COMPACT DISC PLAYER
CDC-565/CDC-502
CDC-665/CDC-902
SERVICE MANUAL

IMPORTANT NOTICE

This manual has been provided for the use of authorized YAMAHA Retailers and their service personnel.
It has been assumed that basic service procedures inherent to the industry, and more specifically YAMAHA Products, are already known and understood by the users, and have therefore not been restated.

WARNING: Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components, and failure of the product to perform as specified. For these reasons, we advise all YAMAHA product owners that any service required should be performed by an authorized YAMAHA Retailer or the appointed service representative.

IMPORTANT: The presentation or sale of this manual to any individual or firm does not constitute authorization, certification or recognition of any applicable technical capabilities, or establish a principle-agent relationship of any form.

The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research, engineering, and service departments of YAMAHA are continually striving to improve YAMAHA products. Modifications are, therefore, inevitable and specifications are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

WARNING: Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground buss in the unit (heavy gauge black wires connect to this buss).

IMPORTANT: Turn the unit OFF during disassembly and part replacement. Recheck all work before you apply power to the unit.

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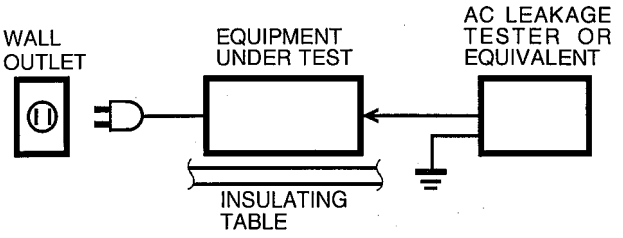
100570

YAMAHA
YAMAHA CORPORATION
P.O.Box1,Hamamatsu,Japan
3K-373 Printed in Japan '97.2

■ TO SERVICE PERSONNEL

1. Critical Components Information.
   Components having special characteristics are marked and must be replaced with parts having specifications equal to those originally installed.
2. Leakage Current Measurement (For 120V Models Only).
   When service has been completed, it is imperative to verify that all exposed conductive surfaces are properly insulated from supply circuits.

- Meter impedance should be equivalent to 1500 ohm shunted by 0.15μF.
- Leakage current must not exceed 0.5mA.
- Be sure to test for leakage with the AC plug in both polarities.



CAUTION: USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

THE COMPACT DISC PLAYER SHOULD NOT BE ADJUSTED OR REPAIRED BY ANYONE EXCEPT PROPERLY QUALIFIED SERVICE PERSONNEL.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs a laser. Therefore, be sure to carefully follow the instructions below when servicing .

1. Laser Diode Properties
   - Material : GaAlAs
   - Wavelength : 780 nm
   - Emission Duration : Continuous
   - Laser Output : max. 44.6 μW*

   * This output is the value measured at a distance of about 200 mm from the objective lens surface on the Optical Pick-up Block.

2. When checking the laser diode emission, keep your eyes more than 30 cm away from the objective lens.

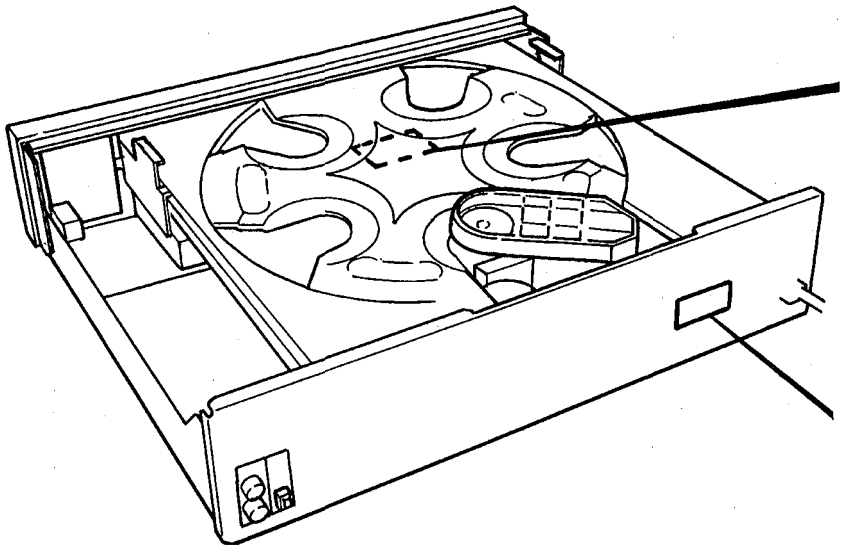
WARNING: CHEMICAL CONTENT NOTICE!

The solder used in the production of this product contains LEAD. In addition, other electrical/electronic and/or plastic (where applicable) components may also contain traces of chemicals found by the California Health and Welfare Agency (and possibly other entities) to cause cancer and/or birth defects or other reproductive harm.

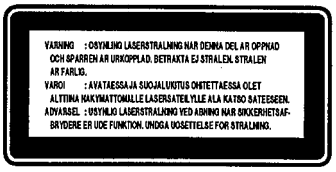
DO NOT PLACE SOLDER, ELECTRICAL/ELECTRONIC OR PLASTIC COMPONENTS IN YOUR MOUTH FOR ANY REASON WHATSOEVER!

Avoid prolonged, unprotected contact between solder and your skin! When soldering, do not inhale solder fumes or expose eyes to solder/flux vapor!

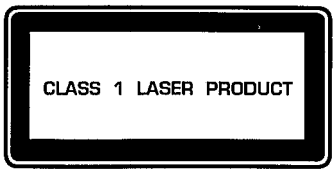
If you come in contact with solder or components located inside the enclosure of this product, wash your hands before handling food.



② B, G models



① B, G, R models



English

① THIS LABEL (SEE POSITION SHOWN IN THE ILLUSTRATION) INFORMS THE USER THAT THE APPARATUS CONTAINS A LASER COMPONENT.

② THIS LABEL (SEE POSITION SHOWN IN THE ILLUSTRATION) WARNS THAT ANY FURTHER PROCEDURE WILL BRING THE USER INTO EXPOSURE WITH THE LASER BEAM.

CAUTION : USE OF CONTROLS, ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN, MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

Swedish

① DENNA MÄRKNING (SE FIGUR) UPPLYSER OM ATT DET I APPARATEN INGÅR EN LASERKOMPONENT AV TYP KLASS 1.

② VARNINGSMÄRKNING (SE FIGUR) FÖR STRÅLNING. INGREPP I APPARATEN BÖR ENDAST FÖRETAGAS AV FACKMAN MED KÅNNEDOM OM LASER. APPARATEN INNEHÅLLER EN LASERKOMPONENT SOM AVGER STRÅLNING ÖVERSTIGANDE GRÄNSEN FÖR LASERKLASS 1.

VARNING : OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD : BETRAKTA EJ STRÅLEN.

Danish

① DETTE MÆRKAT ER ANBRAGT SOM VIST I ILLUSTRATIONEN FOR AT ADVARE BRUGEREN OM AT APPARATET INDEHOLDER EN LASERKOMPONENT.

② DETTE MÆRKAT OM LASEREN ER ANBRAGT PÅ APPARATET SOM EN OPLYSNING OM AT APPARATET INDEHOLDER ET LASERKOMPONENT.

ADVARSEL : INDGREB BOR KUN FORETAGES AF EN FAGMAND DA DER ER RISIKO FOR RADIOAKTIV STRÅLING.

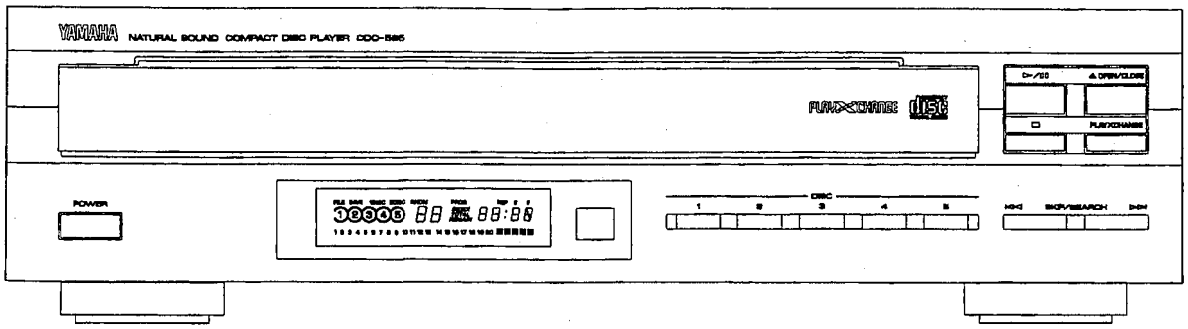
ADVARSEL : USYNLIG LASERSTRÅLING VED ÅBNING.
UNDGÅ UDSAETTELSE FOR STRÅLING.

Finnish

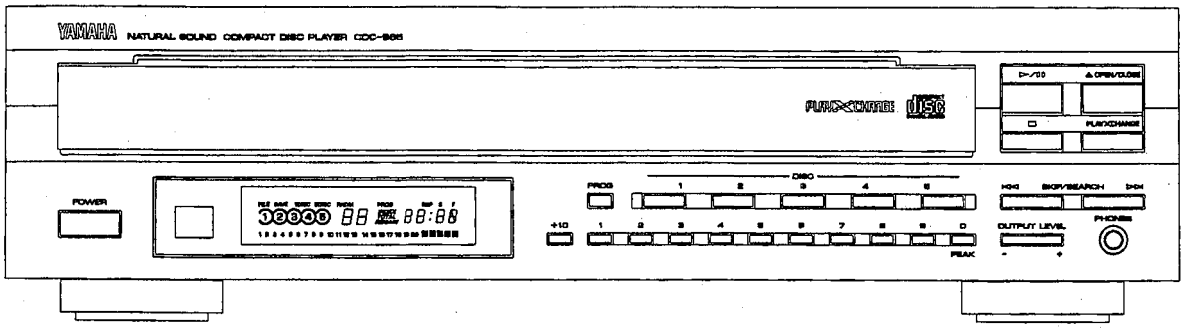
VARO! :
AVATTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

■ FRONT PANELS

● CDC-565/CDC-502

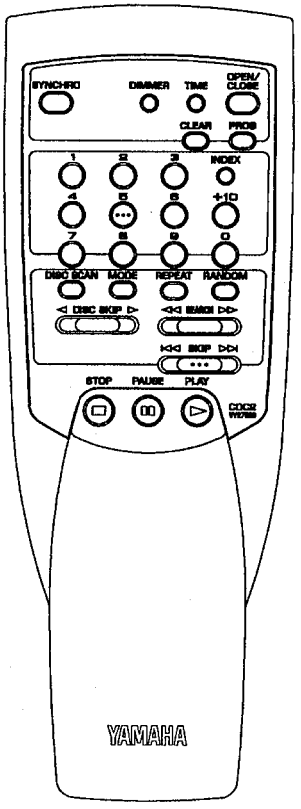


● CDC-665/CDC-902

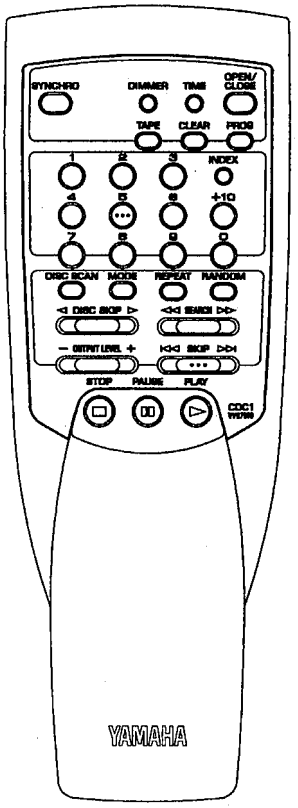


● REMOTE CONTROL TRANSMITTER

● CDC-565/CDC-502



● CDC-665/CDC-902



CAUTION FOR TRANSPORTING THIS UNIT

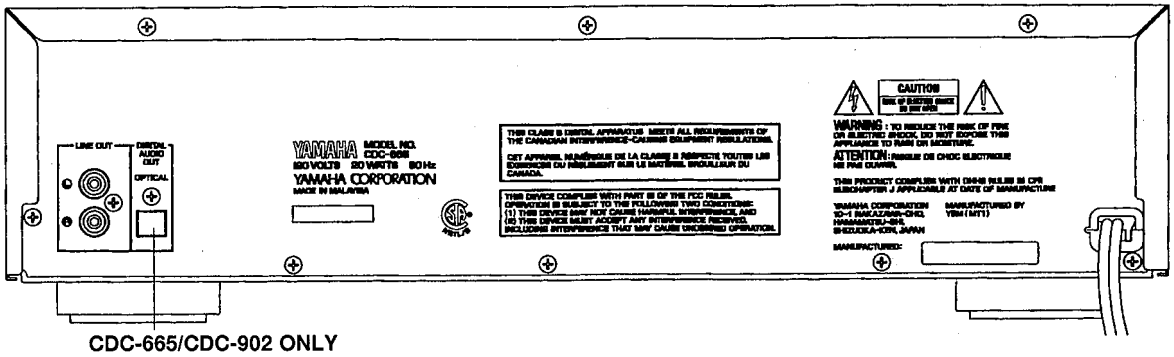
When transporting this unit, first remove all discs from the disc tray and close the tray by pressing the **OPEN/CLOSE** button, and then switch off the power after you confirm that the display has turned as follows.

2 3 4 5

Never switch off the power if the display does not turn as above, otherwise the unit will get out of order during transport because the internal mechanism is not locked.

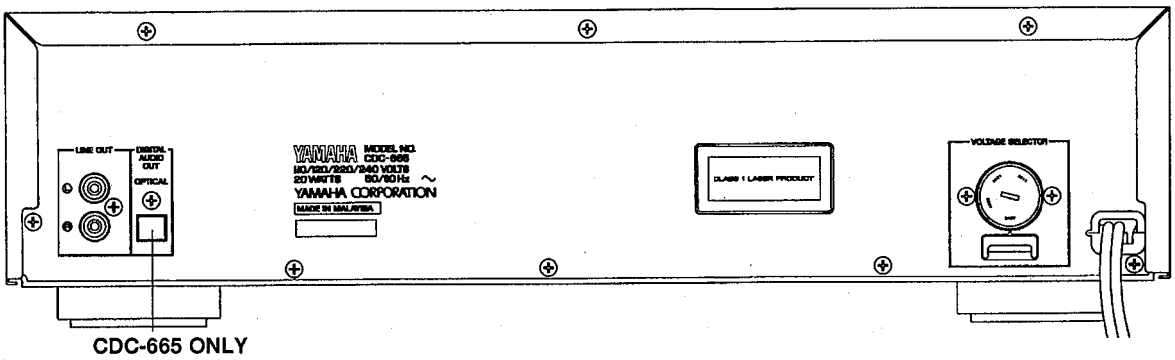
■ REAR PANELS

▼ U, C models



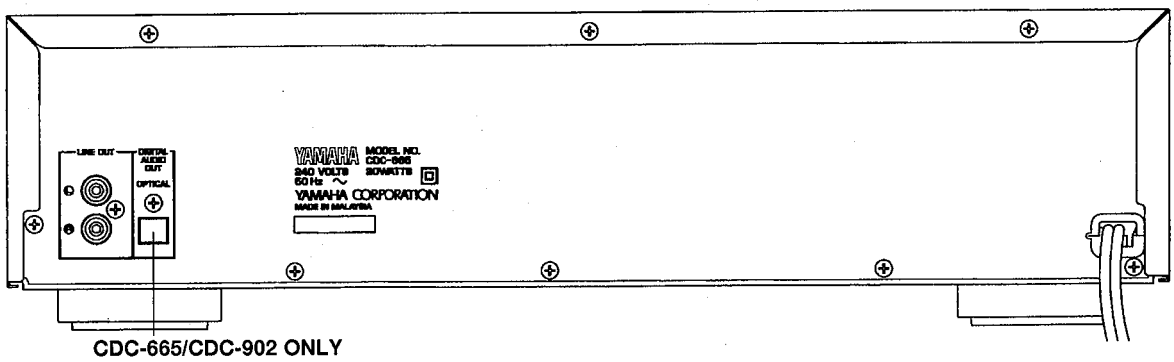
CDC-665/CDC-902 ONLY

▼ R model



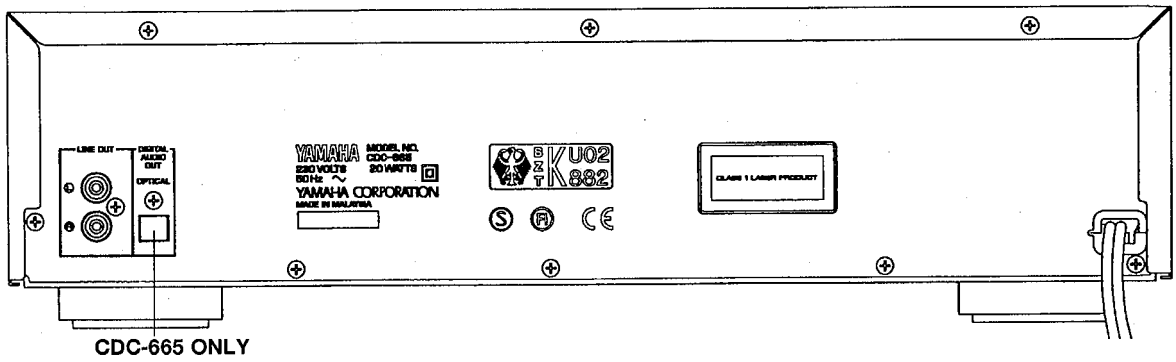
CDC-665 ONLY

▼ A model



CDC-665/CDC-902 ONLY

▼ B, G models



CDC-665 ONLY

■ CDC-565/CDC-502 SPECIFICATIONS

■ AUDIO SECTION

Output Voltage	2.0±0.5V
S/N Ratio	102dB
Dynamic Range	95dB
Harmonic Distortion+Noise (1kHz)	0.004%
Frequency Response (2Hz~20kHz)	±0.5dB

■ GENERAL

Power Requirements	
U, C models	120V AC 60Hz
B, G models	230V AC 50Hz
A model	240V AC 50Hz
R model	110/120/220/240V AC 50/60Hz
Power Consumption	20W
Dimensions (W x H x D)	435 x 116 x 388 mm
	(17-1/8" x 4-9/16" x 15-1/4")
Weight	5.8kg (12 lbs 12 oz)
Accessories	Pin plug cord
	Remote control transmitter
	Dry-cell: x2 (Size "AA", R06)

** Specifications subject to change without notice.*

U ..... USA model ***B ..... British model***
C ..... Canadian model ***G ..... European model***
A ..... Australian model ***R ..... General model***

■ CDC-665/CDC-902 SPECIFICATIONS

■ AUDIO SECTION

Output Voltage	2.0±0.5V
S/N Ratio	106dB
Dynamic Range	96dB
Harmonic Distortion+Noise (1kHz)	0.003%
Frequency Response (2Hz~20kHz)	±0.5dB
Headphone Output	
150Ω, 1kHz, –20dB Input	200±40mV

■ GENERAL

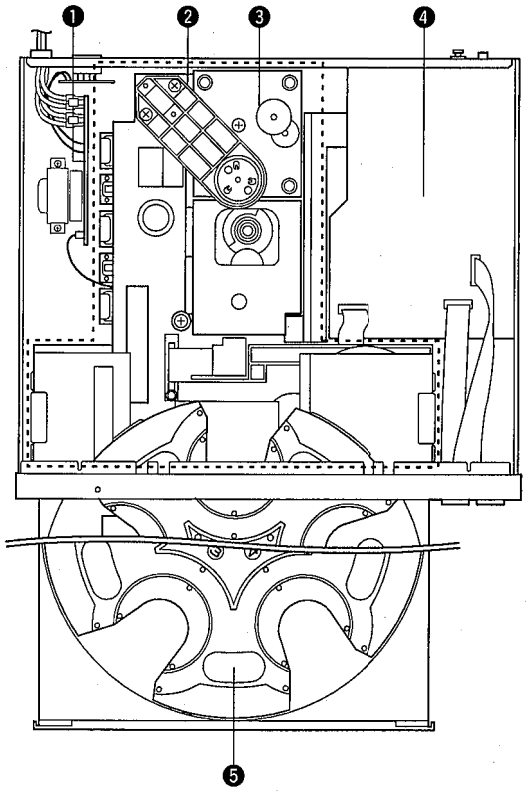
Power Requirements	
U, C models	120V AC 60Hz
B, G models	230V AC 50Hz
A model	240V AC 50Hz
R model	110/120/220/240V AC 50/60Hz
Power Consumption	20W
Dimensions (W x H x D)	435 x 116 x 388 mm
	(17-1/8" x 4-9/16" x 15-1/4")
Weight	5.8kg (12 lbs 12 oz)
Accessories	Pin plug cord
	Remote control transmitter
	Dry-cell: x2 (Size "AA", R06)

** Specifications subject to change without notice.*

U ..... USA model ***B ..... British model***
C ..... Canadian model ***G ..... European model***
A ..... Australian model ***R ..... General model***

■ INTERNAL VIEW

❶ P.C.B. MAIN (2)
❷ CLAMP ASS'Y
❸ CM-110 UNIT
❹ P.C.B. MAIN (1)
❺ TRAY ASS'Y



■ DISASSEMBLY PROCEDURES (Remove parts in the order as numbered.)

1. Removal of Top Cover

a. Remove 4 screws (①) and also 3 screws (②) as shown in Fig. 1.

2. Removal of Clamp Ass'y

a. Remove 2 screws (③) as shown in Fig. 1.

3. Removal of Tray Ass'y

a. Remove 1 screw (④) as shown in Fig. 1.
b. Turn Gear/L02 as shown in Fig. 2 counter clockwise gradually till immediately before the tray starts to move and stop it there.

CAUTION : Gear/L02, if turned counter clockwise continuously, will mesh with the gear of the tray and the tray will come out. When removing the tray, use care so that Gear/L02 will not mesh with the gear of the tray.

c. Pull out the Tray Ass'y.

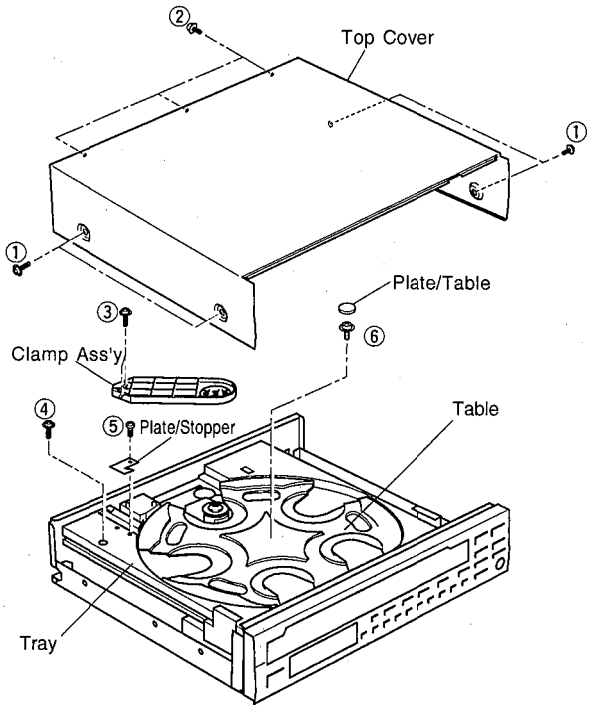


Fig. 1

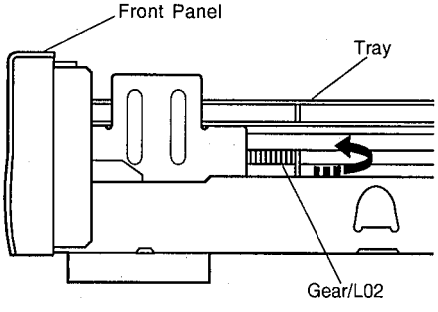


Fig. 2

4. Removal of Table

a. Remove 1 screw (⑤) and then remove the Plate/Stopper as shown in Fig. 1.
b. Remove the Plate/Table as shown in Fig. 1.
c. Remove 1 screw (⑥) and then take off the Table as shown in Fig. 1.

● Precaution for installation of the Tray Ass'y.

On Tray Ass'y setting.
Check the Direction of marking "▲" on gear according to this drawing.

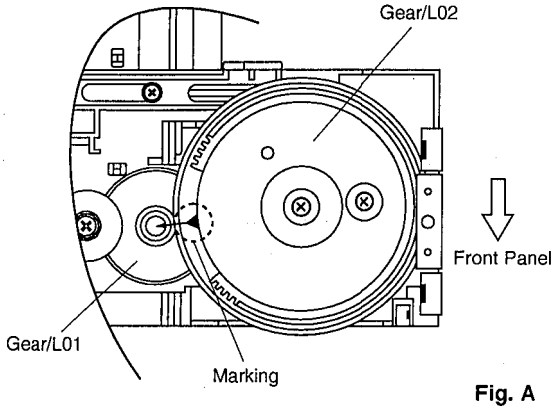


Fig. A

IMPORTANT : Installation of Table.

Install the table according to the following procedure.

1) Slide the Lever/RT so that the Gear/RT1 becomes free. (Fig.B-1)
2) With the "▲" mark on the Gear/RT1 aligned with the same mark on the Tray, lock it with the Lever/RT. (Fig.B-1)
3) Install the Table by aligning it to the thick line on " / " mark. (Fig.B-2)

*Check that the Table is locked after installation.

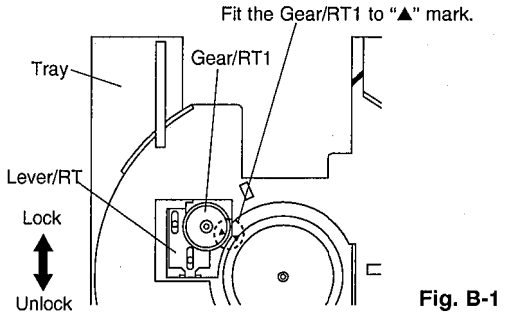


Fig. B-1

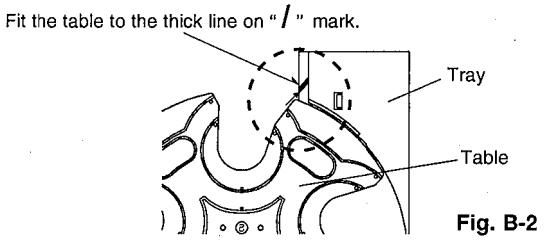


Fig. B-2

5. Removal of CM-110 Unit

a. Remove 5 screws (⑦) as shown in Fig. 3.
b. Remove connectors (CB1 to 3, CB201, 202 and 301) from the P.C.B. Main.
c. Take the CM-110 Unit out slowly as shown in Fig. 3.

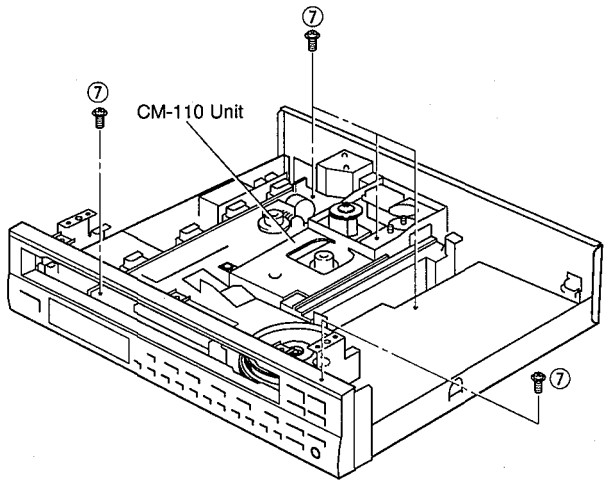


Fig. 3

6. Removal of Pick-up Head

a. Remove 1 screw (⑧) and then remove the PU Unit Ass'y as shown Fig. 4.

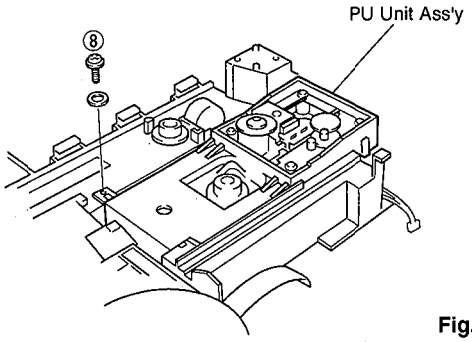


Fig. 4

b. Pull out 4 Pins (⑨) and then remove the PU Mechanism Unit as shown in Fig. 5.

* The Pick-up Head can be replaced without removing the PU Mechanism Unit.

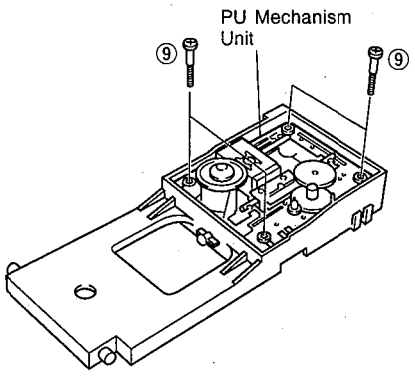


Fig. 5

● Operation Check Procedure

① Disassembly
1) Remove the top cover.
2) Remove the Clamp Ass'y.
3) Remove the stabilizer from the clamper.

Turn the Plate clockwise by 30° while holding the Stabilizer, and the Plate will come off. Remove the Stabilizer from the Clamper.

② Clamp the disc by using the stabilizer.
③ Set to the TEST mode and check for any faulty conditions.

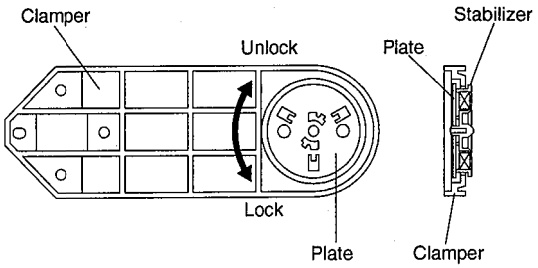


Fig. C

c. Pull out the Gear/Power as shown in Fig. 6.
d. Remove 4 screws (⑩) and then remove the Pick-up Head as shown in Fig. 6.

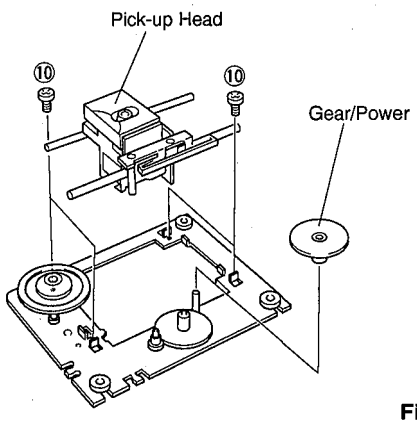


Fig. 6

● Check that the disc table height is as specified below.

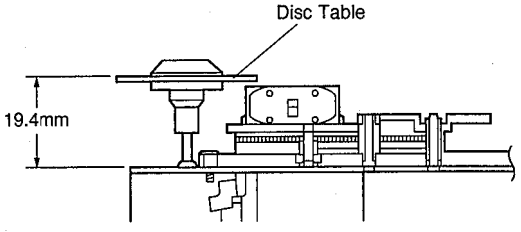
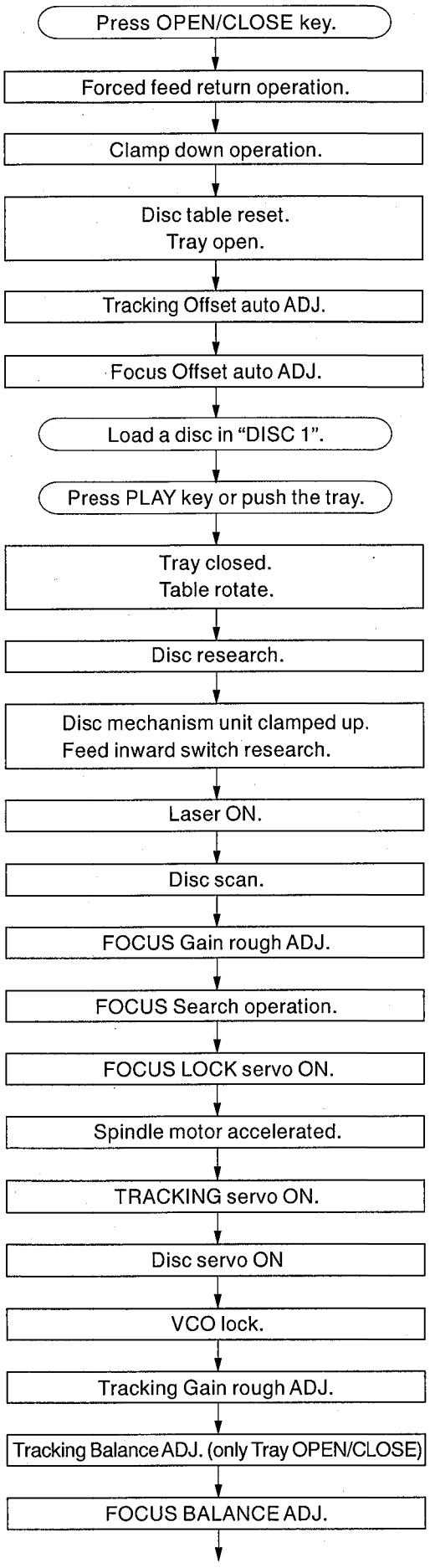


Fig. D

■ STANDARD OPERATION CHART



FOCUS GAIN ADJ.

TRACKING GAIN ADJ.

*TOC READ * ~ **Data fetch cycle** ~

TRACK No. "1" is searched.

After searching the beginning, MUTE is cancelled. : MUTE OFF = "L" → "H", "0:00" appears in the time indicator. (IC311, 25 pin)

~ **PLAY** ~

Set to SEARCH by means of ▶▶|,|◀◀ key.

MUTE ON. : MUTE OFF = "H"→ "L"

TRACK search.

After searching the beginning, MUTE is cancelled. : MUTE OFF = "L" → "H", "0:00" appears in the time indicator.

~ **PLAY** ~

Press the STOP key.

MUTE ON.

Spindle motor stop.

Laser OFF. : LSON = "H" → "L" (IC1, 3 pin)

Forced feed return. : $\overline{\text{FLSW}}$ = "L" (IC311, 31 pin)

~ **STOP** ~

● Tray Operation

Press DISC SKIP key.

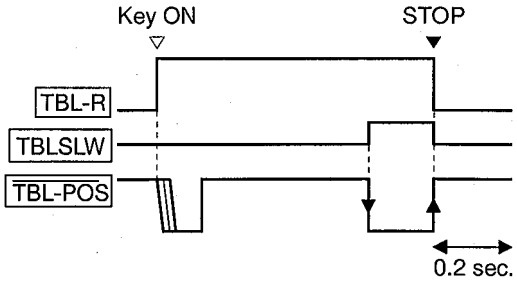
Control signal output. : TBL-R = "L" → "H" (IC311, 38 pin)

$\overline{\text{TBL-POS}}$ "H"→"L" detected. : $\overline{\text{TBL-POS}}$ = "H" → "L" (IC311, 26 pin)

Revolution speed of the table is reduced. : TBLSLW = "L" → "H" (IC311, 37 pin)

$\overline{\text{TBL-POS}}$ "L"→"H" detected. : $\overline{\text{TBL-POS}}$ = "L" → "H", Control signal off (IC311, 26 pin)

~ **STOP** ~



■ TEST MODE

● Starting TEST mode

Test mode is brought about when the power is turned on while the "PLAY/PAUSE" and "STOP" keys on the panel are simultaneously pressed and held.
When the test mode is brought about, all the displays light up for about 1 second.
NOTE : To fully operate all test modes the remote control must be used.

● Function List of Panel keys

Note) "traverse servo" means the same as "feed servo"

PANEL KEY	FUNCTION	
OPEN/CLOSE	Tray open/close.	
PLAYXCHANGE	Rotating the mode of coefficients. (Coefficient mode→Coefficient setting→Product mode) Pressing twice will set to the product mode.	
PLAY/PAUSE	Plays if focus servo is effective. TRON, MUTE OFF.	
STOP	All stop. (Focus, spindle, feed, laser, tray, etc.) Initializes FL display.	
⏮SKIP	Backward traverse move. (If inner SW turns on, traverse is stopped.) (Coefficient set up mode : upper digit down.)	
⏭SKIP	Forward traverse move. (Coefficient set up mode : upper digit up.)	
DISC 1	Returns to product mode. (Tray and table inoperative.)	
DISC 2	Adjustment mode 1 (TR-offset, FO-offset, FO-rough gain adjustment)	
DISC 3	Adjustment mode 2 (TR-balance, TR-rough gain adjustment)	
DISC 4	Adjustment mode 3 (FO-fine gain, TR-fine gain, FO-balance adjustment)	
DISC 5	—	
PROG	Decelerates or stops spindle.	CDC-665/ CDC-902 ONLY
OUTPUT LEVEL –	Output level down. (Coefficient set up mode : address down.)	
OUTPUT LEVEL +	Output level up. (Coefficient set up mode : address up.)	
+10	—	
1	Returns to product mode. (tray and table inoperative.)	
2	Adjustment mode 1 (TR-offset, FO-offset, FO-rough gain adjustment)	
3	Adjustment mode 2 (TR-balance, TR-rough gain adjustment)	
4	Adjustment mode 3 (FO-fine gain, TR-fine gain, FO-balance adjustment)	
5	Turn table turns counterclockwise. (Slow speed)	
6	Turn table turns clockwise. (Slow speed)	
7	Turn table turns counterclockwise. (Fast speed)	
8	Turn table turns clockwise. (Fast speed)	
9	Backward 30 TRACK KICK-continuously	
0	Forward 30 TRACK KICK-continuously	

Note : If 5 to 8 key are pressed, before entering the product mode, press DISC SKIP key of the remote control transmitter.

● Function List of Remote Control Transmitter

CUSTOM CODE = (79)x

CODE	KEY	FUNCTION	
00	MODE	Traverse stop	
01	OPEN/CLOSE	Tray open/close	
02	PLAY	PLAY (FOON, TRON, TVON (FEON), SPON)	
04	⏮SKIP	Backward traverse move. (If inner SW turns on, traverse is stopped.) (Coefficient set up mode : upper digit down)	
05	◀◀SEARCH	Clamp down. (Coefficient set up mode : lower digit down)	
06	▶▶SEARCH	Clamp up. (Coefficient set up mode : lower digit up)	
07	⏭SKIP	Forward traverse move. (Coefficient set up mode : upper digit up)	
08	REPEAT	FOON, TROF (Enter focus search if focus servo is off.)	
0A	TIME	Checks FL display. (888888→All lamps→goes out.)	
0B	INDEX	FOON, TROF, TVOF (FEOF) (Enter focus search if focus servo is off.)	
0C	PROG	Rotates or accelerates spindle.	
0D	CLEAR	Rotate the spindle motor. (Reverse revolution)	
10	0	Backward 150 TRACK KICK continuously	
11	1	Returns to product mode. (Tray and Table inoperative.)	
12	2	Adjustment mode 1 (TR-offset, FO-off set, FO-rough gain adjustment)	
13	3	Adjustment mode 2 (TR-balance, TR-rough gain adjustment)	
14	4	Adjustment mode 3 (FO-fine gain, TR-fine gain, FO-balance adjustment)	
15	5	Forward 1 TRACK KICK continuously	
16	6	Backward 1 TRACK KICK continuously	
17	7	Forward 30 TRACK KICK continuously	
18	8	Backward 30 TRACK KICK continuously	
19	9	Forward 150 TRACK KICK continuously	
1A	+10	Enter coefficient set up mode.	
1B	RANDOM	SPON (Spindle servo on.)	
1C	OUTPUT LEVEL –	Output level down. (Coefficient set up mode : address down)	CDC-665/CDC-902 ONLY
1D	OUTPUT LEVEL +	Output level up. (Coefficient set up mode : address up)	CDC-665/CDC-902 ONLY
1E	DIMMER	Checks FL display. (888888→All lamps→goes out.)	
4F	DISC SKIP▷	DISC SKIP + (Clockwise)	
50	DISC SKIP◁	DISC SKIP – (Counterclockwise)	
53	DISC SCAN	—	
55	PAUSE	FOON, TROF, TVOF (FEOF) (Enter focus search if focus servo is off.)	
56	STOP	All stop. (Focus, spindle, traverse, laser, tray, etc.)	
57	TAPE	Spindle free (off)	CDC-665/CDC-902 ONLY
58	SYNCHRO	Backward traverse move	

■ ERROR MESSAGE

When stopped by any cause, press "STOP" of the remote control while pressing and holding the "STOP" on the panel key. The operation mode turns to the mode allowing the display of messages.
(The error messages are cleared with the power off.)

● Error Messages List

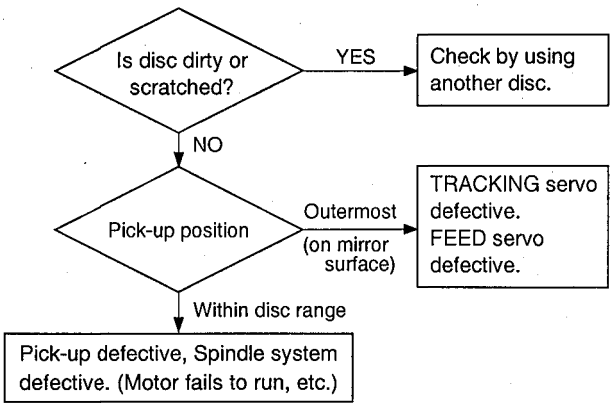
ERROR MESSAGE	DESCRIPTION
E — X 0	Data cannot be read after finishing search.
E — X 1	Data cannot be read during PLAY (x = 0), PAUSE (x = 4) or SCAN (x = 3).
E — 7 1	At the start, tracking servo is not effective.
E — 7 2	At the start, spindle servo PLL is not effective.
E — 7 3	At the start, data can never read.
E — X 4	Close switch does not work with tray closed.
E — X 5	Open switch does not work with tray open.
E — X 6	Table does not turn.
E — X 7	Traverse (Feed) inner circumference switch does not work.
E — X 8	Recovery action fails after focus drop.
E — X 9	Clamp down switch does not work with clamp down.
E — X A	Clamp up switch does not work with clamp up.
E r r	MN66271 does not give response of SENSE, with resetting by the unit's microcomputer.

*** Meaning of each state ("X") :**

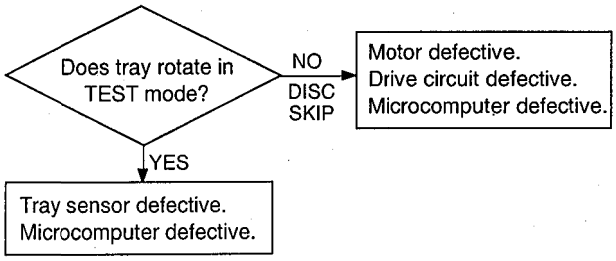
(X = 0) ..... PLAY
(X = 2) ..... SCAN
(X = 3) ..... PAUSE
(X = 4) ..... PEAK SEARCH
(X = 5) ..... SEARCH
(X = 6) ..... DISC SCAN
(X = 7) ..... START
(X = 8) ..... STOP
(X = 9) ..... DISC SEARCH
(X = –) ..... EJECT
(X = C) ..... NO DISC

1) Error Code Troubleshooting

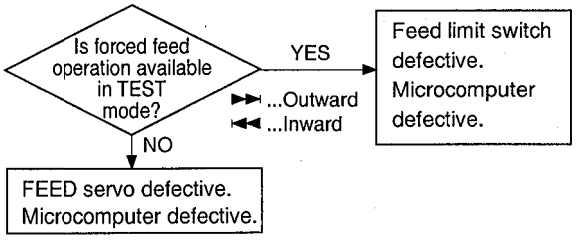
Error codes [X0], [X1], [73] ..... Data cannot be read.



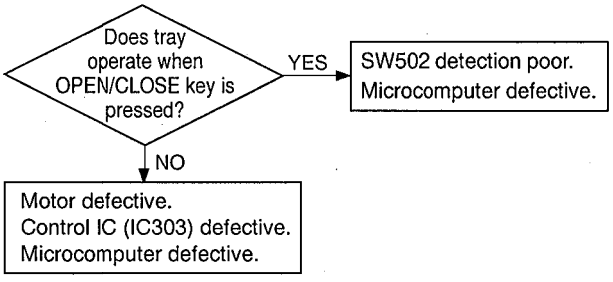
Error code [X6] ..... Poor table rotation.



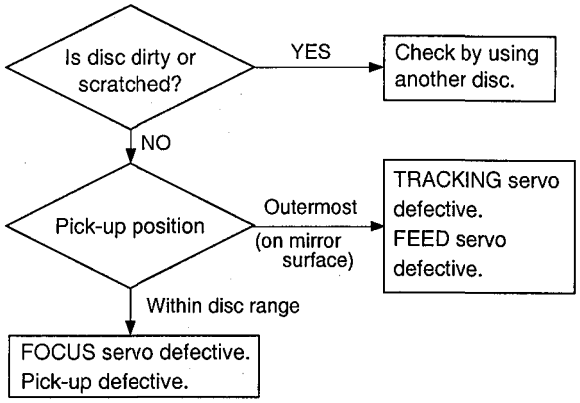
Error code [X7] ..... FEED operation defective. (Limit switch fails)



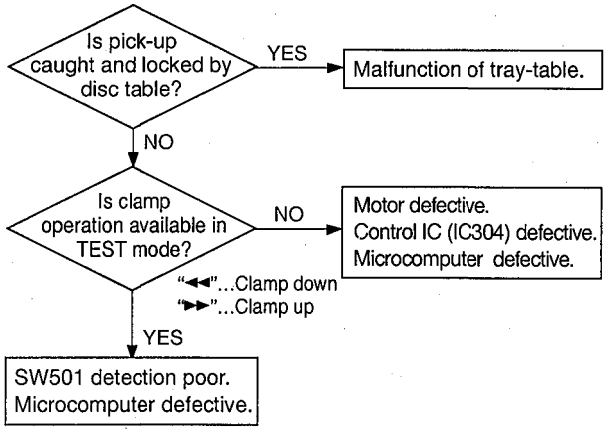
Error codes [X4], [X5] ..... Poor tray loading operation.



Error code **X8** ..... Focus drops.

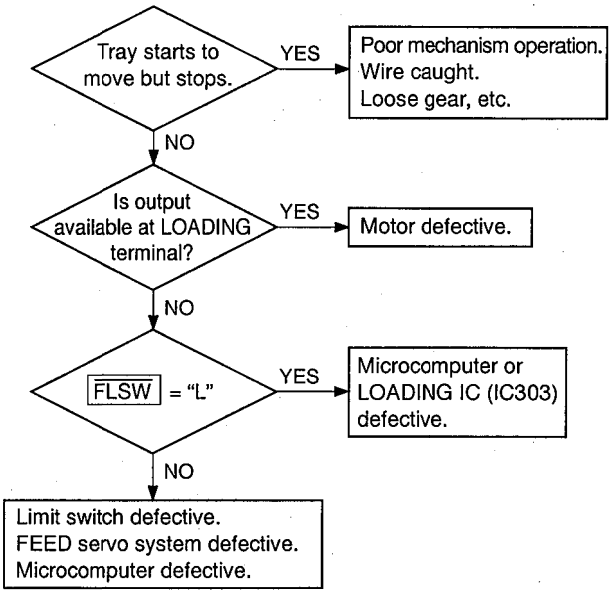


Error code **X9**, **XA** ..... Poor clamp operation.

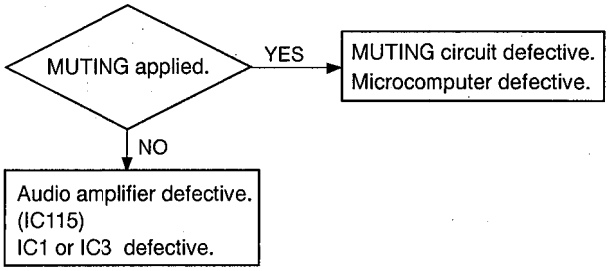


2) Troubleshooting from System Malfunctions.

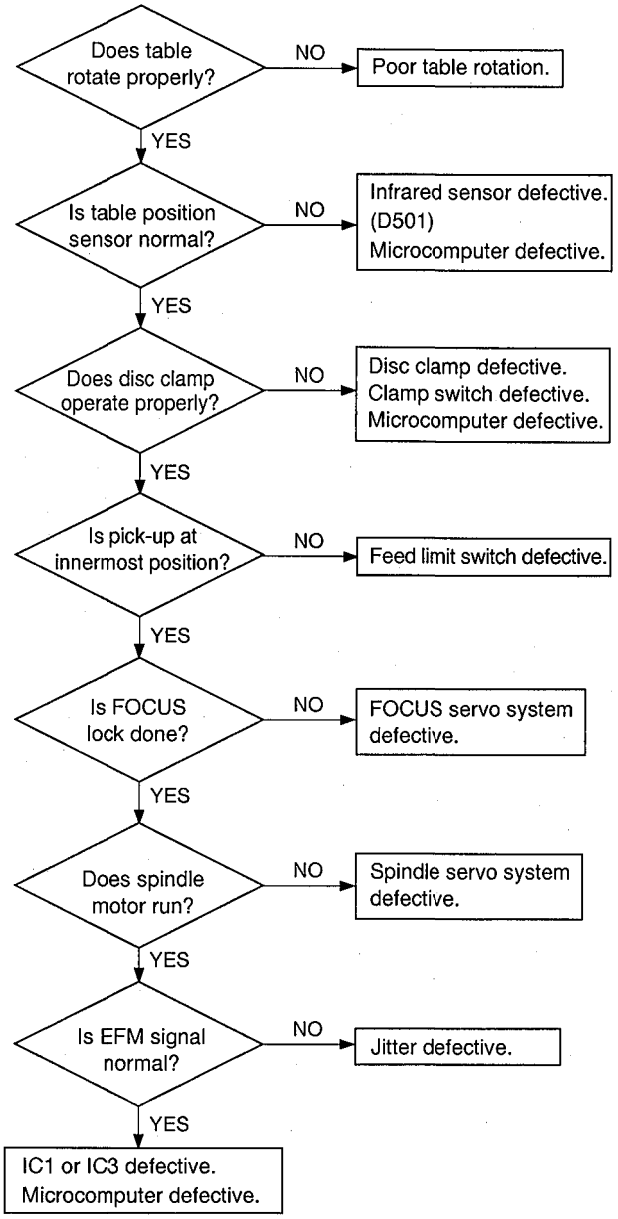
a) Tray fails to come out/go in.



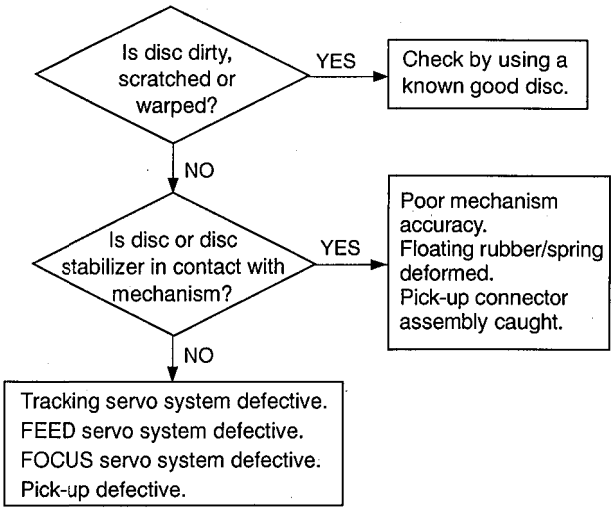
b) No sound generated, Sound cut during play. (but time display advanced properly)



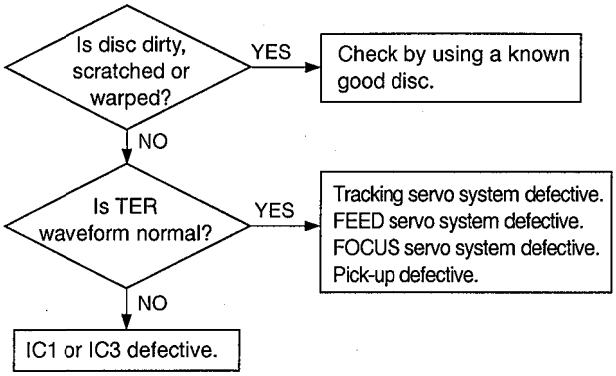
c) Operates as if no disc loaded. (although loaded)



d) Sound skips. (Time display fails to advance properly)

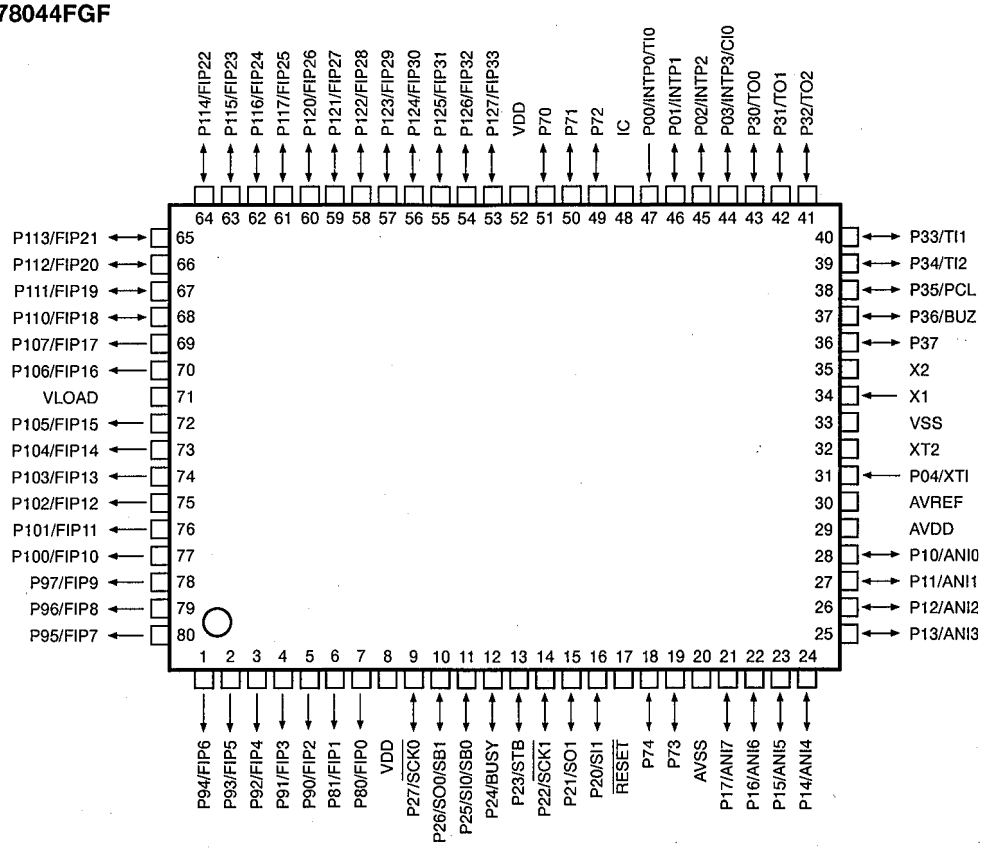


e) No search provided. (Sound skipped after search)



■ IC DATA

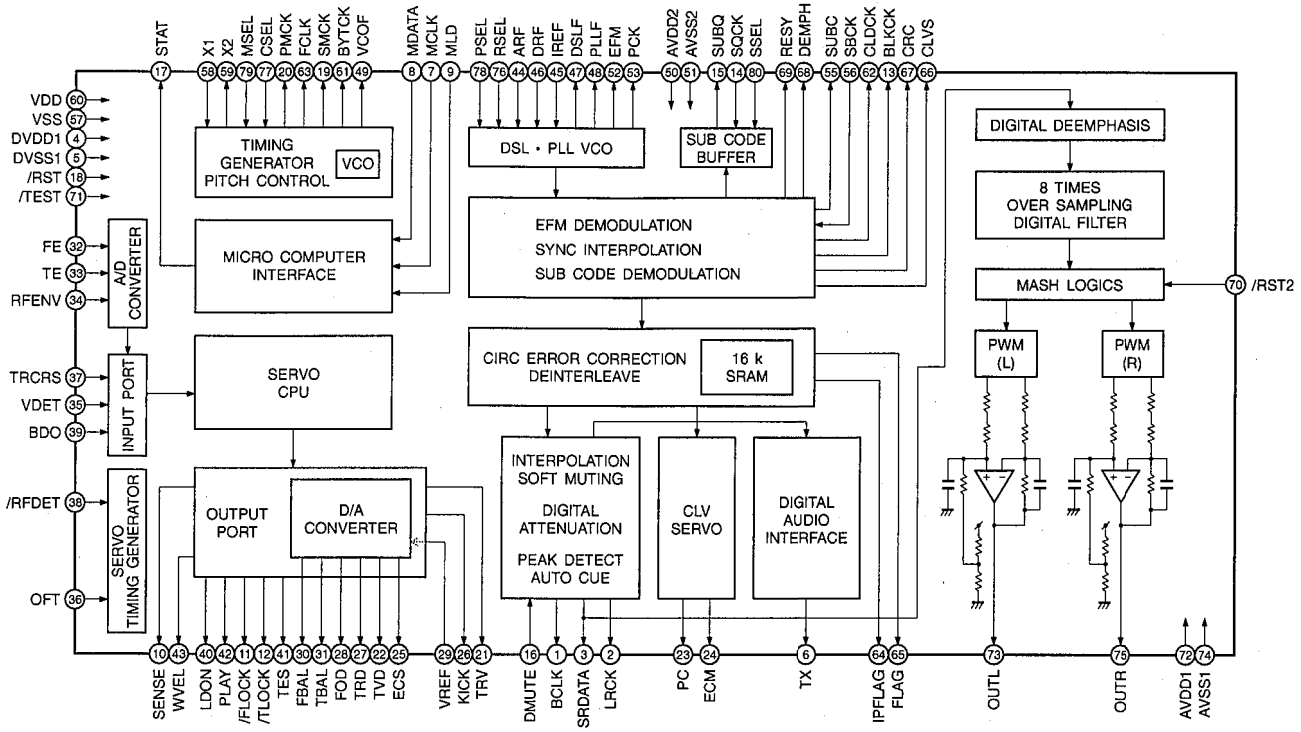
IC311 : μPD78044FGF
8bit μ-COM



No.	Port	Name	I/O	Function
1	P94/FIP6	7G	O	Fluorescent character display tube grid drive signal
2	P93/FIP5	6G	O	
3	P92/FIP4	5G	O	
4	P91/FIP3	4G	O	
5	P90/FIP2	3G	O	
6	P81/FIP1	2G	O	
7	P80/FIP0	1G	O	
8	VDD	+5		+5V
9	P27/$\overline{SCKO}$	SQCK	O	Sub-code serial data output to MN66271
10	P26/SO0/SB1	STAT	I	STAT signal input from MN66271
11	P25/SI0/SB0	SUBQ	I	Sub-code serial data input from MN66271
12	P24/BUSY	SENSE	I	SENSE signal input from MN66271
13	P23/STB	MLD	O	Read signal output for transmitting command from MN66271(After command transmission, L pulse at Load Timing)
14	P22/$\overline{SCK1}$	MCLK	O	Serial clock output to MN66271
15	P21/SO1	MDATA	O	Serial data output to MN66271
16	P20/SI1	SI	I	N.C.
17	$\overline{RESET}$	RES	I	Reset input
18	P74	SDA	I/O	Serial clock signal with 24C01
19	P73	SCL	O	Serial data signal with 24C01
20	AVSS	GND		GND
21	P17/ANI7	FLOCK	I	FOCUS lock signal input from MN66271 (LOCK at L)
22	P16/ANI6	TLOCK	I	Tracking lock signal input from MN66271 (LOCK at H)
23	P15/ANI5	DMUTE	O	Digital mute signal output (H at MUTE)
24	P14/ANI4	MNRST	O	Reset signal output (L at RESET)
25	P13/ANI3	MUTE	O	Analog mute signal output (L at MUTE)
26	P12/ANI2	TBLPOS	I	Sensor to detect table position
27	P11/ANI1	CLSW	I	Closed state of tray sensing switch input (Closed state at L)

No.	Port	Name	I/O	Function
28	P10/ANI0	OPSW	I	Open state of tray sensing switch input (Open state at L)
29	AVDD	+5V		+5V
30	AVREF	GND		GND
31	P04/XT1	FLSW	I	Feed origin switch input (Feed origin at L)
32	XT2	—		N.C.
33	VSS	GND		GND
34	X1	X1	I	Crystal oscillator oscilltaion terminal (4.19MHz)
35	X2	X2		
36	P37	FEED OFF	O	Feed servo control
37	P36/BUZ	TBLSLOW	O	Table rotate slow
38	P35/PCL	TBL-R	O	Table rotate R (clockwise)
39	P34/TI2	TBL-L	O	Table rotate L (couterclockwise)
40	P33/TI1	CLUP	O	Clamp up signal
41	P32/TO2	CLDOWN	O	Clamp down signal
42	P31/TO1	OPEN	O	Tray open signal
43	P30/TO0	CLOSE	O	Tray close signal
44	PO3/INTP3/CI0	UPSW	I	PU unit up limit switch, ON at L
45	P02/INTP2	DOWNSW	I	PU unit down limit switch, ON at L
46	P01/INTP1	BLKCK	I	Synchronous clock input for Q-code RCV from MN66271 (Fine pulse at RCV, normally L)
47	P00/INTP0TI0	REM	I	Input from remote control beam receiving unit
48	IC	GND		GND
49	P72	—		Unused (+5)
50	P71	—		Unused (+5)
51	P70	FCSGAIN	O	Focus control
52	VDD	+5V		+5V
53	PI27/FIP33	—		Not used
54	PI26/FIP32	—		Not used
55	PI25/FIP31		I	Model selection (665 at H, 565 at L)
56	PI24/FIP30	K4	I	Key matrix input
57	PI23/FIP29	K3	I	
58	PI22/FIP28	K2	I	
59	PI21/FIP27	K1	I	
60	PI20/FIP26	K0	I	
61	PI17/FIP25	—		N.C.
62	PI16/FIP24	—		N.C.
63	PI15/FIP23	P14	O	Fluorescent character display tube anode drive signal
64	PI14/FIP22	P13	O	Fluorescent character display tube anode drive signal & key scan digit
65	PI13/FIP21	P12	O	
66	PI12/FIP20	P11	O	
67	PI11/FIP19	P10	O	
68	PI10/FIP18	P9	O	
69	PI07/FIP17	P8	O	Fluorescent character display tube anode drive signal
70	PI06/FIP16	P7	O	
71	VLOAD	–20V		–20V
72	PI05/FIP15	P6	O	Fluorescent character display tube anode drive signal
73	PI04/FIP14	P5	O	
74	PI03/FIP13	P4	O	
75	PI02/FIP12	P3	O	
76	PI01/FIP11	P2	O	
77	PI00/FIP10	P1	O	
78	P97/FIP9	–		N.C.
79	P96/FIP8	9G	O	Fluorescent character display tube grid drive signal
80	P95/FIP7	8G	O	

IC3 : MN66271RA
Signal Processor & Controller

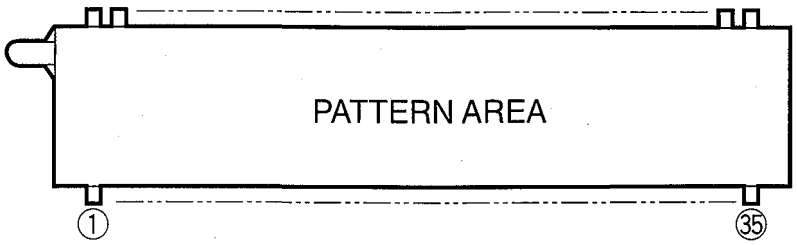


Pin No.	Name	I/O	Function
1	BCLK	O	Bit clock output for SR DATA (NC)
2	LRCK	O	L/R identification signal output (NC)
3	SRDATA	O	Serial data output (NC)
4	DVDD1	I	Power supply for digital circuit (+5)
5	DVSS1	I	GND for digital circuit
6	TX	O	Digital, audio, interface output signal
7	MCLK	I	Microprocessor command clock signal input (data latched at leading edge)
8	MDATA	I	Microprocessor command data input
9	MLD	I	Microprocessor command load signal input L : LOAD
10	SENSE	O	Sense signal output
11	$\overline{\text{FLOCK}}$	O	Focus servo drawing signal (L : when drawn)
12	$\overline{\text{TLOCK}}$	O	Tracking servo drawing signal (L : when drawn)
13	BLKCK	O	Sub code block clock signal
14	SQCK	I	Clock input for sub-code Q register
15	SUBQ	O	Sub-code Q code output
16	DMUTE	I	Muting input H : MUTE
17	$\overline{\text{STAT}}$	O	Status signal
18	RST	I	Reset input L : RESET
19	SMCK	O	8.4672MHz clock signal output when MSEL = H 4.2336MHz clock signal output when MSEL = L (NC)
20	PMCK	O	88.2KHz clock signal output (NC)
21	TRV	O	Traverse (Feed) forced feed output
22	TVD	O	Traverse (Feed) drive output
23	PC	O	Spindle motor ON signal L : ON (NC)
24	ECM	O	Spindle motor drive signal (forced mode output) 3-State
25	ECS	O	Spindle motor drive signal (servo error signal output)

Pin No.	Name	I/O	Function
26	KICK	O	Kick pulse output
27	TRD	O	Tracking drive output
28	FOD	O	Focus drive output
29	VREF	I	Reference voltage for DA output block
30	FBAL	O	Focus balance adjustment output
31	TBAL	O	Tracking balance adjustment output
32	FE	I	Focus error signal input (analog input)
33	TE	I	Tracking error signal input (analog input)
34	RFENV	I	RF envelope signal input (analog input)
35	VDET	I	Oscillation detect signal input (H : DETECT)
36	OFT	I	Off track signal input (H : OFF TRACK)
37	TRCRS	I	Track cross signal input
38	$\overline{\text{RFDET}}$	I	RF detect signal input (L : DETECT)
39	BDO	I	Drop out signal input (H : DROP OUT)
40	LDON	O	Laser ON signal output (H : ON)
41	TES	O	Tracking error shunt signal output (H : SHUNT)
42	PLAY	O	Play signal output (H : PLAY) (NC)
43	WVEL	O	Double speed status signal output (NC)
44	ARF	I	RF signal input
45	IREF	I	Reference current input terminal
46	DRF	I	Bias terminal for DSL (NC)
47	DSLF	I/O	Loop filter terminal for DSL
48	PLLF	I/O	Loop filter terminal for PLL
49	VCOF	I/O	Loop filter terminal for VCO (NC)
50	AVDD2	I	Power supply for analog circuit (for DSL, PLL, OA output blocks) (+5)
51	AVSS2	I	GND for analog circuit (for DSL, PLL, DA output blocks) (GND)
52	EFM	O	EFM signal output (NC)
53	PCK	O	PLL extract clock output (f PCK = 4.321MHz) (NC)
54	PDO	O	EFM signal to PCK signal phase comparison signal output (NC)
55	SUBC	O	Sub-code serial output data output (NC)
56	SBCK	I	Clock input for sub-code serial output (GND)
57	VSS	I	GND for oscillation circuit
58	X1	I	Crystal oscillation circuit input terminal (f = 16.9344MHz)
59	X2	O	Crystal oscillation circuit output terminal (f = 16.9344MHz)
60	VDD	I	Power supply for oscillation circuit (+5)
61	BYTCK	O	Byte clock output (NC)
62	$\overline{\text{CLDCK}}$	O	Sub-code frame clock signal output (f CLDCK = 7.35kHz) (NC)
63	FCLK	O	Crystal frame clock output (f FCLK = 7.35kHz) (NC)
64	IPFLAG	O	Interpolation flag output H : INTERPOLATION (NC)
65	FLAG	O	Flag output (NC)
66	CLVS	O	Spindle servo phase synchronous status signal outut H : CLV L : ROUGH SERVO (NC)
67	CRC	O	Sub-code CRC check result output H : OK , L : NG (NC)
68	DEMPH	O	Deemphasis detect signal output H : ON (NC)
69	RESY	O	Re-synchronous signal output of frame synchronization H : SYNCHRONOUS L : ASYNCHRONOUS (NC)
70	$\overline{\text{RST2}}$	I	Reset terminal for stop after MASH circuit (L : RESET) (+5)
71	$\overline{\text{TEST}}$	I	Test terminal (Normal : H) (+5)
72	AVDD1	I	Power supply for analog circuit (for audio output section (used for both L and R channels))
73	OUTL	O	L channel output
74	AVSS1	I	GND for analog circuit (for audio output section (used for both L and R channels))
75	OUTR	O	R channel output
76	RSEL	I	RF signal polarity specifying terminal RSEL = H when Bright level is at "H" RSEL = L when Bright level is at "L" (+5)
77	CSEL	I	Crystal oscillation frequency specifying terminal (Normal : L) (GND)
78	PSEL	I	Test terminal (Normal : L) (GND)
79	MSEL	I	SMCK terminal Output frequency switch terminal H : SMCK = 8.4672MHz , L : SMCK = 4.2336MHz (GND)
80	SSEL	I	SUBQ terminal Output mode switch terminal H : Q code buffer use mode (+5)

■ DISPLAY DATA (VS415000)

● V601/V401 : 9-ST-14GK



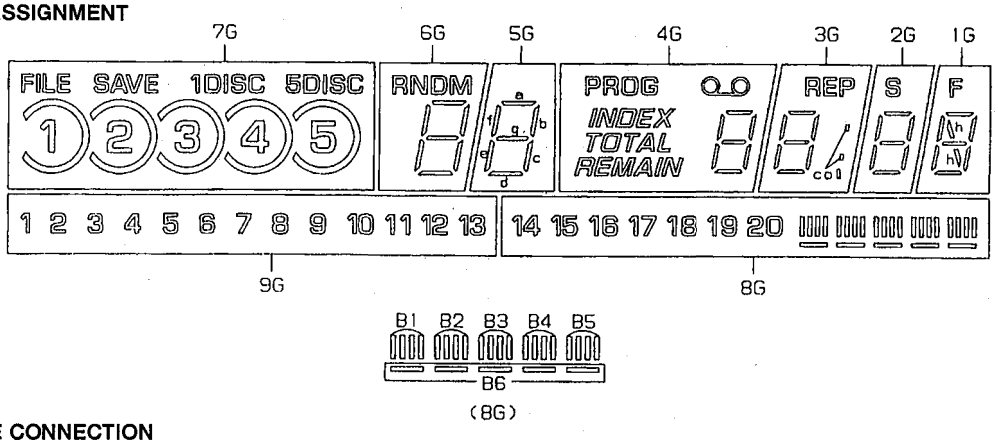
• PIN CONNECTION

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
CONNECTION	F1	F1	NP	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	NX

PIN NO.	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
CONNECTION	NX	NX	NX	NX	NX	9G	8G	7G	6G	5G	4G	3G	2G	1G	NP	F2	F2

NOTE 1) F1, F2 ..... Filament
2) NP ..... No pin
3) NX ..... No extend pin
4) P1~P14 ... Datum Line
5) 1G~9G .... Grid

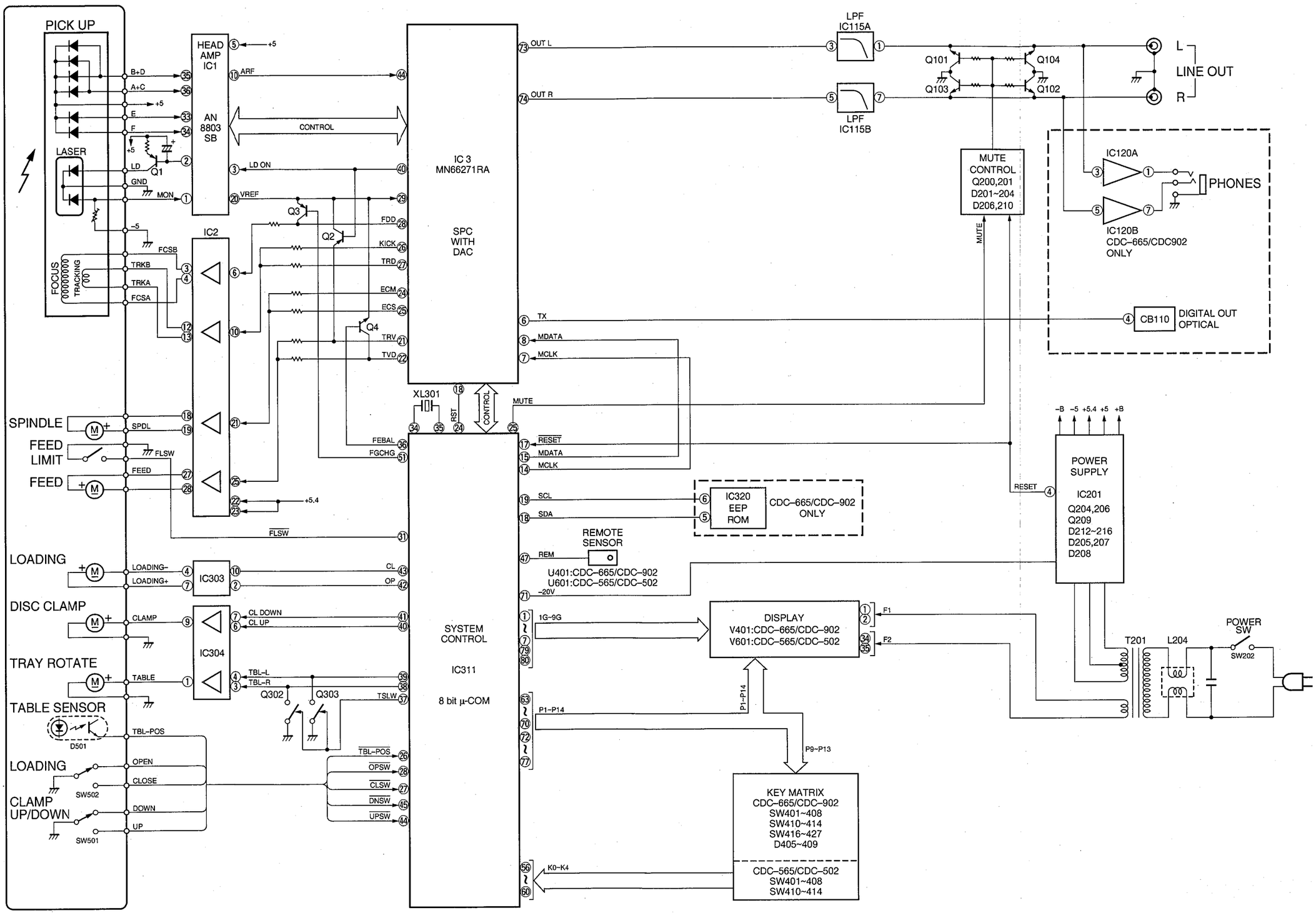
• GRID ASSIGNMENT



• ANODE CONNECTION

	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	1	14	⑤	d	d	d	d	d	d
P2	2	15	5	e	e	e	e	e	e
P3	3	16	④	c	c	c	c	c	c
P4	4	17	4	g	g	g	g	g	g
P5	5	18	③	f	f	f	f	f	f
P6	6	19	3	b	b	b	b	b	b
P7	7	20	②	a	a	a	a	a	a
P8	8	B6	2	—	—	—	col	—	h
P9	9	B1	①	RNDM	—	○○	REP	S	F
P10	10	B2	1	—	—	REMAIN	—	—	—
P11	11	B3	5DISC	—	—	TOTAL	—	—	—
P12	12	B4	1DISC	—	—	INDEX	—	—	—
P13	13	B5	SAVE	—	—	PROG	—	—	—
P14	—	—	FILE	—	—	—	—	—	—

■ BLOCK DIAGRAM



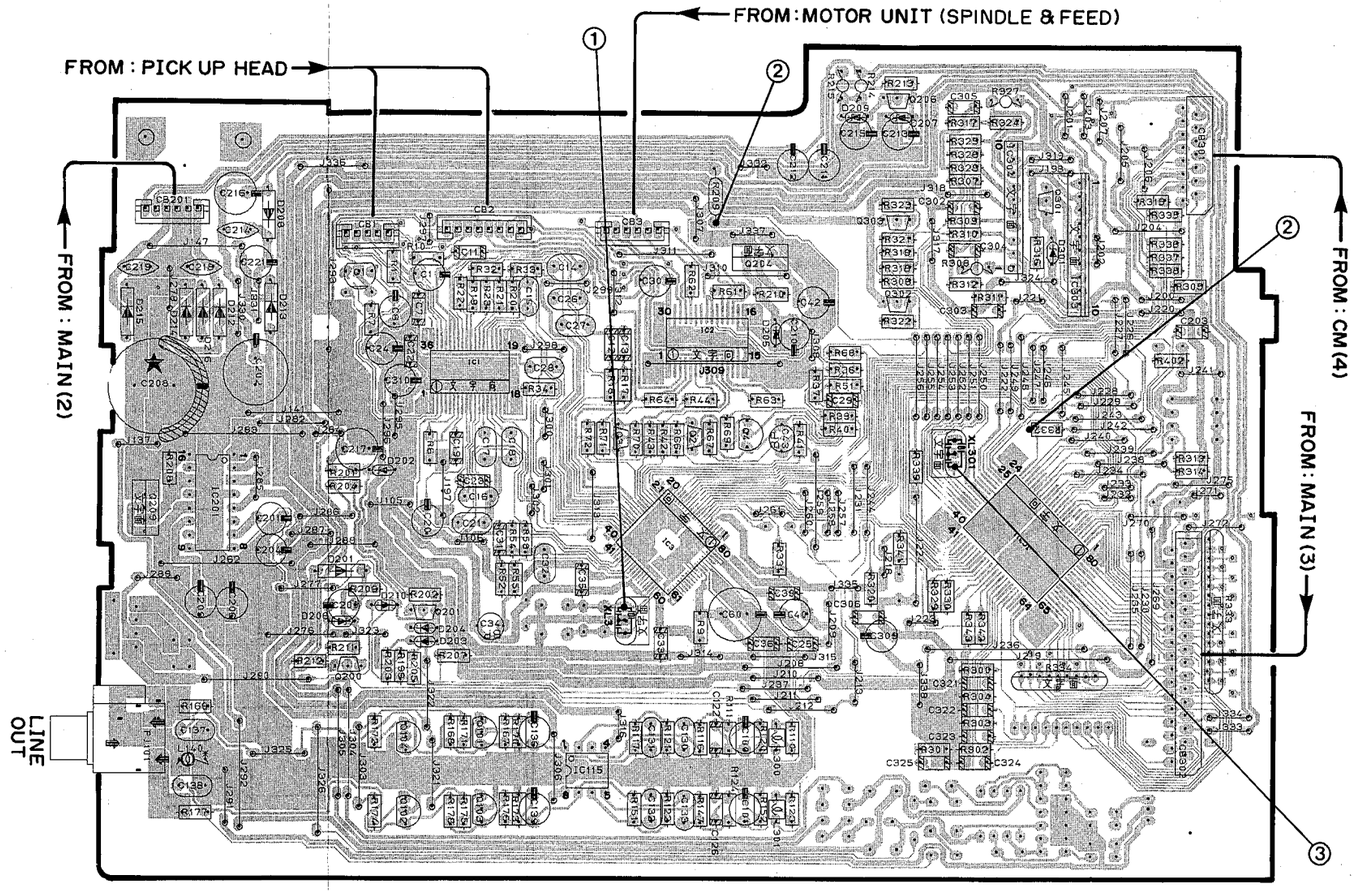
■ CDC-565/CDC-502 PRINTED CIRCUIT BOARD (Foil side)

① to ③ : **TEST POINT WAVEFORMS** (See page 28)

● **Semiconductor Location**

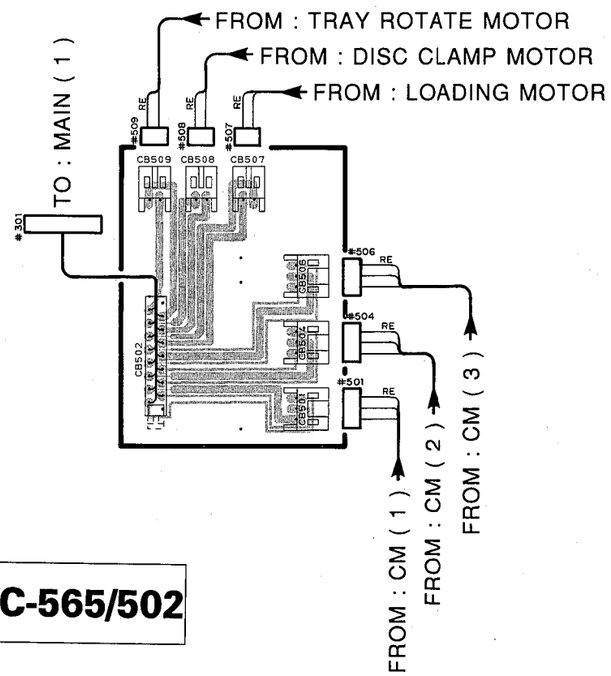
Ref No.	Location
IC1	E3
IC2	F2
IC3	E3
IC115	E4
IC201	D3
IC303	G2
IC304	G2
IC311	G3

Ref No.	Location
Q1	D2
Q2	F3
Q3	E3
Q4	F3
Q101	E4
Q102	E4
Q103	E4
Q104	E4
Q200	D3
Q201	E3
Q204	F2
Q206	F1
Q209	D3
Q301	G2
Q302	F2
Q303	F2



P. C. B. MAIN (1)

P.C.B. CM (4)



P.C.B. CM (1)

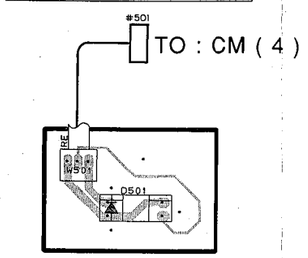
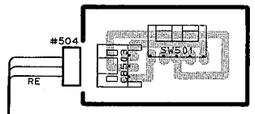


TABLE SENSOR

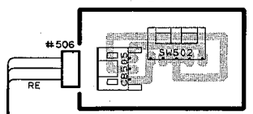
P.C.B. CM (2)

CLAMP UP/DOWN SW



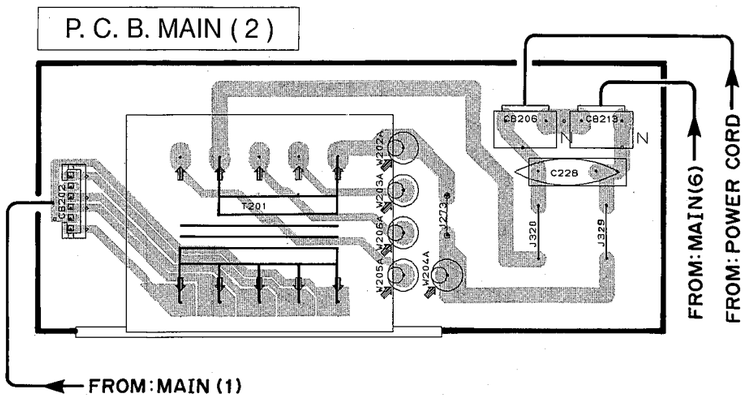
P.C.B. CM (3)

LOADING SW

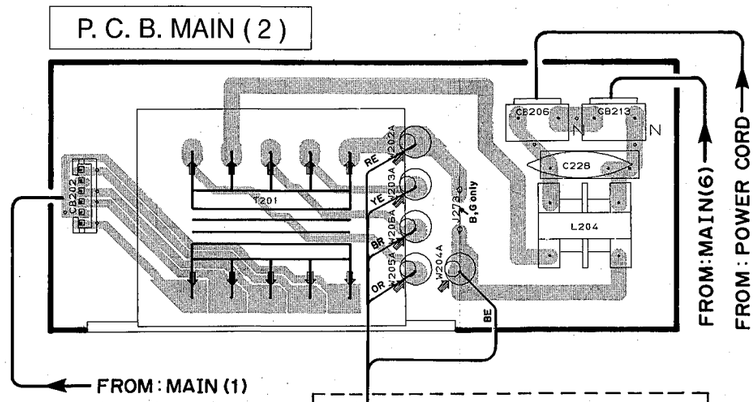


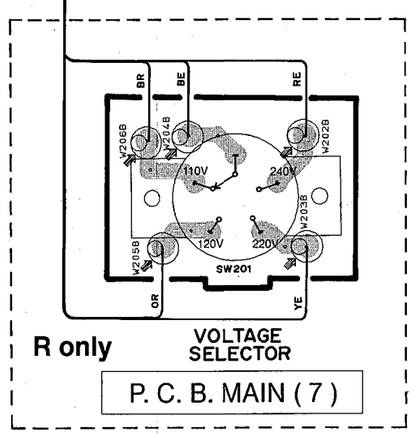
■ CDC-565/CDC-502 PRINTED CIRCUIT BOARD (Foil side)

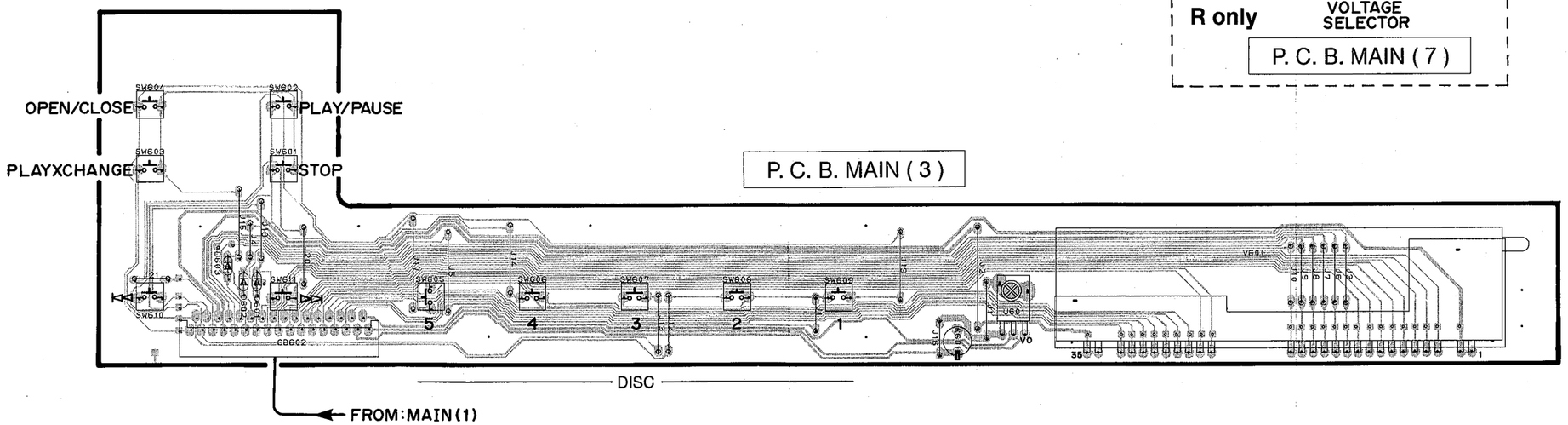
● U, C, A models



● R, G, B models



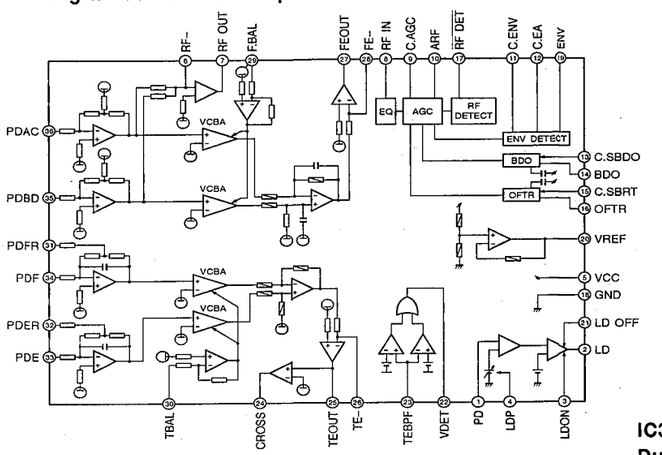




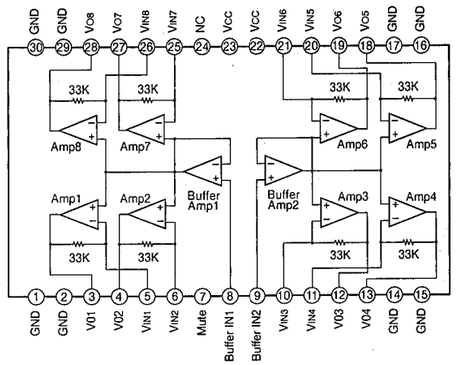
CDC-565/502

■ IC BLOCKS

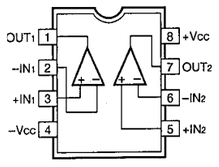
IC1 : AN8803SB
Digital Servo Head Amp



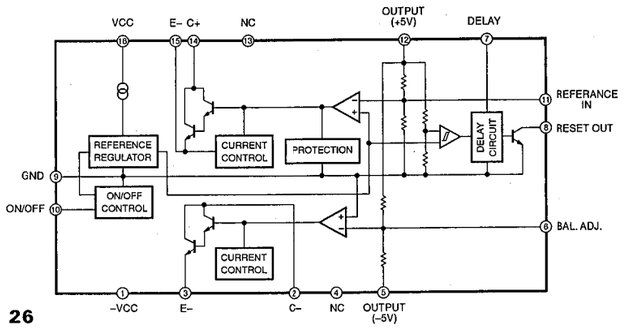
IC2 : LA6536M
4-Channel BTL Driver



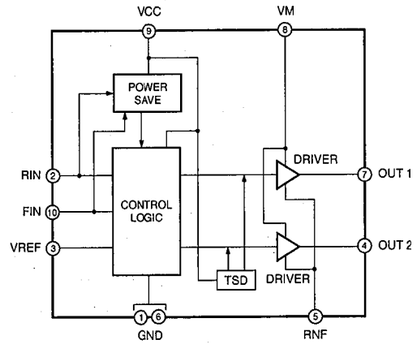
IC115 : NJM2068D-D
IC120 : BA15218
Dual Op-Amp



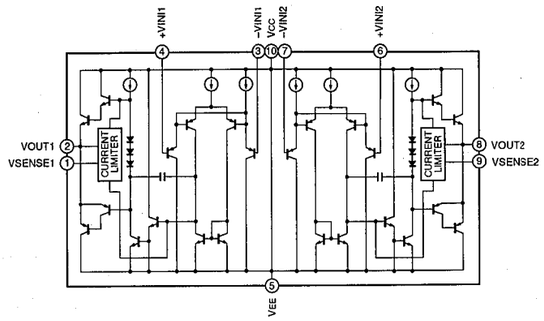
IC201 : M5290P
Constant-Voltage Tracking Supply with Reset



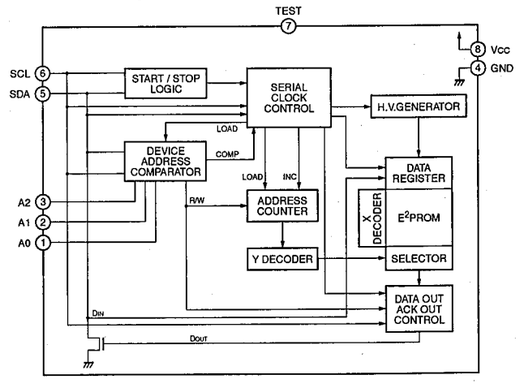
IC303 : BA6286
Motor Driver



IC304 : LA6510
Dual Power Operational Amp



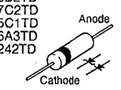
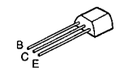
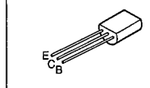
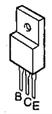
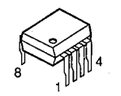
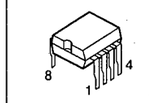
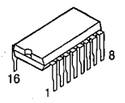
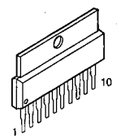
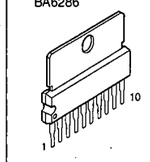
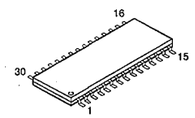
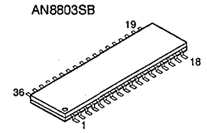
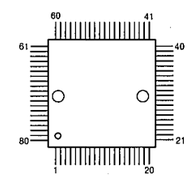
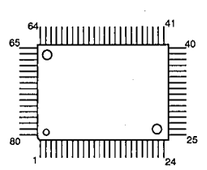
IC320 : S-24C01ADP
Electrically Erasable PROM



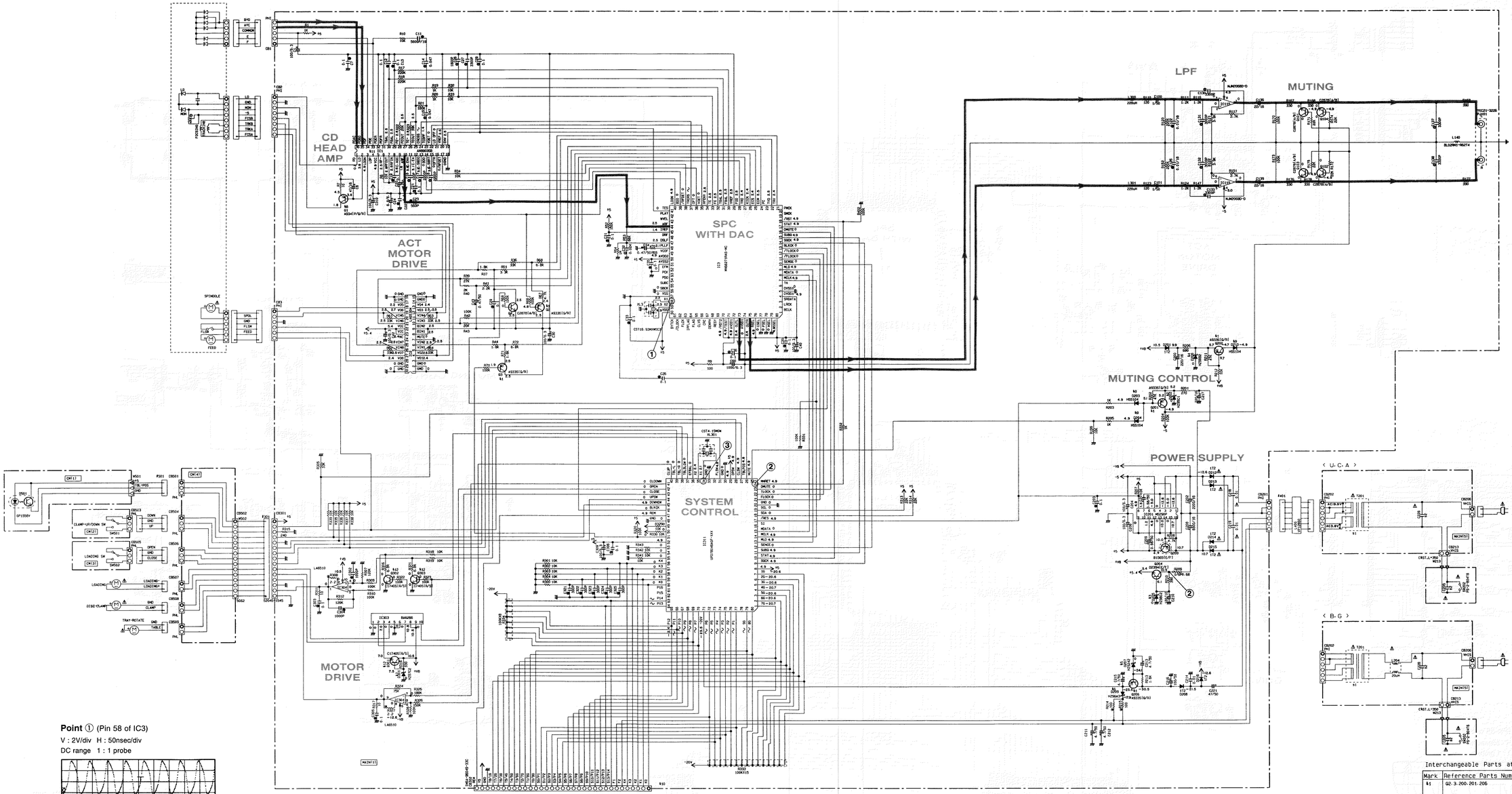
Other ICs

- **IC311 : µPD78044FGF** → See page 15
- **IC3 : MN66271RA** → See page 17

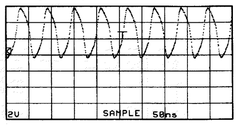
■ PIN CONNECTION DIAGRAM

1SS133 1T2 HZS6C2TD HZS6B2TD HZS7C2TD HZS5C1TD HZS6A3TD HZS242TD 	2SA933S (Q,R) 2SC1740S (R,S) 	2SA934 (P,Q,R) 2SC2878 (A, B) 
22SB1565 (E, F) 2SD2394 (E, F) 	NJM2068D-D 	BA15218 S-24C01ADP 
M5290P 	LA6510 	BA6286 
LA6536M 	AN8803SB 	
MN66271RA 	µPD78044FGF 	

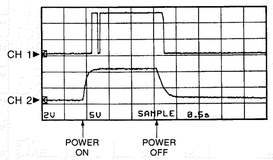
■ CDC-565/CDC-502 SCHEMATIC DIAGRAM



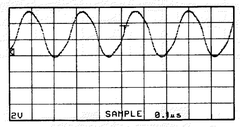
Point ① (Pin 58 of IC3)
V : 2V/div H : 50nsec/div
DC range 1 : 1 probe

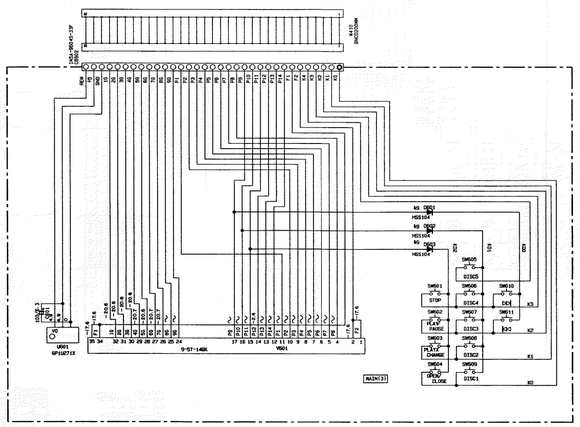


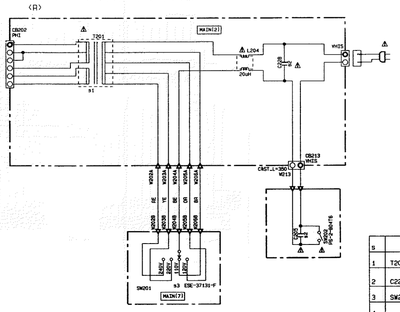
Point ②
CH 1 : Pin 24 of IC311
CH 2 : Collector of Q204
V : 2V/div (CH 1)
V : 5V/div (CH 2)
H : 0.5sec/div
DC range 1 : 1 probe



Point ③ (Pin 34 of IC311)
V : 2V/div H : 0.1μsec/div
DC range 1 : 1 probe







Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
k1	Q2, 3, 200-201, 206	2SA933S(Q/R) 2SA1115(E/F) 2SA1309A(Q/R/S)
k2	D202	HZ5SC1 MTZJ5.1B
k3	D205	HZ6SC2 MTZJ6.2B
k4	D206	HZ6SB2 MTZJ5.6C
k5	D207	HZ5Z42 MTZJ24.0C
k6	D209	HZ6A3 MTZJ5.6B
k7	D301	HZ5TC2 MTZJ7.5C
k8	Q1	2SA934(P/Q/R) 2SB544(E/F/G)
k9	D203.204.210-601~603	HSS104 1SS133 1SS176
k10		
k11	IC1	AN8803SB AN8806SB
k12	Q301-303	2SC1740S(R/S) 2SC2603(E/F) 2SC3311A(Q/R/S)

		U.C	R	A	B.G
1	T201	XL831	XL832	XL833	XL837
2	C228 . C205	FI38410 0.01/400	VS74170 0.01/275	VS74170 0.01/275	VS74170 0.01/275
3	SW201	X	VL90800	X	X
4					
5					

NOTICE (model)
(J)····· JAPANESE
(U)····· U. S. A
(C)····· CANADIAN
(R)····· GENERAL
(A)····· AUSTRALIAN
(B)····· BRITISH
(E)····· EUROPEAN
(T)····· CHINA
(L)····· SINGAPORE

CAPACITOR

REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
◇	TANTALUM CAPACITOR
NO MARK	CERAMIC CAPACITOR
⊕	CERAMIC TUBULAR CAPACITOR
⊕	POLYESTER FILM CAPACITOR
○	POLYSTYRENE FILM CAPACITOR
⊙	MICA CAPACITOR
⊗	POLYPROPILENE FILM CAPACITOR
●	SEMICONDUCTIVE CERAMIC CAPACITOR

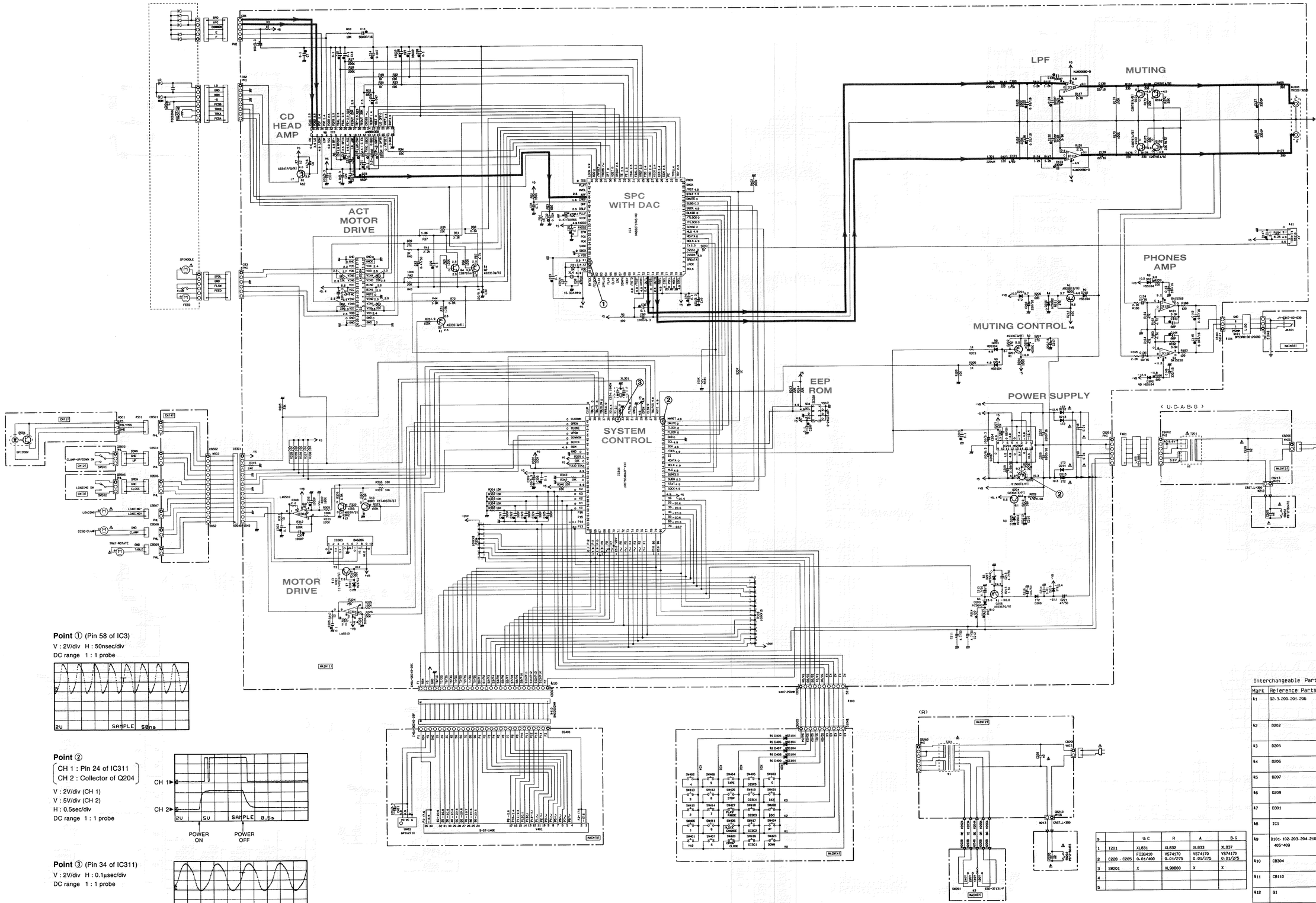
RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
◇	CARBON FILM RESISTOR (P=10)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
⊠	METAL PLATE RESISTOR
◪	FINE PROOF CARBON FILM RESISTOR
□	CEMENT MOLDED RESISTOR
⊘	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

** All voltage are measured with a 10MΩ/V DC electric volt meter.*
** Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.*
** Schematic diagram is subject to change without notice.*

CDC-565/502

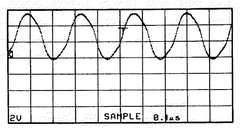
■ CDC-665/CDC-902 SCHEMATIC DIAGRAM



Point ① (Pin 58 of IC3)
V : 2V/div H : 50nsec/div
DC range 1 : 1 probe

Point ②
CH 1 : Pin 24 of IC311
CH 2 : Collector of Q204
V : 2V/div (CH 1)
V : 5V/div (CH 2)
H : 0.5sec/div
DC range 1 : 1 probe

Point ③ (Pin 34 of IC311)
V : 2V/div H : 0.1μsec/div
DC range 1 : 1 probe



NOTICE [model]
(J)····· JAPANESE
(U)····· U.S.A
(C)····· CANADIAN
(R)····· GENERAL
(A)····· AUSTRALIAN
(B)····· BRITISH
(G)····· EUROPEAN
(T)····· CHINA
(L)····· SINGAPORE

** All voltage are measured with a 10MΩ/V DC electric volt meter.*
** Components having special characteristics are marked △ and must be replaced with parts having specifications equal to those originally installed.*
** Schematic diagram is subject to change without notice.*

CAPACITOR

REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
⊗	TANTALUM CAPACITOR
NO MARK	CERAMIC CAPACITOR
◉	CERAMIC TUBULAR CAPACITOR
◎	POLYESTER FILM CAPACITOR
○	POLYSTYRENE FILM CAPACITOR
Ⓜ	MICA CAPACITOR
◈	POLYPROPYLENE FILM CAPACITOR
◆	SEMICONDUCTIVE CERAMIC CAPACITOR

RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
◪	CARBON FILM RESISTOR (P=10)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
◎	METAL PLATE RESISTOR
◪	FIRE PROOF CARBON FILM RESISTOR
□	CEMENT MOLDED RESISTOR
◇	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
&1	Q2-3-200-201-206	2SA933S(Q/R) 2SA1115(E/F) 2SA1309A(Q/R/S)
&2	D202	HZS9C1 MTZJ5.1B
&3	D205	HZS6C2 MTZJ6.2B
&4	D206	HZS6B2 MTZJ5.6C
&5	D207	HZS24 MTZJ24.0C
&6	D209	HZS6A3 MTZJ5.6B
&7	D301	HZS7C2 MTZJ7.5C
&8	IC1	AN8803SB AN8809SB
&9	D101-102-203-204-210 405-409	HSS104 1SS133 1SS176
&10	CB304	52045-28P
&11	CB110	T0TX174 T0TX176
&12	Q1	2SA934(P/Q/R) 2SB544(E/F/G)
&13	Q301-303	2SC1740S(R/S) 2SC2603(E/F) 2SC3311A(Q/R/S)

		U-C	R	A	B-G
1	T201	XL831	XL832	XL833	XL837
2	C226 . C205	F136410 0.01/400	VS74170 0.01/275	VS74170 0.01/275	VS74170 0.01/275
3	SW201	X	VL90800	X	X
4					
5					

■ CDC-665/CDC-902 PRINTED CIRCUIT BOARD (Foil side)

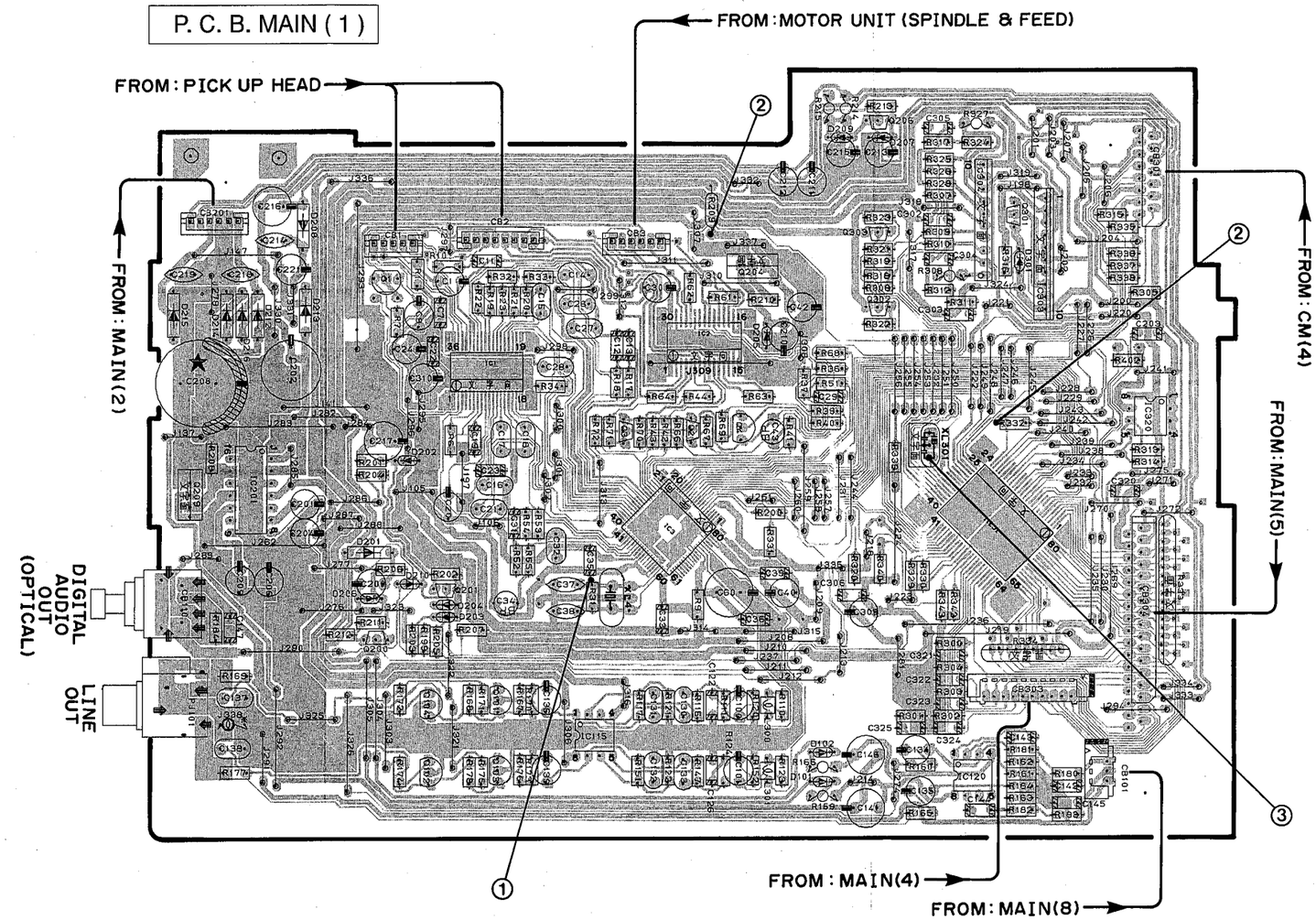
① to ③ : **TEST POINT WAVEFORMS** (See page 29)

● **Semiconductor Location**

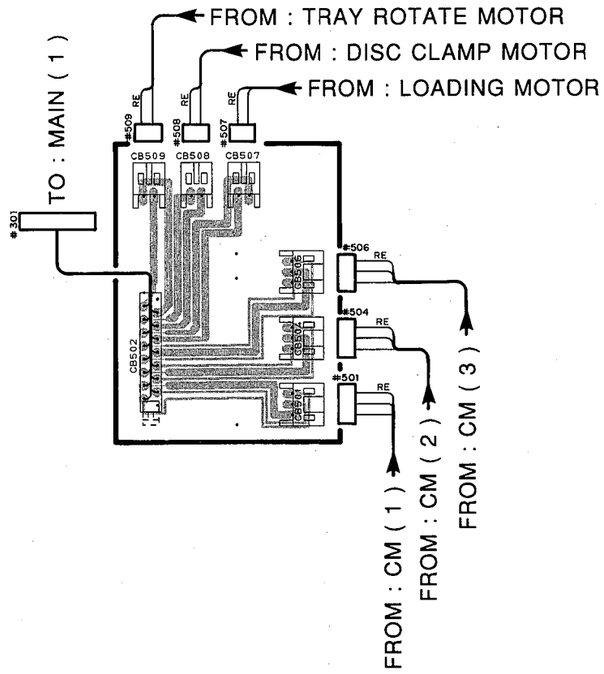
Ref No.	Location
IC1	E2
IC2	F2
IC3	E3
IC115	E4
IC120	G4
IC201	D3
IC303	G2
IC304	G2
IC311	G3
IC320	G3

Ref No.	Location
Q1	D2
Q2	F3
Q3	E3
Q4	F3
Q101	E4
Q102	E4
Q103	E4
Q104	E4
Q200	D3
Q201	E3
Q204	F2
Q206	F1
Q209	D3
Q301	G2
Q302	F2
Q303	F2

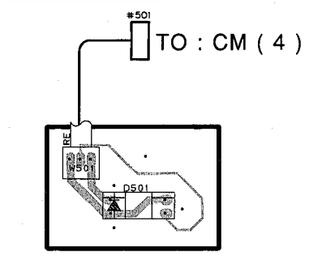
P. C. B. MAIN (1)



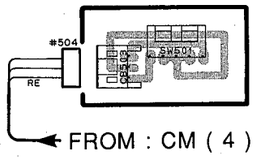
P.C.B. CM (4)



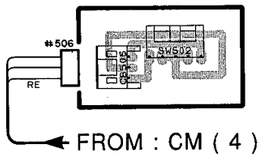
P.C.B. CM (1)



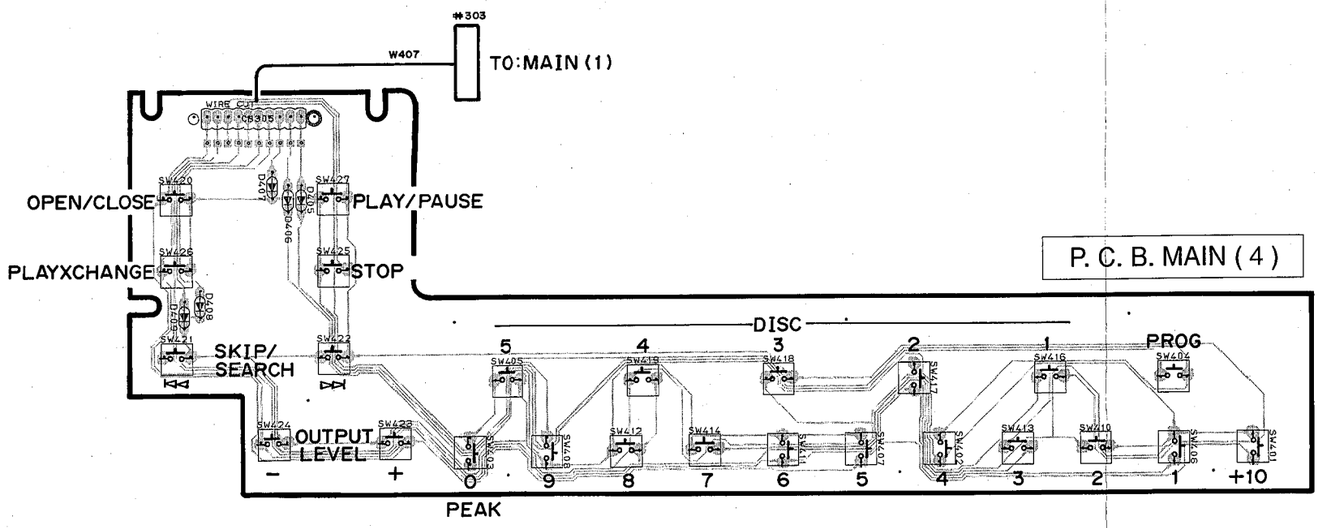
P.C.B. CM (2)



P.C.B. CM (3)

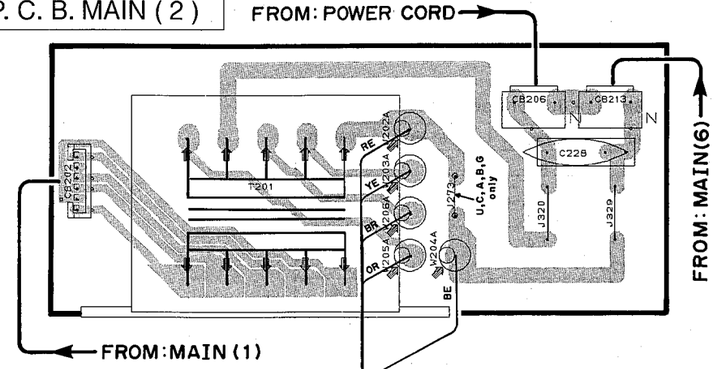


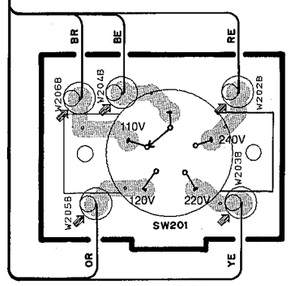
■ CDC-665/CDC-902 PRINTED CIRCUIT BOARD (Foil side)



P. C. B. MAIN (4)

P. C. B. MAIN (2)

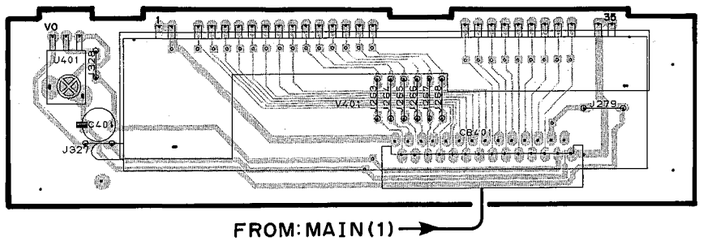




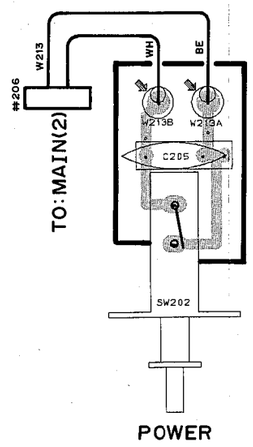
R only

P. C. B. MAIN (7)

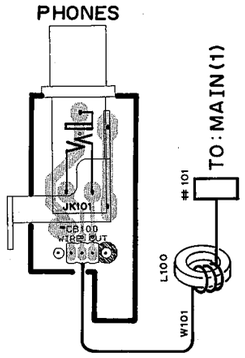
P. C. B. MAIN (5)



P. C. B. MAIN (6)



P. C. B. MAIN (8)



CDC-665/902

PARTS LIST
■ ELECTRICAL PARTS

■ **WARNING**
Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.

- Carbon resistors (1/6W or 1/4W) are not included in the ELECTRICAL PARTS List. For the parts No. of the carbon resistors, refer to last page.

ABBREVIATIONS IN THIS LIST ARE AS FOLLOWS :

C.A.EL.CHP	: CHIP ALUMI. ELECTROLYTIC CAP
C.CE	: CERAMIC CAP
C.CE.ARRAY	: CERAMIC CAP ARRAY
C.CE.CHP	: CHIP CERAMIC CAP
C.CE.ML	: MULTILAYER CERAMIC CAP
C.CE.M.CHP	: CHIP MULTILAYER CERAMIC CAP
C.CE.SAFTY	: RECOGNIZED CERAMIC CAP
C.CE.TUBLR	: CERAMIC TUBULAR CAP
C.CE.SMI	: SEMI CONDUCTIVE CERAMIC CAP
C.EL	: ELECTROLYTIC CAP
C.MICA	: MICA CAP
C.ML.FLM	: MULTILAYER FILM CAP
C.MP	: METALLIZED PAPER CAP
C.MYLAR	: MYLAR FILM CAP
C.MYLAR.ML	: MULTILAYER MYLAR FILM CAP
C.PAPER	: PAPER CAPACITOR
C.PLS	: POLYSTYRENE FILM CAP
C.POL	: POLYESTER FILM CAP
C.POLY	: POLYETHYLENE FILM CAP
C.PP	: POLYPROPYLENE FILM CAP
C.TNTL	: TANTALUM CAP
C.TNTL.CHP	: CHIP TANTALUM CAP
C.TRIM	: TRIMMER CAP
CN	: CONNECTOR
CN.BS.PIN	: CONNECTOR, BASE PIN
CN.CANNON	: CONNECTOR, CANNON
CN.DIN	: CONNECTOR, DIN
CN.FLAT	: CONNECTOR, FLAT CABLE
CN.POST	: CONNECTOR, BASE POST
COIL.MX.AM	: COIL, AM MIX
COIL.AT.FM	: COIL, FM ANTENNA
COIL.DT.FM	: COIL, FM DETECT
COIL.MX.FM	: COIL, FM MIX
COIL.OUTPT	: OUTPUT COIL
DIOD.ARRAY	: DIODE ARRAY
DIODE.BRG	: DIODE BRIDGE
DIODE.CHP	: CHIP DIODE
DIODE.VAR	: VARACTOR DIODE
DIOD.Z.CHP	: CHIP ZENER DIODE
DIODE.ZENR	: ZENER DIODE
DSCR.CE	: CERAMIC DISCRIMINATOR
FER.BEAD	: FERRITE BEADS
FER.CORE	: FERRITE CORE
FET.CHP	: CHIP FET
FL.DSPLY	: FLUORESCENT DISPLAY
FLTR.CE	: CERAMIC FILTER
FLTR.COMB	: COMB FILTER MODULE
FLTR.LC.RF	: LC FILTER ,EMI
GND.MTL	: GROUND PLATE
GND.TERM	: GROUND TERMINAL
HOLDER.FUS	: FUSE HOLDER
IC.PRTCT	: IC PROTECTOR
JUMPER.CN	: JUMPER CONNECTOR
JUMPER.TST	: JUMPER, TEST POINT
L.DTCT	: LIGHT DETECTING MODULE
L.EMIT	: LIGHT EMITTING MODULE
LED.DSPLY	: LED DISPLAY
LED.INFRD	: LED, INFRARED
MODUL.RF	: MODULATOR, RF
PHOT.CPL	: PHOTO COUPLER
PHOT.INTR	: PHOTO INTERRUPTER
PHOT.RFLCT	: PHOTO REFLECTOR
PIN.TEST	: PIN, TEST POINT
PLST.RIVET	: PLASTIC RIVET
R.ARRAY	: RESISTOR ARRAY
R.CAR	: CARBON RESISTOR
R.CAR.CHP	: CHIP RESISTOR
R.CAR.FP	: FLAME PROOF CARBON RESISTOR
R.FUS	: FUSABLE RESISTOR
R.MTL.CHP	: CHIP METAL FILM RESISTOR
R.MTL.FLM	: METAL FILM RESISTOR
R.MTL.OXD	: METAL OXIDE FILM RESISTOR
R.MTL.PLAT	: METAL PLATE RESISTOR
RSNR.CE	: CERAMIC RESONATOR
RSNR.CRYS	: CRYSTAL RESONATOR
R.TW.CEM	: TWIN CEMENT FIXED RESISTOR
R.WW	: WIRE WOUND RESISTOR
SCR.BND.HD	: BIND HEAD B-TITE SCREW
SCR.BW.HD	: BW HEAD TAPPING SCREW
SCR.CUP	: CUP TITE SCREW
SCR.TERM	: SCREW TERMINAL
SCR.TR	: SCREW, TRANSISTOR
SUPRT.PCB	: SUPPORT, P.C.B.
SURG.PRTCT	: SURGE PROTECTOR
SW.TACT	: TACT SWITCH
SW.LEAF	: LEAF SWITCH
SW.LEVER	: LEVER SWITCH
SW.MICRO	: MICRO SWITCH
SW.PUSH	: PUSH SWITCH
SW.RT.ENC	: ROTARY ENCODER
SW.RT.MTR	: ROTARY SWITCH WITH MOTOR
SW.RT	: ROTARY SWITCH
SW.SLIDE	: SLIDE SWITCH
TERM.SP	: SPEAKER TERMINAL
TERM.WRAP	: WRAPPING TERMINAL
THRMST.CHP	: CHIP THERMISTOR
TR.CHP	: CHIP TRANSISTOR
TR.DGT	: DIGITAL TRANSISTOR
TR.DGT.CHP	: CHIP DIGITAL TRANSISTOR
TRANS	: TRANSFORMER
TRANS.PULS	: PULSE TRANSFORMER
TRANS.PWR	: POWER TRANSFORMER ASS'y
TUNER.AM	: TUNER PACK, AM
TUNER.FM	: TUNER PACK, FM
TUNER.PK	: FRONT-END TUNER PACK
VR	: ROTARY POTENTIOMETER
VR.MTR	: POTENTIOMETER WITH MOTOR
VR.SW	: POTENTIOMETER WITH ROTARY SW
VR.SLIDE	: SLIDE POTENTIOMETER
VR.TRIM	: TRIMMER POTENTIOMETER

Note) Those parts marked with "#" are not included in the P.C.B. ass'y.

CDC-565/CDC-502 P.C.B. MAIN

	Schm Ref.	PART NO.	Description	
*		VV358600	P.C.B.	MAIN(UC)
*		VV358700	P.C.B.	MAIN(R)
*		VV358800	P.C.B.	MAIN(A)
*		VV358900	P.C.B.	MAIN(BG)
	CB1	VD004800	CN.BS.PIN	5P
	CB2	VD005100	CN.BS.PIN	8P
	CB3	VD004900	CN.BS.PIN	6P
	CB201	VD004900	CN.BS.PIN	6P
	CB202	VD004900	CN.BS.PIN	6P
	CB206	VG879900	CN.BS.PIN	2P
	CB213	VG879900	CN.BS.PIN	2P
	CB301	VM859600	CN.BS.PIN	15P
*	CB302	VU273300	CN.BS.PIN	33P
*	CB602	VU283300	CN.BS.PIN	33P
	C1	VF760000	C.EL	100uF 10V
	C7	VH053100	C.CE.TUBLR	0.1uF 50V
	C8	VJ837200	C.EL	47uF 16V
	C11	VG279800	C.CE.TUBLR	5600pF 16V
	C12	VH053100	C.CE.TUBLR	0.1uF 50V
	C13	VH053100	C.CE.TUBLR	0.1uF 50V
	C14	UA654470	C.MYLAR	0.047uF 50V
	C15	UA653470	C.MYLAR	4700pF 50V
	C16	UA652100	C.MYLAR	100pF 50V
	C17	UA653220	C.MYLAR	2200pF 50V
	C18	UA653220	C.MYLAR	2200pF 50V
	C19	VH053100	C.CE.TUBLR	0.1uF 50V
	C20	VJ839100	C.EL	1uF 50V
	C21	UA655100	C.MYLAR	0.1uF 50V
	C22	VH053100	C.CE.TUBLR	0.1uF 50V
	C23	VG278800	C.CE.TUBLR	560pF 50V
	C24	VR498100	C.EL	6.8uF 6.3V
	C25	VH053100	C.CE.TUBLR	0.1uF 50V
	C26	UA653180	C.MYLAR	1800pF 50V
	C27	UA653330	C.MYLAR	3300pF 50V
	C28	UA655100	C.MYLAR	0.1uF 50V
	C29	VH053100	C.CE.TUBLR	0.1uF 50V
	C30	VF760000	C.EL	100uF 10V
	C31	VH053100	C.CE.TUBLR	0.1uF 50V
	C32	UA654240	C.MYLAR	0.024uF 50V
	C33	VH053100	C.CE.TUBLR	0.1uF 50V
	C34	UK665470	C.EL	0.47uF 50V
	C35	VH053100	C.CE.TUBLR	0.1uF 50V
	C36	VH053100	C.CE.TUBLR	0.1uF 50V
	C39	VH053100	C.CE.TUBLR	0.1uF 50V
	C40	VF760000	C.EL	100uF 10V
	C42	VF760000	C.EL	100uF 10V
	C43	UK665470	C.EL	0.47uF 50V
	C60	VF637900	C.EL	1000uF 10V
	C100	VJ839100	C.EL	1uF 50V
	C101	VJ839100	C.EL	1uF 50V
	C122	VF467300	C.CE.TUBLR	0.01uF 16V
	C126	VF467300	C.CE.TUBLR	0.01uF 16V
	C130	UA653330	C.MYLAR	3300pF 50V

*New Parts

	Schm Ref.	PART NO.	Description	
	C131	UA653300	C.MYLAR	3000pF 50V
	C132	UA653300	C.MYLAR	3000pF 50V
	C133	UA653330	C.MYLAR	3300pF 50V
	C136	UM407220	C.EL	22uF 16V
	C137	UA653330	C.MYLAR	3300pF 50V
	C138	UA653330	C.MYLAR	3300pF 50V
	C139	UM407220	C.EL	22uF 16V
	C200	UJ648220	C.EL	220uF 25V
	C201	UJ865680	C.EL	0.68uF 50V
	C202	VF904800	C.EL	2200uF 16V
	C203	VH053100	C.CE.TUBLR	0.1uF 50V
	C204	VF760000	C.EL	100uF 10V
⚠	C205	Fi384100	C.CE.SAFTY	0.01uF 400V(UC)
⚠	C205	VS741700	C.CE.SAFTY	0.01uF 275V(RABG)
	C206	VF760000	C.EL	100uF 10V
	C208	VH507200	C.EL	6800uF 16V
	C209	UJ865680	C.EL	0.68uF 50V
	C210	VF760000	C.EL	100uF 10V
	C211	UM416470	C.EL	4.7uF 50V
	C212	UM416470	C.EL	4.7uF 50V
	C213	UM416470	C.EL	4.7uF 50V
	C214	FG214100	C.CE	0.01uF 50V
	C215	UM416470	C.EL	4.7uF 50V
	C216	UJ668100	C.EL	100uF 50V
	C217	UJ648220	C.EL	220uF 25V
⚠	C218	FG214100	C.CE	0.01uF 50V
⚠	C219	FG214100	C.CE	0.01uF 50V
	C221	UJ667470	C.EL	47uF 50V
⚠	C228	Fi384100	C.CE.SAFTY	0.01uF 400V(UC)
⚠	C228	VS741700	C.CE.SAFTY	0.01uF 275V(RABG)
	C302	VF467000	C.CE.TUBLR	1000pF 50V
	C303	VH053100	C.CE.TUBLR	0.1uF 50V
	C304	VF467000	C.CE.TUBLR	1000pF 50V
	C305	VH053100	C.CE.TUBLR	0.1uF 50V
	C306	VH053100	C.CE.TUBLR	0.1uF 50V
	C309	VF760000	C.EL	100uF 10V
	C310	VF760000	C.EL	100uF 10V
	C321	VG278700	C.CE.TUBLR	390pF 50V
	C322	VG278700	C.CE.TUBLR	390pF 50V
	C323	VG278700	C.CE.TUBLR	390pF 50V
	C324	VG278700	C.CE.TUBLR	390pF 50V
	C325	VG278700	C.CE.TUBLR	390pF 50V
	C601	VF760000	C.EL	100uF 10V
	D201	VS997800	DIODE	1T2
	D202	VP642400	DIODE.ZENR	HZS5C1 5.0V
	D203	VD631600	DIODE	1SS133,176,HSS104
	D204	VD631600	DIODE	1SS133,176,HSS104
	D205	VM974500	DIODE.ZENR	HZS6C2TD 6.0V
	D206	VM974400	DIODE.ZENR	HZS6B2TD 6.0V
	D207	VM976300	DIODE.ZENR	HZS242TD 24V
	D208	VS997800	DIODE	1T2
	D209	VP642500	DIODE.ZENR	HZS6A3 6.0V
	D210	VD631600	DIODE	1SS133,176,HSS104

*New Parts

CDC-565/CDC-502 P.C.B. MAIN & CM

	Schm Ref.	PART NO.	Description	
	D212	VS997800	DIODE	1T2
⚠	D213	VS997800	DIODE	1T2
⚠	D214	VS997800	DIODE	1T2
⚠	D215	VS997800	DIODE	1T2
	D216	VS997800	DIODE	1T2
	D301	VM974800	DIODE. ZENR	HZS7C2TD 7.0V
	D601	VD631600	DIODE	1SS133, 176, HSS104
	D602	VD631600	DIODE	1SS133, 176, HSS104
	D603	VD631600	DIODE	1SS133, 176, HSS104
	IC1	XM571A00	IC	AN8803SB
	IC2	XN105A00	IC	LA6536M
	IC3	XM572A00	IC	MN66271
	IC115	XA987001	IC	NJM2068D
	IC201	XD201A00	IC	M5290P
	IC303	XQ135A00	IC	BA6286
	IC304	XF947A00	IC	LA6510
*	IC311	XS352A00	IC	uPD78048AGF-XXXX
	L140	VP133800	FER. BEAD	BL02RN1-R62T4
⚠	L204	VH227500	FLTR	20uH(RBG)
	L300	Vi546100	COIL	220uH
	L301	Vi546100	COIL	220uH
*	PJ101	VV411100	JACK. PIN	2P
	Q1	iA093410	TR	2SA934 P, Q, R
	Q2	iA093320	TR	2SA933S Q, R
	Q3	iA093320	TR	2SA933S Q, R
	Q4	iC287820	TR	2SC2878 A, B
	Q101	iC287820	TR	2SC2878 A, B
	Q102	iC287820	TR	2SC2878 A, B
	Q103	iC287820	TR	2SC2878 A, B
	Q104	iC287820	TR	2SC2878 A, B
	Q200	iA093320	TR	2SA933S Q, R
	Q201	iA093320	TR	2SA933S Q, R
	Q204	VS883400	TR	2SD2394 E, F
	Q206	iA093320	TR	2SA933S Q, R
	Q209	VS883300	TR	2SB1565 E, F
	Q301	iC174020	TR	2SC1740S R, S
	Q302	iC174020	TR	2SC1740S R, S
	Q303	iC174020	TR	2SC1740S R, S
	R209	Vi868300	R. FUS	0.68Ω 1/6W
	R214	HV455100	R. CAR. FP	100Ω 1/4W
	R215	HV455100	R. CAR. FP	100Ω 1/4W
	R308	HV453220	R. CAR. FP	2.2Ω 1/4W
	R327	HV453220	R. CAR. FP	2.2Ω 1/4W
*	R333	VU675000	R. ARRAY	RGLE15X104J
	R334	VF772300	R. ARRAY	RGLE8X104J
⚠	SW201	VL908000	VOLT. SELCT	ESE-370(R)
⚠	SW202	VV057600	SW. PUSH	PS-2B04T6
	SW601	VG392900	SW. TACT	SKHVAA
	SW602	VG392900	SW. TACT	SKHVAA
	SW603	VG392900	SW. TACT	SKHVAA
	SW604	VG392900	SW. TACT	SKHVAA
	SW605	VG392900	SW. TACT	SKHVAA
	SW606	VG392900	SW. TACT	SKHVAA

* New Parts

	Schm Ref.	PART NO.	Description	
	SW607	VG392900	SW. TACT	SKHVAA
	SW608	VG392900	SW. TACT	SKHVAA
	SW609	VG392900	SW. TACT	SKHVAA
	SW610	VG392900	SW. TACT	SKHVAA
	SW611	VG392900	SW. TACT	SKHVAA
⚠	T201	XL831A00	TRANS. PWR	(UC)
⚠	T201	XL832A00	TRANS. PWR	(R)
⚠	T201	XL833A00	TRANS. PWR	(A)
⚠	T201	XL837A00	TRANS. PWR	(BG)
	U601	VU591000	L. DTCT	GP1U271X
	V601	VS415000	FL. DSPLY	9-ST-14GK
	XL3	VY758000	RSNR. CE	16.93MHz
	XL301	VJ677200	RSNR. CE	4.19MHz
		VB966900	CN	IMSA-6024
		VA119100	HEAT. SINK	
		VQ713000	SUPRT	FL
		VQ948800	SHEET	FL
		VS778600	P. C. B.	CM
	CB501	VB858200	CN. BS. PIN	3P
	CB502	VM689400	CN	15P
	CB503	VB858200	CN. BS. PIN	3P
	CB504	VB858200	CN. BS. PIN	3P
	CB505	VB858200	CN. BS. PIN	3P
	CB506	VB858200	CN. BS. PIN	3P
	CB507	VB858100	CN. BS. PIN	2P
	CB508	VB858100	CN. BS. PIN	2P
	CB509	VB858100	CN. BS. PIN	2P
	D501	VT599500	PHOT. INTR	GP1S58V
	SW501	Vi294000	SW. LEVER	SSCF21
	SW502	Vi294000	SW. LEVER	SSCF21
	W501	VS841400	CN. ASSY	3P 250mm
	W502	VT033200	CN. FLAT	15P 120mm

* New Parts

CDC-665/CDC-902 P.C.B. MAIN

	Schm Ref.	PART NO.	Description		
*		VV365700	P.C.B.	MAIN(UC)	
*		VV365800	P.C.B.	MAIN(R)	
*		VV365900	P.C.B.	MAIN(A)	
*		VV366000	P.C.B.	MAIN(BG)	
	CB1	VD004800	CN.BS.PIN	5P	
	CB2	VD005100	CN.BS.PIN	8P	
	CB3	VD004900	CN.BS.PIN	6P	
	CB100	Vi878100	CN.BS.PIN	3P	
	CB101	VK024700	CN.BS.PIN	3P	
	CB110	VG067200	L.EMIT	TOTX174	
	CB201	VD004900	CN.BS.PIN	6P	
	CB202	VD004900	CN.BS.PIN	6P	
	CB206	VG879900	CN.BS.PIN	2P	
	CB213	VG879900	CN.BS.PIN	2P	
	CB301	VM859600	CN.BS.PIN	15P	
	CB303	VF728200	CN.BS.PIN	10P	
*	CB304	VU272800	CN.BS.PIN	28P	
	CB305	Vi878800	CN.BS.PIN	10P	
*	CB401	VU282800	CN.BS.PIN	28P	
	C1	VF760000	C.EL	100uF	10V
	C7	VH053100	C.CE.TUBLR	0.1uF	50V
	C8	VJ837200	C.EL	47uF	16V
	C11	VG279800	C.CE.TUBLR	5600pF	16V
	C12	VH053100	C.CE.TUBLR	0.1uF	50V
	C13	VH053100	C.CE.TUBLR	0.1uF	50V
	C14	UA654470	C.MYLAR	0.047uF	50V
	C15	UA653470	C.MYLAR	4700pF	50V
	C16	UA652100	C.MYLAR	100pF	50V
	C17	UA653220	C.MYLAR	2200pF	50V
	C18	UA653220	C.MYLAR	2200pF	50V
	C19	VH053100	C.CE.TUBLR	0.1uF	50V
	C20	VJ839100	C.EL	1uF	50V
	C21	UA655100	C.MYLAR	0.1uF	50V
	C22	VH053100	C.CE.TUBLR	0.1uF	50V
	C23	VG278800	C.CE.TUBLR	560pF	50V
	C24	VR498100	C.EL	6.8uF	6.3V
	C26	UA653180	C.MYLAR	1800pF	50V
	C27	UA653330	C.MYLAR	3300pF	50V
	C28	UA655100	C.MYLAR	0.1uF	50V
	C29	VH053100	C.CE.TUBLR	0.1uF	50V
	C30	VF760000	C.EL	100uF	10V
	C31	VH053100	C.CE.TUBLR	0.1uF	50V
	C32	UA654240	C.MYLAR	0.024uF	50V
	C33	VH053100	C.CE.TUBLR	0.1uF	50V
	C34	UK665470	C.EL	0.47uF	50V
	C35	VH053100	C.CE.TUBLR	0.1uF	50V
	C36	VH053100	C.CE.TUBLR	0.1uF	50V
	C37	VA761400	C.CE	47pF	50V
	C38	VA761400	C.CE	47pF	50V
	C39	VH053100	C.CE.TUBLR	0.1uF	50V
	C40	VF760000	C.EL	100uF	10V
	C42	VF760000	C.EL	100uF	10V
	C43	UK665470	C.EL	0.47uF	50V

*New Parts

	Schm Ref.	PART NO.	Description		
	C60	VF637900	C.EL	1000uF	10V
	C100	VJ839100	C.EL	1uF	50V
	C101	VJ839100	C.EL	1uF	50V
	C122	VF467300	C.CE.TUBLR	0.01uF	16V
	C126	VF467300	C.CE.TUBLR	0.01uF	16V
	C130	UA653330	C.MYLAR	3300pF	50V
	C131	UA653300	C.MYLAR	3000pF	50V
	C132	UA653300	C.MYLAR	3000pF	50V
	C133	UA653330	C.MYLAR	3300pF	50V
	C134	VJ836900	C.EL	10uF	16V
	C135	VJ836900	C.EL	10uF	16V
	C136	UM407220	C.EL	22uF	16V
	C137	UA653330	C.MYLAR	3300pF	50V
	C138	UA653330	C.MYLAR	3300pF	50V
	C139	UM407220	C.EL	22uF	16V
	C141	UJ638330	C.EL	330uF	16V
	C142	VJ599000	C.CE.TUBLR	0.047uF	16V
	C143	VG277700	C.CE.TUBLR	68pF	50V
	C144	VG277700	C.CE.TUBLR	68pF	50V
	C145	VJ599000	C.CE.TUBLR	0.047uF	16V
	C146	UJ638330	C.EL	330uF	16V
	C147	VH053100	C.CE.TUBLR	0.1uF	50V
	C200	UJ648220	C.EL	220uF	25V
	C201	UJ865680	C.EL	0.68uF	50V
	C202	VF904800	C.EL	2200uF	16V
	C203	VH053100	C.CE.TUBLR	0.1uF	50V
	C204	VF760000	C.EL	100uF	10V
⚠	C205	Fi384100	C.CE.SAFTY	0.01uF	400V(UC)
⚠	C205	VS741700	C.CE.SAFTY	0.01uF	275V(RABG)
	C206	VF760000	C.EL	100uF	10V
	C208	VH507200	C.EL	6800uF	16V
	C209	UJ865680	C.EL	0.68uF	50V
	C210	VF760000	C.EL	100uF	10V
	C211	UM416470	C.EL	4.7uF	50V
	C212	UM416470	C.EL	4.7uF	50V
	C213	UM416470	C.EL	4.7uF	50V
	C214	FG214100	C.CE	0.01uF	50V
	C215	UM416470	C.EL	4.7uF	50V
	C216	UJ668100	C.EL	100uF	50V
	C217	UJ648220	C.EL	220uF	25V
⚠	C218	FG214100	C.CE	0.01uF	50V
⚠	C219	FG214100	C.CE	0.01uF	50V
	C221	UJ667470	C.EL	47uF	50V
⚠	C228	Fi384100	C.CE.SAFTY	0.01uF	400V(UC)
⚠	C228	VS741700	C.CE.SAFTY	0.01uF	275V(RABG)
	C302	VF467000	C.CE.TUBLR	1000pF	50V
	C303	VH053100	C.CE.TUBLR	0.1uF	50V
	C304	VF467000	C.CE.TUBLR	1000pF	50V
	C305	VH053100	C.CE.TUBLR	0.1uF	50V
	C306	VH053100	C.CE.TUBLR	0.1uF	50V
	C309	VF760000	C.EL	100uF	10V
	C310	VF760000	C.EL	100uF	10V
	C320	VH053100	C.CE.TUBLR	0.1uF	50V

*New Parts

CDC-665/CDC-902 P.C.B. MAIN

	Schm Ref.	PART NO.	Description	
	C321	VG278700	C.CE.TUBLR	390pF 50V
	C322	VG278700	C.CE.TUBLR	390pF 50V
	C323	VG278700	C.CE.TUBLR	390pF 50V
	C324	VG278700	C.CE.TUBLR	390pF 50V
	C325	VG278700	C.CE.TUBLR	390pF 50V
	C401	VF760000	C.EL	100uF 10V
	D101	VD631600	DIODE	1SS133,176,HSS104
	D102	VD631600	DIODE	1SS133,176,HSS104
	D201	VS997800	DIODE	1T2
	D202	VP642400	DIODE.ZENR	HZS5C1 5.0V
	D203	VD631600	DIODE	1SS133,176,HSS104
	D204	VD631600	DIODE	1SS133,176,HSS104
	D205	VM974500	DIODE.ZENR	HZS6C2TD 6.0V
	D206	VM974400	DIODE.ZENR	HZS6B2TD 6.0V
	D207	VM976300	DIODE.ZENR	HZS242TD 24V
	D208	VS997800	DIODE	1T2
	D209	VP642500	DIODE.ZENR	HZS6A3 6.0V
	D210	VD631600	DIODE	1SS133,176,HSS104
⚠	D212	VS997800	DIODE	1T2
⚠	D213	VS997800	DIODE	1T2
⚠	D214	VS997800	DIODE	1T2
⚠	D215	VS997800	DIODE	1T2
	D216	VS997800	DIODE	1T2
	D301	VM974800	DIODE.ZENR	HZS7C2TD 7.0V
	D405	VD631600	DIODE	1SS133,176,HSS104
	D406	VD631600	DIODE	1SS133,176,HSS104
	D407	VD631600	DIODE	1SS133,176,HSS104
	D408	VD631600	DIODE	1SS133,176,HSS104
	D409	VD631600	DIODE	1SS133,176,HSS104
	IC1	XM571A00	IC	AN8803SB
	IC2	XN105A00	IC	LA6536M
	IC3	XM572A00	IC	MN66271
	IC115	XA987001	IC	NJM2068D
	IC120	Xi249A00	IC	BA15218
	IC201	XD201A00	IC	M5290P
	IC303	XQ135A00	IC	BA6286
	IC304	XF947A00	IC	LA6510
*	IC311	XS352A00	IC	uPD78048AGF-XXXX
*	IC320	XS070A00	IC	S-24C01ADP EEPROM
	JK101	VS899700	JACK.PHONE	JY-6317-02-030
	L100	Vi491100	FER.CORE	BP53RB19012080M
	L300	Vi546100	COIL	220uH
	L301	Vi546100	COIL	220uH
*	PJ101	VV411100	JACK.PIN	2P
	Q1	iA093410	TR	2SA934 P,Q,R
	Q2	iA093320	TR	2SA933S Q,R
	Q3	iA093320	TR	2SA933S Q,R
	Q4	iC287820	TR	2SC2878 A,B
	Q101	iC287820	TR	2SC2878 A,B
	Q102	iC287820	TR	2SC2878 A,B
	Q103	iC287820	TR	2SC2878 A,B
	Q104	iC287820	TR	2SC2878 A,B
	Q200	iA093320	TR	2SA933S Q,R

	Schm Ref.	PART NO.	Description	
	Q201	iA093320	TR	2SA933S Q,R
	Q204	VS883400	TR	2SD2394 E,F
	Q206	iA093320	TR	2SA933S Q,R
	Q209	VS883300	TR	2SB1565 E,F
	Q301	iC174020	TR	2SC1740S R,S
	Q302	iC174020	TR	2SC1740S R,S
	Q303	iC174020	TR	2SC1740S R,S
	R159	HV455100	R.CAR.FP	100Ω 1/4W
	R166	HV455100	R.CAR.FP	100Ω 1/4W
	R209	Vi868300	R.FUS	0.68Ω 1/6W
	R214	HV455100	R.CAR.FP	100Ω 1/4W
	R215	HV455100	R.CAR.FP	100Ω 1/4W
	R308	HV453220	R.CAR.FP	2.2Ω 1/4W
	R327	HV453220	R.CAR.FP	2.2Ω 1/4W
*	R333	VU675000	R.ARRAY	RGLE15X104J
	R334	VF772300	R.ARRAY	RGLE8X104J
⚠	SW201	VL908000	VOLT.SELCT	ESE-370(R)
⚠	SW202	VV057600	SW.PUSH	PS-2B04T6
	SW401	VG392900	SW.TACT	SKHVAA
	SW402	VG392900	SW.TACT	SKHVAA
	SW403	VG392900	SW.TACT	SKHVAA
	SW404	VG392900	SW.TACT	SKHVAA
	SW405	VG392900	SW.TACT	SKHVAA
	SW406	VG392900	SW.TACT	SKHVAA
	SW407	VG392900	SW.TACT	SKHVAA
	SW408	VG392900	SW.TACT	SKHVAA
	SW410	VG392900	SW.TACT	SKHVAA
	SW411	VG392900	SW.TACT	SKHVAA
	SW412	VG392900	SW.TACT	SKHVAA
	SW413	VG392900	SW.TACT	SKHVAA
	SW414	VG392900	SW.TACT	SKHVAA
	SW416	VG392900	SW.TACT	SKHVAA
	SW417	VG392900	SW.TACT	SKHVAA
	SW418	VG392900	SW.TACT	SKHVAA
	SW419	VG392900	SW.TACT	SKHVAA
	SW420	VG392900	SW.TACT	SKHVAA
	SW421	VG392900	SW.TACT	SKHVAA
	SW422	VG392900	SW.TACT	SKHVAA
	SW423	VG392900	SW.TACT	SKHVAA
	SW424	VG392900	SW.TACT	SKHVAA
	SW425	VG392900	SW.TACT	SKHVAA
	SW426	VG392900	SW.TACT	SKHVAA
	SW427	VG392900	SW.TACT	SKHVAA
⚠	T201	XL831A00	TRANS.PWR	(UC)
⚠	T201	XL832A00	TRANS.PWR	(R)
⚠	T201	XL833A00	TRANS.PWR	(A)
⚠	T201	XL837A00	TRANS.PWR	(BG)
	U401	VU591000	L.DTCT	GP1U271X
	V401	VS415000	FL.DSPLY	9-ST-14GK
	XL4	VJ719800	RSNR.CRYS	16.9344MHz
	XL301	VJ677200	RSNR.CE	4.19MHz
		VB966900	CN	IMSA-6024
		VA119100	HEAT.SINK	

*New Parts

*New Parts

CDC-665/CDC-902 P.C.B. MAIN & CM

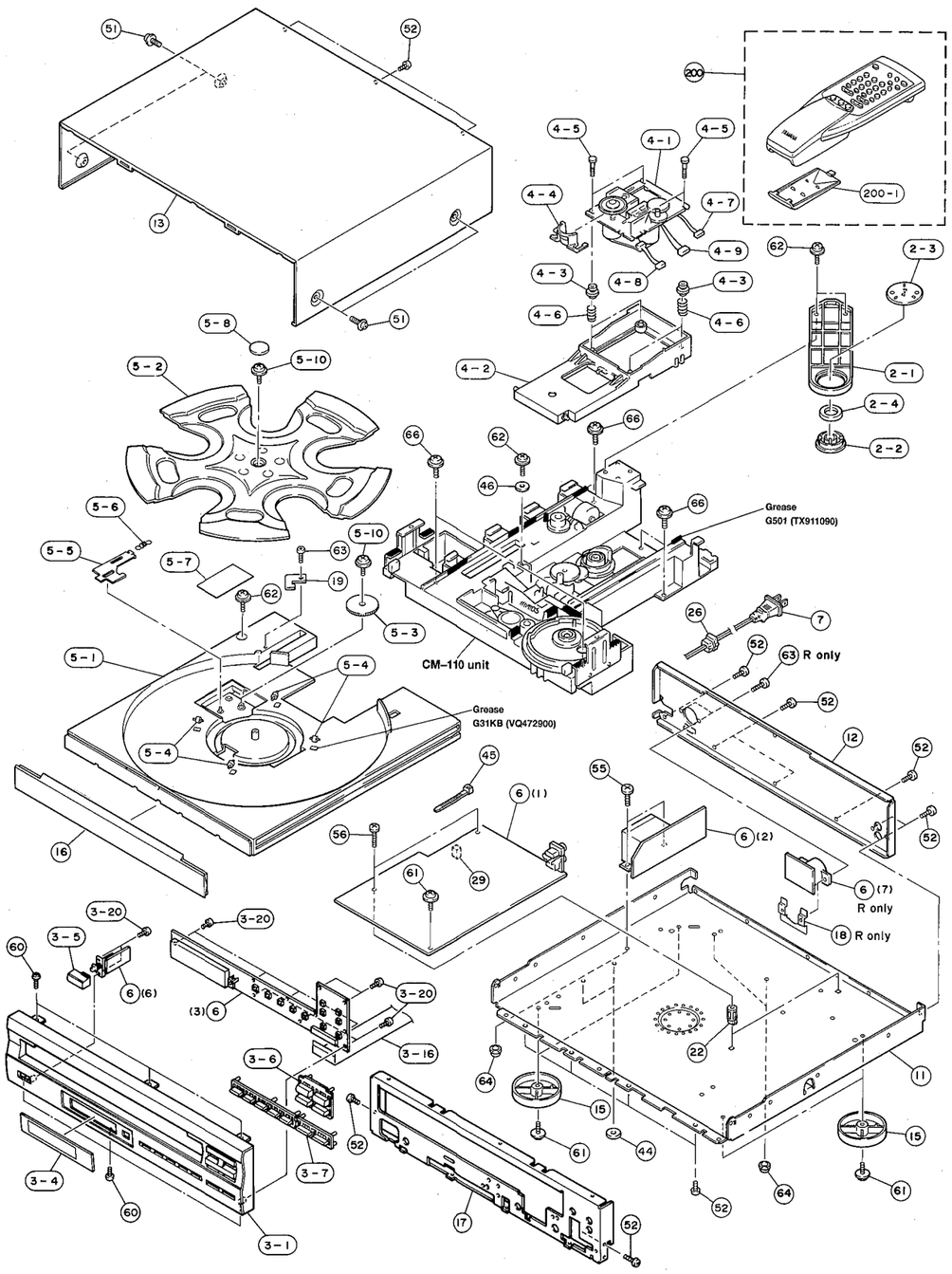
Schm Ref.	PART NO.	Description	
	VS257700	PLATE	
	VQ713000	SUPRT	FL
	VQ948800	SHEET	FL

*New Parts

Schm Ref.	PART NO.	Description	
	VS778600	P.C.B.	CM
CB501	VB858200	CN.BS.PIN	3P
CB502	VM689400	CN	15P
CB503	VB858200	CN.BS.PIN	3P
CB504	VB858200	CN.BS.PIN	3P
CB505	VB858200	CN.BS.PIN	3P
CB506	VB858200	CN.BS.PIN	3P
CB507	VB858100	CN.BS.PIN	2P
CB508	VB858100	CN.BS.PIN	2P
CB509	VB858100	CN.BS.PIN	2P
D501	VT599500	PHOT.INTR	GP1S58V
SW501	Vi294000	SW.LEVER	SSCF21
SW502	Vi294000	SW.LEVER	SSCF21
W501	VS841400	CN.ASSY	3P 250mm
W502	VT033200	CN.FLAT	15P 120mm

*New Parts

■ CDC-565/CDC-502 EXPLODED VIEW



■ MECHANICAL PARTS (CDC-565/CDC-502)

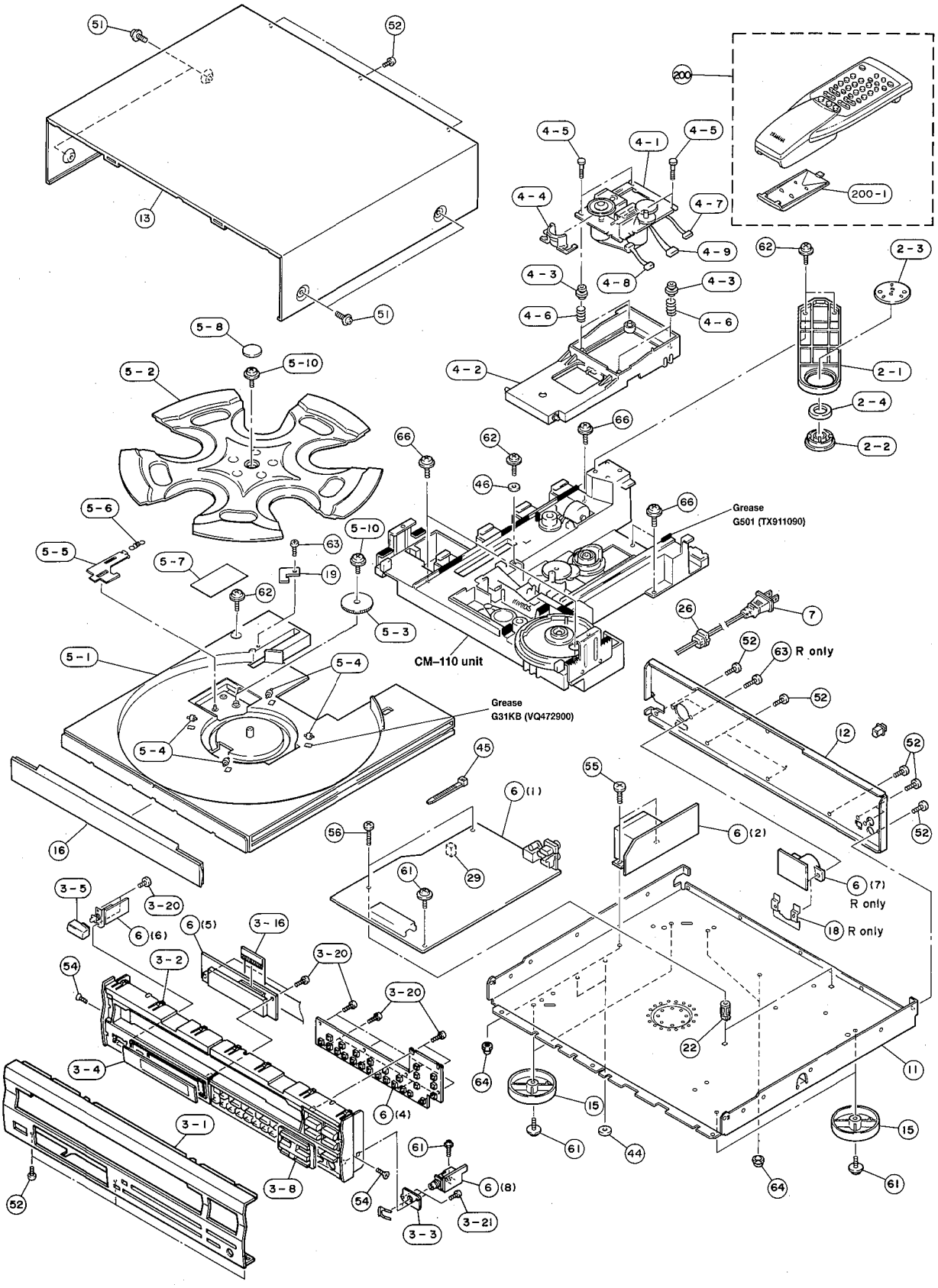
	Ref. No.	PART NO.	Description	Remarks	Markets
	2- 1	VS037800	CLAMPER		
	2- 2	VL782500	STABILIZER		
	2- 3	VS500400	PLATE STABILIZER		
	2- 4	VQ930900	MAGNET DH29.6x18x3.6FMS		
*	3- 1	VU874300	FRONT PANEL	CDC-565 BL	
*	3- 1	VU874400	FRONT PANEL	CDC-502 BL	
*	3- 1	VU877600	FRONT PANEL	CDC-565 TI	
*	3- 4	VU875900	WINDOW PANEL, LID		
*	3- 5	VV501000	BUTTON 9.5x22V	BL	
*	3- 5	VV501100	BUTTON 9.5x22V	TI	
*	3- 6	VU874700	BUTTON 4 KEYS	BL	
*	3- 6	VU874800	BUTTON 4 KEYS	TI	
*	3- 7	VU874900	BUTTON 7 KEYS	BL	
*	3- 7	VU875000	BUTTON 7 KEYS	TI	
*	3-16	MF133200	FLEXIBLE FLAT CABLE 33P 200mm		
	3-20	EP630220	BIND HEAD P-TITE SCREW 3x8 ZMC2-BL		
	4- 1	VM444300	PU MECHA. UNIT CD90V1YA		
	4- 2	VS037600	HOLDER		
	4- 3	VQ775600	DAMPER, BUSH		
	4- 4	VP660500	BARRIER PU		
	4- 5	VS037700	SCREW, 2		
	4- 6	VQ386500	SPRING		
	4- 7	VS841500	CONNECTOR ASS'Y 5P 170mm		
	4- 8	VS841600	CONNECTOR ASS'Y 6P 180mm		
	4- 9	VT033500	CONNECTOR ASS'Y 8P 200mm		
	5- 1	VS034000	TRAY B		
	5- 2	VS034400	TABLE B		
*	5- 3	VV014500	GEAR PO		
	5- 4	VS037300	ROLLER		
*	5- 5	VV014400	LEVER PO		
	5- 6	VS036900	SPRING, RT		
	5- 7	VS037900	SHEET, TRAY B		
	5- 8	VS051900	PLATE, TABLE B		
	5-10	VA775100	PW HEAD P-TITE SCREW 3x8-10 FCRM3-BL		
*	6	VV358600	P.C.B. ASS'Y MAIN		(UC)
*	6	VV358700	P.C.B. ASS'Y MAIN		(R)
*	6	VV358800	P.C.B. ASS'Y MAIN		(A)
*	6	VV358900	P.C.B. ASS'Y MAIN		(BG)
⚠	7	VL238100	POWER CORD ASS'Y		(R)
⚠*	7	VN363700	POWER CORD ASS'Y		(G)
⚠	7	VQ508600	POWER CORD ASS'Y		(A)
⚠*	7	VV437200	POWER CORD ASS'Y		(UC)
⚠*	7	VV437300	POWER CORD ASS'Y		(B)
	11	VS254200	CHASSIS, MAIN		
*	12	VU877800	REAR PANEL	CDC-565	(UC)
*	12	VU877900	REAR PANEL	CDC-565	(R)
*	12	VU878000	REAR PANEL	CDC-565	(A)
*	12	VU878100	REAR PANEL	CDC-565	(BG)
*	12	VU878300	REAR PANEL	CDC-502	(UC)
*	12	VV223200	REAR PANEL	CDC-502	(A)
*	13	VU876500	TOP COVER	BL	
*	13	VU876600	TOP COVER	TI	
	15	VQ780300	LEG D60xH16		

*New Parts

	Ref. No.	PART NO.	Description			Remarks	Markets
	15	VQ982800	LEG	D60xH16			
*	16	VU874500	LID			CDC-565 BL	
*	16	VU874600	LID			CDC-565 TI	
	16	VV614700	LID			DCD-502 BL	
*	17	VU876700	SUB CHASSIS				
	18	VS257300	PLATE, R				(R)
*	19	VV433300	PLATE, STOPPER				
	22	VU981200	SUPPORT, P.C.B.	No.3596			
	26	VN158600	CORD STOPPER	No.2104			
	29	VQ366100	DAMPER, PCB				
*	44	VU984400	RING	D14			
	45	VU590000	BINDING TIE	CBTD001B			
	46	VV637600	WASHER	3.2x14x1			
	51	EK365090	PW HEAD S-TITE SCREW	4x8-10	FCRM3-BL	BL	
	51	EX601150	BW HEAD S-TITE SCREW	4x8-10	FNM3-BL	TI	
	52	VN413300	BIND HEAD BONDING B-T. SCREW	3x8	MFZN2-BL		
	55	EK396010	BIND HEAD S-TITE SCREW	4x8	FCRM3-BL		
	56	EP630640	BIND HEAD P-TITE SCREW	3x20	FCRM3-BL		
	60	Ei330086	BIND HEAD B-TITE SCREW	3x8	FCRM3-BL		
	61	EK930010	PW HEAD B-TITE SCREW	3x8-8	FCRM3-BL		
	62	EX602620	PW HEAD P-TITE SCREW	3x12-10	ZMC2-Y		
	63	EP600140	BIND HEAD B-TITE SCREW	3x10	MFZN2-BL		
	64	VK002600	HEXAGONAL CAP NUT	4mm			
	66	EX602630	BW HEAD S-TITE SCREW	4x10	FCRM3-BL		
			ACCESSORIES				
*	200	VV275200	REMOTE CONTROL TRANSMITTER				
	200-1	CX679050	LID	74x34BLALPS			
		VS381600	PIN PLUG CORD	1.0m			
			BATTERY, MANGANESE	SUM-3, AA, R06			

*New Parts

■ CDC-665/CDC-902 EXPLODED VIEW



■ MECHANICAL PARTS (CDC-665/CDC-902)

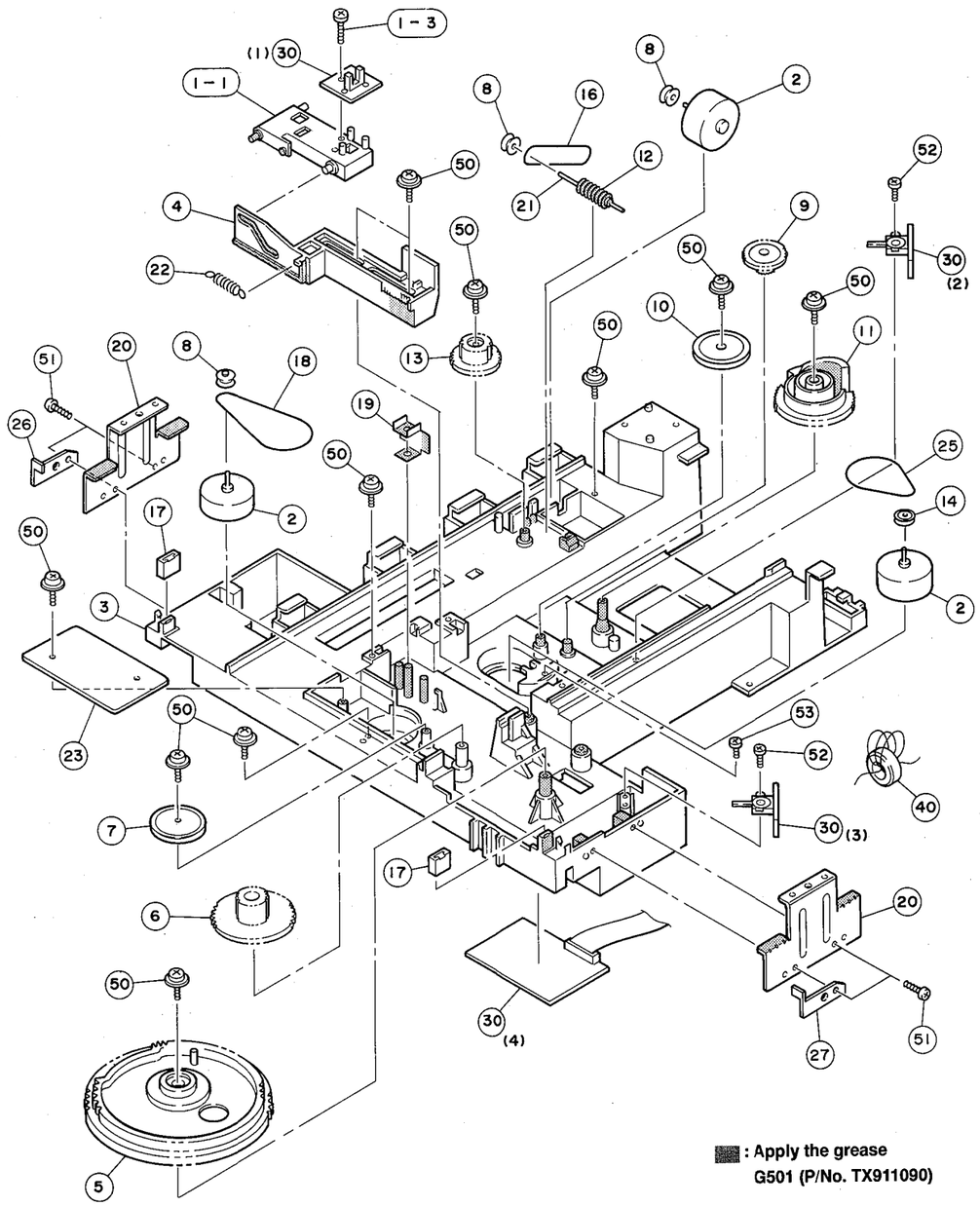
	Ref. No.	PART NO.	Description		Remarks	Markets
	2- 1	VS037800	CLAMPER			
	2- 2	VL782500	STABILIZER			
	2- 3	VS500400	PLATE	STABILIZER		
	2- 4	VQ930900	MAGNET	DH29.6x18x3.6FMS		
*	3- 1	VU876100	FRONT PANEL		CDC-665 BL	
*	3- 1	VU876200	FRONT PANEL		CDC-665 TI	
*	3- 1	VU876300	FRONT PANEL		CDC-902 BL	
*	3- 2	VU875500	SUB PANEL		BL	
*	3- 2	VU875600	SUB PANEL		TI	
*	3- 3	VU876800	SUPPORT, HP			
*	3- 4	VU875800	WINDOW PANEL, LID			
*	3- 5	VV501000	BUTTON	9.5x22V	BL	
*	3- 5	VV501100	BUTTON	9.5x22V	TI	
*	3- 8	VU875300	ESCUTCHEON		BL	
*	3- 8	VU875400	ESCUTCHEON		TI	
	3- 8	VV614800	ESCUTCHEON	BL CDC-902ML		
*	3-16	MF128500	FLEXIBLE FLAT CABLE	28P 500mm		
	3-20	EP630220	BIND HEAD P-TITE SCREW	3x8 ZMC2-BL		
	3-21	EP600290	BIND HEAD P-TITE SCREW	3x6 ZMC2-Y		
	4- 1	VM444300	PU MECHA. UNIT	CD90V1YA		
	4- 2	VS037600	HOLDER			
	4- 3	VQ775600	DAMPER, BUSH			
	4- 4	VP660500	BARRIER	PU		
	4- 5	VS037700	SCREW, 2			
	4- 6	VQ386500	SPRING			
	4- 7	VS841500	CONNECTOR ASS'Y	5P 170mm		
	4- 8	VS841600	CONNECTOR ASS'Y	6P 180mm		
	4- 9	VT033500	CONNECTOR ASS'Y	8P 200mm		
	5- 1	VS034000	TRAY	B		
	5- 2	VS034400	TABLE	B		
*	5- 3	VV014500	GEAR	PO		
	5- 4	VS037300	ROLLER			
*	5- 5	VV014400	LEVER	PO		
	5- 6	VS036900	SPRING, RT			
	5- 7	VS037900	SHEET, TRAY	B		
	5- 8	VS051900	PLATE, TABLE	B		
	5-10	VA775100	PW HEAD P-TITE SCREW	3x8-10 FCRM3-BL		
*	6	VV365700	P.C.B. ASS'Y	MAIN		(UC)
*	6	VV365800	P.C.B. ASS'Y	MAIN		(R)
*	6	VV365900	P.C.B. ASS'Y	MAIN		(A)
*	6	VV366000	P.C.B. ASS'Y	MAIN		(BG)
⚠	7	VL238100	POWER CORD ASS'Y			(R)
⚠*	7	VN363700	POWER CORD ASS'Y			(G)
⚠	7	VQ508600	POWER CORD ASS'Y			(A)
⚠*	7	VV437200	POWER CORD ASS'Y			(UC)
⚠*	7	VV437300	POWER CORD ASS'Y			(B)
	11	VS254200	CHASSIS, MAIN			
*	12	VU877200	REAR PANEL		CDC-665	(UC)
*	12	VU877300	REAR PANEL		CDC-665	(R)
*	12	VU877400	REAR PANEL		CDC-665	(A)
*	12	VU877500	REAR PANEL		CDC-665	(BG)
*	12	VU877700	REAR PANEL		CDC-902	(UC)
*	12	VV223100	REAR PANEL		CDC-902	(A)

*New Parts

	Ref. No.	PART NO.	Description			Remarks	Markets
*	13	VU876500	TOP COVER			BL	
*	13	VU876600	TOP COVER			TI	
	15	VQ780300	LEG	D60xH16			
	15	VQ982800	LEG	D60xH16			
*	16	VU874500	LID			CDC-665 BL	
*	16	VU874600	LID			CDC-665 TI	
	16	VV614700	LID			CDC-902 BL	
	18	VS257300	PLATE, R				(R)
*	19	VV433300	PLATE, STOPPER				
	22	VU981200	SUPPORT, P.C.B.	No.3596			
	26	VN158600	CORD STOPPER	No.2104			
	29	VQ366100	DAMPER, PCB				
*	44	VU984400	RING	D14			
	45	VU590000	BINDING TIE	CBTD001B			
	46	VV637600	WASHER	3.2x14x1			
	51	EK365090	PW HEAD S-TITE SCREW	4x8-10	FCRM3-BL	BL	
	51	EX601150	BW HEAD S-TITE SCREW	4x8-10	FNM3-BL	TI	
	52	VN413300	BIND HEAD BONDING B-T. SCREW	3x8	MFZN2-BL		
	54	EO030066	FLAT HEAD SCREW	3x6	ZMC2-Y		
	55	EK396010	BIND HEAD S-TITE SCREW	4x8	FCRM3-BL		
	56	EP630640	BIND HEAD P-TITE SCREW	3x20	FCRM3-BL		
	61	EK930010	PW HEAD B-TITE SCREW	3x8-8	FCRM3-BL		
	62	EX602620	PW HEAD P-TITE SCREW	3x12-10	ZMC2-Y		
	63	EP600140	BIND HEAD B-TITE SCREW	3x10	MFZN2-BL		
	64	VK002600	HEXAGONAL CAP NUT	4mm			
	66	EX602630	BW HEAD S-TITE SCREW	4x10	FCRM3-BL		
			ACCESSORIES				
*	200	VV275100	REMOTE CONTROL TRANSMITTER	SBGH20013A CDC1			
	200-1	CX679050	LID	74x34BLALPS			
		VS381600	PIN PLUG CORD	1.0m			
			BATTERY, MANGANESE	SUM-3, AA, R06			

*New Parts

■ EXPLODED VIEW (CM-110 Unit)



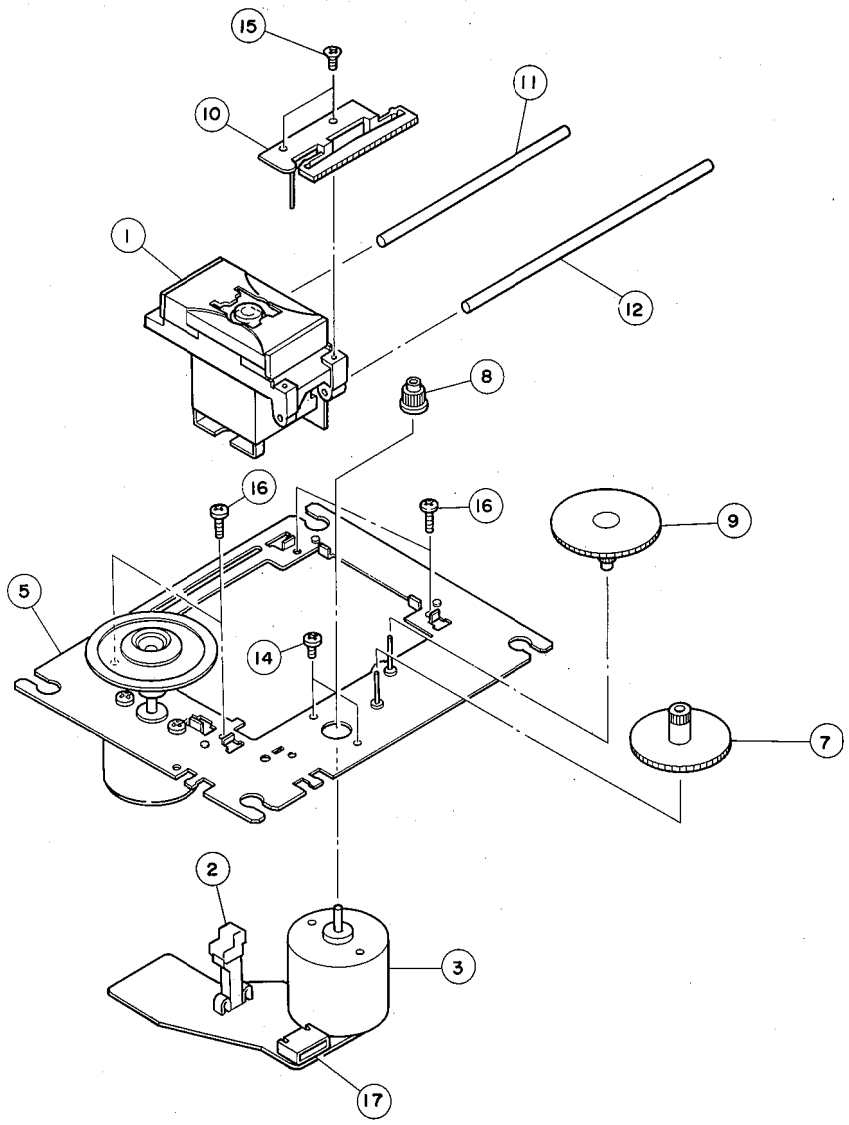
■ : Apply the grease
G501 (P/No. TX911090)

■ MECHANICAL PARTS (CM-110 Unit)

	Ref. No.	PART NO.	Description	Remarks	Markets
	1-1	VS036700	HOLDER, SENSOR		
	1-3	EX601360	BIND HEAD P-TITE SCREW 3x10 FCRM3-BL		
⚠	2	VM444200	MOTOR RF-500TB-14415		
	3	VS033900	CHASSIS		
	4	VS036400	SLIDE CAM		
	5	VS035000	GEAR, LO2		
	6	VS035300	GEAR, LO1		
	7	VS036100	GEAR PULLEY		
	8	VS036200	PULLEY		
	9	VS035400	GEAR, CL2		
*	10	VV014300	PULLY GEAR CL		
	11	VS036300	CAM, CL		
	12	VS035700	GEAR		
	13	VS035800	GEAR, WW		
*	14	VV016700	PULLY, CL		
	16	VS036500	BELT, RT		
	17	VQ775500	DAMPER, TRAY		
	18	VQ776900	BELT V		
	19	VS037100	LEVER		
	20	VS037400	SUPPORT, TRAY		
	21	VS036600	SHAFT, 2		
	22	VS036800	SPRING, CAM		
	23	VT435400	SHEET B		
*	25	VV014200	BELT CL		
*	26	VV014600	SLIDER, TRAY L		
*	27	VV014700	SLIDER, TRAY R		
	30	VS778600	P.C.B. ASS'Y CM		
	40	VP128600	FERRITE CORE FSOB160PB		
	50	VA775100	PW HEAD P-TITE SCREW 3x8-10 FCRM3-BL		
	51	EX601360	BIND HEAD P-TITE SCREW 3x10 FCRM3-BL		
	52	VF617600	PAN HEAD P-TITE SCREW 2.6x8 FCRM3-BL		
	53	ED326056	BIND HEAD SCREW 2.6x5 ZMC2-BL		

* New Parts

■ EXPLODED VIEW (PU Mecha. Unit)

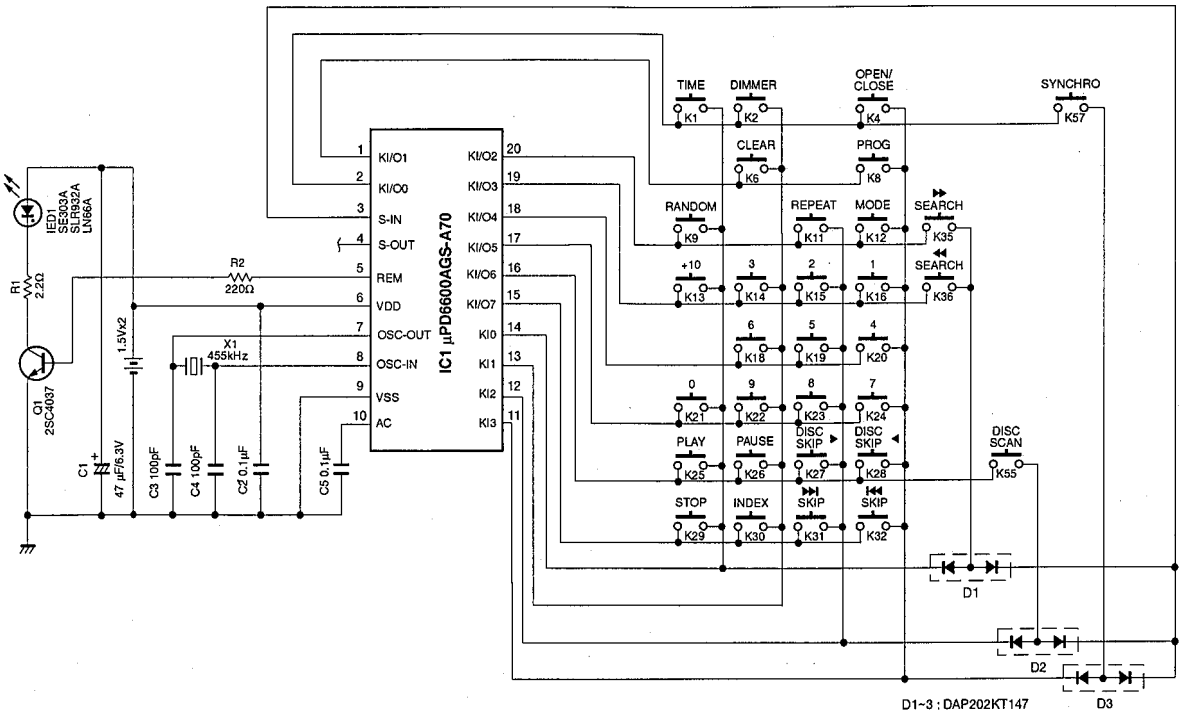


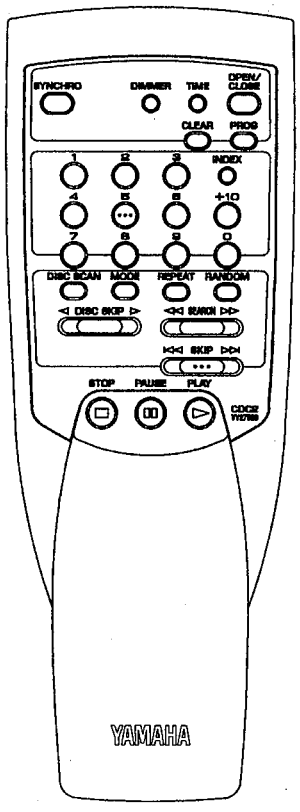
Ref. No.		PART NO.	Description		Remarks	Markets
		VM444300	PU MECHA. UNIT	CD90V1YA		
1		PX601521	PICK UP ASS'y	SF-91P	1EA0A41A03100	
2		KX603540	LIMIT SWITCH		1EA4S13A00800	
3		JX601050	MOTOR		1EA4M10A02100	
5	⚠	NX611201	CHASSIS ASS'y		1EA0311A02900	
7		CX618680	GEAR	MIDDLE	1EA2511A06300	
8		CX618690	GEAR	MOTOR	1EA2511A06400	
9		CX618700	GEAR	POWER	1EA2511A06500	
10		AX615020	PLATE	RACK	1EA2731A01400	
11		AX615030	GUIDE BAR		1EA2362A00400	
12		AX615040	GUIDE BAR		1EA2362A00500	
14		EX602300	PAN HEAD SCREW	1.7x2.5 ZMC2-Y	SE3PN172R5SE	
15		EB020056	FLAT HEAD SCREW	2x5 ZMC2-Y	SE1FN205R0SE	
16		EX602310	SPECIAL SCREW		SFXEA01800	
17		LX606800	CONNECTOR	6P	42369750000	

* New Parts

CDC-565/CDC-502
REMOTE CONTROL TRANSMITTER

■ SCHEMATIC DIAGRAM

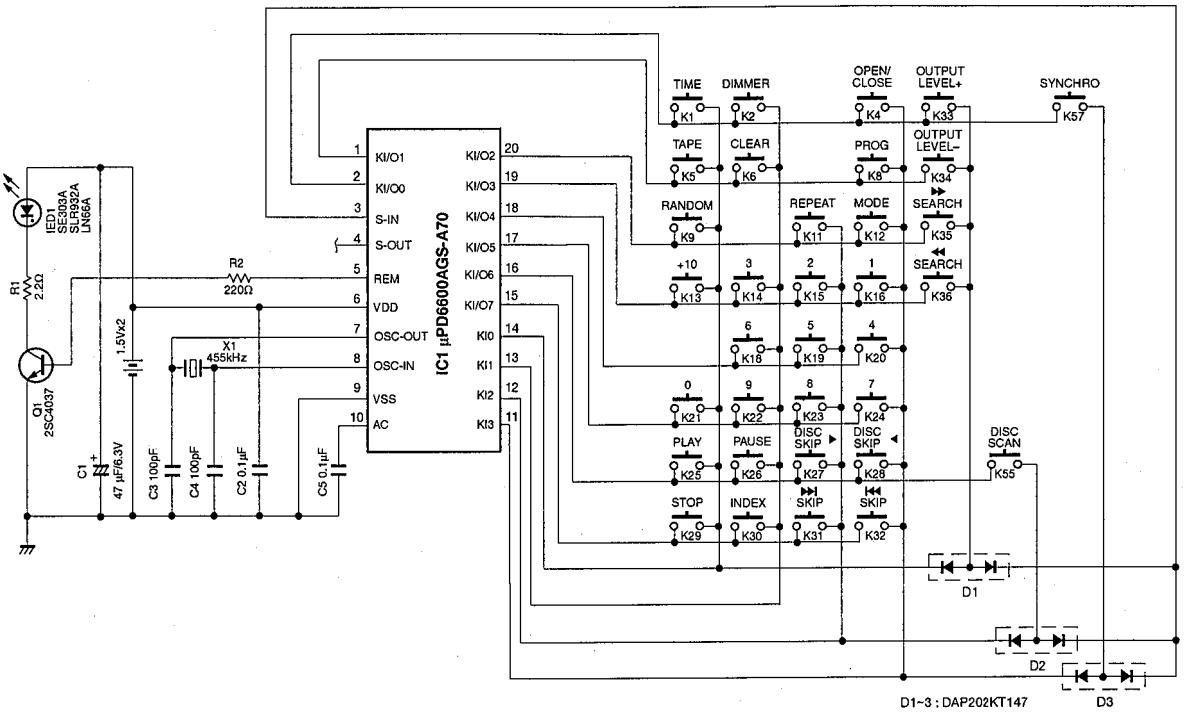


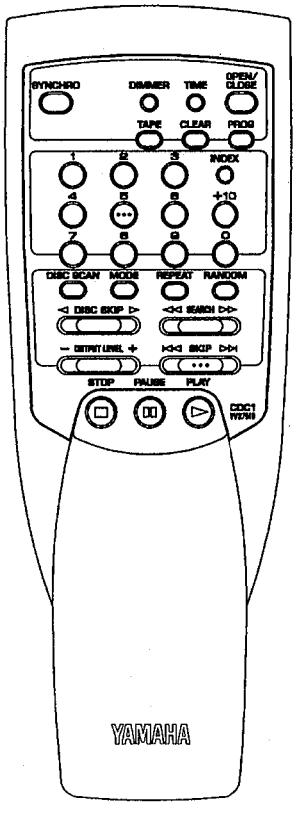


KEY No.	FUNCTION	CUSTOM CODE (HEX)	REVERSE CUSTOM CODE (HEX)	DATA CODE (HEX)
K1	TIME	79	86	0A
K2	DIMMER	79	86	1E
K4	OPEN/CLOSE	79	86	01
K6	CLEAR	79	86	0D
K8	PROG	79	86	0C
K9	RANDOM	79	86	1B
K11	REPEAT	79	86	08
K12	MODE	79	86	00
K13	+10	79	86	1A
K14	3	79	86	13
K15	2	79	86	12
K16	1	79	86	11
K18	6	79	86	16
K19	5	79	86	15
K20	4	79	86	14
K21	0	79	86	10
K22	9	79	86	19
K23	8	79	86	18
K24	7	79	86	17
K25	PLAY	79	86	02
K26	PAUSE	79	86	55
K27	DISC SKIP ►	79	86	4F
K28	◄ DISC SKIP	79	86	50
K29	STOP	79	86	56
K30	INDEX	79	86	0B
K31	SKIP ►►I	79	86	07
K32	I◄◄ SKIP	79	86	04
K35	SEARCH ►►	79	86	06
K36	◄◄ SEARCH	79	86	05
K55	DISC SCAN	79	86	53
K57	SYNCHRO	79	86	58

CDC-665/CDC-902
REMOTE CONTROL TRANSMITTER

■ SCHEMATIC DIAGRAM

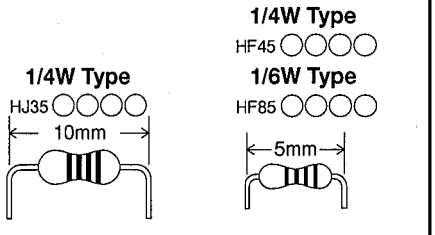




KEY No.	FUNCTION	CUSTOM CODE (HEX)	REVERSE CUSTOM CODE (HEX)	DATA CODE (HEX)
K1	TIME	79	86	0A
K2	DIMMER	79	86	1E
K4	OPEN/CLOSE	79	86	01
K5	TAPE	79	86	57
K6	CLEAR	79	86	0D
K8	PROG	79	86	0C
K9	RANDOM	79	86	1B
K11	REPEAT	79	86	08
K12	MODE	79	86	00
K13	+10	79	86	1A
K14	3	79	86	13
K15	2	79	86	12
K16	1	79	86	11
K18	6	79	86	16
K19	5	79	86	15
K20	4	79	86	14
K21	0	79	86	10
K22	9	79	86	19
K23	8	79	86	18
K24	7	79	86	17
K25	PLAY	79	86	02
K26	PAUSE	79	86	55
K27	DISC SKIP ►	79	86	4F
K28	◄ DISC SKIP	79	86	50
K29	STOP	79	86	56
K30	INDEX	79	86	0B
K31	SKIP ►►I	79	86	07
K32	I◄◄ SKIP	79	86	04
K33	OUTPUT LEVEL+	79	86	1D
K34	OUTPUT LEVEL–	79	86	1C
K35	SEARCH ►►	79	86	06
K36	◄◄ SEARCH	79	86	05
K55	DISC SCAN	79	86	53
K57	SYNCHRO	79	86	58

Parts List for Carbon Resistors

Value	1/4W Type Part No.	1/6W Type Part No.	Value	1/4W Type Part No.	1/6W Type Part No.
1.0 Ω	HJ35 3100	HF85 3100	10 kΩ	HF45 7100	HF45 7100
1.8 Ω	HJ35 3180	※	11 kΩ	HF45 7110	HF45 7110
2.2 Ω	HJ35 3220	HF85 3220	12 kΩ	HJ35 7120	HF85 7120
3.3 Ω	HJ35 3330	HF85 3330	13 kΩ	HF45 7130	HF45 7130
4.7 Ω	HJ35 3470	HF85 3470	15 kΩ	HF45 7150	HF45 7150
5.6 Ω	HJ35 3560	HF85 3560	18 kΩ	HF45 7180	HF45 7180
10 Ω	HF45 4100	HF45 4100	22 kΩ	HF45 7220	HF45 7220
15 Ω	HJ35 4150	HF85 4150	24 kΩ	HF45 7240	HF45 7240
22 Ω	HF45 4220	HF45 4220	27 kΩ	HJ35 7270	HF85 7270
27 Ω	HJ35 4270	HF85 4270	30 kΩ	HF45 7300	HF45 7300
33 Ω	HF45 4330	HF45 4330	33 kΩ	HF45 7330	HF45 7330
39 Ω	HJ35 4470	HF85 4390	36 kΩ	HF45 7360	HF45 7360
47 Ω	HF45 4470	HF45 4470	39 kΩ	HF45 7390	HF45 7390
56 Ω	HF45 4560	HF45 4560	47 kΩ	HF45 7470	HF45 7470
68 Ω	HF45 4680	HF45 4680	51 kΩ	HF45 7510	HF45 7510
75 Ω	HF45 4750	HF45 4750	56 kΩ	HF45 7560	HF45 7560
82 Ω	HF45 4820	HF45 4820	62 kΩ	HF45 7620	HF45 7620
91 Ω	HF45 4910	HF45 4910	68 kΩ	HF45 7680	HF45 7680
100 Ω	HF45 5100	HF45 5100	82 kΩ	HF45 7820	HF45 7820
110 Ω	HJ35 5110	HF85 5110	91 kΩ	HF45 7910	HF45 7910
120 Ω	HF45 5120	HF45 5120	100 kΩ	HF45 8100	HF45 8100
150 Ω	HF45 5150	HF45 5150	110 kΩ	HF45 8110	HF45 8110
160 Ω	HJ35 5160	※	120 kΩ	HF45 8120	HF45 8120
180 Ω	HF45 5180	HF45 5180	150 kΩ	HF45 8150	HF45 8150
200 Ω	HF45 5200	HF45 5200	180 kΩ	HF45 8180	HF45 8180
220 Ω	HF45 5220	HF45 5220	220 kΩ	HJ35 8220	HF85 8220
270 Ω	HF45 5270	HF45 5270	270 kΩ	HF45 8270	HF45 8270
330 Ω	HF45 5330	HF45 5330	300 kΩ	HF45 8300	HF45 8300
390 Ω	HF45 5390	HF45 5390	330 kΩ	HF45 8330	HF45 8330
430 Ω	HF45 5430	HF45 5430	390 kΩ	HJ35 8390	HF85 8390
470 Ω	HF45 5470	HF45 5470	470 kΩ	HF45 8470	HF45 8470
510 Ω	HF45 5510	HF45 5510	560 kΩ	HJ35 8560	HF85 8560
560 Ω	HF45 5560	HF45 5560	680 kΩ	HJ35 8680	HF85 8680
680 Ω	HF45 5680	HF45 5680	820 kΩ	HJ35 8820	HF85 8820
820 Ω	HF45 5820	HF45 5820	1.0 MΩ	HF45 9100	HF45 9100
910 Ω	HF45 5910	HF45 5910	1.2 MΩ	HJ35 9120	※
1.0 kΩ	HF45 6100	HF45 6100	1.5 MΩ	HJ35 9150	HF85 9150
1.2 kΩ	HF45 6120	HF45 6120	1.8 MΩ	HJ35 9180	HF85 9180
1.5 kΩ	HF45 6150	HF45 6150	2.2 MΩ	HJ35 9220	HF85 9220
1.8 kΩ	HF45 6180	HF45 6180	3.3 MΩ	HJ35 9330	HF85 9330
2.0 kΩ	HJ35 6200	HF85 6200	3.9 MΩ	HJ35 9390	※
2.2 kΩ	HF45 6220	HF45 6220	4.7 MΩ	HJ35 9470	HF85 9470
2.4 kΩ	HJ35 6240	HF85 6240			
2.7 kΩ	HF45 6270	HF45 6270			
3.0 kΩ	HF45 6300	HF45 6300			
3.3 kΩ	HF45 6330	HF45 6330			
3.6 kΩ	HJ35 6360	HF85 6360			
3.9 kΩ	HF45 6390	HF45 6390			
4.7 kΩ	HF45 6470	HF45 6470			
5.1 kΩ	HF45 6510	HF45 6510			
5.6 kΩ	HF45 6560	HF45 6560			
6.8 kΩ	HF45 6680	HF45 6680			
8.2 kΩ	HF45 6820	HF45 6820			
9.1 kΩ	HF45 6910	HF45 6910			



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