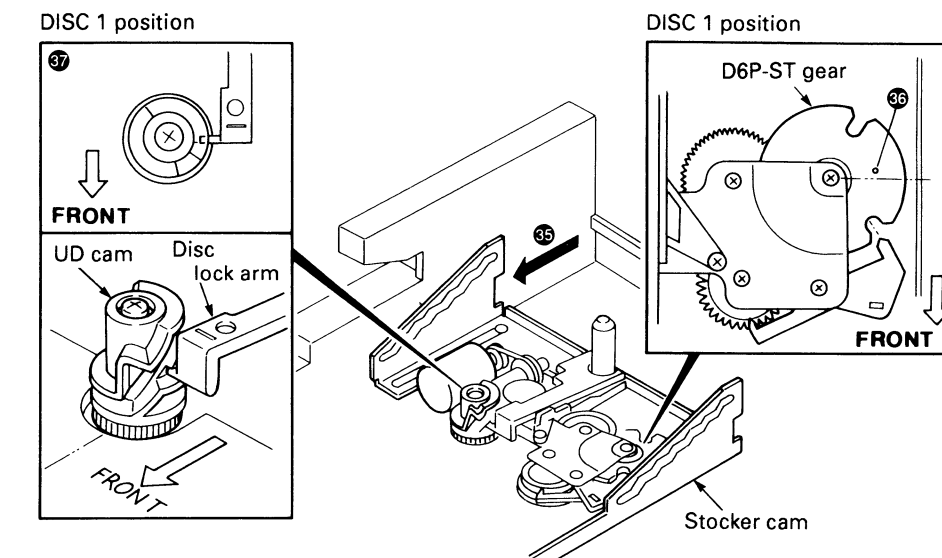
1. Install the S-F, S-I and S-M gears, matching their marks as shown in the figure (32).
2. Match tray stopper N to the trace arm. Install the trace arm, matching its projection to the S-M gear (33). Install the other gears, then secure the gear holder with the screws.
3. Match the mark of the change gear to that of the S-F gear (Back side) (34), then secure the change plate, etc. with the screws.



Locations of Stocker Cam, D6P-ST Gear and UD Cam

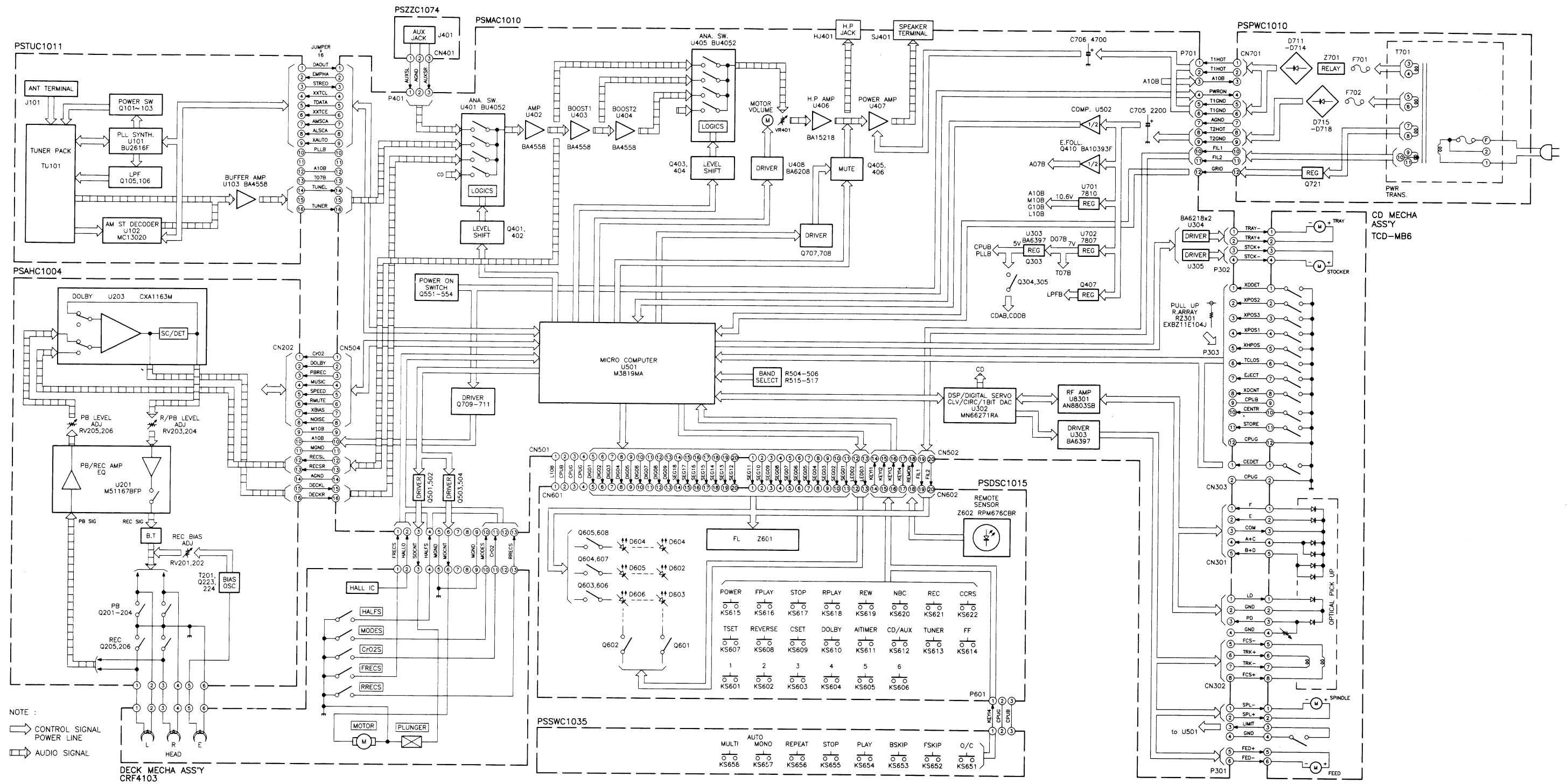
When the stocker cam is pulled in the direction of arrow (35) (HOME POSITION), through hole (36) of the D6P-ST gear is on the right side of the stocker cam and the UD cam is set as shown in figure (37).

Home Psition (Mechanism initialize state)
Tray : Close
Stocker : At the top
Pickup : Down



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BLOCK DIAGRAM

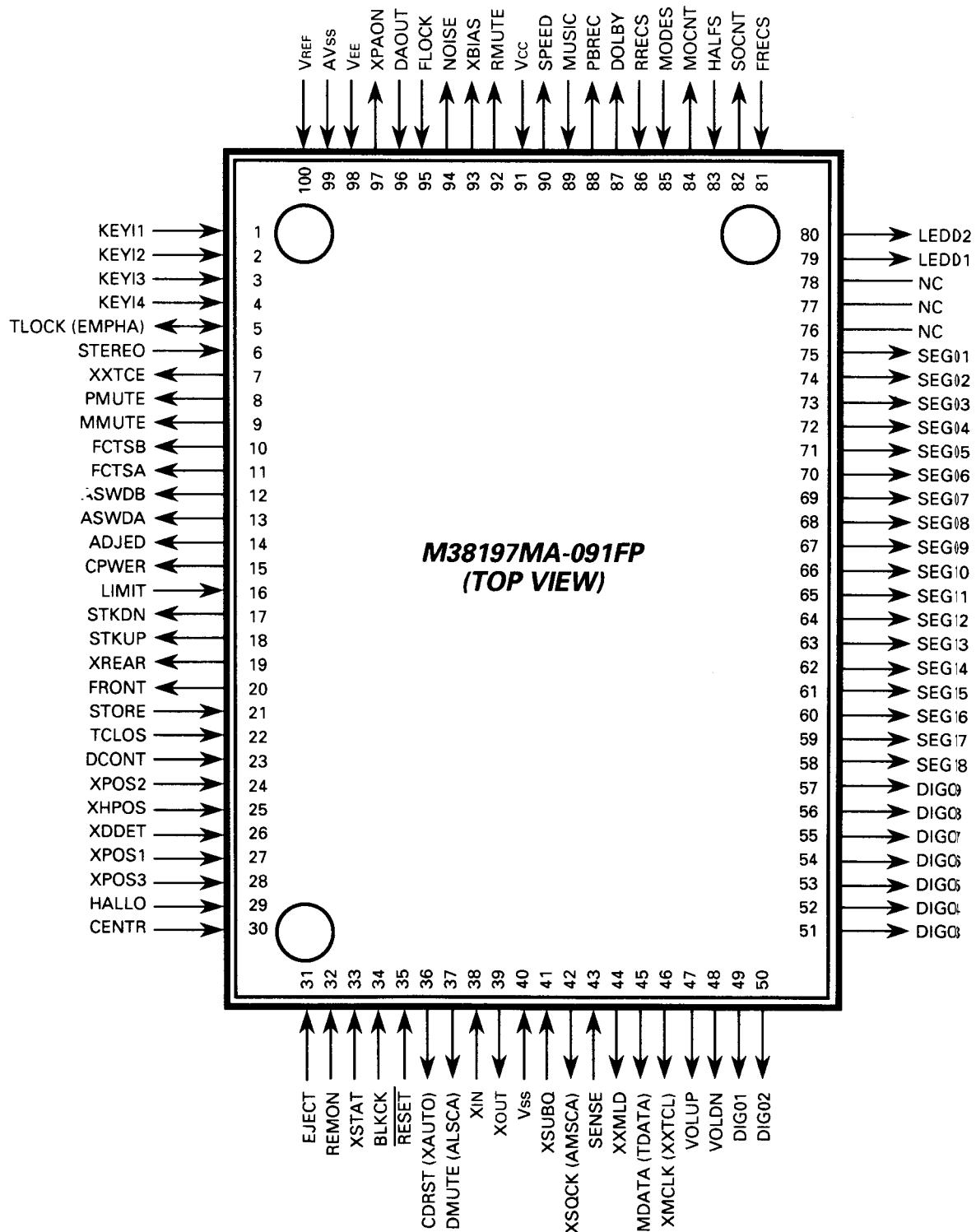


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CIRCUIT DESCRIPTION

Main μ -com : M38197MA-091FP (U501)

Pin connection



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CIRCUIT DESCRIPTION

Pin function

No.	Name	I/O	Function	Active
1 ~ 4	KEYI1 ~ KEYI4	I	Key input	A/D
5	TLOCK (EMPHA)	I (O)	CD tracking servo pull-in signal (Tuner emphasis signal)	"L" : ON ("H" : 75µs)
6	STEREO	I	Tuner stereo signal	"L" : STEREO
7	XTCE	Q	Tuner chip enable signal	
8	PMUTE	O	Not used	
9	MMUTE	O	Audio mute signal	"H" : ON
10	FCTSB	O	Audio MPX changeover signal	* Refer to table
11	FCTSA	O	Audio MPX changeover signal	* Refer to table
12	ASWDB	O	Audio EQ changeover signal	* Refer to table
13	ASWDA	O	Audio EQ changeover signal	* Refer to table
14	ADJED	O	CD focus servo EQ changeover signal	"H" : Gain down
15	CPWER	O	CD circuit power ON/OFF signal	"H" : ON
16	LIMIT	I	CD inmost line detection signal	"L" : Detect
17	STKDN	O	Bank mechanism, stocker motor control signal	
18	STKUP	O	Bank mechanism, stocker motor control signal	
19	XREAR	O	Bank mechanism, tray motor control signal	
20	FRONT	O	Bank mechanism, tray motor control signal	
21	STORE	I	Bank mechanism, STORE switch detection signal	"L" : ON
22	TCLOS	I	Bank mechanism, TCLOSE switch detection signal	"L" : ON
23	DCONT	I	Bank mechanism, DCOUNT switch detection signal	"L" : ON
24	XPOS2	I	Bank mechanism, POS2 switch detection signal	"L" : ON
25	XHPOS	I	Bank mechanism, HPOS switch detection signal	"L" : ON
26	XDDET	I	Bank mechanism, DDET switch detection signal	"L" : ON
27	XPOS1	I	Bank mechanism, POS1 switch detection signal	"L" : ON
28	XPOS3	I	Bank mechanism, POS3 switch detection signal	"L" : ON
29	HALLO	I	Deck mechanism, reel pulse input	
30	CENTR	I	Bank mechanism, CENTER switch detection signal	"L" : ON
31	EJECT	I	Bank mechanism, EJECT switch detection signal	"L" : ON
32	REMON	I	Remote control receiving signal	
33	XSTAT	I	CD status signal	
34	BLKCK	I	CD sub-sync signal	
35	RESET	I	Reset signal	"L" : Reset
36	CDRST (XAUTO)	O	CD reset signal (Tuner Auto/Mono control)	"L" : Reset ("L" : AUTO)
37	DMUTE (ALSCA)	O	CD audio mute signal (Tuner scan control)	"H" : Mute ("H" : Scan)
38	XIN	I	Reference oscillation input	
39	XOUT	O	Reference oscillation output	
40	Vss	I	GND	
41	XSUBQ	I	CD sub-code Q data	
42	XSQCK (AMSCA)	O	CD sub-code read clock (Tuner scan control)	"H" : Scan
43	SENSE	I	CD sense signal	
44	XXMLD	O	CD latch signal	
45	MDATA (TDATA)	O	Data for CD DSP (Tuner PLL data)	
46	XMCLK (XTCL)	O	Clock for CD DSP (Tuner PLL clock)	
47	VOLUP	O	Volume motor control signal	
48	VOLDN	O	Volume motor control signal	
49~57	DIG01 ~ DIG09	O	FL grid drive	
58~75	SEG18 ~ SEG01	O	FL segment drive	
76~78	NC	-	Not used	
79	LEDD1	O	LED drive	
80	LEDD2	O	LED drive	

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CIRCUIT DESCRIPTION

No.	Name	I/O	Function	Active
81	FRECS	I	Deck mechanism, REC switch detection	"L" : ON
82	SOCNT	O	Deck mechanism, Solenoid control	"H" : Drive
83	HALFS	I	Deck mechanism, Half switch detection	"L" : ON
84	MOCNT	O	Deck mechanism, Motor control	"H" : Drive
85	MODES	I	Deck mechanism, Mode switch detection	"L" : ON
86	RRECS	I	Deck mechanism, REC switch detection	"L" : ON
87	DOLBY	O	Deck mechanism, Dolby control	"H" : ON
88	PBREC	O	Deck REC/PLAY control	"H" : REC
89	MUSIC	I	Deck tune interval detection signal	"L" : Detect
90	SPEED	O	Deck tune interval control	"L" : Search
91	Vcc	I	Power supply +5 V	
92	RMUTE	O	Deck recording mute signal	"H" : Mute
93	XBIAS	O	Deck bias oscillation control	"H" : ON
94	NOISE	O	Deck beat cancel control	"H" : ON
95	FLOCK	I	CD focus pull-in signal	"L" : Pull-in
96	DAOUT	I	Tuner IF count OK signal	"L" : OK
97	XPAON	O	Not used	
98	VEE	I	Grid reference voltage for FL	
99	AVss	I	GND for A/D	
100	VREF	I	+5 V for A/D	

*Source changeover table

FCTSA	FCTSB	SOURCE
H	H	CD
L	H	AUX
H	L	DECK
L	L	TUNER

*EQ changeover table

ASWDA	ASWDB	MODE
H	H	Ex Bass OFF
L	H	Ex Bass 1
H	L	Ex Bass 2
L	L	MUTE

CIRCUIT DESCRIPTION

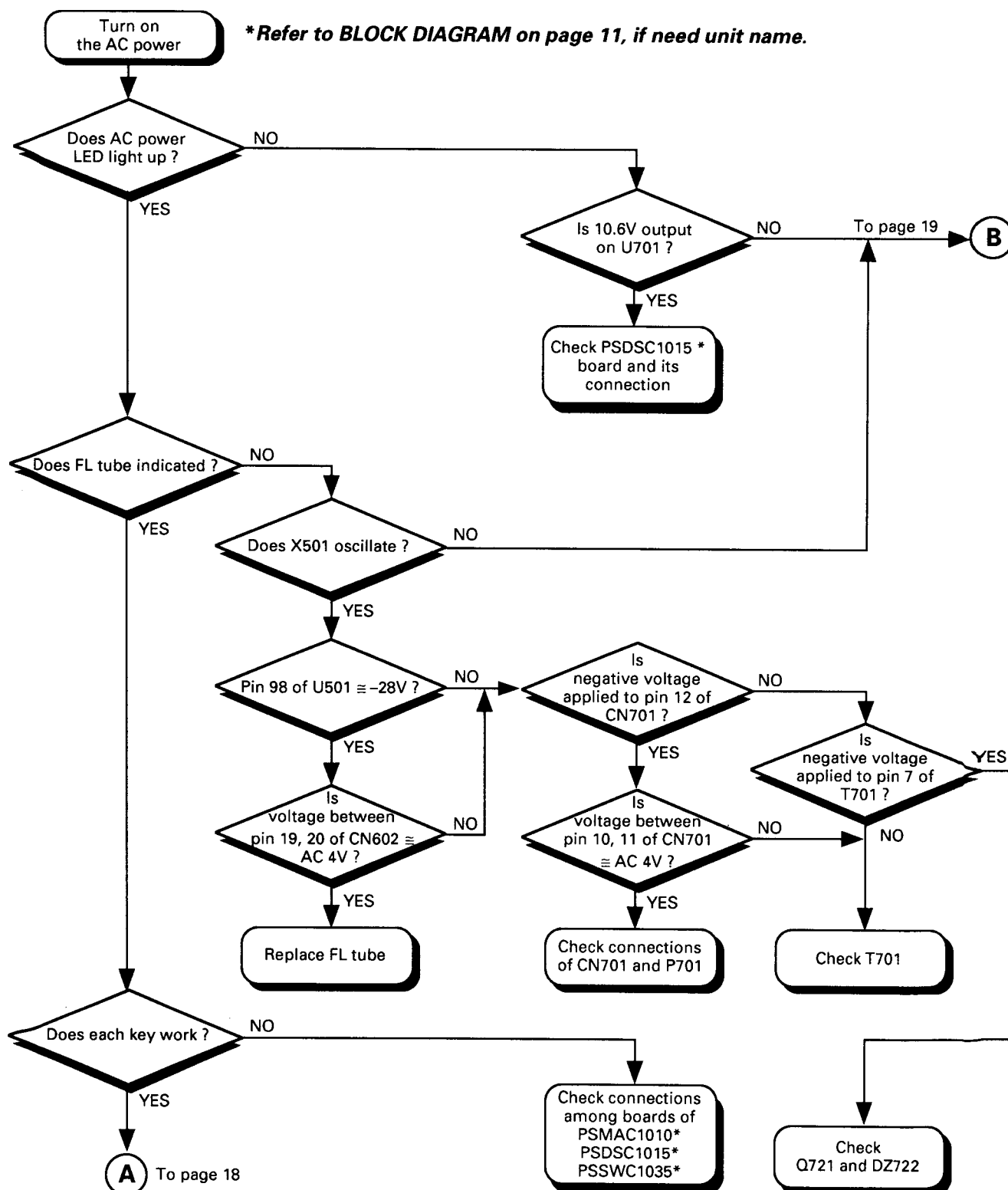
The diagram illustrates the internal architecture of the 78C60 microcontroller, centered around a local data bus. Key components include:

- System Control:** Main clock input (XIN), main clock output (XOUT), sub clock input (XCIN), and sub clock output (XCOUT) are connected to a clock oscillator. A reset input (RESET) is also shown.
- Memory:** ROM, RAM, and FLD (Flash) are connected to the local data bus. The FLD is a 96-byte RAM.
- Timers and Counters:** Six timers (Timer 1 to Timer 6) and two counters (CNTR6, CNTR1) are connected to the bus. They provide various outputs: T1OUT, T3OUT, PWMOUT, and CNTR6.
- I/O and Conversion:** The microcontroller features multiple I/O ports (P0, P1, P2, P3, P4, P5, P6, P7, P8, P9, PA, PB, PC, PD, PE, PF, PG, PH, PI, PJ, PK, PL, PM, PN, PO, PP, PQ, PR, PS, PT, PU, PV, PW, PX, PY, PZ, PA, PB, PC, PD, PE, PF, PG, PH, PI, PJ, PK, PL, PM, PN, PO, PP, PQ, PR, PS, PT, PU, PV, PW, PX, PY, PZ). It also includes an A/D converter (8-bit) and a D/A converter (8-bit).
- Control Logic:** The CPU core is connected to the local data bus. It includes a detected interval jump, a detect zero-cross, and a detected zero-cross.

The diagram shows the internal connections between these components and the external pins of the microcontroller.

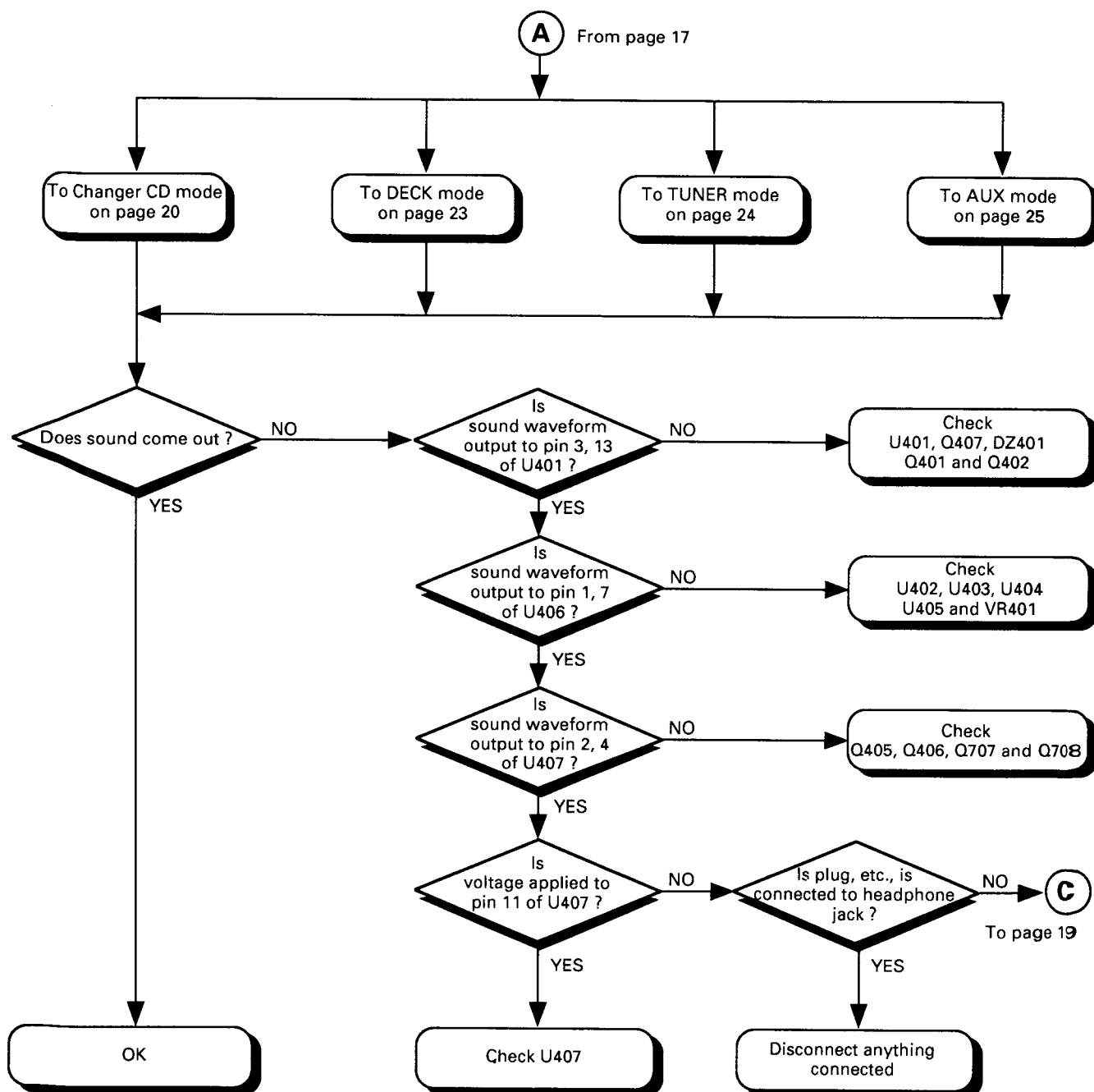
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TROUBLE SHOOTING



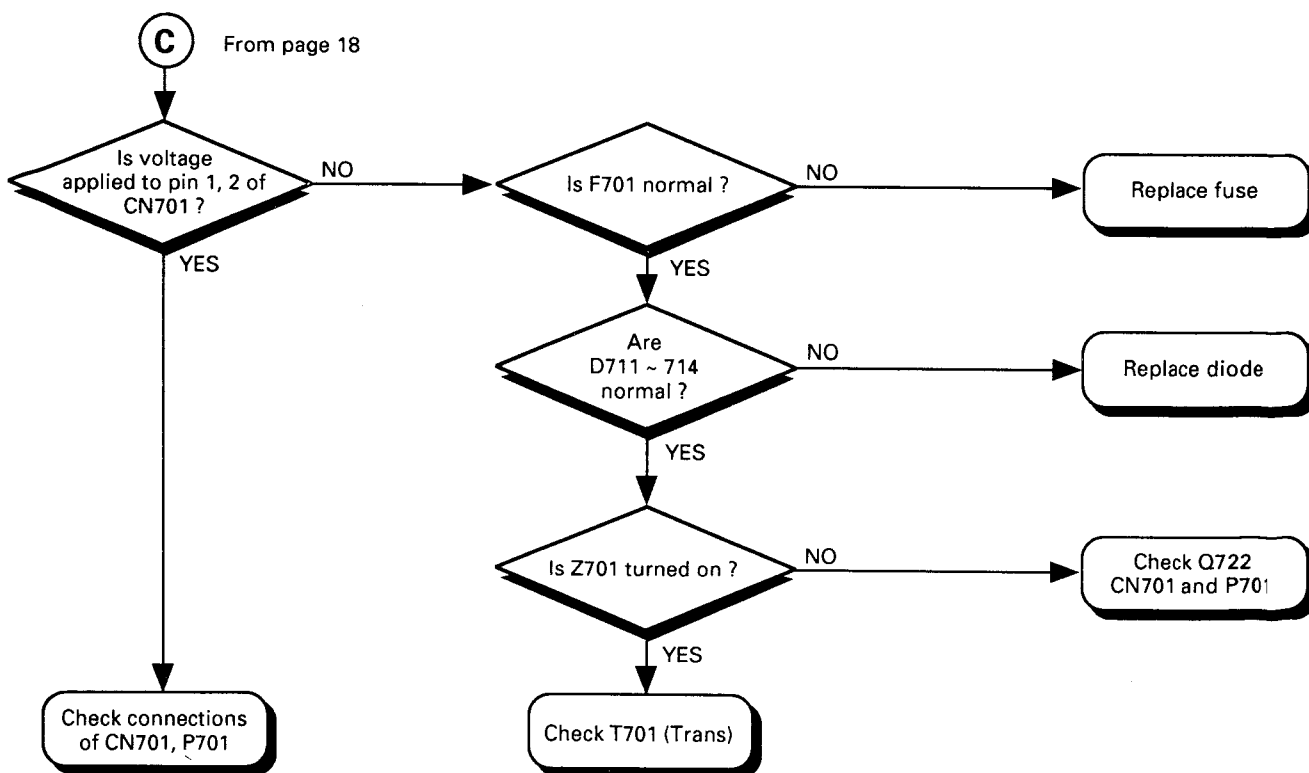
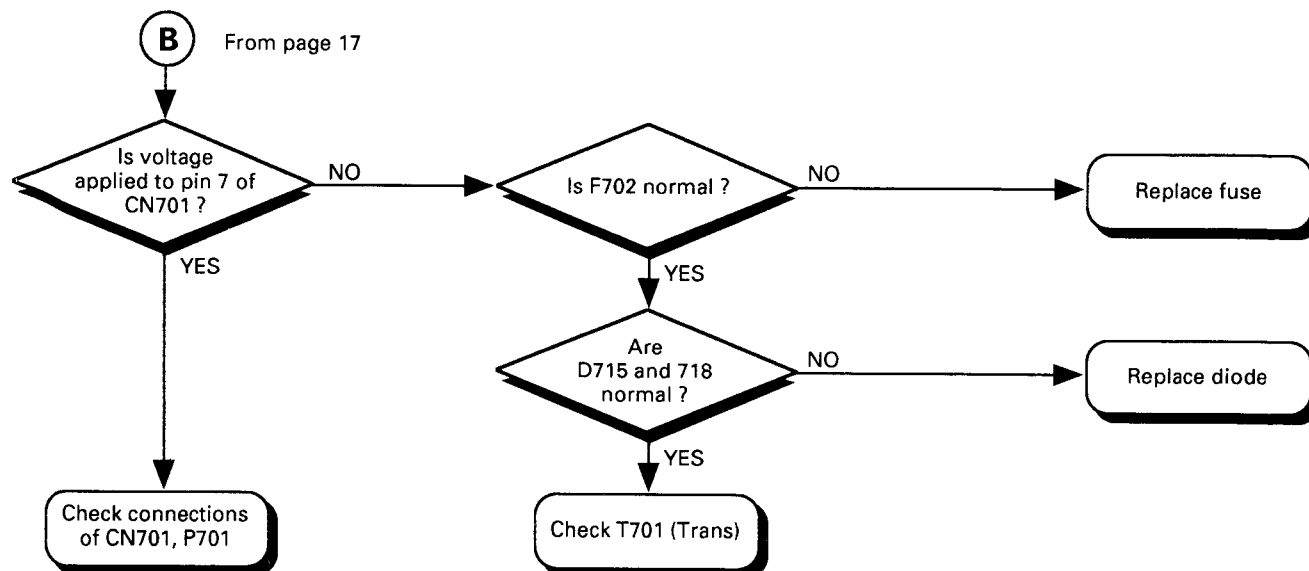
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TROUBLE SHOOTING



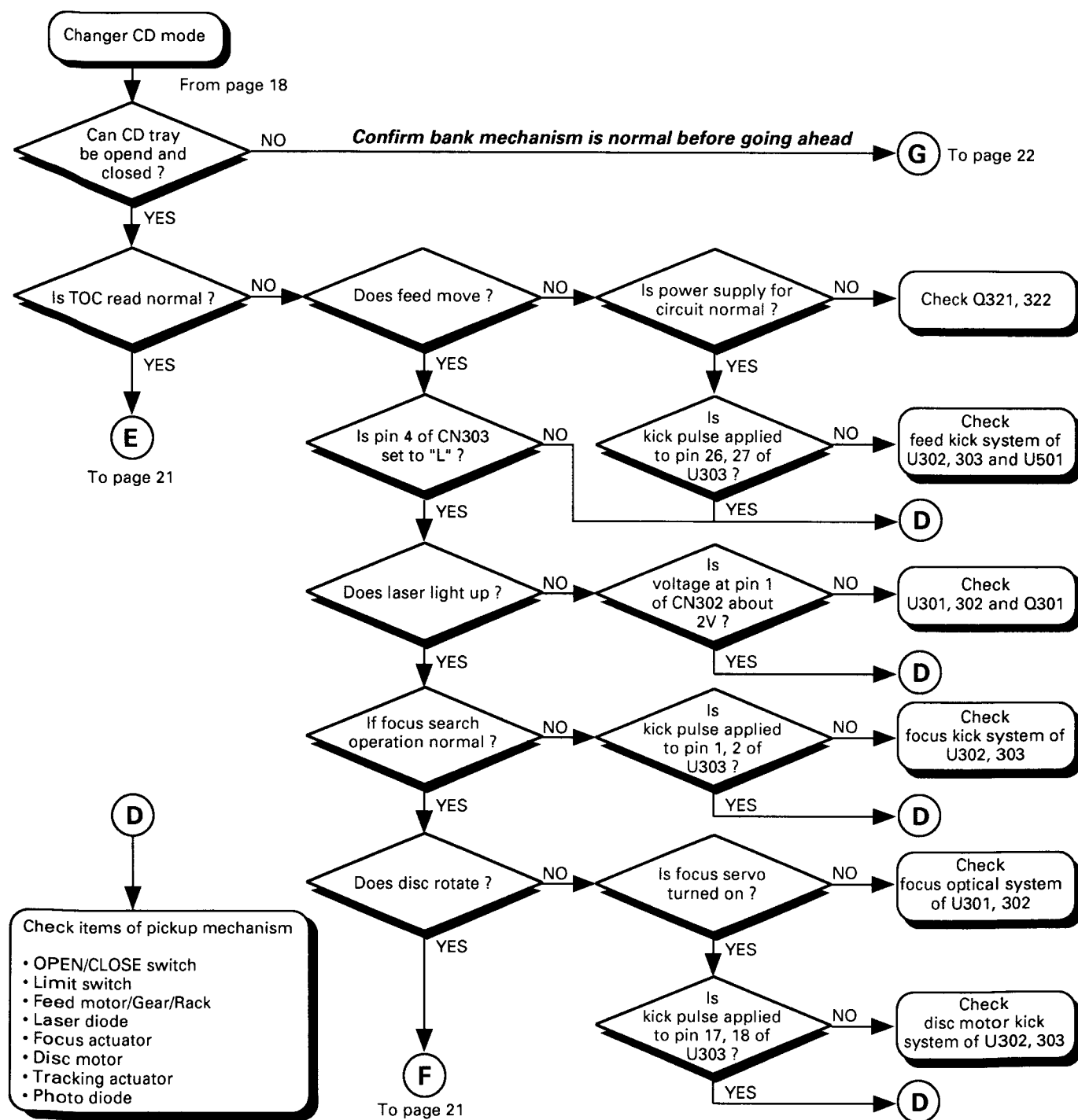
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TROUBLE SHOOTING



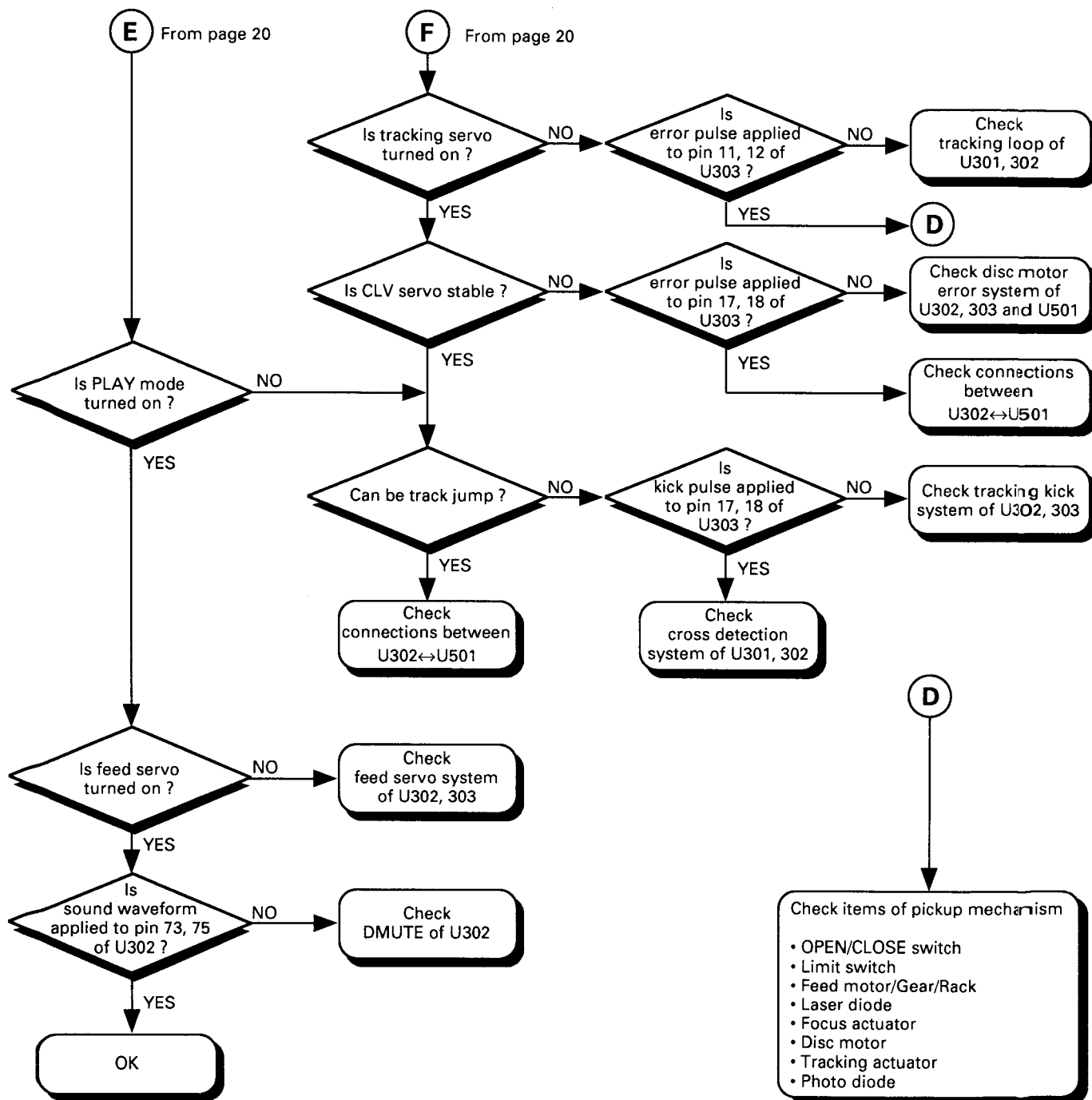
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TROUBLE SHOOTING



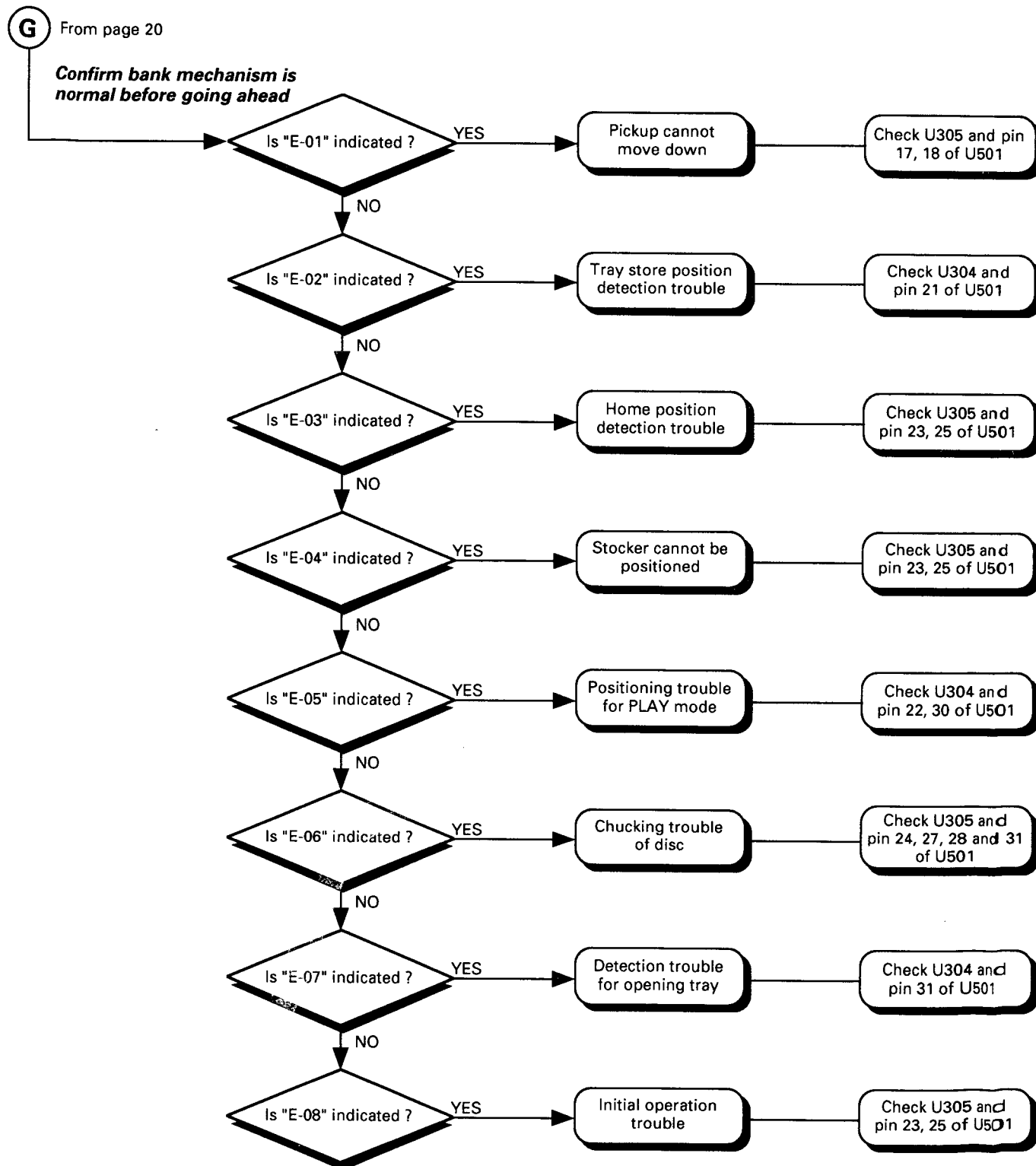
MS-D7

TROUBLE SHOOTING



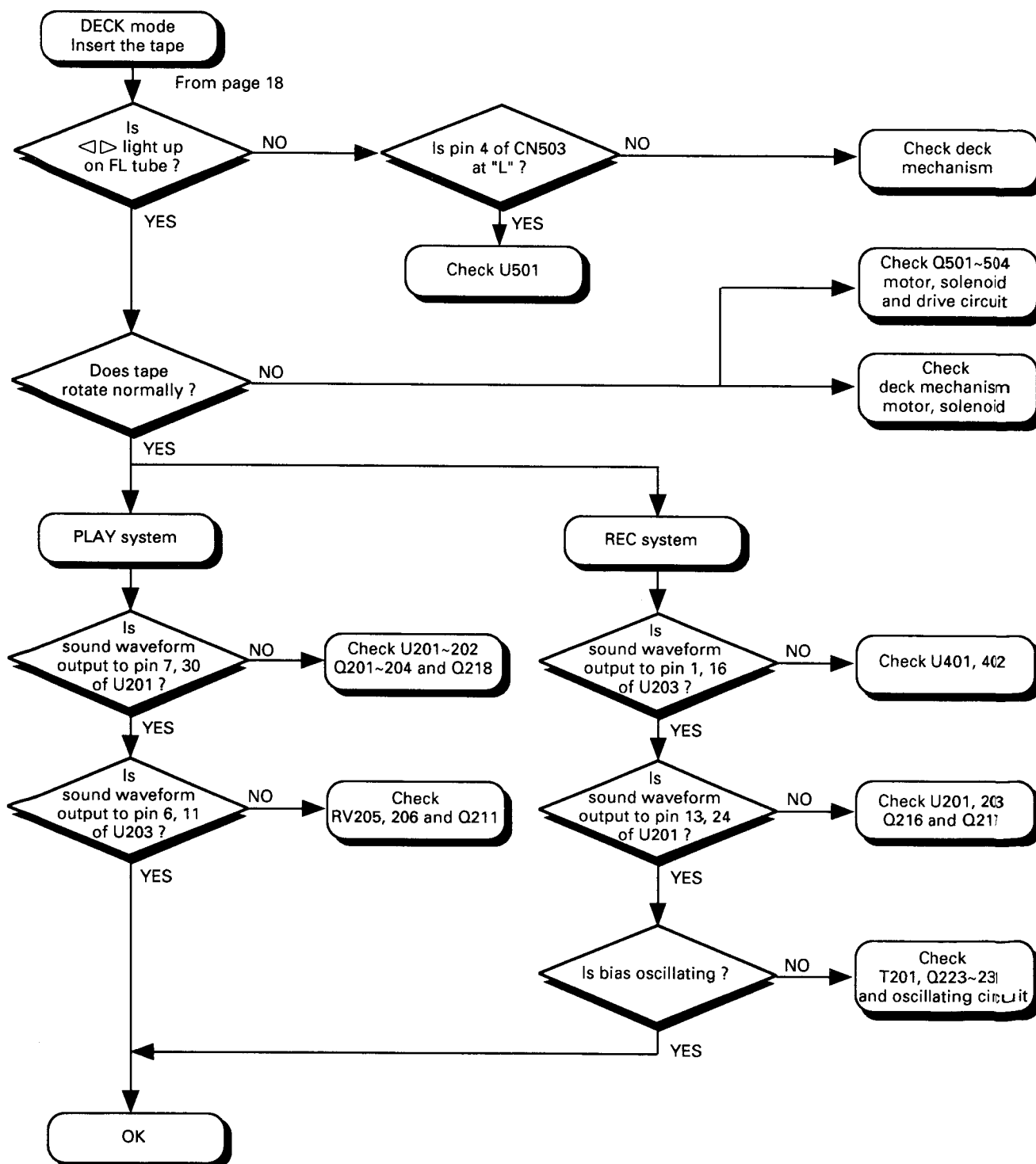
MS-D7

TROUBLE SHOOTING



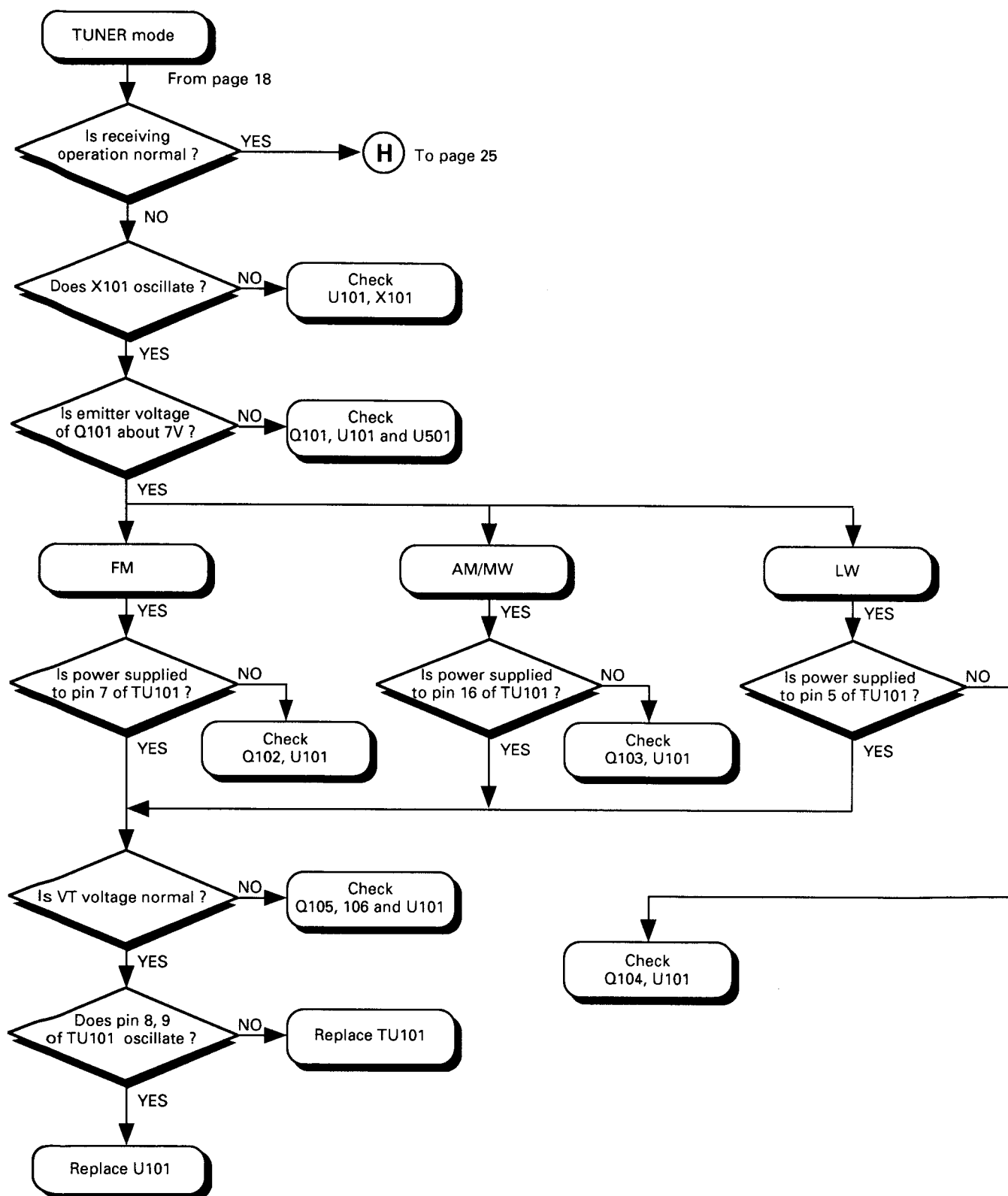
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TROUBLE SHOOTING



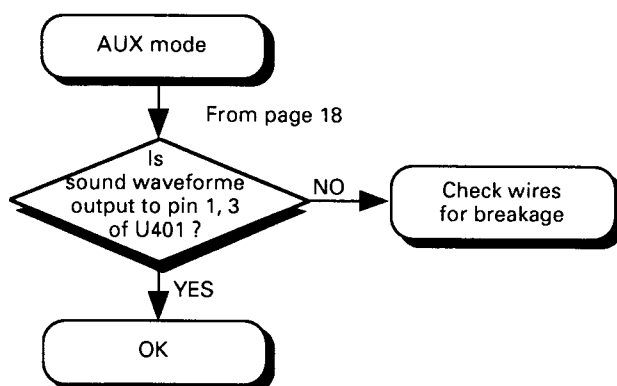
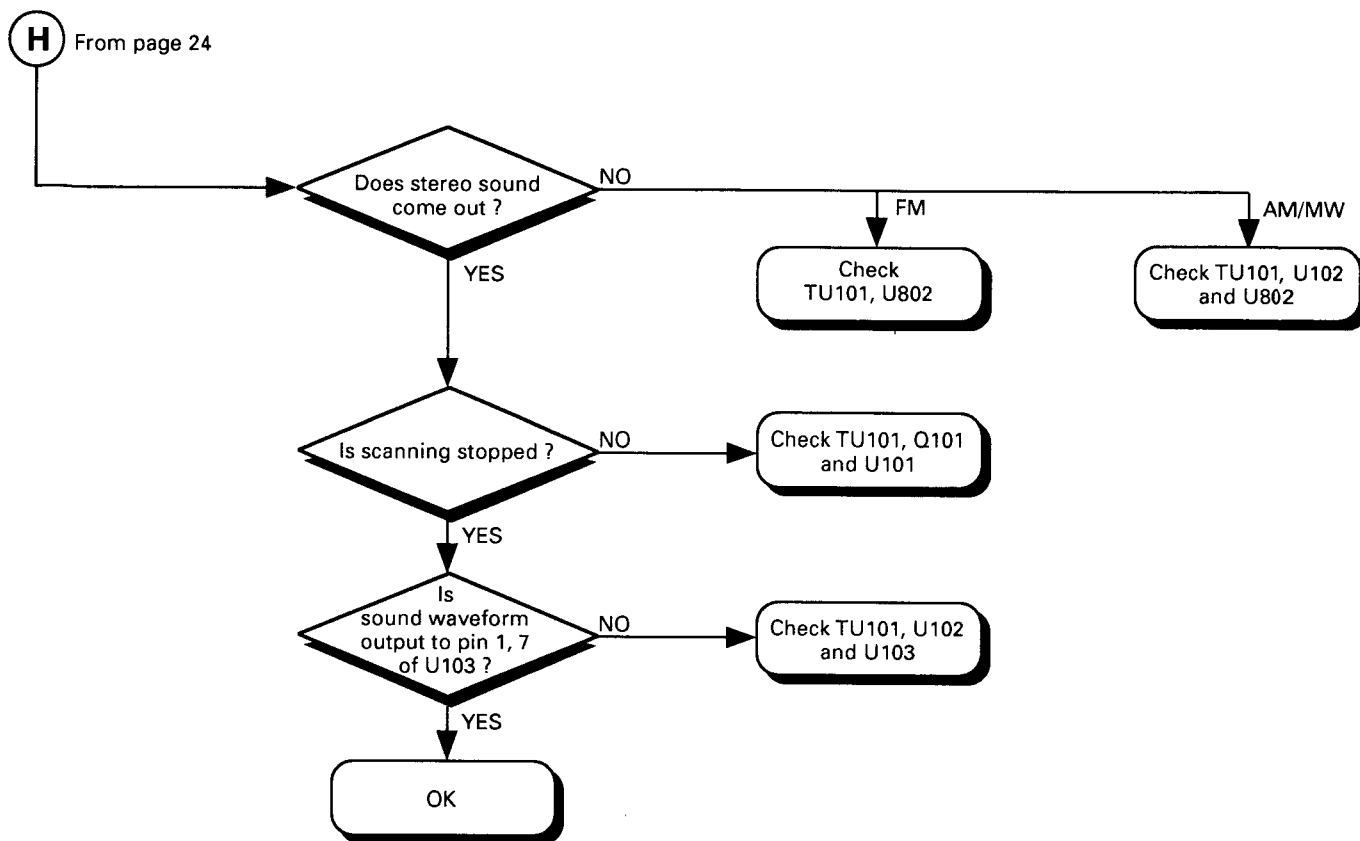
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TROUBLE SHOOTING



MS-D7

TROUBLE SHOOTING



MS-D7

TEST MODE




1. How to enter the test mode

Pushing while "FF" and "REW" keys of the deck, push the "MULTI" key. Then, the test mode code is generated and the system enters the test mode. Reset method→Disconnect the AC power cable.

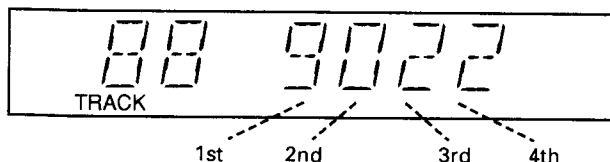
2. Selection of a mode and how to use it

• If the test mode is selected while the power is turned on and the CD mode is selected, the following functions are available.

- [1] The recording level of CCRS can be set with the "CCRS" key. If the "CCRS" key is pushed while the reverse mode is set as shown at left.

	→ CCRS GAIN -2dB
	→ CCRS GAIN -20dB
	→ CCRS GAIN -25dB

- [2] If the repeat mode is set to ALL random in the CD state, the operating condition of the CD can be monitored.



Meaning of tape counter in CD mode

1st figure from left	Progress of automatic adjustment
0	Control of pickup is started.
1	Initial setting of LSI
2	Lead-in start position is detected (AOC2 ... TR offset is adjusted).
3	Disc is detected.
4	AOC1 ... FO offset is adjusted AGC1 ... FO rough gain is adjusted.
5	Focus is locked after kick.
6	AGC2 ... TR rough gain is adjusted.
7	ABC2 ... TR balance is adjusted.
8	ABC1 ... FO balance is adjusted Focus and tracking are locked Focus gain and tracking gain are controlled normally.
9	After automatic adjustment is finished, disc data are read normally (Normal).

2nd figure	Number of mirror errors
------------	-------------------------

3rd figure	Number of focus errors
------------	------------------------

4th figure	Condition of pickup control mode
0	Pickup is not controlled.
1	Head search for lead-in position is under automatic adjustment.
2	Focusing and tracking are performed again after kick.
3	Not defined.
4	Stop operation of disc.
5	Track jump (Tracking feed)
6	Not defined.
7	Track jump.
8	Tracking off.

- [3] If the PLAY key of the CD is pushed during the lead-in operation, the lead-in operation is finished forcibly.

MS-D7

PRECAUTIONS FOR REPAIR

1. Before starting the repair

If there is a trouble in the CD operation, it can be roughly detected by the method.

1. Set the device in the test mode and indicate the tape counter.
2. Push the PLAY key of the CD, and see the change of the indication. At this time, the first figure from the left indicates the operating condition of the CD. The meaning of this figure is as follows.

Indication	Condition	Contents of trouble
"0" or "1"	Initial operation trouble	Power supply trouble, connection trouble, etc.
"2"	Pickup cannot be fed. Inside cannot be detected	Feed motor system trouble, mechanism trouble, etc.
"3"	Disc cannot be detected.	Laser, actuator trouble, etc.
"4"	Focus servo is not turned on.	Focus system trouble, etc.
"5"	Disc does not turn. Tracking servo is not turned on.	Disc motor system trouble, etc. Tracking system trouble, etc.
"9"	TOC cannot be read	Trouble of date line connection, etc.

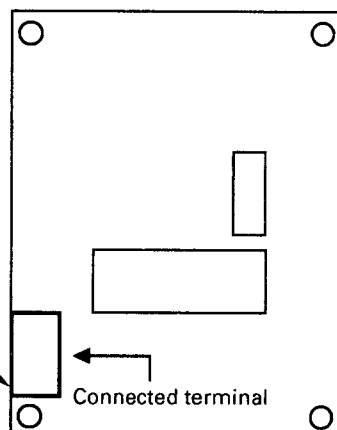
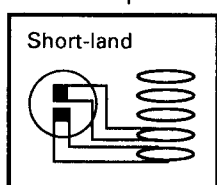
In case of "6"~"9", the disc may have a trouble.

2. Precaution for repairing the CD mechanism or CD board

When repairing the CD unit (removing the CD mechanism from the board), be sure to protect the laser diode.

To be concrete, short the short land with a solder etc. as shown below.

Pickup relay board viewed from the pattern side



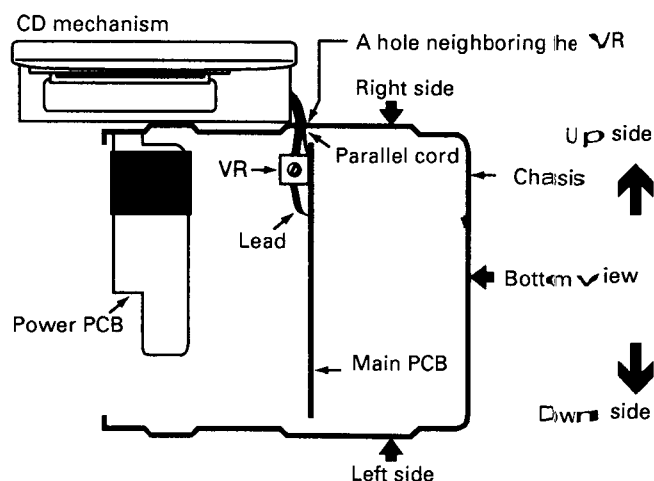
Bottom view (CD mechanism)

After finishing the repair work, disconnect the shorting material. **Never touch the patterns of the above boards and CD board from this time on.**

Since the connector connected to the pickup board is narrow and can be broken easily, when disconnecting it, hold the housing with pliers, etc.

3. CD Check



1. Remove CD mechanism ass'y.
2. Set the unit to right side upper.
3. Remove connector leads CN301, 302 and CN303 through chassis hole behind VOLUME.
4. Set connector to mechanism ass'y.
5. Without extension cable, if mechanism ass'y is settled on the chassis (right side of chassis), you can easily check the mechanism ass'y.



MS-D7

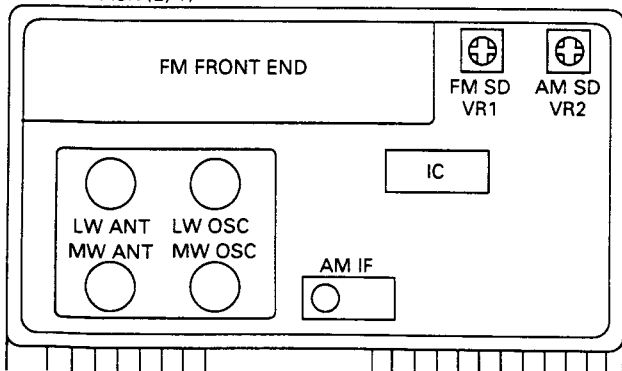
ADJUSTMENT

TUNER UNIT

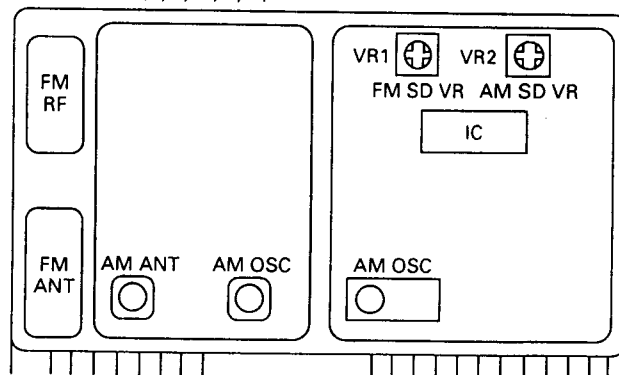
No.	Item	Input setting	Output setting	Cassette setting	Alignment point	Align for	Fig.
Set each switch as shown below, unless otherwise specified.							
FM unit Selector: FM, AUTO/MANUAL: AUTO							
Set the SG frequency on the input side to a point near the center of the dial where there is not a broadcasting frequency.							
[1]	TUNING LEVEL	92.0MHz 0 (dev), 26dBμ (75Ω ANT input)	—	92.0MHz	VR1 (FM SD VF)	Adjust to position at which TUNED lamp lights up.	
AM/MW unit Selector: AM/MW							
<1>	TUNING LEVEL	1008kHz 400Hz, 30% mod. 68dBμ (loop ant.)	—	1008kHz	VR2 (AM SD VR)	The lighting level of TUNED of AM cannot be adjusted. VR2 is used to adjust the scan stop level. Scan ( or ) and adjust VR2 so that scanning stops at the above frequency.	

Tuner pack

TUNER PACK (E, T)

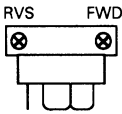


TUNER PACK (K; P, M, Y, X)



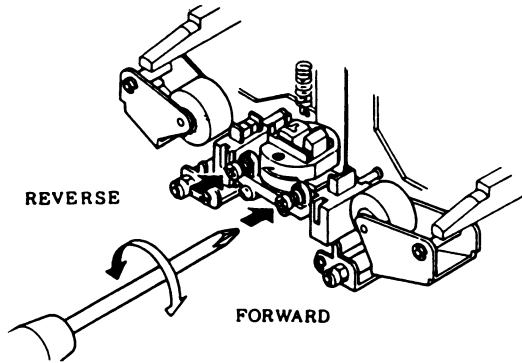
ADJUSTMENT

DECK UNIT

No.	Item	Input setting	Output setting	Cassette setting	Alignment point	Align for	Fig.
Set each switch as shown below, unless otherwise specified. TAPE: NORMAL, DOLBY: OFF, EX, BASS, LOUD, ASLC: OFF							
1. Cassette mechanism (Adjustment of recording head)							
[1]	DEMAGNETIZATION and the CLEANING	-	-	Demagnetization : POWER OFF Cleaning : PLAY	Recording head Erase head Capstan Pinch roller	Demagnetize the recording and playback head with the head eraser. Clean the recording and playback head, erase head, capstan, and pinch roller with a cotton bud soaked in alcohol.	
[2]	AZIMUTH of RECORDING and PLAYBACK HEAD	SCC-1727 TCC-153 MTT-114 10kHz, -10dB	(B)	PLAY	Azimuth adjustment 	Set output to maximum, so adjust the azimuth adjustment screw that Lissajous' wave in oscilloscope becomes a straight line near 45°.	
2. PC adjustment							
<1>	TAPE SPEED	SCC-110 MTT-111	(B)	PLAY	Main motor	Frequency must be 3kHz at center of tape.	
<2>	Playback level	SCC-130, MTT-150 400Hz, 0dB	(B)	PLAY	RV205 (L) RV206 (R)	So adjust that playback output will be 400Hz, 120mV +1.5dB	
<3>	BIAS CURRENT	(A) 1kHz, -25dB 10kHz, -25dB	(B)	REC/PLAY	RV201 (L) RV202 (R)	Record 1kHz and 10kHz alternately, then adjust bias control knob so that playback levels of them will be the same.	
<4>	RECORDING LEVEL	(A) 1kHz, -25dB	(B)	REC/PLAY	RV203 (L) RV204 (R)	So adjust that playback output will be 24.5mV ± 1.0dB.	

NOTE
(A)AUX input : 50mV/1kHz
(B)SP out PCB : L453 (Lch), L454 (Rch) to GND, Main VR is max./8mV ± 1.5dB

Azimuth adjustment



ADJUSTMENT

CD UNIT

TE offset adjustment

Adjust the voltage between the TE terminal and VREF terminal of the CD board to ±50 mV.
At this time, use the test mode and adjust with RV301.
① Turn off the power (In standby state).
② Pushing and holding the FF/RWD key, push the "MULTI" key.
③ Push the CD PLAY key.
④ Push the CD STOP key.
⑤ Adjust the TE offset under this condition.

Indication of errors which occur during general operation of CD

Error in changer mechanism

If a mechanism error occurs, "E-XX" is indicated and operation in CD source becomes impossible. In this case, turn off the power temporarily, then turn on again to reset the error.

Explanation of error

"E-01"Pickup cannot move down.
Supplement : A pick Up/Down trouble occurs at PLAY position.
"E-02"Detection trouble for Tray store position
Supplement : A disc is left at PLAY position when stored.

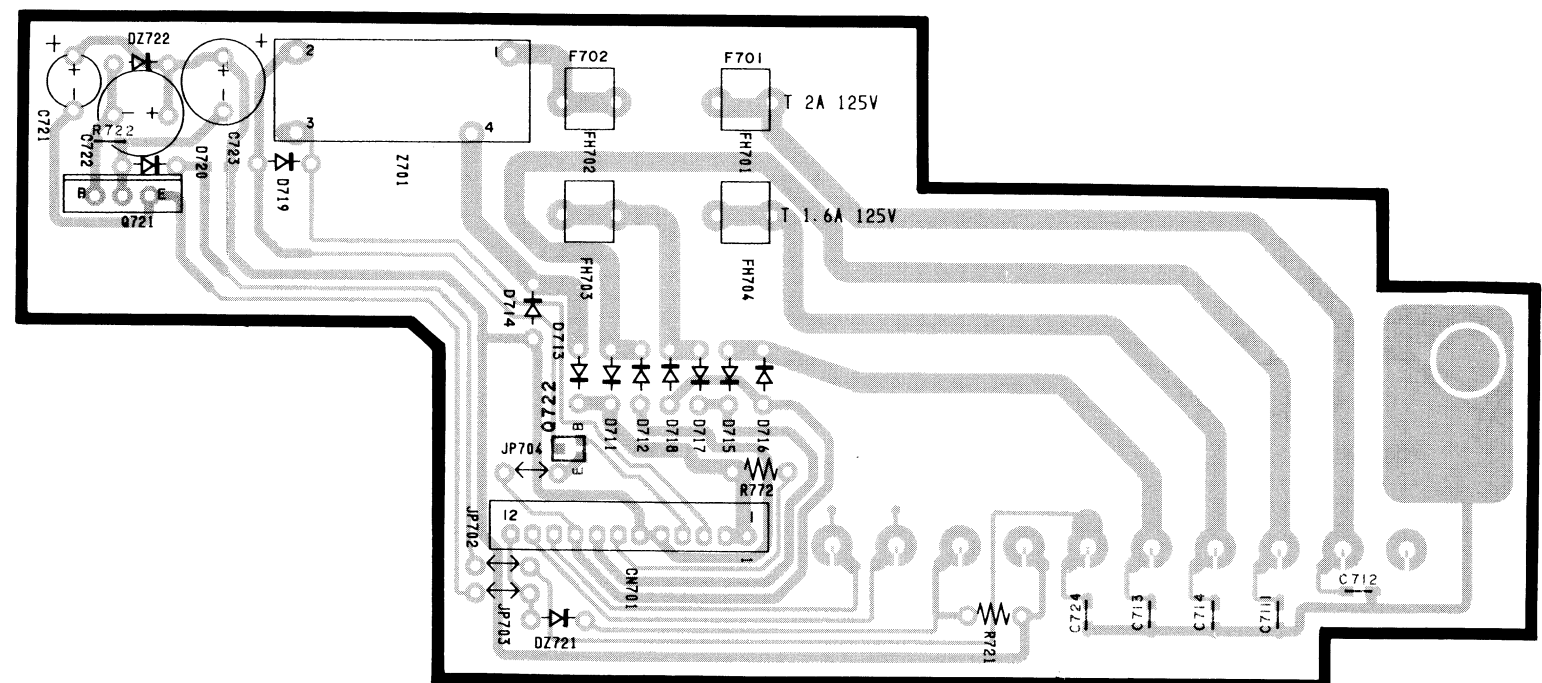
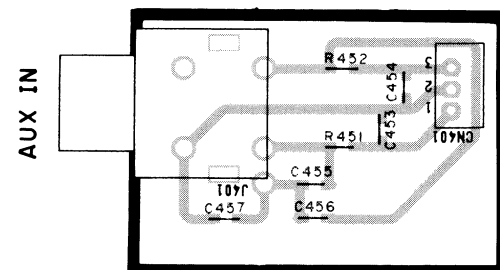
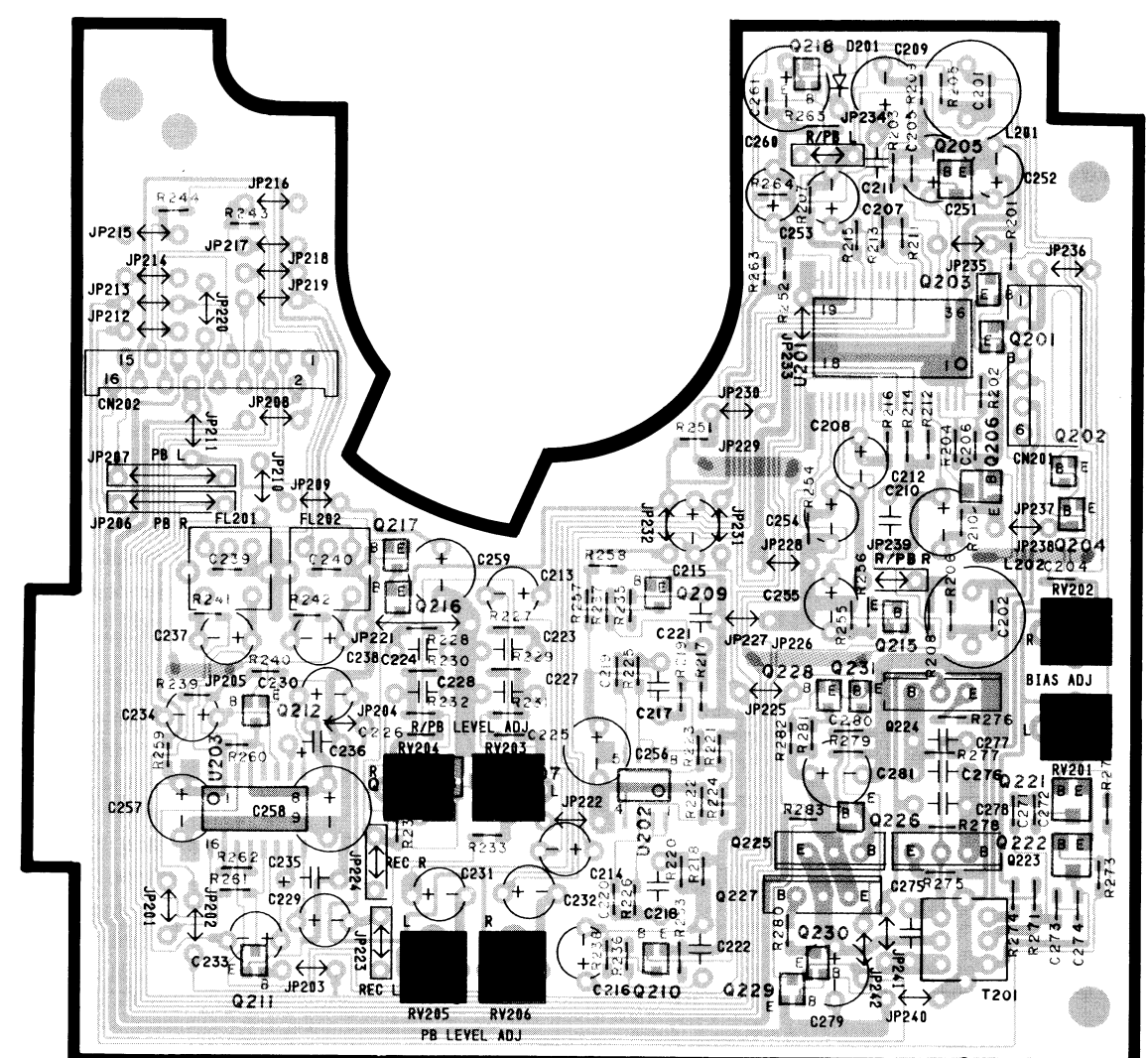
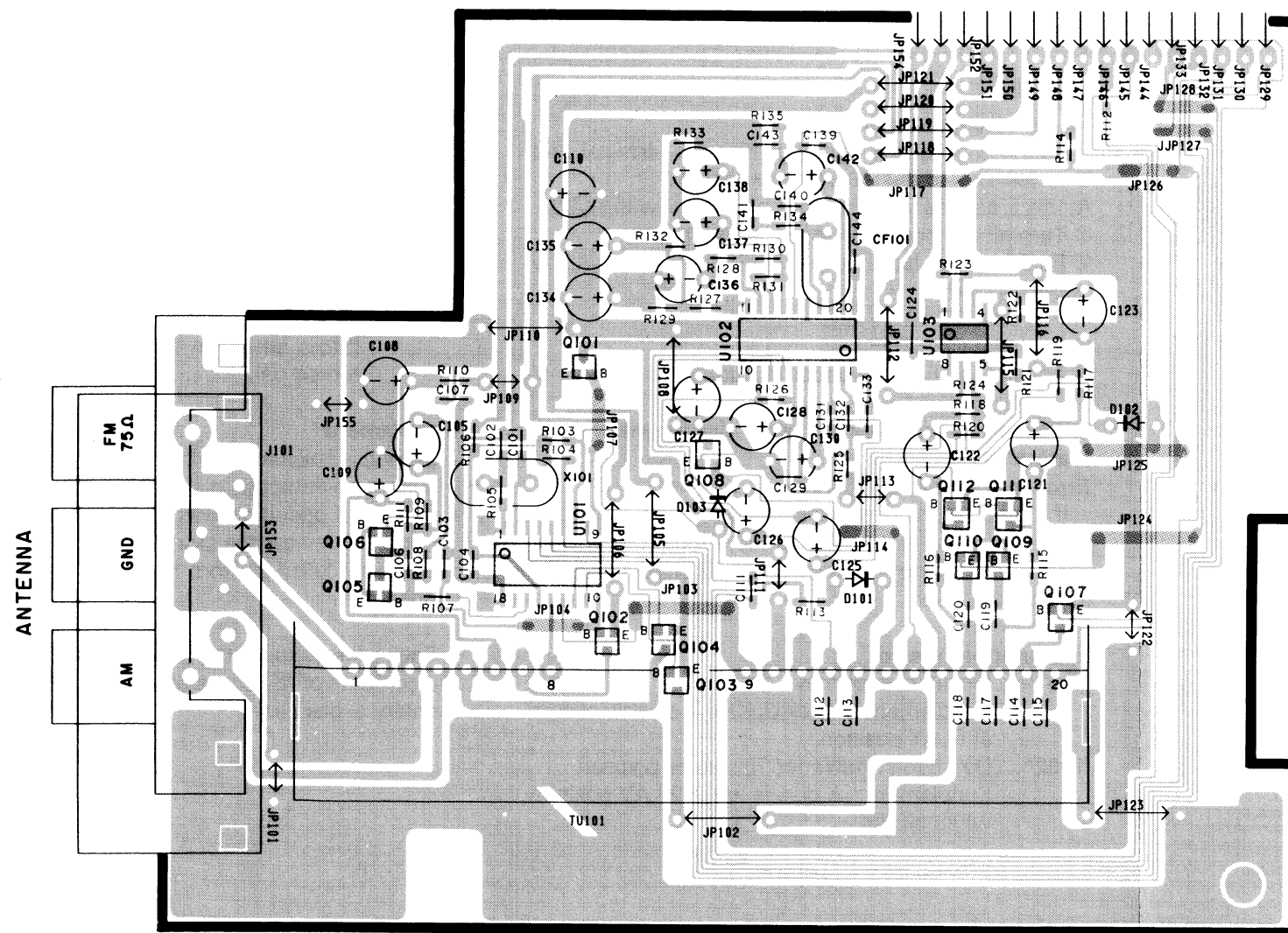
"E-03" Detection trouble for Home position.
"E-04" Stocker cannot be positioned.
"E-05" Positioning trouble for PLAY.
"E-06" Chucking trouble of disc.
"E-07" Detection trouble for opening tray.
Supplement : Including pickup trouble during tray opening operation.
"E-08" Initial operation trouble
(Store detection trouble just after power is turned on).

Supplement

- Storing is finished but slit hole of the stocker counter cannot be detected at stocker Up/Down operation.
- The initial operation was executed, but the claw is not brought near the store position.
- The claw failed in store five times during the initial operation.

Each error contains the supplement. To be concrete, the contents of "E-08" are three troubles in the supplementary explanation.

PC BOARD (COMPONENT SIDE VIEW)



1

2

3

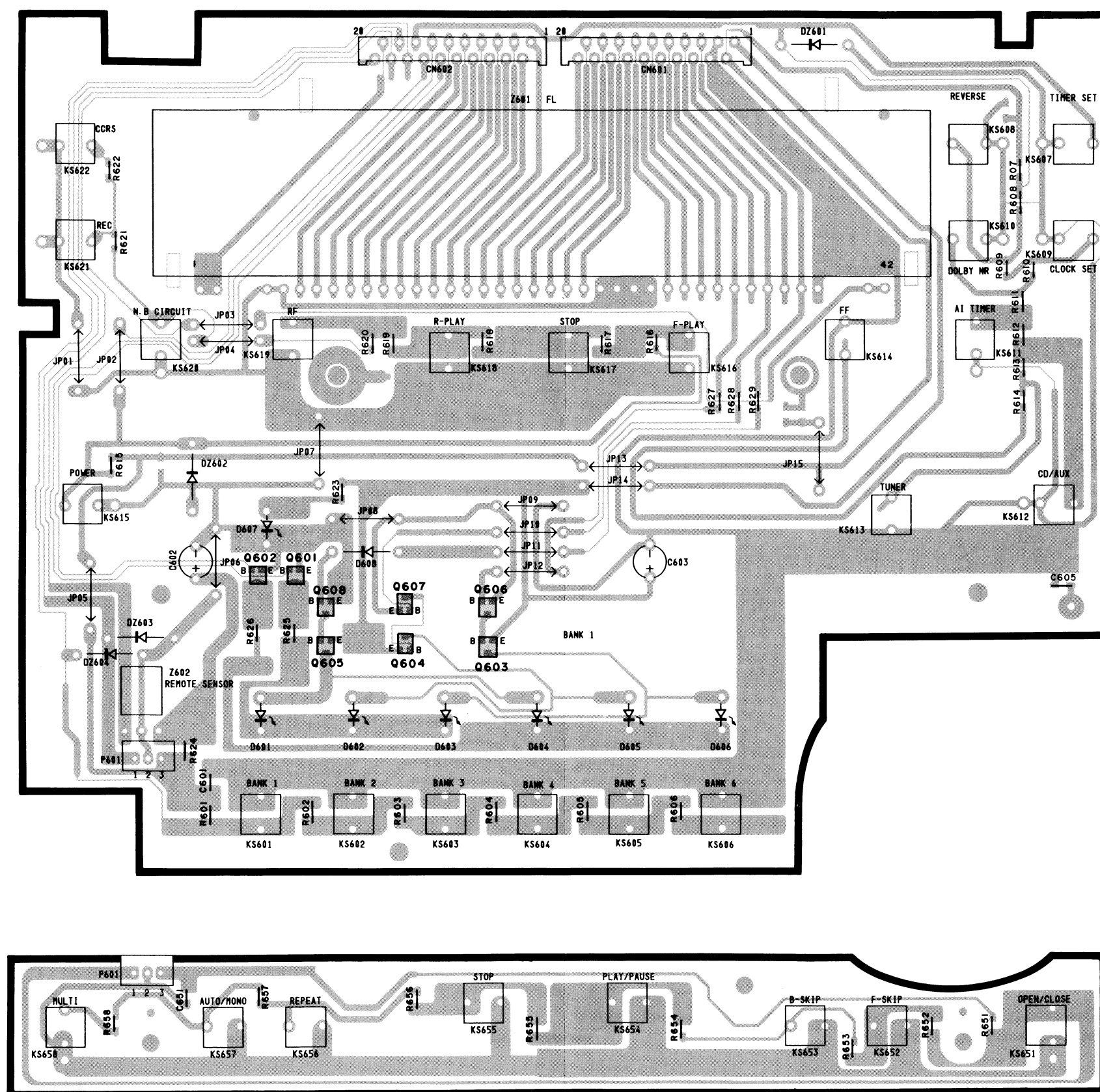
4

5

6

7

PC BOARD (COMPONENT SIDE VIEW)



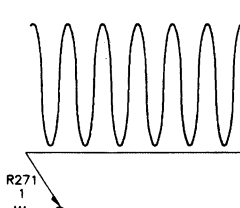
Refer to the schematic diagram for the values of resistors and capacitors.

CASSETTE MECHA ASS'Y

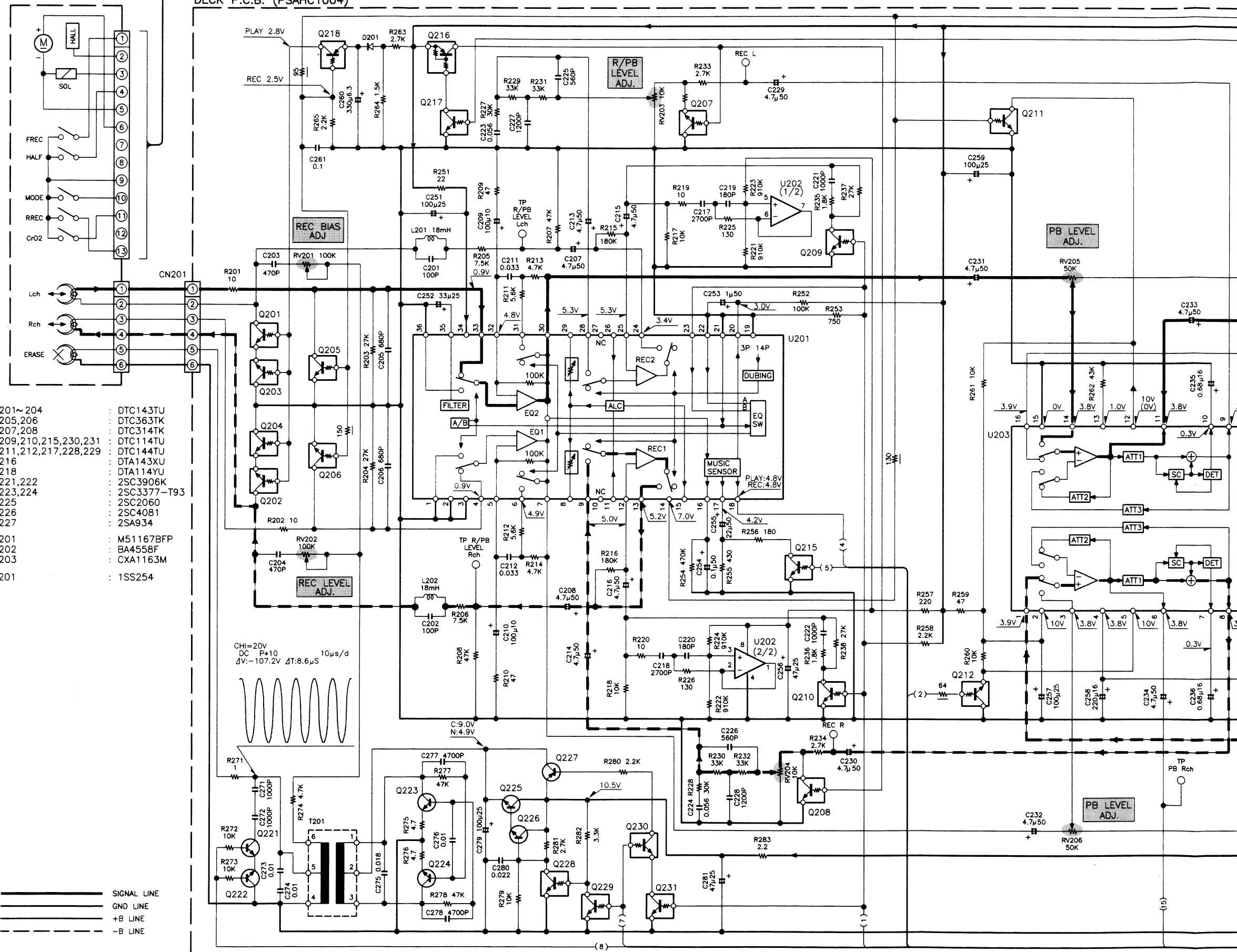
DECK P.C.B. (PSAHC1004)

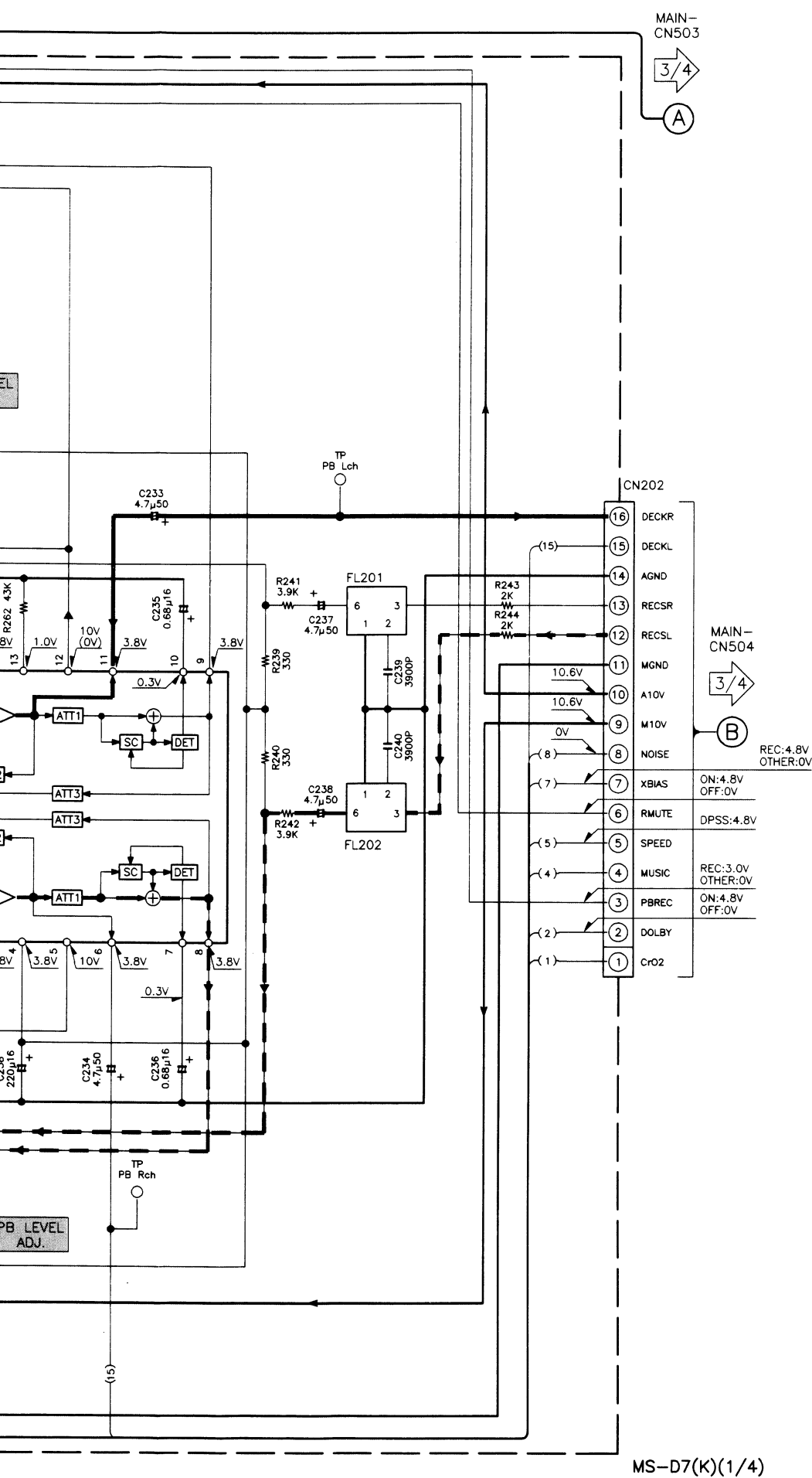
Q201~204	: DTC143TU
Q205,206	: DTC363TK
Q207,208	: DTC314TK
Q209,210,215,230,231	: DTC114TU
Q211,212,217,228,229	: DTC144TU
Q216	: DTA143XU
Q218	: DTA114YU
Q221,222	: 2SC3906K
Q223,224	: 2SC3377-T93
Q225	: 2SC2060
Q226	: 2SC4081
Q227	: 2SA934
U201	: MS1167BFP
U202	: BA4558F
U203	: CXA1163M
D201	: 1SS254

CHI=20V
DC P=10
 $\Delta V: -107.2V$ $\Delta T: 8.6\mu S$

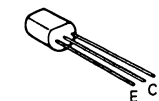


— SIGNAL LINE
— GND LINE
— +B LINE
--- -B LINE

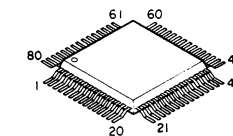




2SA934
2SC2060



BA4558F
BA6208F-T1



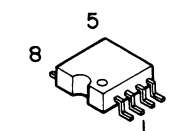
2SB1181F5



DTA114EU DTC114YU
DTA114YU DTC143TU
DTA123JU DTC143XU
DTA143XU DTC144TU
DTA144EU 2SA1576
DTC114TU 2SC4081



MN66271RA



CAUTION:

For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).

⚠ Indicates safety critical components.

To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

- DC voltages are as measured with a high impedance voltmeter with a cassette loaded at playback mode. Values may vary slightly due to variations between individual instruments and/or units. Bias circuit DC voltages are as measured while in the record mode.

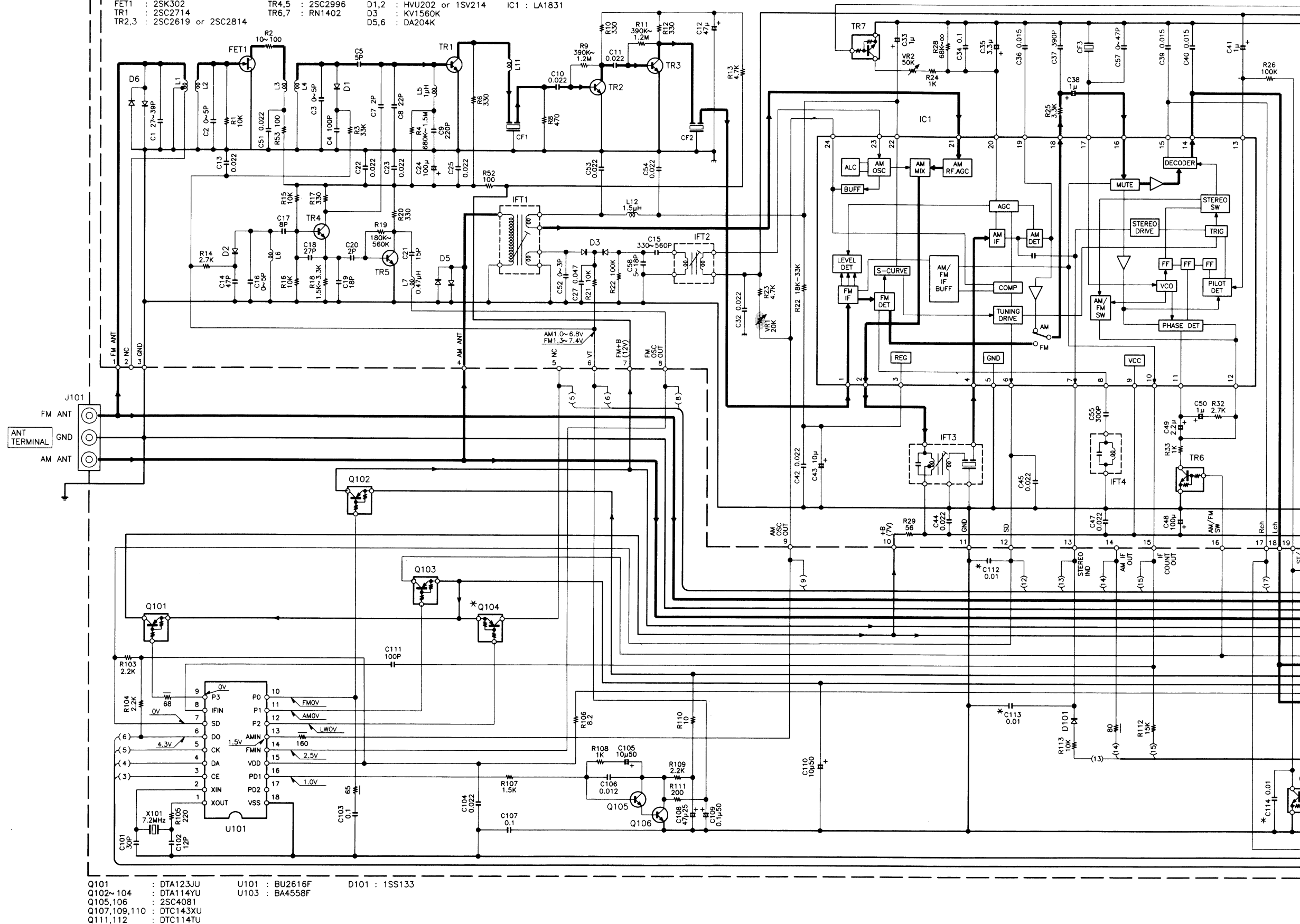
Y09-2600-21

MS-D7
KENWOOD

TUNER P.C.B. (PSTUC1011)

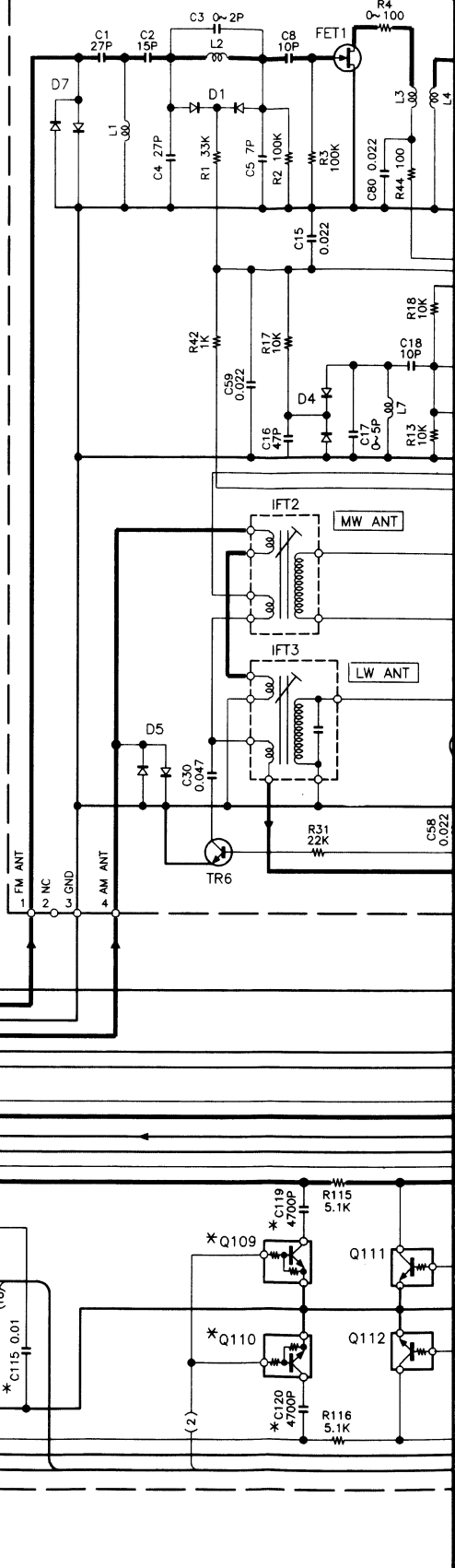
TUNER PACK TU101 (M,Y,X) TYPE

FET1 : 2SK302 TR4,5 : 2SC2996 D1,2 : HVU202 or 1SV214 IC1 : LA1831
TR1 : 2SC2714 TR6,7 : RN1402 D3 : KV1560K
TR2,3 : 2SC2619 or 2SC2814 D5,6 : DA204K



TUNER PACK TU101 (E,T) TYPE

FET1 : 2SK208 TR4 : 2SC2888
TR1 : 2SC2714 TR5 : 2SC2715
TR2,3 : 2SC2619 or 2SC2814

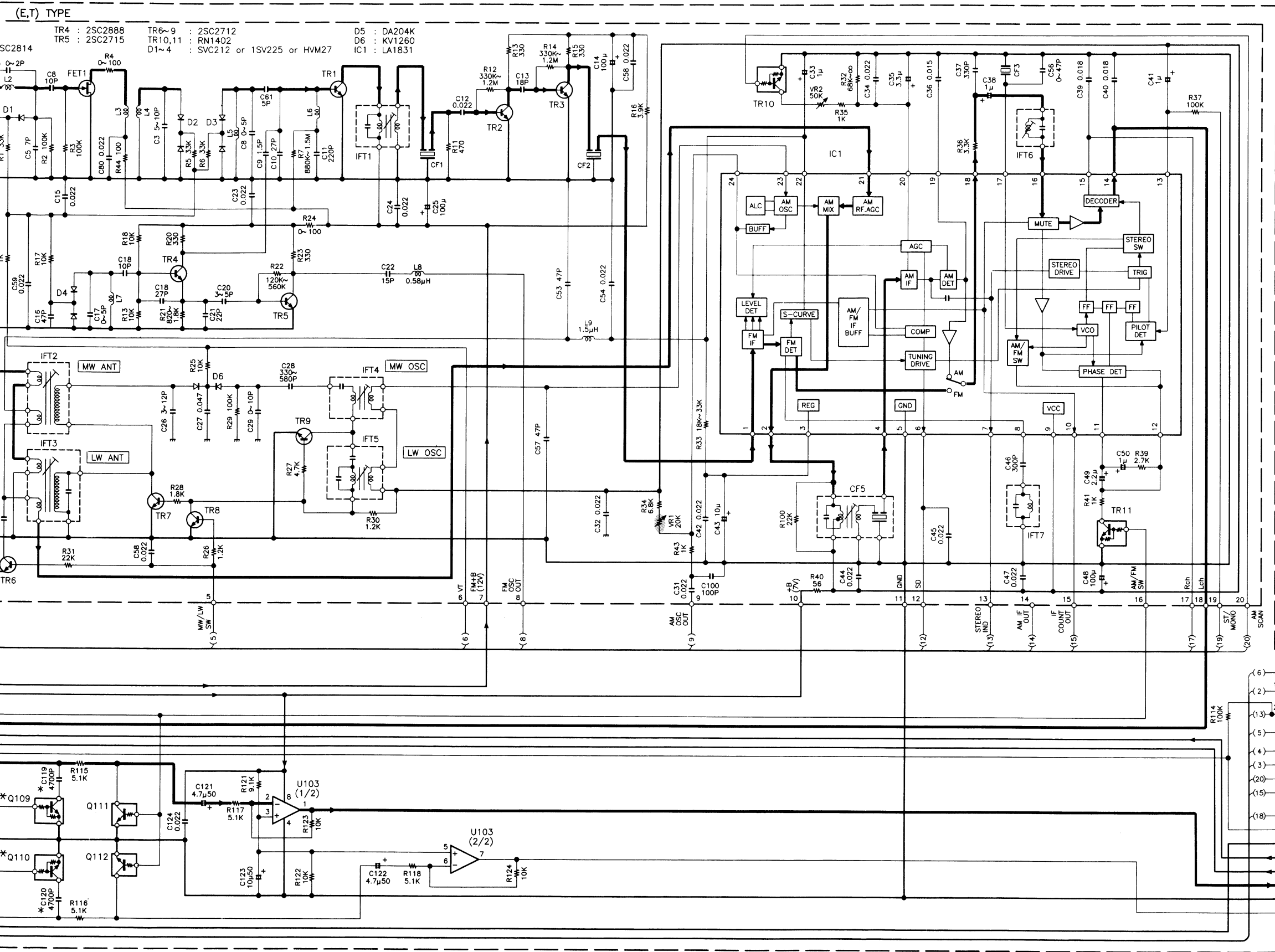


CAUTION :

For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).

△ Indicates safety critical components.

To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.



DESTINATION	ABB.	C112~115	C119,120	Q104	Q109,110,112
COUNTRY	ABB.				
GENERAL MARKET	M	NO	YES	NO	YES
PX	Y				
AUSTRALIA	X	NO	NO	NO	NO
EUROPE	E	YES	NO	YES	NO
U.K.	T	NO	NO	YES	NO

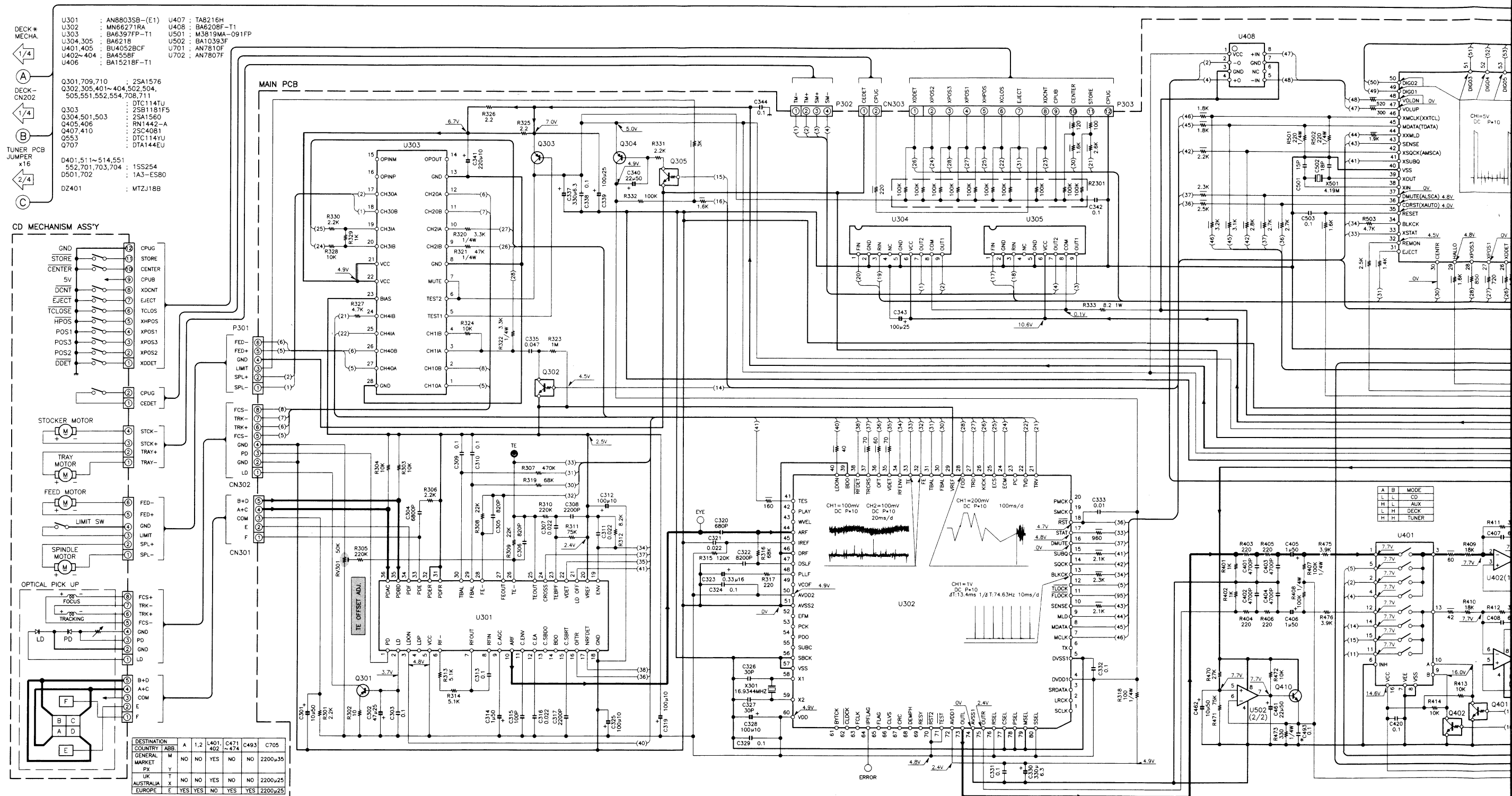
— SIGNAL LINE
— GND LINE
— +B LINE

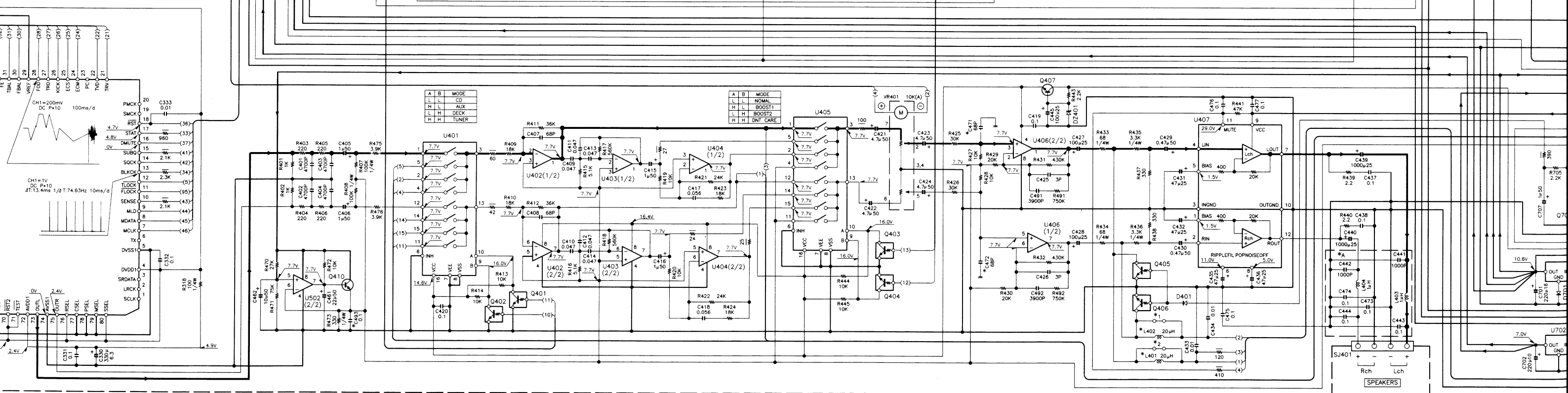
MS-D7(K) (2/4)

• DC voltages are as measured with a high impedance voltmeter during reception of an FM broadcast signal (with a signal strength of 60dB at the ANT terminal). Values may vary slightly due to variations between individual instruments and/or units. Values in parentheses are as measured during reception of an AM broadcast signal (with a signal strength of 60dB at the ANT terminal).

Y09-2600-21

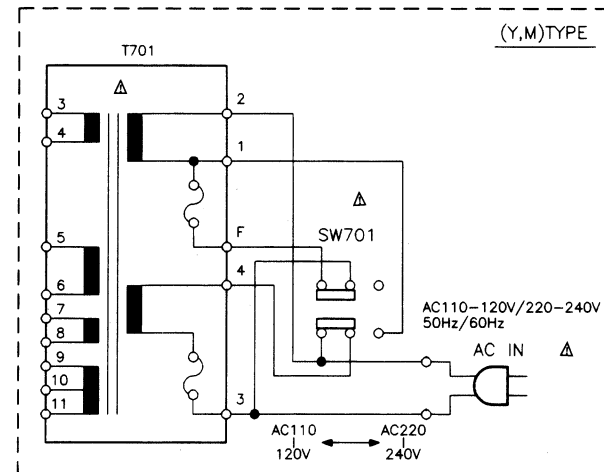




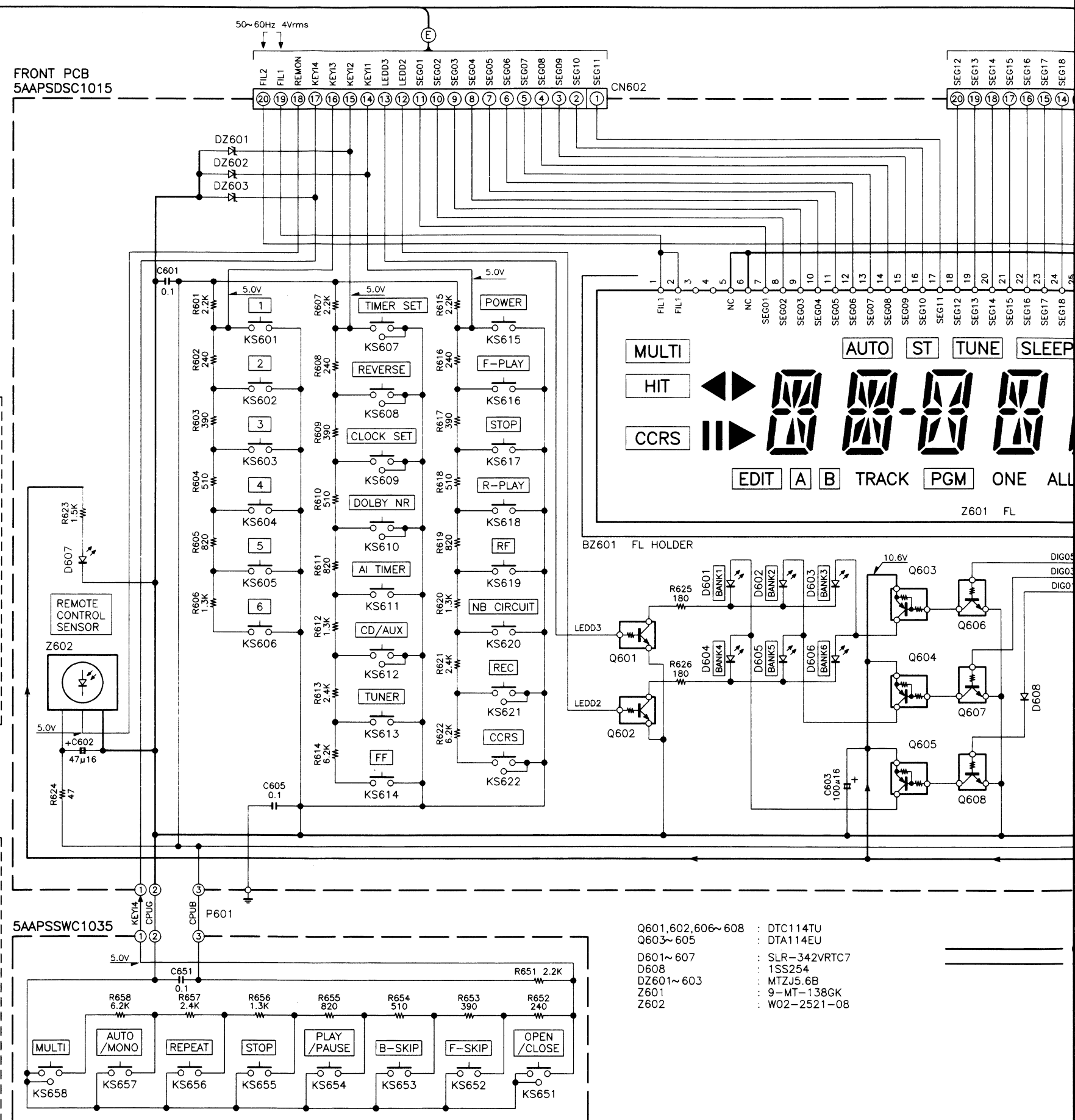


- DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments and or units.

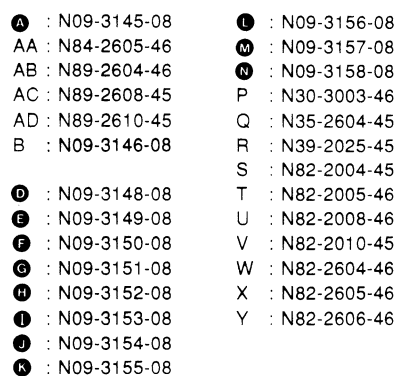




DESTINATION		C455, C456
COUNTRY	ABB.	
AUSTRALIA	X	NO
U.K.	T	
EUROPE	E	YES
GENERAL MARKET	M	NO
PX	Y	



EXPLODED VIEW (MECHANISM) : CD



Parts with the exploded numbers larger than 700 are not supplied.

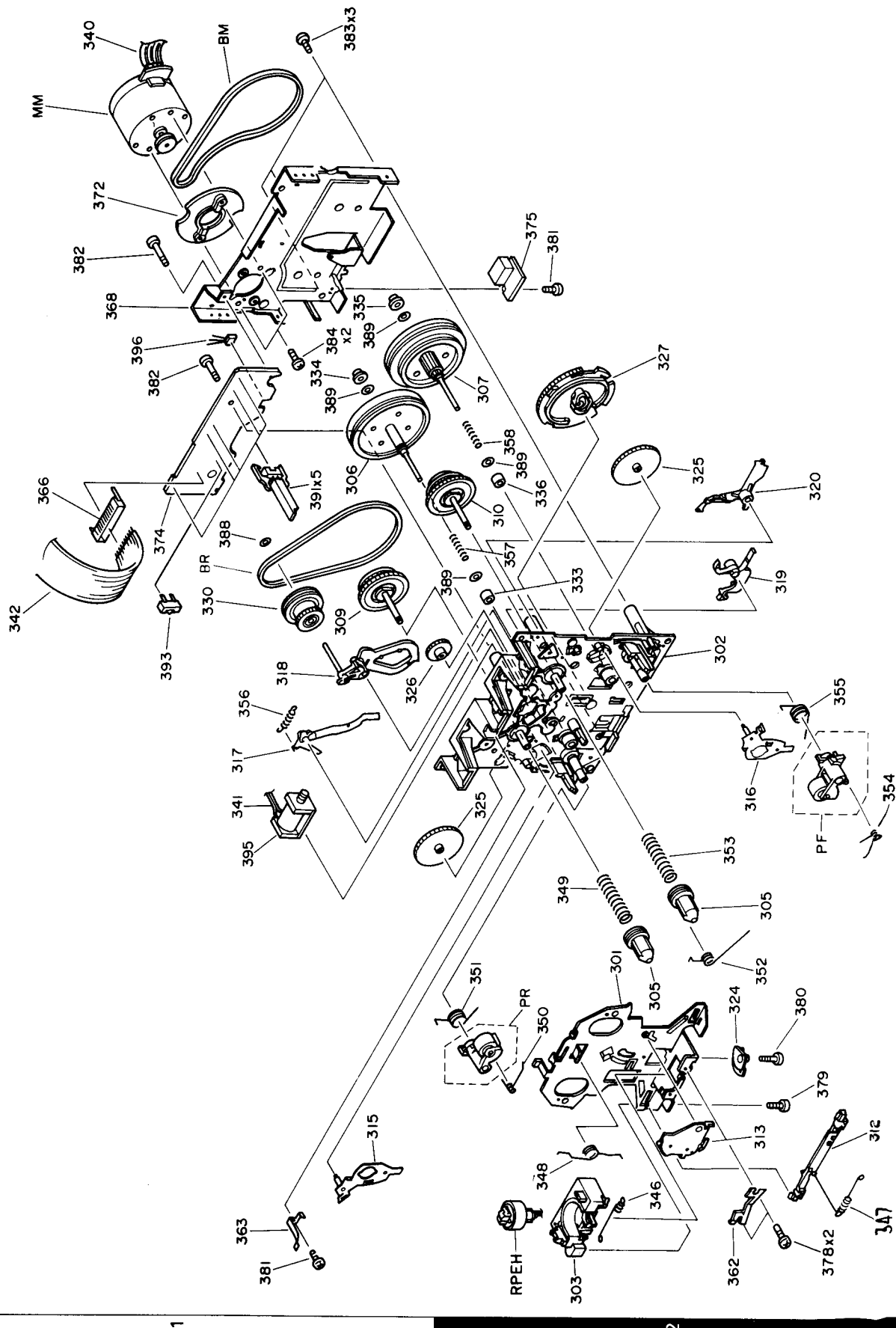
EXPLODED VIEW (MECHANISM) : CD



Parts with the exploded numbers larger than 700 are not supplied. 53

MS-D7

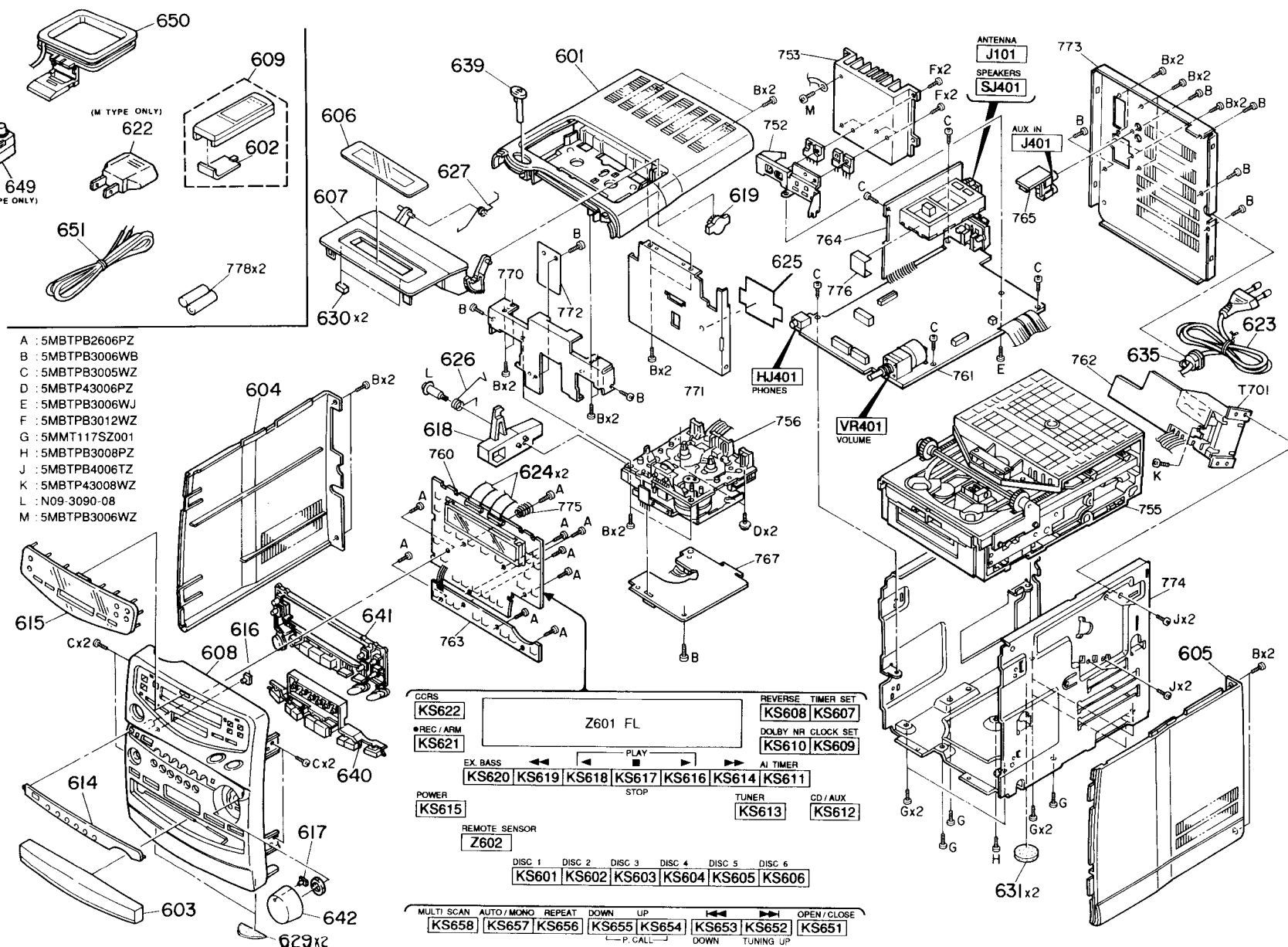
EXPLODED VIEW (MECHANISM) : DECK



Parts with the exploded numbers larger than 700 are not supplied.

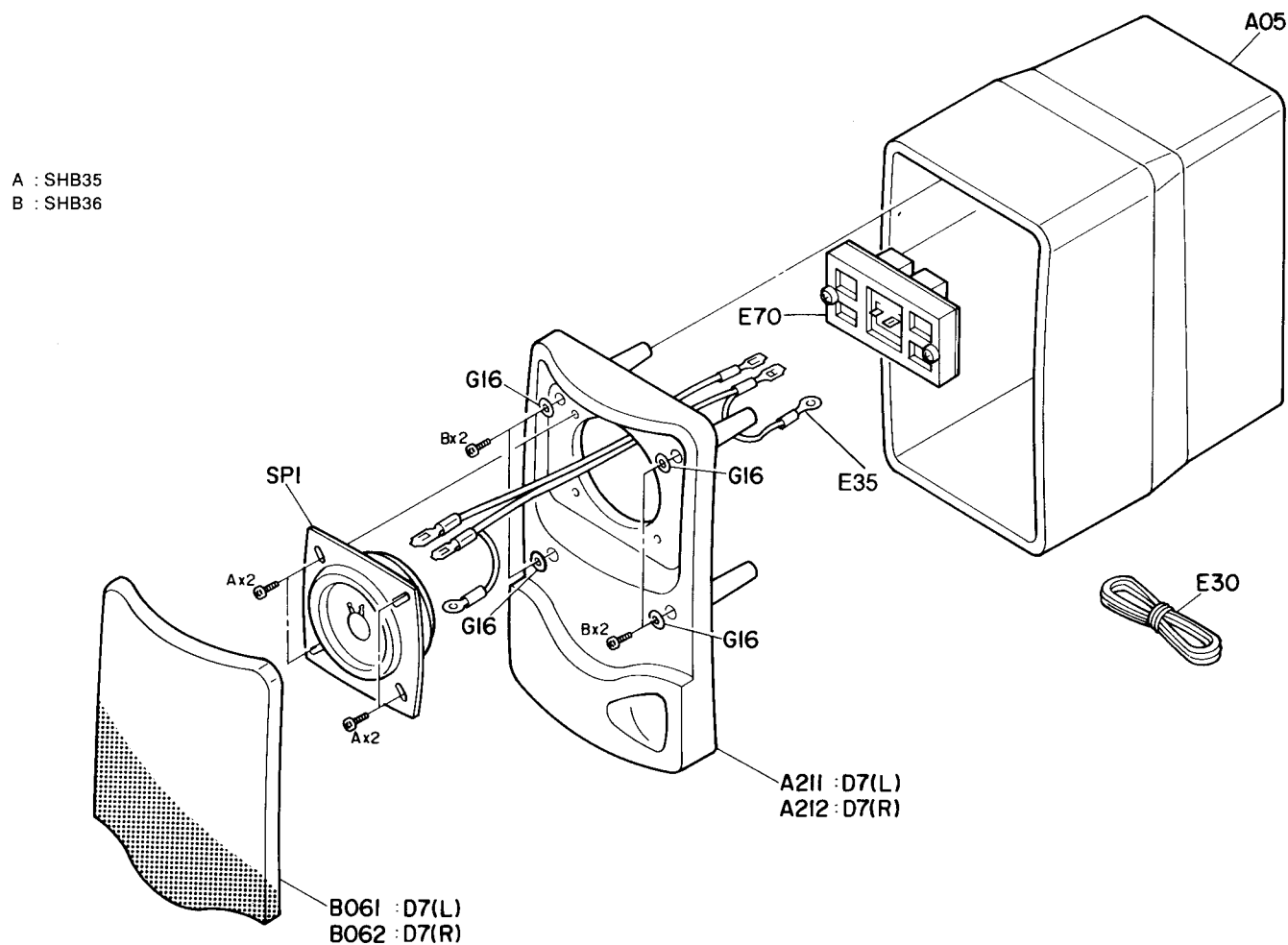
EXPLODED VIEW (UNIT)

MS-D7



MS-D7

EXPLODED VIEW (UNIT) : SPEAKER



Parts with the exploded numbers larger than 700 are not supplied.

* New Parts

Parts without **Parts No.** are not supplied.Les articles non mentionnés dans le **Parts No.** ne sont pas fournis.Teile ohne **Parts No.** werden nicht geliefert.

1

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向	Re- marks 備考
MS-D7						
601	1I	*	A02-1255-08	CASE	ETXY	
602	1H	*	A09-0172-08	BATTERY COVER		
603	2H	*	A21-1872-08	DRESS PANEL		
604	1H	*	A50-0377-08	SIDE PANEL L		
605	2J	*	A50-0378-08	SIDE PANEL R		
606	1H	*	A53-1884-08	CASSETTE LID		
607	1H	*	A53-1885-08	CASSETTE HOLDER		
608	2H	*	A60-0748-08	FRONT PANEL		
609	1H	*	A70-1023-08	REMOTE CONTROLLER		
614	2H	*	B07-2285-08	ESCUTCHEON		
615	2H	*	B10-2120-08	FRONT GLASS		
616	2H	*	B12-0259-08	DISPLAY WINDOW		
617	2H	*	B12-0260-08	DISPLAY WINDOW		
-	-	-	B46-0100-30	WARRANTY CARD		
-	-	*	B60-1884-00	INSTRUCTION MANUAL(ENGLISH)		
-	-	*	B60-1885-00	INSTRUCTION MANUAL(FRENCH)		
-	-	*	B60-1886-00	INSTRUCTION MANUAL(GERMAN)		
-	-	*	B60-1887-00	INSTRUCTION MANUAL(SPANISH)		
-	-	*	B60-1888-00	INSTRUCTION MANUAL(CHINESE)		
618	1I	*	D10-3577-08	LEVER	MY XT EM	
619	1I	*	D39-0320-08	DAMPER		
622	1H	*	E03-0115-05	AC PLUG ADAPTER		
623	1J	*	E30-0812-05	AC POWER CORD		
623	1J	*	E30-2714-05	AC POWER CORD		
623	1J	*	E30-2718-05	AC POWER CORD		
623	1J	*	E30-2803-08	AC POWER CORD		
624	1I	*	5EWC20150BD1001	FLAT CABLE CONNECTOR		
625	1I	*	5MVS646VF001	BARRIER		
626	1I	*	G01-3797-08	COMPRESSION SPRING		
627	1I	*	G01-3796-08	TORSION COIL SPRING	ETMX Y	
629	2H	*	G10-0418-08	CUSHION(FRONT)		
630	1H	*	G11-2230-08	CUSHION		
631	2J	*	G13-0511-08	CUSHION(REAR)		
-	-	*	H10-7056-08	POLYSTYRENE FOAMED FIXTURE		
-	-	*	H10-7057-08	POLYSTYRENE FOAMED FIXTURE		
-	-	*	H21-0317-08	PROTECTION SHEET		
-	-	*	H25-1550-08	POLY BAG		
-	-	*	H50-1323-08	ITEM CARTON CASE		
635	1J	*	J42-0301-08	POWER CORD BUSHING		
635	1J	*	J42-0302-08	POWER CORD BUSHING	E MY TX	
639	1I	*	K29-6157-08	KNOB(CASSETTE OPEN)		
640	2H	*	K29-6158-08	KNOB		
641	2H	*	K29-6159-08	KNOB		
642	2H	*	K29-6160-08	KNOB(VOLUME)		
T701	1J	*	L07-1943-08	POWER TRANSFORMER	E MY TX	
T701	1J	*	L07-1967-08	POWER TRANSFORMER		
T701	1J	*	L07-1968-08	POWER TRANSFORMER		
A	*	*	5MBTPB2606PZ	TAPPING SCREW		

L: Scandinavia K: USA P: Canada R: Mexico

Y: PX (Far East, Hawaii) T: England E: Europe G: Germany

Y: AAFES (Europe) X: Australia M: Other Areas

△ indicates safety critical components.

* New Parts

Parts without **Parts No.** are not supplied.Les articles non mentionnés dans le **Parts No.** ne sont pas fournis.Teile ohne **Parts No.** werden nicht geliefert.

2

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部 品 番 号	Description 部 品 名 / 規 格	Desti- nation 仕 向	Re- marks 備考
B C D G H		*	5MBTPB3006WB 5MBTPB3005WZ 5MBTP43006PZ 5MMT117SZ001 5MBTPB3008PZ	BIND TAP TIGHT SCREW BIND TAP TIGHT SCREW BIND TAP TIGHT SCREW MECHANISM SCREW BIND TAP TIGHT SCREW		
J K L		*	5MBTPB4006TZ 5MBTP43008WZ N09-3090-08	BIND TAP TIGHT SCREW TAP TIGHT SCREW SCREW		
649	1H		T90-0194-08	ANTENNA ADAPTOR		ET
650	1H		T90-0200-08	LOOP ANTENNA		
651	1H		T90-0189-08	ANTENNA CABLE		ET
651	1H		5AACZZ985GEA	ANTENNA CABLE		YMX
ELECTRIC CIRCUIT						
D601-607		*	SLR-342VRTC7	LED		
C101			CC73FSL1H300J	CHIP C 30PF	J	
C102			CC73FSL1H120J	CHIP C 12PF	J	
C103			CK73FB1H104K	CHIP C 0.10UF	K	
C104			CK73FB1H223K	CHIP C 0.022UF	K	
C105			CE04KW1H100M	ELECTRØ 10UF	50WV	
C106			CK73FB1H123K	CHIP C 0.012UF	K	
C107			CK73FB1H104K	CHIP C 0.10UF	K	
C108			CE04KW1E470M	ELECTRØ 47UF	25WV	
C109			CE04KW1H0R1M	ELECTRØ 0.1UF	50WV	
C110			CE04KW1H100M	ELECTRØ 10UF	50WV	
C111			CC73FSL1H101J	CHIP C 100PF	J	
C112-115			CK73FB1H103K	CHIP C 0.010UF	K	
C119, 120			CK73GB1H472K	CHIP C 4700PF	K	
C121, 122			CE04KW1H4R7M	ELECTRØ 4.7UF	50WV	
C123			CE04KW1H100M	ELECTRØ 10UF	50WV	
C124			CK73FB1H223K	CHIP C 0.022UF	K	
C201, 202			CC73FSL1H101J	CHIP C 100PF	J	
C203, 204			CK73FB1H471K	CHIP C 470PF	K	
C205, 206			CK73FB1H681K	CHIP C 680PF	K	
C207, 208			CE04KW1H4R7M	ELECTRØ 4.7UF	50WV	
C209, 210			CE04KW1A101M	ELECTRØ 100UF	10WV	
C211, 212			CF92FV1H333J	MF-C 0.033UF	J	
C213-216			CE04KW1H4R7M	ELECTRØ 4.7UF	50WV	
C217, 218			CF92FV1H272J	MF-C 2700PF	J	
C219, 220			CC73FSL1H181J	CHIP C 180PF	J	
C221, 222			CF92FV1H102J	MF-C 1000PF	J	
C223, 224			CF92FV1H563J	MF-C 0.056UF	J	
C225, 226			CK73FB1H561K	CHIP C 560PF	K	
C227, 228			CF92FV1H122J	MF-C 1200PF	J	
C229-234			CE04KW1H4R7M	ELECTRØ 4.7UF	50WV	
C235, 236			C90-3555-08	TANTAL	0.68UF	16WV
C237, 238			CE04KW1H4R7M	ELECTRØ 4.7UF	50WV	
C239, 240			CK73FB1H392K	CHIP C 3900PF	K	
C251			CE04KW1E101M	ELECTRØ 100UF	25WV	
C252			CE04KW1E330M	ELECTRØ 33UF	25WV	
C253			CE04KW1H010M	ELECTRØ 1.0UF	50WV	
C254			CE04KW1H0R1M	ELECTRØ 0.1UF	50WV	
C255			CE04KW1H220M	ELECTRØ 22UF	50WV	
C256			CE04KW1E470M	ELECTRØ 47UF	25WV	
C257			CE04KW1E101M	ELECTRØ 100UF	25WV	

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PARTS LIST

MS-D7

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3

Ref. No. 参照番号	Address 位置	New Parts	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向	Re- marks 備考
C258			CE04KW1C221M	ELECTR 220UF 16WV		
C259			CE04KW1E101M	ELECTR 100UF 25WV		
C260			CE04KW0J331M	ELECTR 330UF 6.3WV		
C261			CK73FB1H104K	CHIP C 0.10UF K		
C271, 272			CK73FB1H102K	CHIP C 1000PF K		
C273, 274			CK73FB1H103K	CHIP C 0.010UF K		
C275			CF92FV1H183J	MF-C 0.018UF J		
C276			CF92FV1H103J	MF-C 0.010UF J		
C277, 278			CF92FV1H472J	MF-C 4700PF J		
C279			CE04KW1E101M	ELECTR 100UF 25WV		
C280			CK73FB1H223K	CHIP C 0.022UF K		
C281			CE04KW1E470M	ELECTR 47UF 25WV		
C301			CE04KW1H100M	ELECTR 10UF 50WV		
C302			CE04KW1E470M	ELECTR 47UF 25WV		
C303			CK73FB1H104K	CHIP C 0.10UF K		
C304			CK73FB1H682K	CHIP C 6800PF K		
C305, 306			CK73FB1H821K	CHIP C 820PF K		
C307			CK73FB1H223K	CHIP C 0.022UF K		
C308			CK73FB1H222K	CHIP C 2200PF K		
C309, 310			CK73FB1H104K	CHIP C 0.10UF K		
C311			CK73FB1H223K	CHIP C 0.022UF K		
C312			CE04KW1A101M	ELECTR 100UF 10WV		
C313			CK73FB1H104K	CHIP C 0.10UF K		
C314			CE04KW1H010M	ELECTR 1.0UF 50WV		
C315			CC73FSL1H101J	CHIP C 100PF J		
C316			CK73FB1H223K	CHIP C 0.022UF K		
C317			CK73FB1H222K	CHIP C 2200PF K		
C319			CE04KW1A101M	ELECTR 100UF 10WV		
C320			CK73FB1H681K	CHIP C 680PF K		
C321			CK73FB1H223K	CHIP C 0.022UF K		
C322			CK73FB1H822K	CHIP C 8200PF K		
C323			C90-3558-08	TANTAL 0.33UF 16WV		
C324			CK73FB1H104K	CHIP C 0.10UF K		
C325			CE04KW1A101M	ELECTR 100UF 10WV		
C326, 327			CC73FSL1H300J	CHIP C 30PF J		
C328			CE04KW1A101M	ELECTR 100UF 10WV		
C329			CK73FB1H104K	CHIP C 0.10UF K		
C330			CE04KW0J331M	ELECTR 330UF 6.3WV		
C331, 332			CK73FB1H104K	CHIP C 0.10UF K		
C333			CK73FB1H103K	CHIP C 0.010UF K		
C335			CK73FB1H473K	CHIP C 0.047UF K		
C337			CE04KW0J331M	ELECTR 330UF 6.3WV		
C338			CK73FB1H104K	CHIP C 0.10UF K		
C339			CE04KW1E101M	ELECTR 100UF 25WV		
C340			CE04KW1H220M	ELECTR 22UF 50WV		
C341			CE04KW1A221M	ELECTR 220UF 10WV		
C342			CK73FB1H104K	CHIP C 0.10UF K		
C343			CE04KW1E101M	ELECTR 100UF 25WV		
C344			CK45FB1H104K	CERAMIC 0.10UF K		
C401-404			CK73FB1H472K	CHIP C 4700PF K		
C405, 406			CE04KW1H010M	ELECTR 1.0UF 50WV		
C407, 408			CC73FSL1H680J	CHIP C 68PF J		
C409-414			CK73FB1H473K	CHIP C 0.047UF K		
C415, 416			CE04KW1H010M	ELECTR 1.0UF 50WV		
C417, 418			CK73FB1E563K	CHIP C 0.056UF K		

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4

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C419, 420			CK73FB1H104K	CHIP C 0.10UF K		
C421-424			CE04KW1H4R7M	ELECTR 4.7UF 50WV		
C425, 426			CC73FSL1H030C	CHIP C 3.0PF C		
C427, 428			CE04KW1E101M	ELECTR 100UF 25WV		
C429, 430			CE04KW1HR47M	ELECTR 0.47UF 50WV		
C431, 432			CE04KW1E470M	ELECTR 47UF 25WV		
C433, 434			CK73FB1H103K	CHIP C 0.010UF K		
C435, 436			CE04KW1E470M	ELECTR 47UF 25WV		
C437, 438			CF93FV1H104J	MF-C 0.10UF J		
C439, 440			CE04KW1E102M	ELECTR 1000UF 25WV		
C441, 442			CK73FB1H102K	CHIP C 1000PF K	E	
C443, 444			CK73FB1H104K	CHIP C 0.10UF K	E	
C445			CE04KW1E101M	ELECTR 100UF 25WV		
C451, 452			CE04KW1H4R7M	ELECTR 4.7UF 50WV		
C453, 454			CK73FB1H102K	CHIP C 1000PF K		
C455, 456			CK73FB1H472K	CHIP C 4700PF K	E	
C457			CK73FB1H104K	CHIP C 0.10UF K		
C459, 460			CE04KW1H4R7M	ELECTR 4.7UF 50WV		
C461			CE04KW1H220M	ELECTR 22UF 50WV		
C462			CE04KW1H100M	ELECTR 10UF 50WV		
C471, 472			CC73FSL1H680J	CHIP C 68PF J	E	
C473, 474			CK73FB1H104K	CHIP C 0.10UF K	E	
C475-477			CK73FB1H104K	CHIP C 0.10UF K		
C491, 492			CK73FB1H392K	CHIP C 3900PF K		
C493			CK73FB1H104K	CHIP C 0.10UF K	E	
C501			CC73FSL1H150J	CHIP C 15PF J		
C502			CC73FSL1H180J	CHIP C 18PF J		
C503, 504			CK73FB1H104K	CHIP C 0.10UF K		
C505			CE04KW1V101M	ELECTR 100UF 35WV		
C506			CE04KW1C221M	ELECTR 220UF 16WV		
C507			CE04KW1A101M	ELECTR 100UF 10WV		
C531			CK73FB1H104K	CHIP C 0.10UF K		
C551			CE04KW1H4R7M	ELECTR 4.7UF 50WV		
C601			CK73FB1H104K	CHIP C 0.10UF K		
C602			CE04KW1C470M	ELECTR 47UF 16WV		
C603			CE04KW1C101M	ELECTR 100UF 16WV		
C605			CK73FB1H104K	CHIP C 0.10UF K		
C651			CK73FB1H104K	CHIP C 0.10UF K		
C701			CE04KW1C221M	ELECTR 220UF 16WV		
C702			CE04KW1A221M	ELECTR 220UF 10WV		
C703, 704			CE04KW1H010M	ELECTR 1.0UF 50WV		
C705			CE04KW1E222M	ELECTR 2200UF 25WV		
C706			CE04KW1V222M	ELECTR 2200UF 35WV		
C707			CE04KW1V472M	ELECTR 4700UF 35WV		
C711-714			CE04KW1H010M	ELECTR 1.0UF 50WV		
C721			CK73FB1H104K	CHIP C 0.10UF K		
C722			CE04KW1H100M	ELECTR 10UF 50WV		
C723			CE04KW1V101M	ELECTR 100UF 35WV		
C724			CE04KW1H101M	ELECTR 100UF 50WV		
CN301			CK73FB1H104K	CHIP C 0.10UF K		
CN302			5EYCS05B101**01	JUNCTION JACK		
CN303			5EYCS08B101**01	JUNCTION JACK		
CN401			5EYCS02B101**01	JUNCTION JACK		
CN701			5EYCS03B101**01	JUNCTION JACK		
			5EYCS128101**01	JUNCTION JACK		

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HJ401	1I	*	E11-0276-08	PHONE JACK	ET YXM Y	
J101	1J	*	E21-0032-08	TERMINAL (3P)		
J101	1J	*	E21-0033-08	TERMINAL (3P)		
J401	1J	*	E63-0143-08	PHONE JACK (AUX)		
SJ401	1J	*	5EYTS0410****01	TERMINAL (SPEAKER)		
F701		*	F50-0045-08	FUSE	E E	
F702			F50-0047-08	FUSE		
FH701-704			J13-0086-08	FUSE HOLDER		
FL201, 202			L79-1217-08	LC FILTER		
L201, 202			L90-0053-08	RF COIL		
L401, 402		*	L39-1334-08	COIL	MY	
L403, 404			L90-0054-08	COIL		
T201			L32-0568-08	OSC TRANSFORMER		
X101			L77-1122-05	CRYSTAL		
X301		*	L78-0630-08	CRYSTAL		
X501		*	L77-2146-08	CRYSTAL (4.194304MHz)		
E		*	5MBTPB3006WJ	SCREW		
F			5MBTPB3012WZ	SCREW		
M			5MBTPB3006WZ	SCREW		
R333			RS14KB3A0R2J	FL-PROOF RS 8.2 J 1W		
RV201, 202		*	R32-0015-08	TRIMMING POT (100K)		
RV203, 204			R32-0002-08	TRIMMING POT (10K)		
RV205, 206			R32-0003-08	TRIMMING POT (50K)		
RV301			R32-0003-08	POTENTIOMETER (50K)		
RZ301		*	R90-0943-08	COMPOSITE PARTS 100KX10		
VR401	1I	*	R31-0045-08	POTENTIOMETER		
KS601-606	2I	*	S68-0048-08	KEY SWITCH		
KS607-610	2I		S79-0016-08	KEY SWITCH		
KS611	2I	*	S68-0048-08	KEY SWITCH		
KS612	2I		S79-0016-08	KEY SWITCH		
KS613-620	2I	*	S68-0048-08	KEY SWITCH		
KS621, 622	2I		S79-0016-08	KEY SWITCH		
KS651	2I		S79-0016-08	KEY SWITCH		
KS652-657	2I	*	S68-0048-08	KEY SWITCH		
KS658	2I		S79-0016-08	KEY SWITCH		
SW701		*	S62-0052-08	SLIDE SWITCH		
Z701			S76-0009-05	RELAY		
P6U1		*	5EWP03051KB**38	PC JOINT		
D101			1SS254	DIODE		
D201			1SS254	DIODE		
D401			1SS254	DIODE		
D501			1A3-ES80	DIODE		
D511-514			1SS254	DIODE		
D551, 552			1SS254	DIODE		
D608			1SS254	DIODE		
D701			1SS254	DIODE		
D702			1A3-ES80	DIODE		
D703, 704			1SS254	DIODE		
D711-718			1SR35-200A	DIODE		
D719, 720			1A3-ES80	DIODE		
D721, 722			1SS254	DIODE		
D723, 724			1SS254	DIODE		
D725, 726			1SS254	DIODE		

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DZ601-603		*	MTZJ5.6B	ZENER DIODE	ET YM	
DZ721		*	MTZJ5.1C	ZENER DIODE		
DZ722		*	MTZJ30C	ZENER DIODE		
Q101			DTA123JU	TRANSISTOR		
Q102			DTA114YU	TRANSISTOR		
Q104			DTA114YU	TRANSISTOR	ET YM	
Q105, 106			2SC4081	TRANSISTOR		
Q107			DTC143XU	TRANSISTOR		
Q109, 110			DTC143XU	TRANSISTOR		
Q111, 112			DTC114TU	TRANSISTOR		
Q201-204			DTC143TU	TRANSISTOR		
Q205, 206			DTC363TK	TRANSISTOR		
Q207, 208			DTC314TK	TRANSISTOR		
Q209, 210			DTC114TU	TRANSISTOR		
Q211, 212			DTC144TU	TRANSISTOR		
Q215			DTC114TU	TRANSISTOR		
Q216			DTA143XU	TRANSISTOR		
Q217			DTC144TU	TRANSISTOR		
Q218			DTA114YU	TRANSISTOR		
Q221, 222			2SC3906K	TRANSISTOR		
Q223, 224		*	2SC3377-T93	TRANSISTOR		
Q225			2SC2060	TRANSISTOR		
Q226			2SC4081	TRANSISTOR		
Q227			2SA934	TRANSISTOR		
Q228, 229			DTC144TU	TRANSISTOR		
Q230, 231			DTC114TU	TRANSISTOR		
Q301			2SA1576	TRANSISTOR		
Q302			DTC114TU	TRANSISTOR		
Q303			2SB1181F5	TRANSISTOR		
Q304			2SA1560	TRANSISTOR		
Q305			DTC114TU	TRANSISTOR		
Q401-404			DTC114TU	TRANSISTOR		
Q405, 406			RN1442-A	TRANSISTOR		
Q407			2SC4081	TRANSISTOR		
Q410			2SC4081	TRANSISTOR		
Q501			2SA1560	TRANSISTOR		
Q502			DTC114TU	TRANSISTOR		
Q503			2SA1560	TRANSISTOR		
Q504, 505			DTC114TU	TRANSISTOR		
Q551, 552			DTC114TU	TRANSISTOR		
Q553			DTC114YU	TRANSISTOR		
Q554			DTC114TU	TRANSISTOR		
Q601, 602			DTC114TU	TRANSISTOR		
Q603-605			DTA114EU	TRANSISTOR		
Q606-608			DTC114TU	TRANSISTOR		
Q707			DTA144EU	TRANSISTOR		
Q708			DTC114TU	TRANSISTOR		
Q709, 710			2SA1576	TRANSISTOR		
Q711			DTC114TU	TRANSISTOR		
Q721			2SA1560	TRANSISTOR		
Q722		*	DTC114TU	TRANSISTOR		
U101			BU2616F	IC		
U103			BA4558F	IC(OP AMP X2)		
U201			MS1167BFP	IC		
U202			BA4558F	IC(OP AMP X2)		

PARTS LIST

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U203			CXA1163M	IC		
U301		*	AN8803SB-(E1)	IC		
U302			MN66271RA	IC(CD SIGNAL CONTROL IC)		
U303		*	BA6397FP-T1	IC		
U304, 305		*	BA6218	IC		
U401			BU4052BCF	IC		
U402-404			BA4558F	IC(OP AMP X2)		
U405			BU4052BCF	IC		
U406		*	BA15218F-T1	IC(OP AMP X2)		
U407			TA8216H	IC		
U408		*	BA6208F-T1	IC(MOTOR DRIVER)		
U501		*	M38197MA-091FP	IC		
U502			BA10393F	IC		
U701		*	AN7810F	IC		
U702		*	AN7807F	IC		
TU101		*	5AAUETM2U04M	TUNER ASSY	MXV	
TU101		*	5AAUETM3E04M	TUNER ASSY	ET	
Z601	2I	*	9-MT-138GK	FLOULECENT TUBE	ETMXV	
Z602	2I	*	W02-2521-08	REMOTE CONTROL RECEIVER		
CD MECHANISM						
101	3D		A10-3195-08	CHASSIS (MAIN)		
102	2B		A11-1051-08	SUB CHASSIS (SIDE R)		
103	2A		A11-1052-08	SUB CHASSIS (SIDE L)		
104	1B		A11-1047-08	SUB CHASSIS (TOP COVER)		
105	1C		A11-1054-08	SUB CHASSIS CALKED ASSY		
106	1C		A11-1055-08	SUB CHASSIS CALKED ASSY (GUIDE)		
110	2B		D10-3519-08	LEVER ASSY (CHANGE PLATE)		
111	2D		D10-3520-08	ARM ASSY (DISC LOCK)		
112	2B		D10-3510-08	LEVER (CARRIAGE OPENER)		
113	1A		D10-3522-08	SLIDER (SHUTTLE)		
114	1A		D10-3523-08	LEVER (SHUTTLE LOCK)		
117	3D		D10-3513-08	SLIDER (STOCKER CAM)		
118	2B		D10-3525-08	ARM (TRACE)		
119	1B		D10-3509-08	ARM (ASSIST)		
120	2D		D10-3527-08	ARM (CHANGE)		
121	1A		D10-3528-08	ROD (TIMING SHAFT)		
122	1A, 2A		D10-3529-08	ROD (TRAY GUIDE)		
123	3C		D10-3530-08	ROD (WORM SHAFT)		
124	1D		D10-3531-08	ROD (MAIN)		
125	1D		D10-3532-08	ROD (SUB)		
128	2C		D12-0149-08	CAM (LOW)		
129	2C		D12-0150-08	CAM (TOP)		
130	2B		D13-1660-08	GEAR (SIDE IDLER)		
131	2B		D13-1661-08	GEAR (TRAY STOPPER)		
132	1A		D13-1662-08	GEAR (TIMING)		
133	2C		D13-1663-08	GEAR (LOCK IDLER)		
134	2C		D13-1664-08	GEAR ASSY (D2-ST)		
135	2B		D13-1665-08	GEAR (CHANGE)		
136	2C		D13-1666-08	GEAR (D1-ST)		
137	2C		D13-1667-08	GEAR (D3-ST)		
138	2C		D13-1668-08	GEAR (D4-ST)		
139	2C		D13-1669-08	GEAR (D5-ST)		
140	2D		D13-1659-08	GEAR (D6P-ST)		
143	2D		D13-1672-08	GEAR (D7M-ST)		

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144	2C		D13-1673-08	GEAR (ID-ST)		
145	2B		D13-1674-08	GEAR (S-F)		
146	2B		D13-1675-08	GEAR (S-I)		
147	2B		D13-1676-08	GEAR (S-M)		
148	3B		D13-1677-08	GEAR (S-P)		
149	3C		D13-1678-08	GEAR (ST-WORM)		
150	1D		D13-1679-08	GEAR (MIDDLE)		
151	1C		D13-1680-08	GEAR (FINAL)		
152	1D		D13-1681-08	RACK (GEAR)		
155	3B		D16-0380-08	BELT (LOADING)		
156	3C		D16-0381-08	BELT (STOCKER)		
157	1A		D23-0318-08	BEARING (TRAY GUIDE L)		
158	1A		D23-0319-08	BEARING (TRAY GUIDE R)		
159	2A		D32-0345-08	STOPPER (MECHA B)		
-			D13-1662-08	GEAR		
162	2D		E35-1064-08	WIRE HARENNESS (6P)		
163	3C		E35-1065-08	WIRE HARENNESS (2P175)		
164	2A		E35-1066-08	WIRE HARENNESS (2P330)		
165	2C		E35-1067-08	WIRE HARENNESS (4P)		
166	2B		E35-1068-08	WIRE HARENNESS (2P50)		
167	2D		E35-1069-08	WIRE HARENNESS (11P)		
168	3C		E35-1070-08	WIRE HARENNESS (3P)		
169	1D, 3C		E35-1071-08	WIRE HARENNESS (5P)		
170	1D, 3C		E35-1072-08	WIRE HARENNESS (8P)		
171	2A		E35-1073-08	WIRE (WITH LUG A)		
172	2C		E35-1074-08	WIRE (WITH LUG B)		
176	2D		E40-3246-05	WIRE (B2B-PH-K-S)		
177	2D		E40-3247-05	WIRE (B3B-PH-K-S)		
178	1B		E40-3260-05	PIN ASSY (S2B-PH-K-S)		
179	2D		E40-3262-05	PIN ASSY (S4B-PH-K-S)		
180	3C		E40-3263-05	PIN ASSY (S5B-PH-K-S)		
181	1C, 2D		E40-3264-05	PIN ASSY (S6B-PH-K-S)		
182	3C		E40-3266-05	PIN ASSY (S8B-PH-K-S)		
183	2D		E40-3270-05	PIN ASSY (S12B-PH-K-S)		
190	2D		G01-3756-08	COMPRESSION SPRING (REAR)		
191	2D		G01-3757-08	COMPRESSION SPRING (FRONT)		
192	1A		G01-3758-08	TORSION SPRING (SHUTTLE LOCK)		
193	1C		G01-3759-08	TORSION SPRING (GUIDE PLATE)		
195	3D		G13-0506-08	CUSHION (8X15)		
196	2C		G13-0507-08	CUSHION (8X8)		
197	1D, 2D		G13-0508-08	CUSHION		
198	1A		G13-0509-08	CUSHION (STOP RUBBER)		
199	1A		G16-0853-08	SHEET		
201	2D		J02-1123-08	INSULATOR		
202	1B		J11-0801-08	CLAMPER (HI)		
203	1B		J11-0308-08	CLAMPER (LO)		
204	2A		J11-0802-08	WIRE CLAMPER		
205	1B		J19-3749-08	HOLDER ASSY (STOCKER)		
206	2A		J19-3744-08	HOLDER (TRAY PLATE)		
207	1B		J19-3745-08	HOLDER (TRAY R)		
208	1A		J19-3746-08	HOLDER (TRAY L)		
209	3B		J19-3747-08	HOLDER (GEAR)		
210	2D		J19-3748-08	HOLDER (GEAR PLATE)		
215	2C		J21-6228-08	MOTOR MOUNTING HARDWARE		

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216	2A		J21-6229-08	SWITCH MOUNTING HARDWARE		
220	1B, 2B		J31-0867-08	COLLAR (STÖCKER)		
221	2A		J61-0097-08	BAND		
225	1A, 2B		J99-0555-08	TRAY (CARRIAGE -KW)		
226	1A		J99-0561-08	TRAY (TOP)		
227	1A		J99-0563-08	TRAY (L)		
228	1A		J99-0565-08	TRAY (R)		
A	2A		N09-3145-08	SCREW (CHANGE PLATE)		
AA	2A		N84-2605-46	TAP TIGHT SCREW (M2.6X5)		
AB	3A		N89-2604-46	TAP TIGHT SCREW (M2.6X4)		
AC	2A, 3A		N89-2608-45	TAP TIGHT SCREW (M6X8)		
AD	2A, 3B		N89-2610-45	TAP TIGHT SCREW (M2.6X10)		
B	2D		N09-3146-08	SCREW (STÖCKER CAM)		
C	3A		N09-3147-08	SCREW (MECHA HOLDER)		
D	1C		N09-3148-08	SCREW (T.U ASSY)		
E	2D		N09-3149-08	SCREW (INSULATOR)		
F	2C		N09-3150-08	SCREW (M3X14)		
G	1A, 1B		N09-3151-08	SCREW (M2.6X11)		
H	2C		N09-3152-08	SCREW (M2X8)		
I	2D		N09-3153-08	SCREW (M1.7X4)		
J	2C		N09-3154-08	SCREW (M1.7X5)		
K	3C		N09-3155-08	SCREW (M1.7X8)		
L	3B		N09-3156-08	SCREW (M2X4W)		
M	1D		N09-3157-08	SCREW (M2X5)		
N	1D		N09-3158-08	SCREW (M2.6X6)		
P	2C		N30-3003-46	SCREW (M3X3)		
Q	2B, 2C		N35-2604-45	SCREW (M2.6X4)		
R	1D		N39-2025-45	SCREW (M2X2.5)		
S	1A		N82-2004-45	SCREW (M2X4)		
T	2A, 2B		N82-2005-46	SCREW (M2X5)		
U	1B, 2D		N82-2008-46	SCREW (M2X8)		
V	3B		N82-2010-45	SCREW (M2X10)		
W	3D		N82-2604-46	SCREW (M2.6X4)		
X	2C, 3C		N82-2605-46	SCREW (M2.6X5)		
Y	2A, 1B		N82-2606-46	SCREW (M2.6X6)		
Z	3A		N82-3010-46	SCREW (M3X10)		
231	2B		S64-0016-08	LEVER SW (STORE)		
232	2C		S64-0017-08	LEVER SW (CAM POS)		
233	3C		S64-0018-08	LEVER SW (HOME POS)		
234	2A		S64-0019-08	LEVER SW (OPEN/CLOSE)		
235	1B		S64-0020-08	LEVER SW (OVER DISC)		
236	1C		S74-0048-08	LEAF SW (STL)		
240	3C		T95-0137-08	PHOTO REFLECTOR (DISC)		
241	3D		T95-0138-08	PHOTO INTERRUPTER (STÖCKER POS)		
242	3D		T95-0139-08	PHOTO INTERRUPTER (PLAY POS)		
243	1B		T99-0560-08	MAGNET		
DM	1D		A11-1050-08	SUB CHASSIS ASSY (DISC)		
FM	1C		T42-0700-08	MOTOR ASSY (FEED)		
LM	2A		T42-0699-08	MOTOR ASSY (LOADING)		
PU	1D		T25-0037-08	LASER PICKUP		
SM	3C		T42-0698-08	MOTOR ASSY (STÖCKER)		
DECK MECHANISM						
301	2E		A10-3053-08	HEAD BASE CHASSIS ASSY		

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302	2F		A10-3054-08	MAIN CHASSIS CALKED ASSY		
303	2E		A15-0083-08	HEAD FRAME		
305	2E		B09-0243-08	REEL CAP		
306	1F		D01-0169-08	FLYWHEEL ASSY L		
307	2G		D01-0155-08	FLYWHEEL ASSY R		
309	1F		D03-0401-08	REEL DISK ASSY (REVERSE)		
310	2F		D03-0402-08	REEL DISK ASSY (FORWARD)		
312	2E		D10-3394-08	HEAD LEVER		
313	2E		D10-3395-08	ASSIST ARM ASSY		
315	1E		D10-3397-08	PLAY ARM L		
316	2F		D10-3398-08	PLAY ARM R		
317	1F		D10-3399-08	REVERSE ARM		
318	1F		D10-3400-08	FORWARD ARM		
319	2F		D10-3401-08	BRAKE ARM		
320	2F		D10-3402-08	TRIGGER GEAR		
324	2E		D13-1551-08	HEAD ARM GEAR		
325	2F		D13-1552-08	PLAY GEAR		
326	1F		D13-1553-08	FAST FORWARD GEAR		
327	2G		D13-1554-08	CAM GEAR		
330	1F		D15-0352-08	FR PULLEY ASSY		
333	2F		D23-0297-08	BEARING A		
334	1G		D23-0298-08	BEARING B		
335	1G		D23-0299-08	BEARING D		
336	2F		D23-0300-08	BEARING C		
340	1G		E35-0881-08	MOTOR WIRE		
341	1F		E35-0643-08	SOLENOID WIRE		
342	1F		E35-1188-08	MECHANISM CONTROL WIRE (13P)		
346	2E		G01-3587-08	HEAD FRAME SPRING		
347	2E		G01-3588-08	HEAD LEVER SPRING		
348	2E		G01-3589-08	HEAD CHASSIS SPRING		
349	2E		G01-3590-08	REEL SPRING L		
350	2E		G01-3591-08	PINCH ROLLER SPRING L		
351	2E		G01-3592-08	PINCH ROLLER SPRING L		
352	2E		G01-3684-08	TORSION SPRING		
353	2F		G01-3594-08	REEL SPRING		
354	2F		G01-3595-08	PINCH ROLLER SPRING R		
355	2F		G01-3596-08	PINCH ROLLER SPRING R		
356	1F		G01-3685-08	REVERSE ARM SPRING		
357	2F		G01-3598-08	FLYWHEEL SPRING L		
358	2F		G01-3599-08	FLYWHEEL SPRING R		
362	2E		G02-1027-08	AZIMUTH SPRING		
363	1E		G02-1028-08	CASSETTE SPRING		
366	1E		J19-3593-08	LEAD HOLDER		
368	1F		J21-6020-08	FW HARDWARE		
372	1G		J39-0178-08	SPACER		
374	1G		J70-0442-08	PC BOARD		
375	2F		J70-0443-08	PC BOARD		
378	2E		N09-3011-08	SCREW		
379	2E		N09-3012-08	SCREW		
380	2E		N09-3013-08	SCREW		
381			N09-2789-08	SCREW		
382			N09-3015-08	SCREW		
383			N09-3016-08	SCREW		
384			N09-3017-08	SCREW		
388			N19-1334-08	WASHER		

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389			N19-1335-08	WASHER		
391	1F		S74-0034-08	LEAF SWITCH		
393	1F		S90-0115-08	MODE SWITCH		
395	1F		T94-0231-08	SOLENOID ASSY		
396	1G		T95-0129-08	HOLE IC		
BM	1G		D16-0386-08	MAIN BELT		
BR	1F		D16-0387-08	REEL BELT		
MM	1G		T42-0810-08	MOTOR ASSY		
PF	2F		D14-0350-08	PINCH ROLLER ASSY		
PR	2E		D14-0349-08	PINCH ROLLER ASSY		
RPEH	2E		J19-3592-08	HEAD HOLDER ASSY		
SPEAKER : SG-D7						
A05	1M	*	A05-0262-08	SPEAKER BOX		
A211	2L	*	A21-1868-08	DRESSING PANEL (L)		
A212	2L	*	A21-1869-08	DRESSING PANEL (R)		
B061	2K	*	B06-0042-08	GRILLE (L)		
B062	2K	*	B06-0043-08	GRILLE (R)		
E30	2M		E30-2743-08	SPEAKER CORD		
E35	1L	*	E35-1082-08	WIRING HARNESS		
E70	1L	*	E70-0440-08	TERMINAL		
G16	1L, 2L	*	G16-0852-08	SHEET		
-		*	H10-5935-08	POLYSTYRENE FOAMED FIXTURE		
-	1K	*	H10-5936-08	POLYSTYRENE FOAMED FIXTURE		
A		*	SHB35	SCREW		
B		*	SHB36	SCREW		
SP1	1K	*	T07-0199-08	FULLRANGE		

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