

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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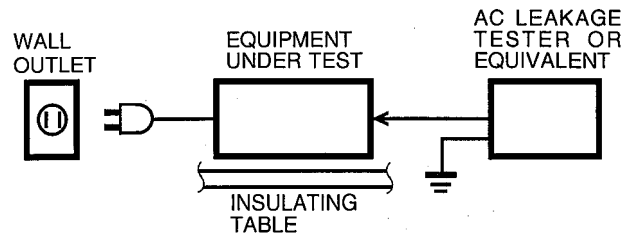
YAMAHA
YAMAHA CORPORATION
P.O.Box 1, Hamamatsu, Japan

3K-373 ☐ ⊗ Printed in Japan '97.2

CDC-565/CDC-502
CDC-665/CDC-902

■ 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 0.15 μ F.
 - 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 μ W*

* 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.

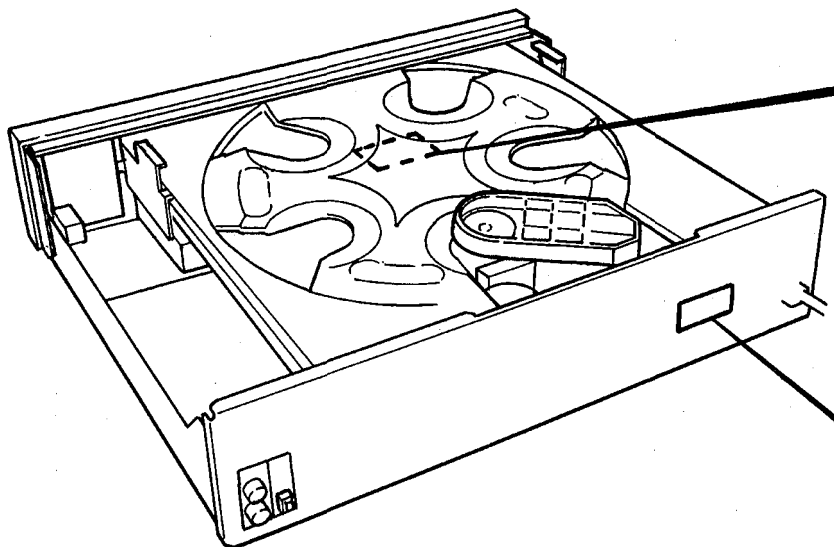
WARNING: CHEMICAL CONTENT NOTICE!

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

VAROINGE : OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRÄKTA EJ STRÅLEN. STRÅLEN ÄR FARLIG.
 VARO! : AVATTAESSA JA SUOJALUKITUS OHJETTAESSA OLET ALTYINÄ NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE ÄLÄ KATSO SÄTEESEEN.
 ADVARSEL : USYNLIG LASERSTRÅLNING VED ÅBNING NÄR SIKKERHETSÅF-
 BRYDERE ER UDE FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLNING.

① B, G, R models

CLASS 1 LASER PRODUCT

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 KÄNNEDOM OM LASER. APPARATEN INNEHÅLLER EN LASERKOMPONENT SOM AVGER STRÅLNING ÖVERSTIGANDE GRÄNSEN FÖR LASERKLASS 1.

VARNING : OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD : BETRÄKTA 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.

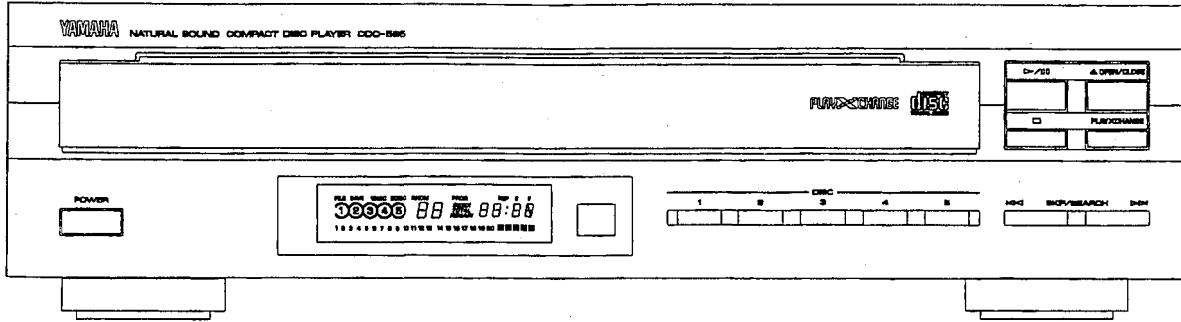
ADVARSEL : USYNLIG LASERSTRÅLNING VED ÅBNING.
 UNDGÅ UDSÆTTELSE FOR STRÅLING.

Finnish

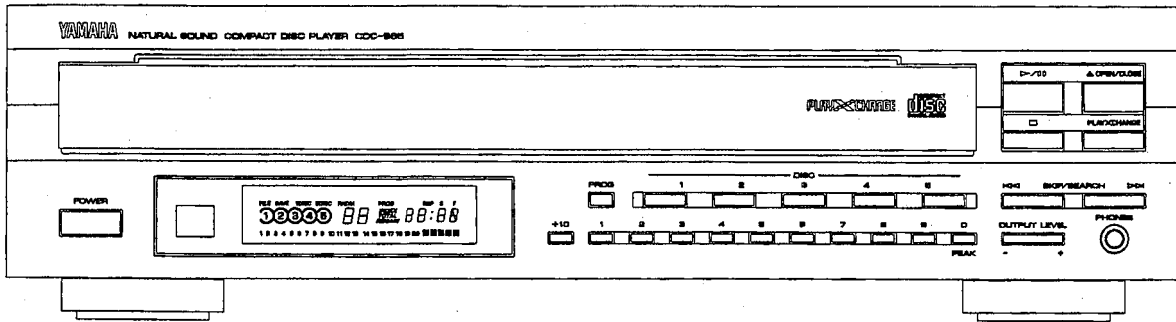
VARO! :
 AVATTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

■ FRONT PANELS

● CDC-565/CDC-502



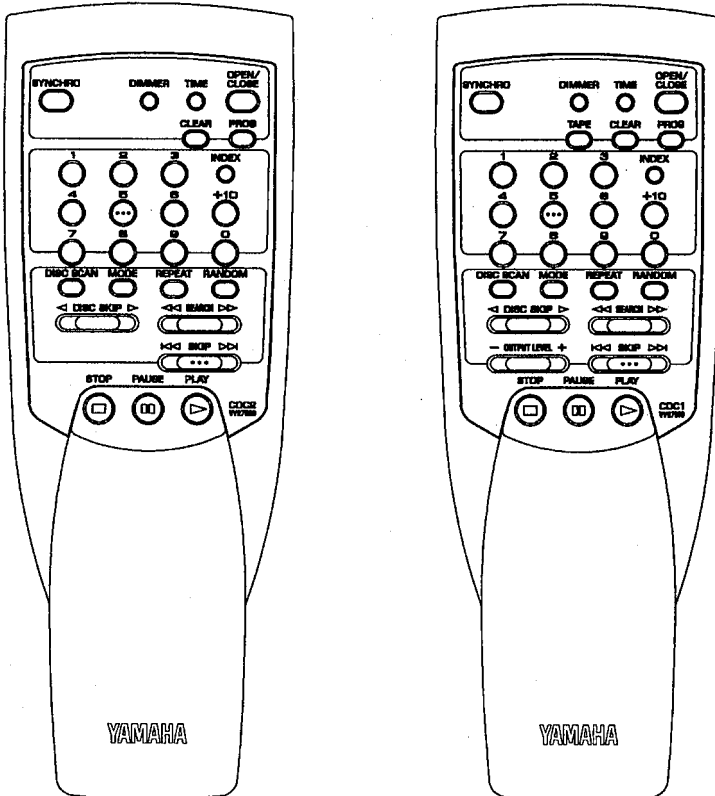
● CDC-665/CDC-902



● REMOTE CONTROL TRANSMITTER

● CDC-565/CDC-502

● CDC-665/CDC-902



CAUTION FOR TRANSPORTING THIS UNIT

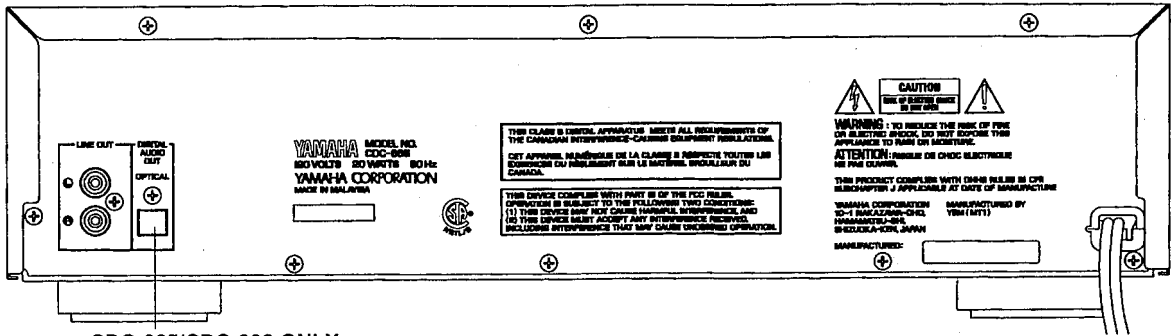
When transporting this unit, first remove all discs from the disc tray and close the tray by pressing the **OPEN/CLOSE** button, and then switch off the power after you confirm that the display has turned as follows.



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.

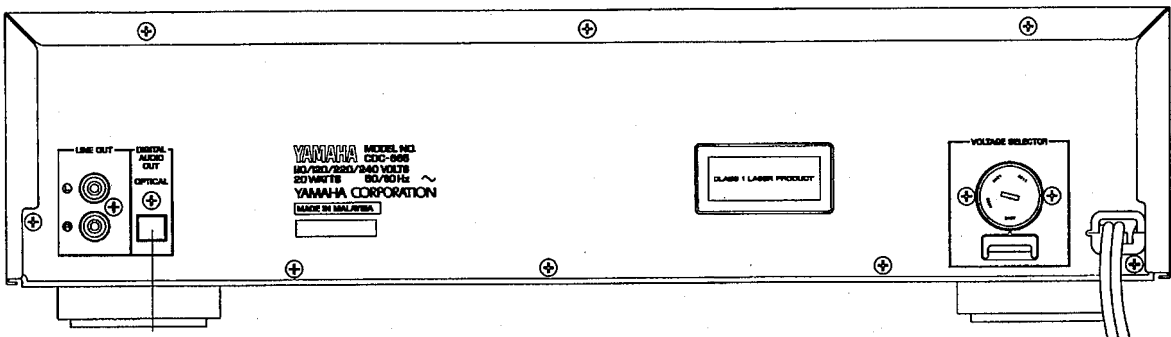
REAR PANELS

U, C models



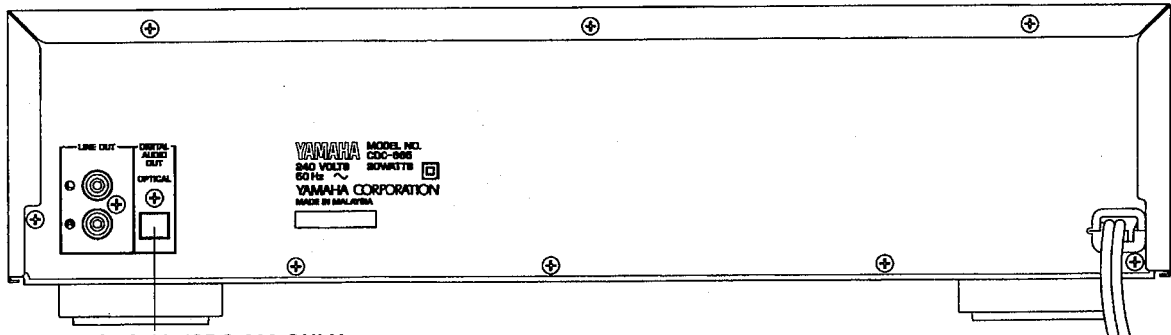
CDC-665/CDC-902 ONLY

R model



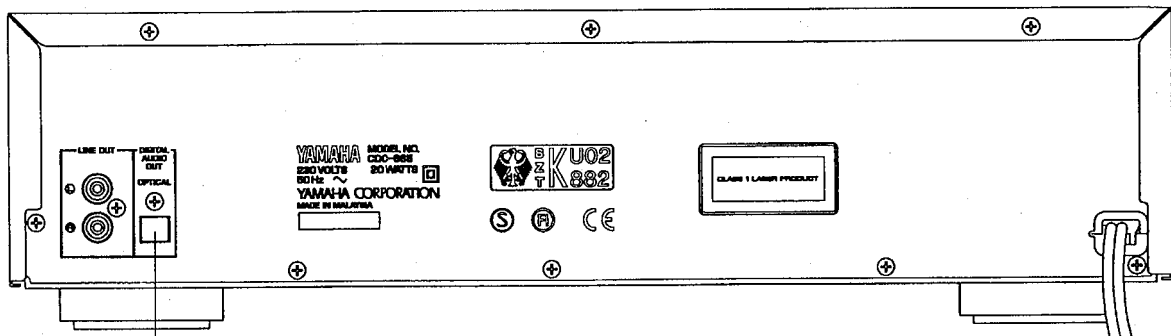
CDC-665 ONLY

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

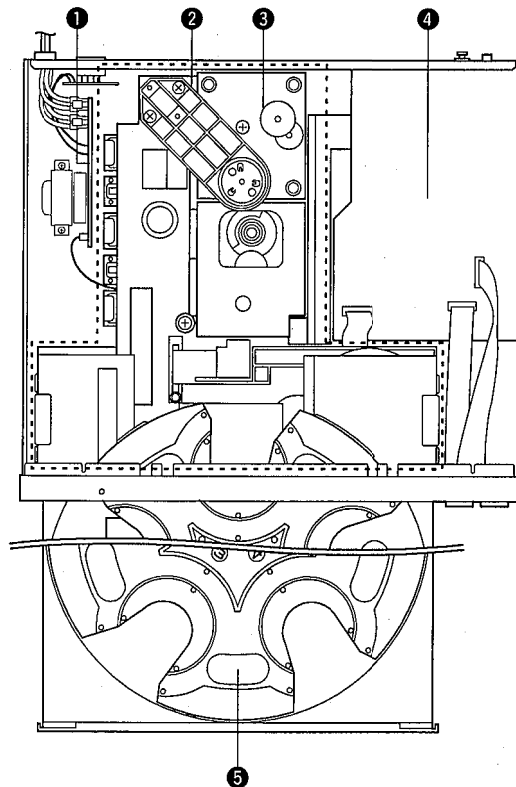
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* Specifications subject to change without notice.

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

■ INTERNAL VIEW

- ① P.C.B. MAIN (2)
- ② CLAMP ASS'Y
- ③ CM-110 UNIT
- ④ P.C.B. MAIN (1)
- ⑤ 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.

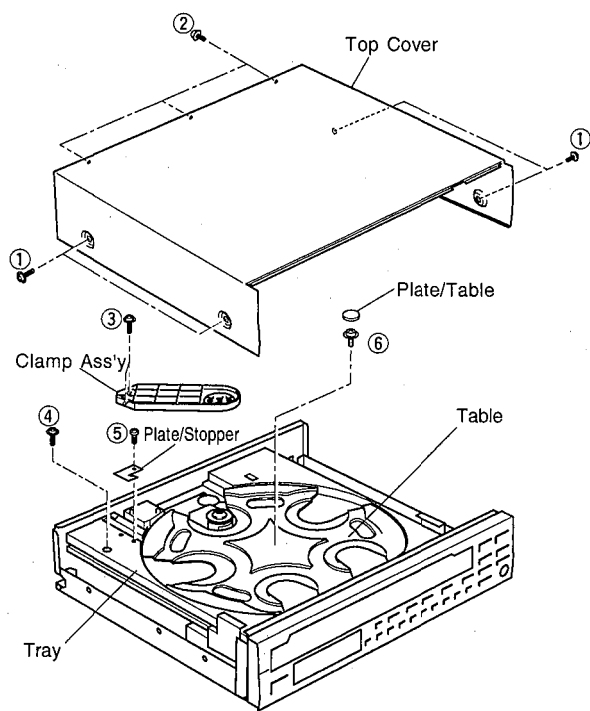


Fig. 1

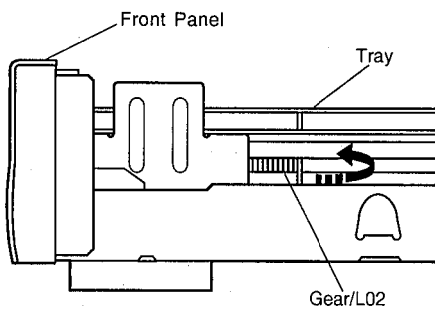


Fig. 2

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.

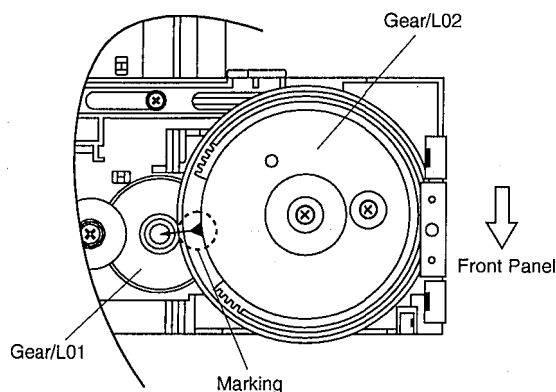


Fig. A

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.

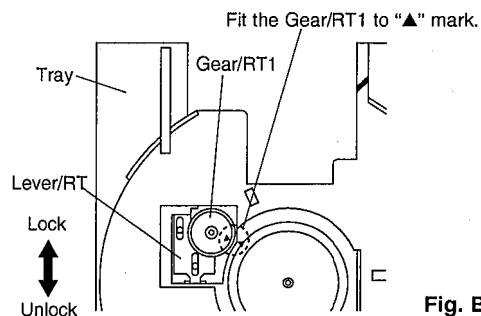


Fig. B-1

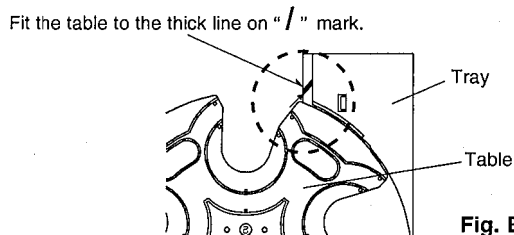


Fig. B-2

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.

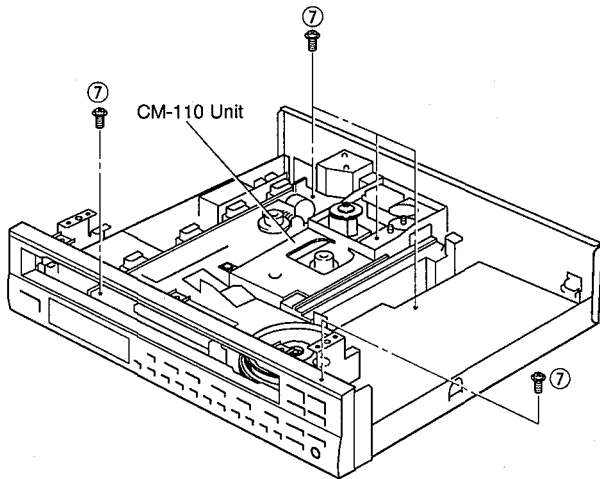


Fig. 3

6. Removal of Pick-up Head

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

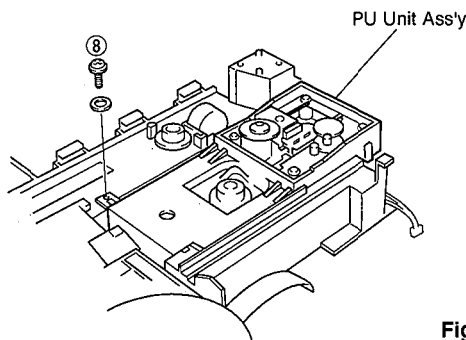


Fig. 4

- 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.

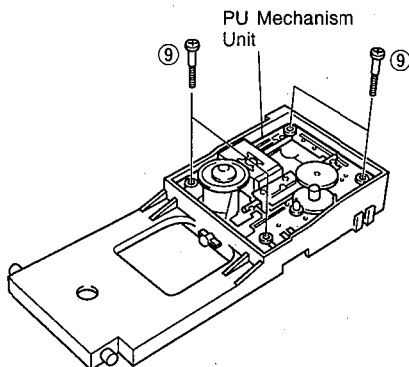


Fig. 5

● Operation Check Procedure

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

Turn the Plate clockwise by 30° while holding the Stabilizer, and the Plate will come off. Remove the Stabilizer from the Clamber.
- ② Clamp the disc by using the stabilizer.
- ③ Set to the TEST mode and check for any faulty conditions.

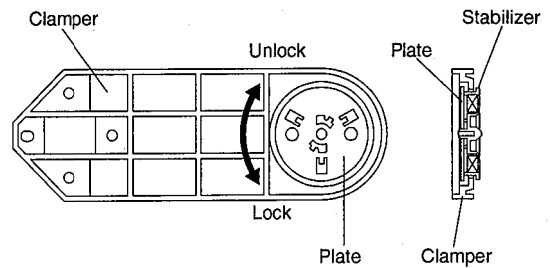


Fig. C

- 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.

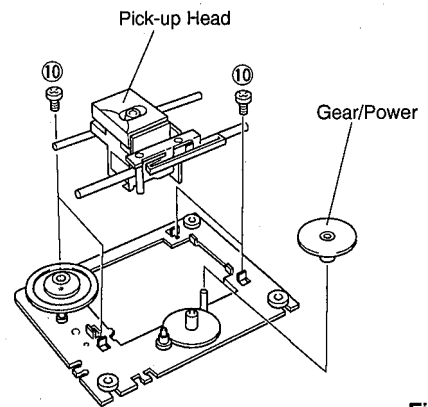


Fig. 6

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

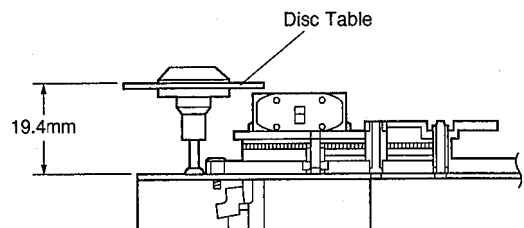
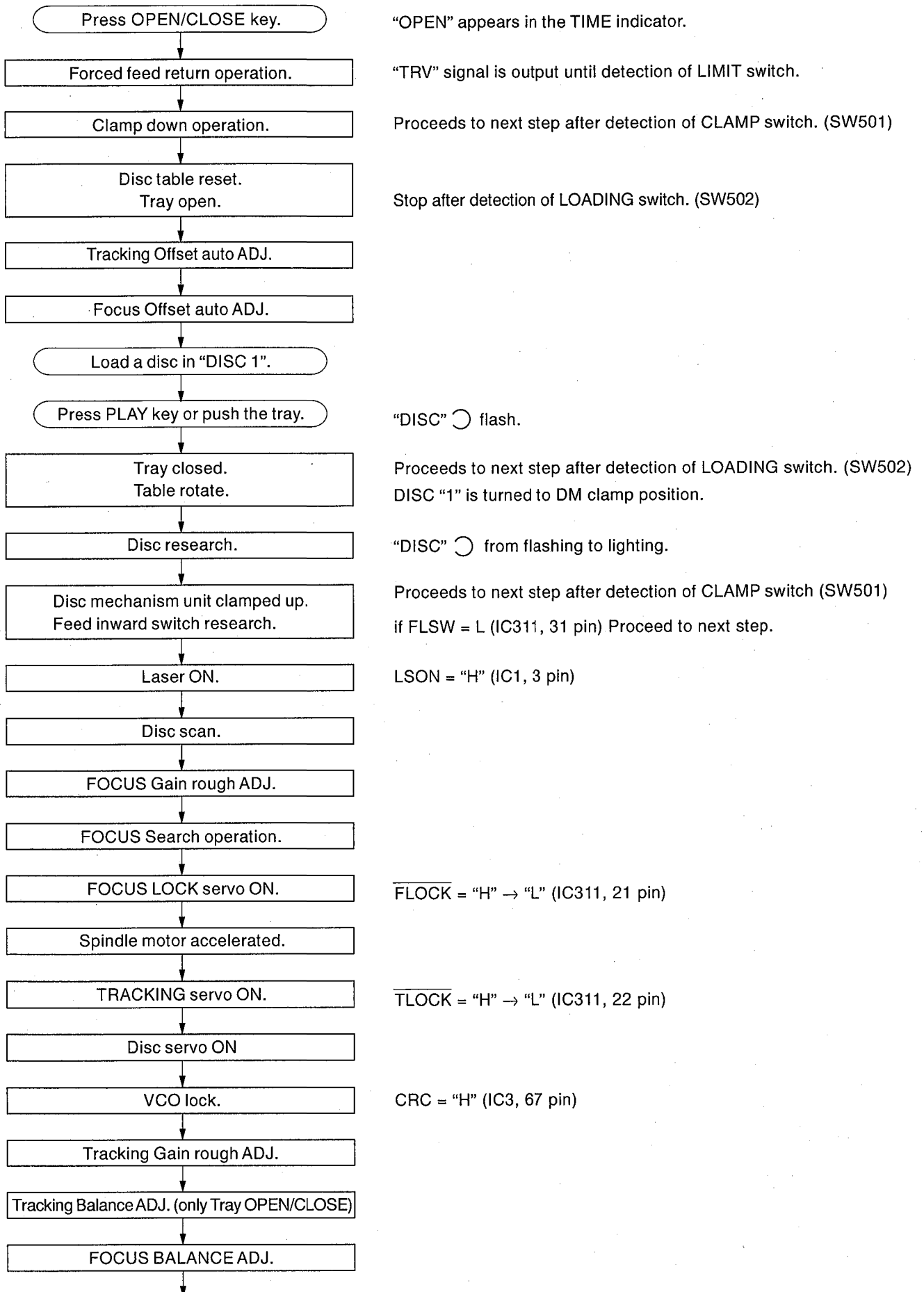
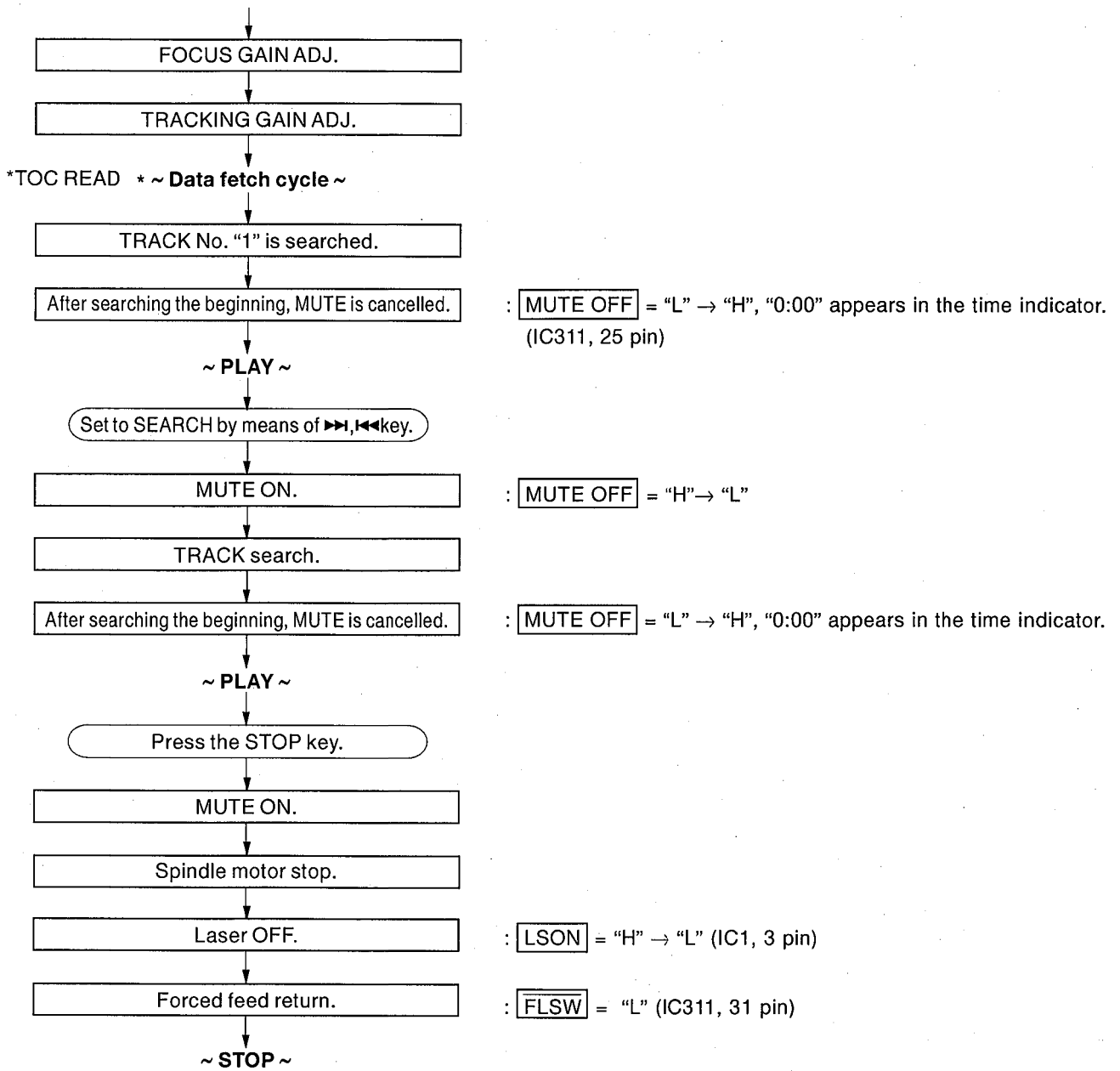


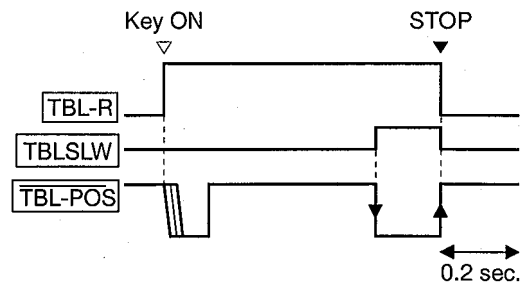
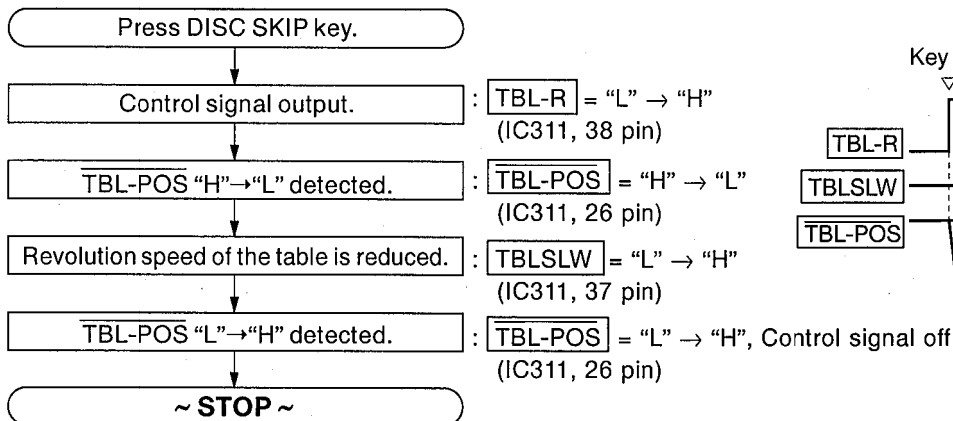
Fig. D

■ STANDARD OPERATION CHART





● Tray Operation



■ 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.
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

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ONLY

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)	
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

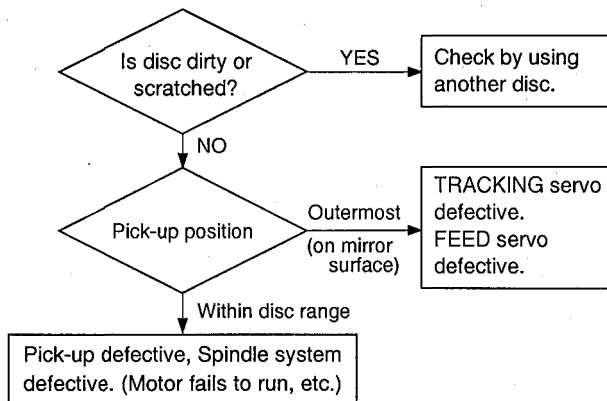
ERROR MESSAGE	DESCRIPTION
E - X 0	Data cannot be read after finishing search.
E - X 1	Data cannot be read during PLAY (x = 0), PAUSE (x = 4) or SCAN (x = 3).
E - 7 1	At the start, tracking servo is not effective.
E - 7 2	At the start, spindle servo PLL is not effective.
E - 7 3	At the start, data can 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") :

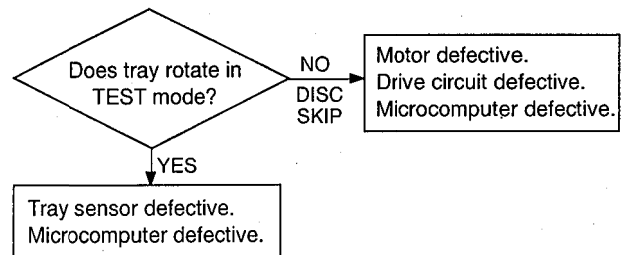
- (X = 0) PLAY
- (X = 2) SCAN
- (X = 3) PAUSE
- (X = 4) PEAK SEARCH
- (X = 5) SEARCH
- (X = 6) DISC SCAN
- (X = 7) START
- (X = 8) STOP
- (X = 9) DISC SEARCH
- (X = -) EJECT
- (X = C) NO DISC

1) Error Code Troubleshooting

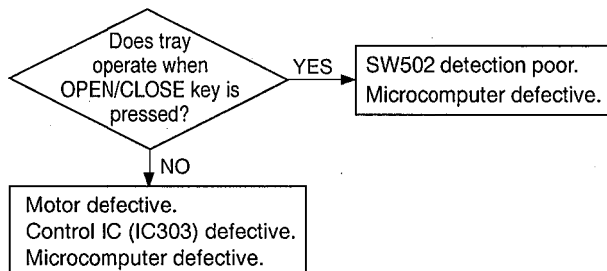
Error codes **X0**, **X1**, **73** Data cannot be read.



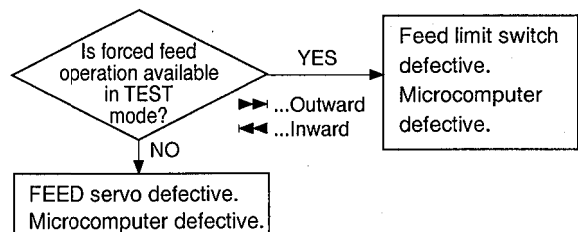
Error code **X6** Poor table rotation.



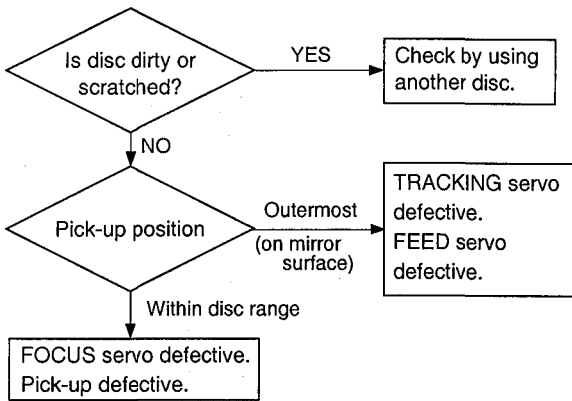
Error codes **X4**, **X5** Poor tray loading operation.



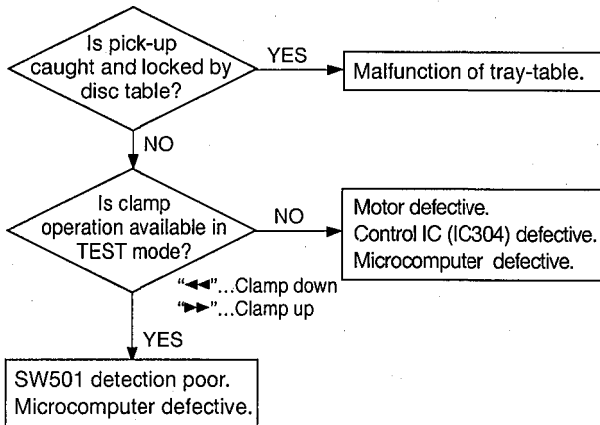
Error code **X7** FEED operation defective. (Limit switch fails)



Error code **X8** Focus drops.

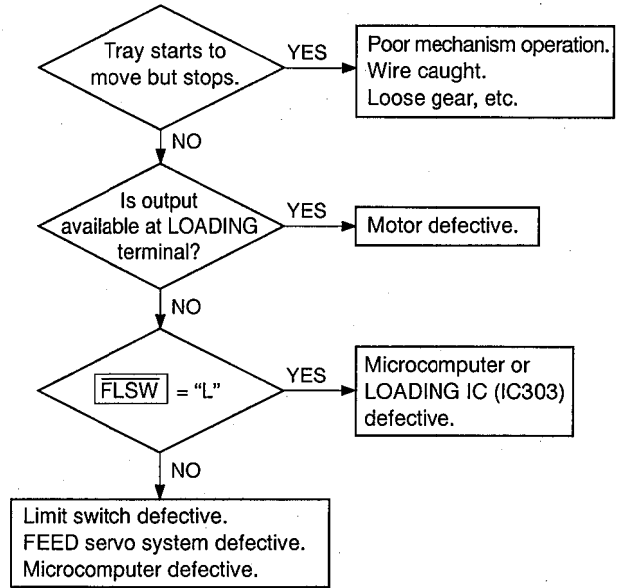


Error code **X9**, **XA** Poor clamp operation.

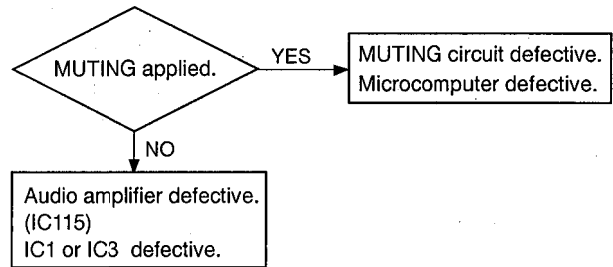


2) Troubleshooting from System Malfunctions.

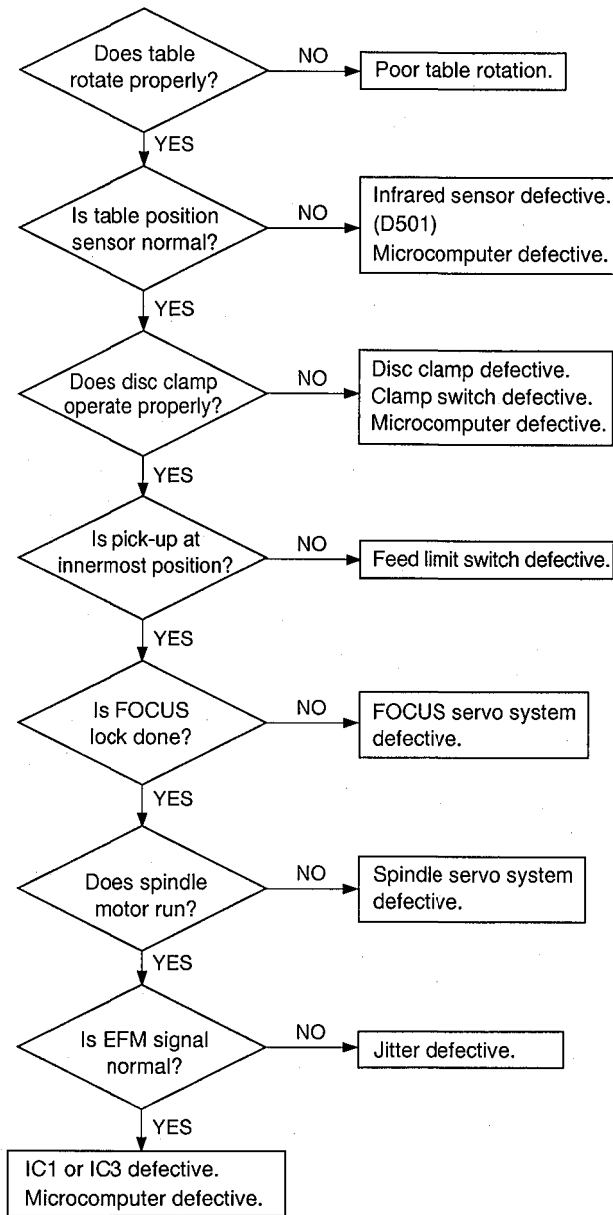
a) Tray fails to come out/go in.



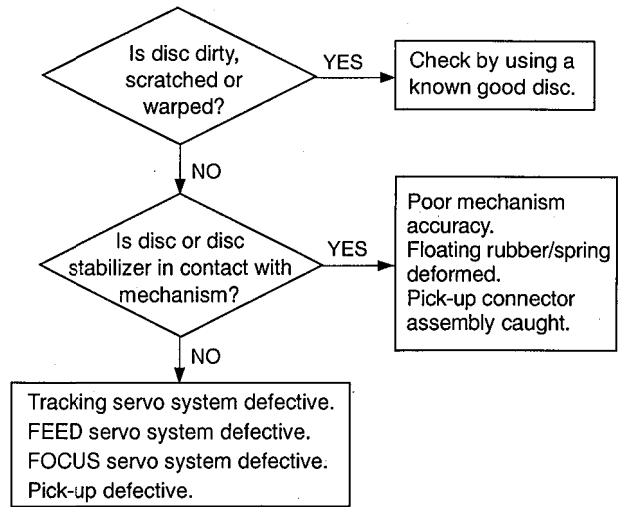
b) No sound generated, Sound cut during play. (but time display advanced properly)



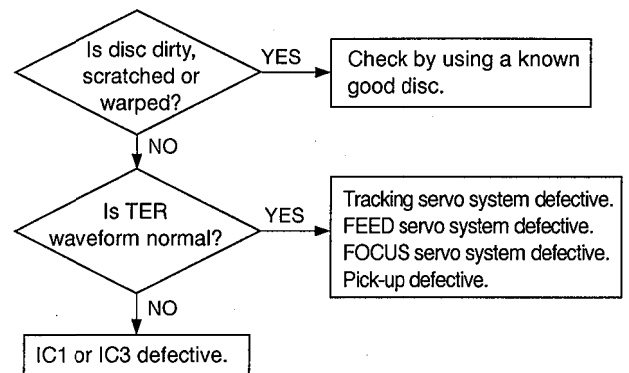
**c) Operates as if no disc loaded.
(although loaded)**



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

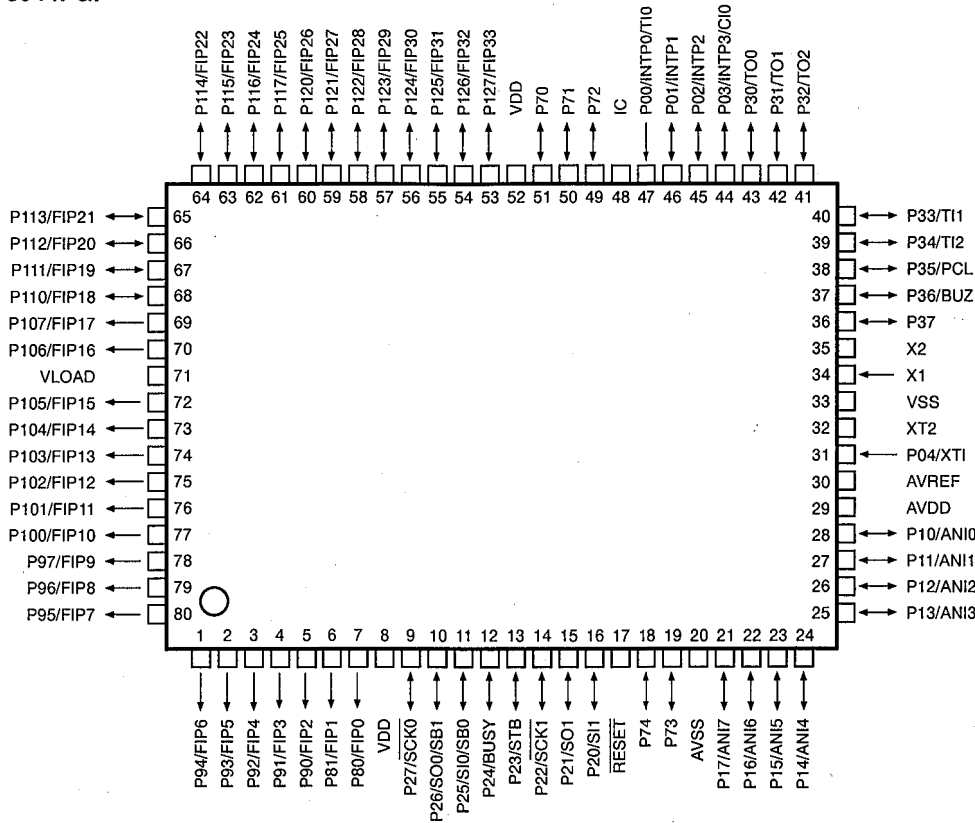


**e) No search provided.
(Sound skipped after search)**



IC DATA

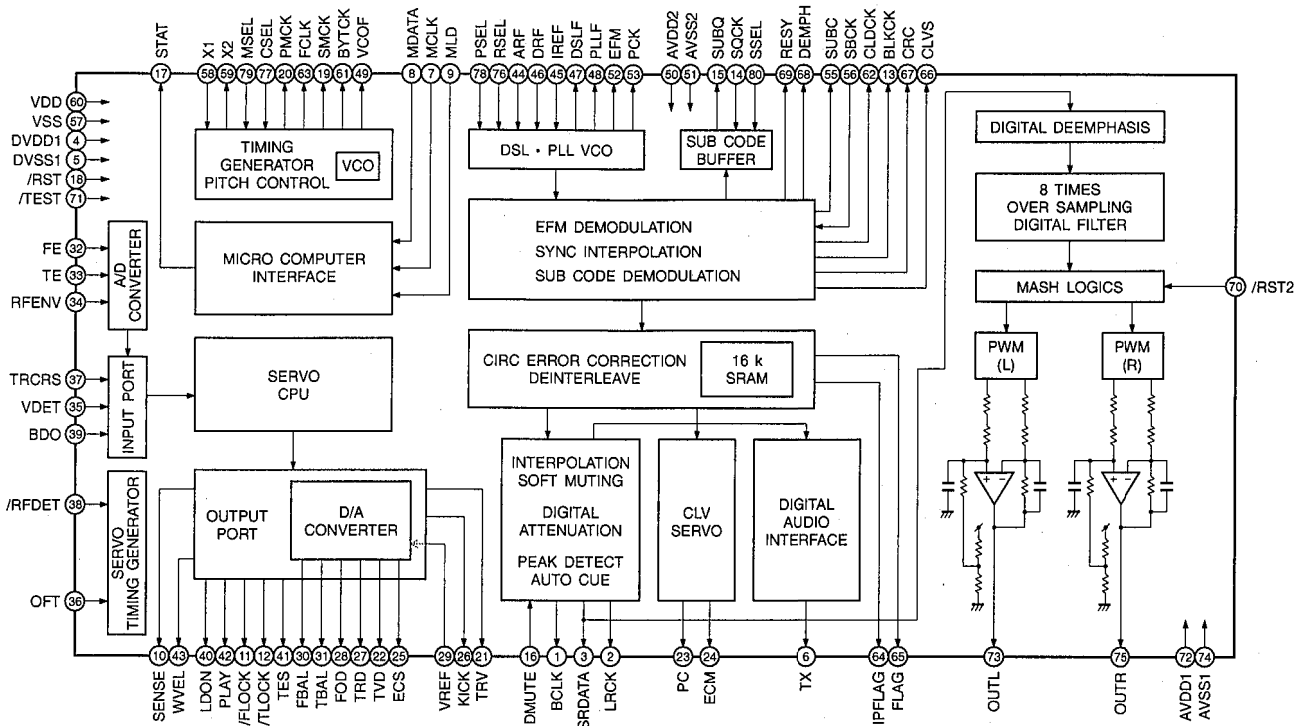
IC311 : μPD78044FGF
8bit μ-COM



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/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/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	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 oscillation 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 (counterclockwise)
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	P03/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/INTP0/TI0	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

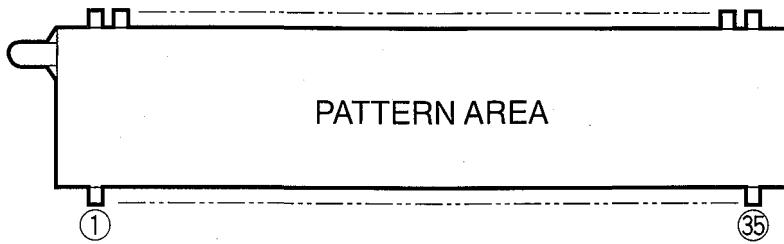


Pin No.	Name	I/O	Function
1	BCLK	O	Bit clock output for SR DATA (NC)
2	LRCK	O	L/R identification signal output (NC)
3	SRDATA	O	Serial data output (NC)
4	DVDD1	I	Power supply for digital circuit (+5)
5	DVSS1	I	GND for digital circuit
6	TX	O	Digital, audio, interface output signal
7	MCLK	I	Microprocessor 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	FLOCK	O	Focus servo drawing signal (L : when drawn)
12	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	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	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	DSLFL	I/O	Loop filter terminal for DSL
48	PLLFL	I/O	Loop filter terminal for PLL
49	VCOFL	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	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 out 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	RST2	I	Reset terminal for stop after MASH circuit (L : RESET) (+5)
71	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

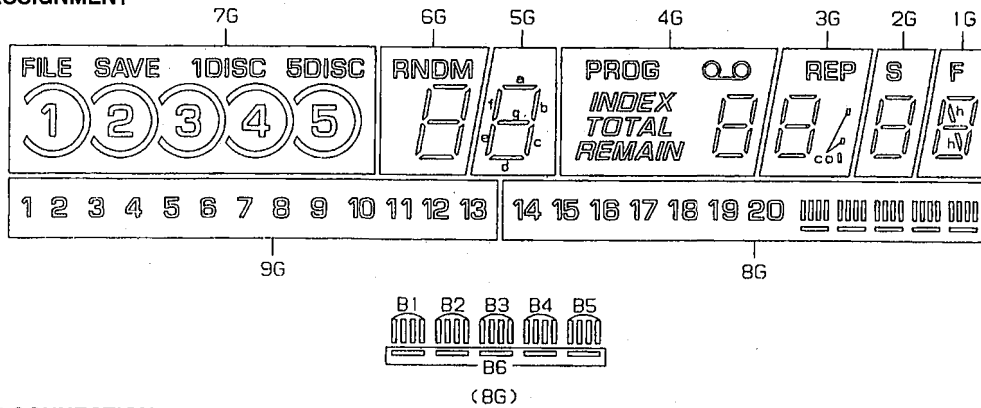


• PIN CONNECTION

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

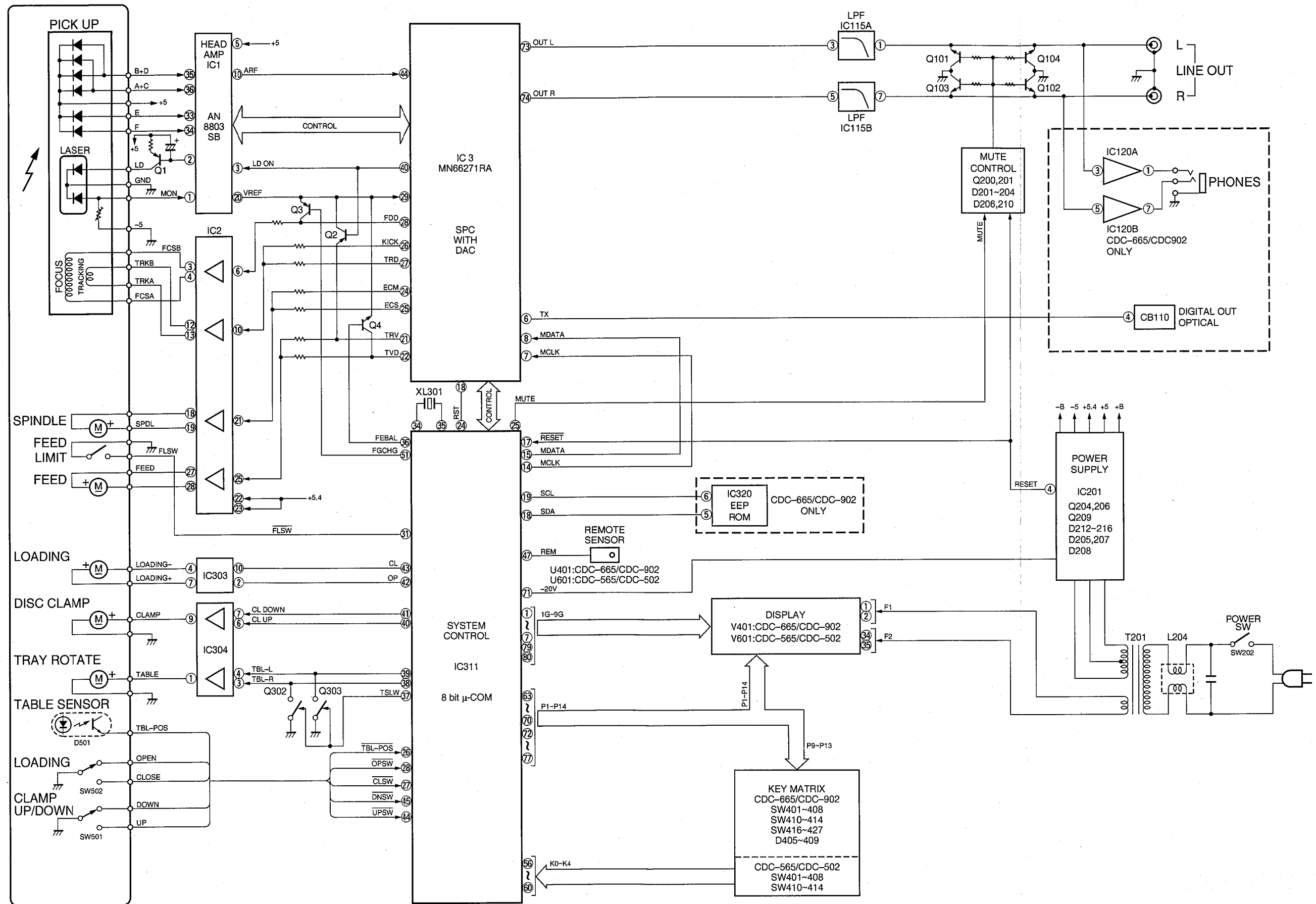
• GRID ASSIGNMENT



• 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	—	LO	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

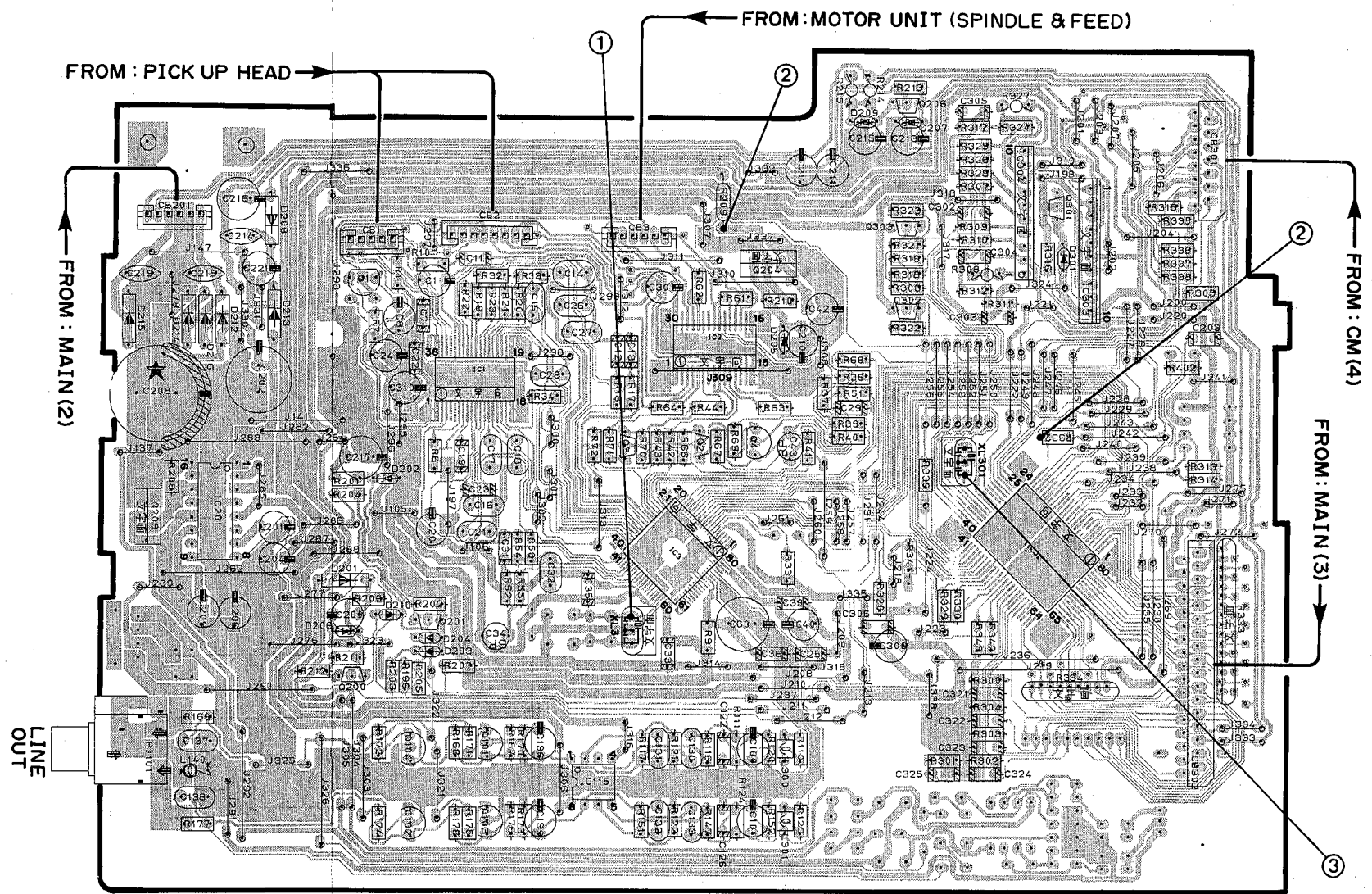


■ CDC-565/CDC-502 PRINTED CIRCUIT BOARD (Foil side)

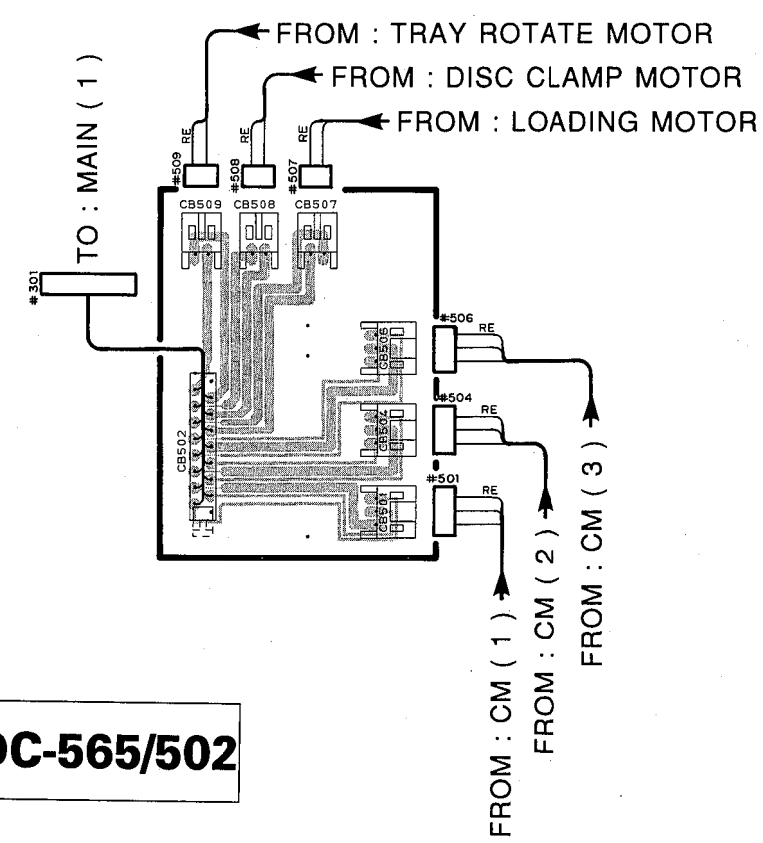
① to ③ : TEST POINT WAVEFORMS (See page 28)

● Semiconductor Location

Ref No.	Location	Ref No.	Location
IC1	E3	Q1	D2
IC2	F2	Q2	F3
IC3	E3	Q3	E3
IC115	E4	Q4	F3
IC201	D3	Q101	E4
IC303	G2	Q102	E4
IC304	G2	Q103	E4
IC311	G3	Q104	E4
		Q200	D3
		Q201	E3
		Q204	F2
		Q206	F1
		Q209	D3
		Q301	G2
		Q302	F2
		Q303	F2

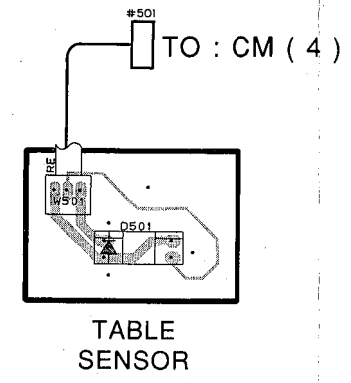


P.C.B. CM (4)

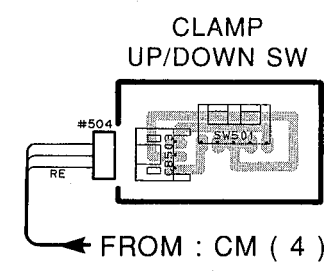


P. C. B. MAIN (1)

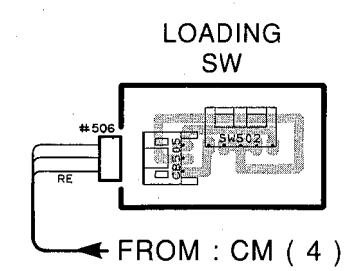
P.C.B. CM (1)



P.C.B. CM (2)



P.C.B. CM (3)



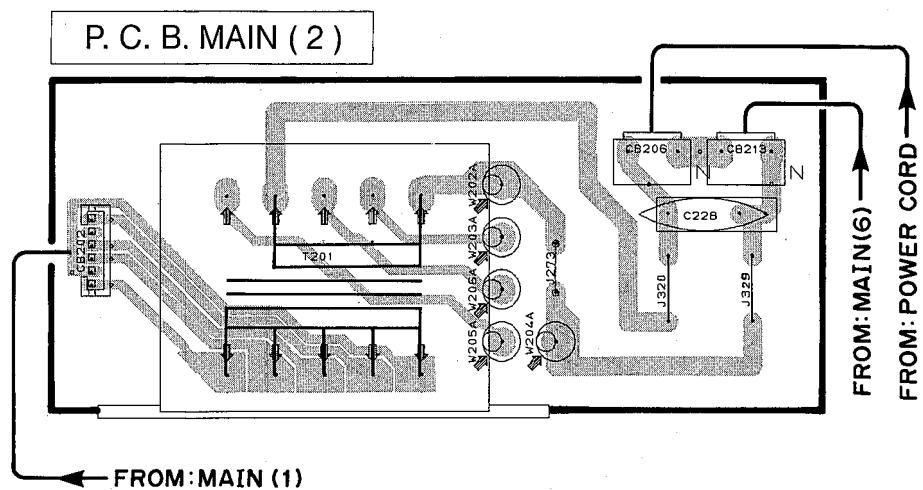
CDC-565/502

1
2
3
4
5
6

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

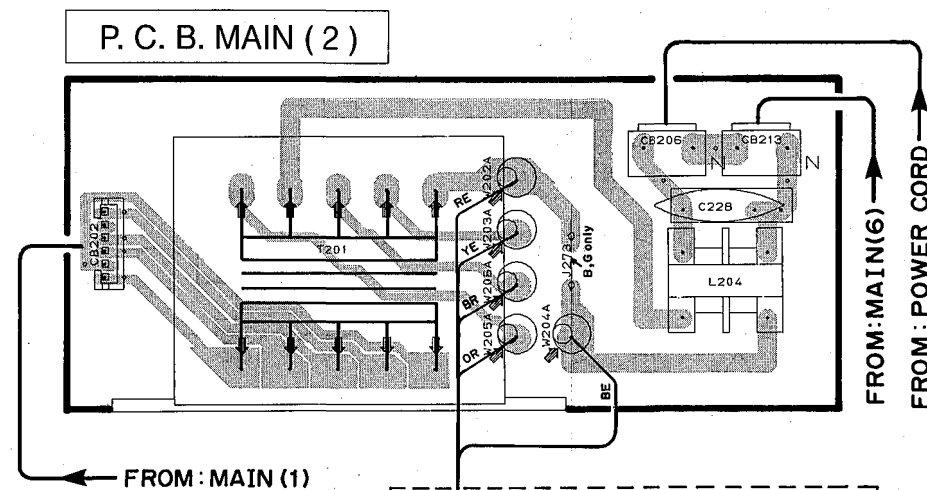
1

● U, C, A models

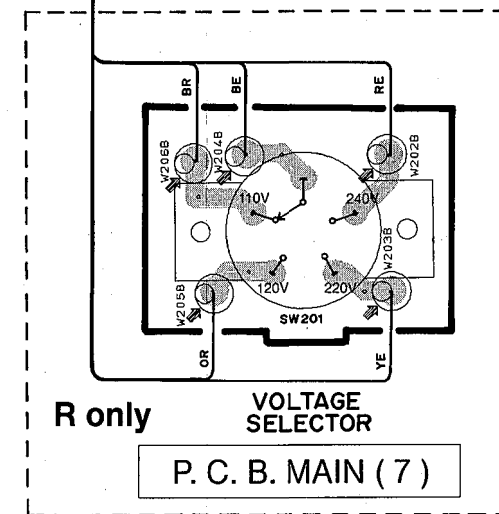


2

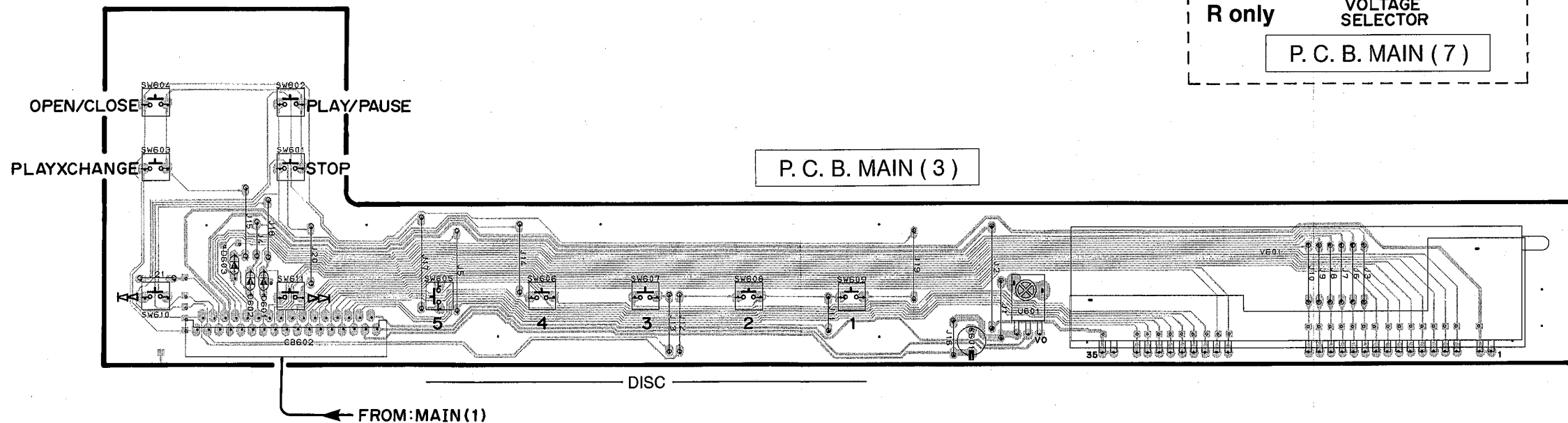
● R, G, B models



3



4



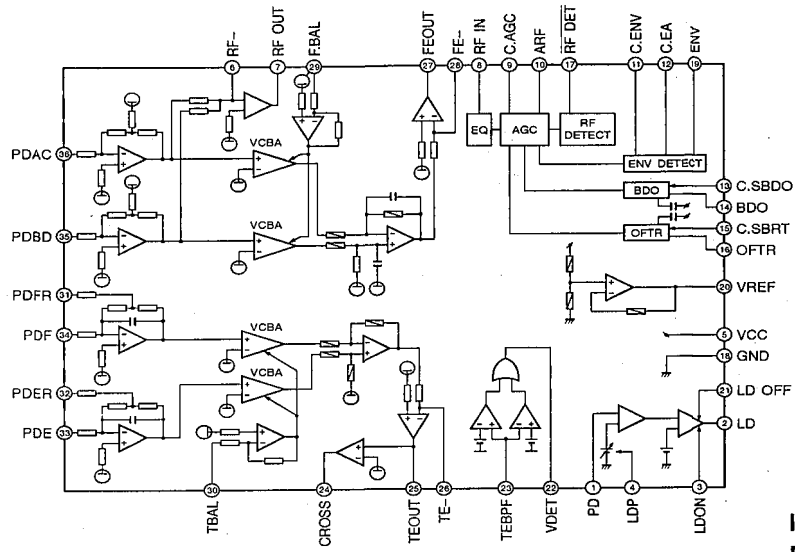
5

CDC-565/502

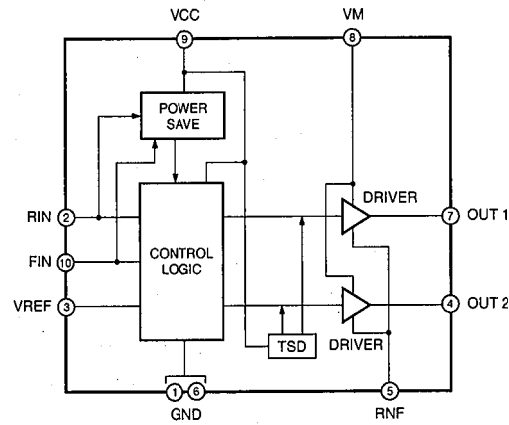
6

IC BLOCKS

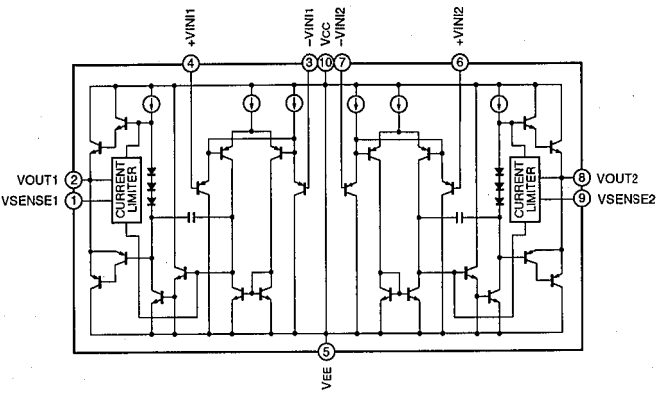
IC1 : AN8803SB
Digital Servo Head Amp



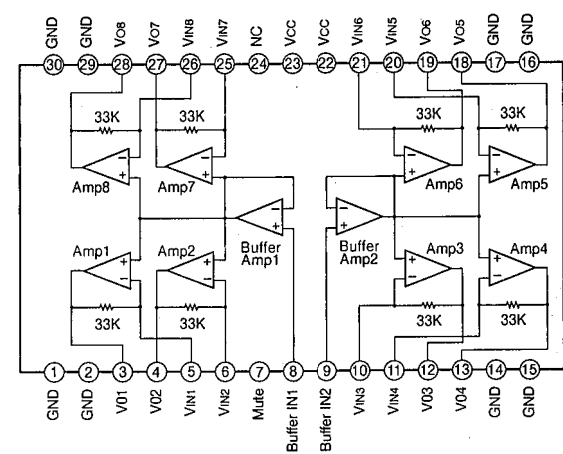
IC303 : BA6286
Motor Driver



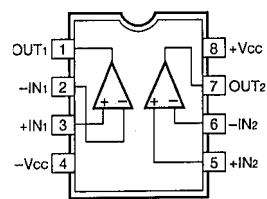
IC304 : LA6510
Dual Power Operational Amp



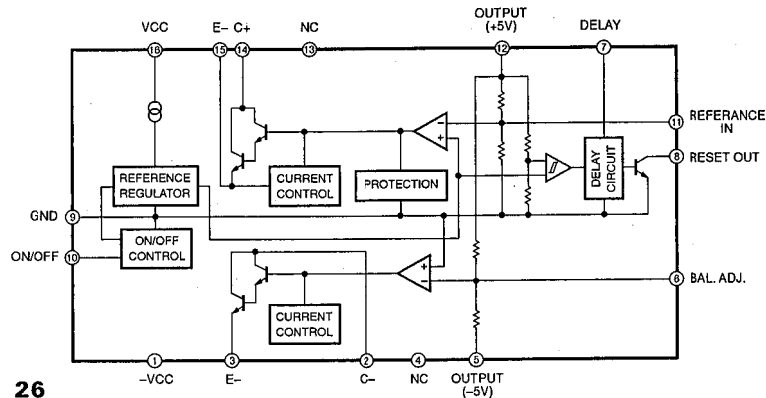
IC2 : LA6536M
4-Channel BTL Driver



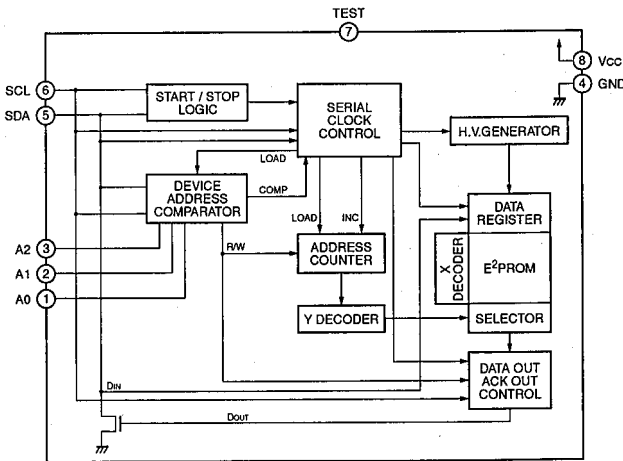
IC115 : NJM2068D-D
IC120 : BA15218
Dual Op-Amp



IC201 : M5290P
Constant-Voltage Tracking Supply with Reset



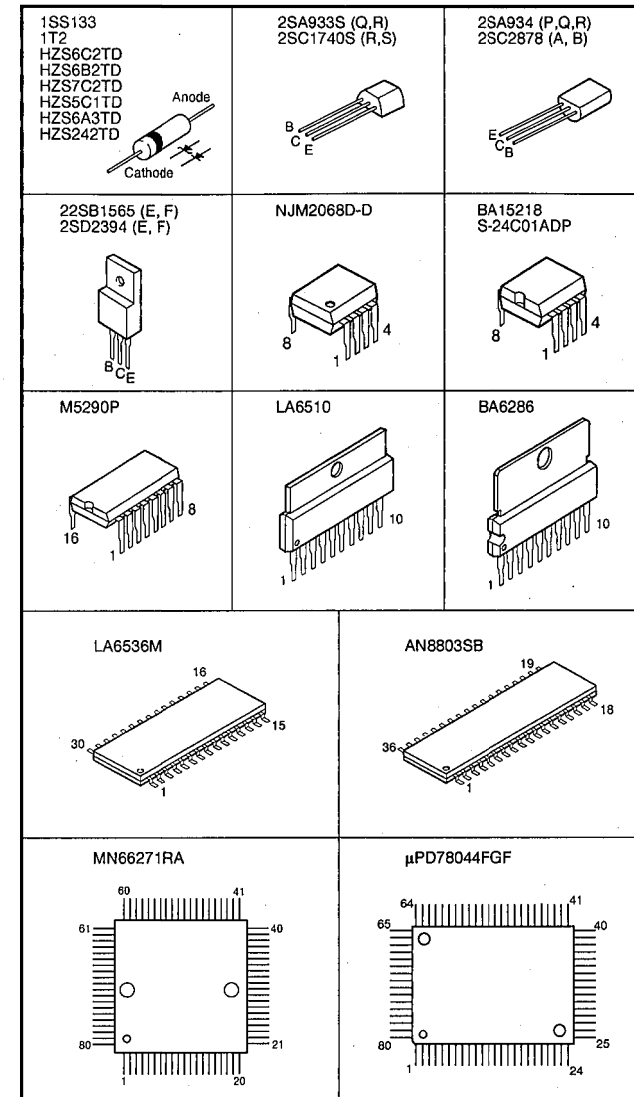
IC320 : S-24C01ADP
Electrically Erasable PROM



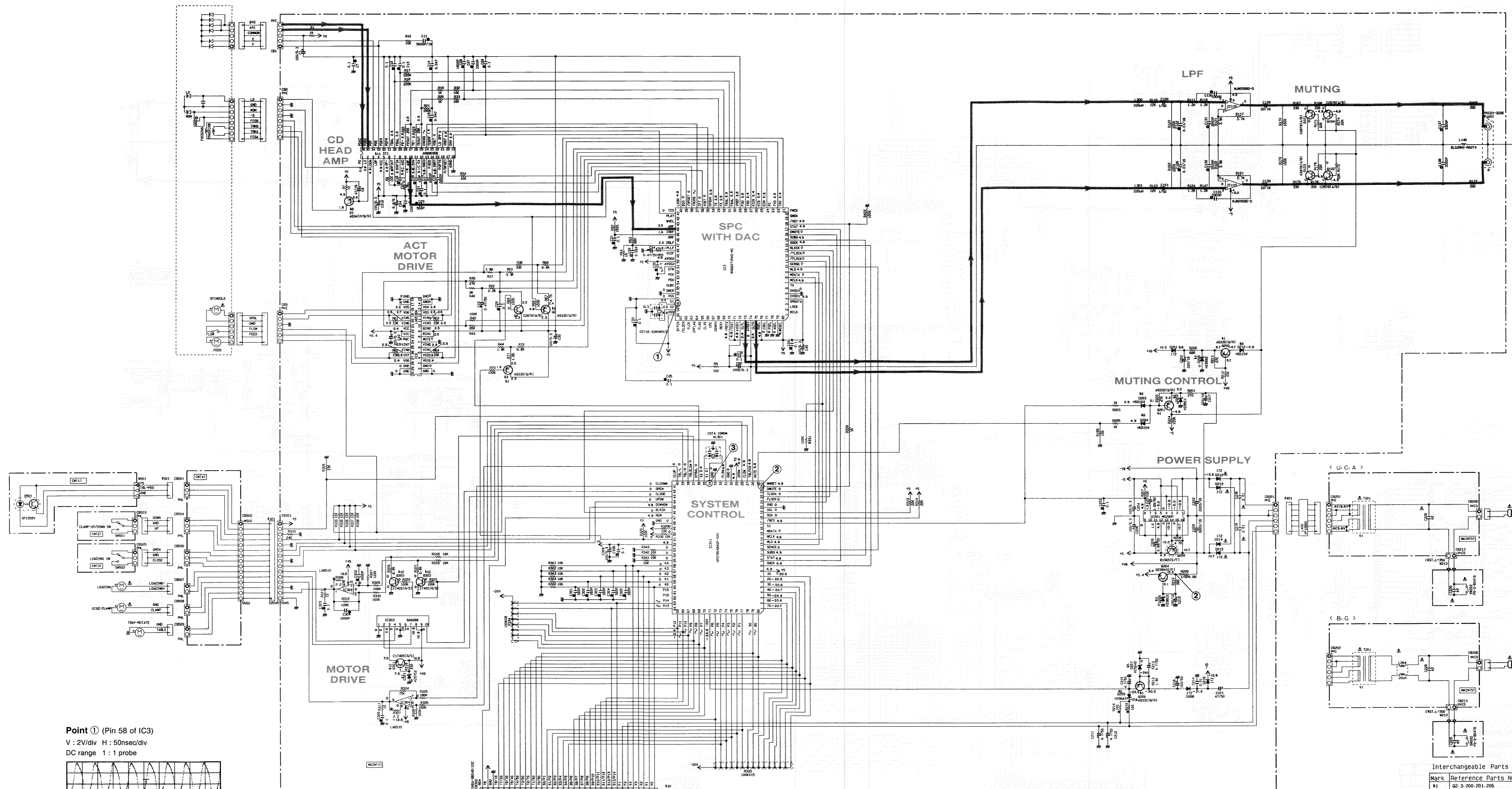
Other ICs

- IC311 : μ PD78044FGF \rightarrow See page 15
- IC3 : MN66271RA \rightarrow See page 17

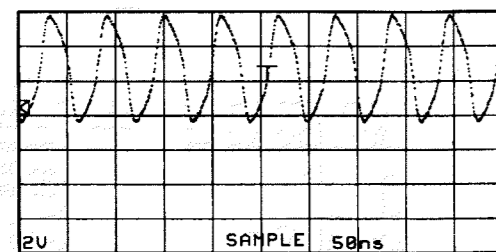
PIN CONNECTION DIAGRAM



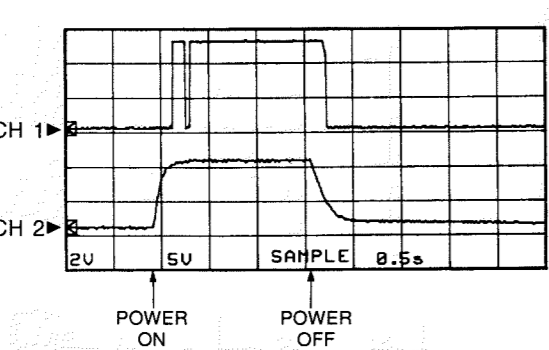
■ CDC-565/CDC-502 SCHEMATIC DIAGRAM



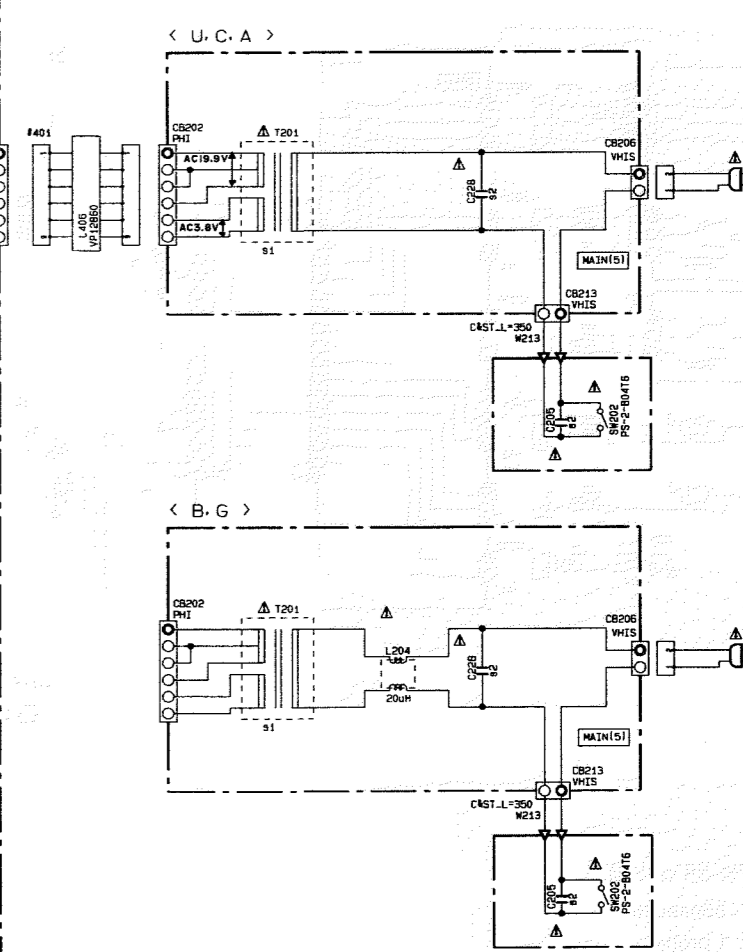
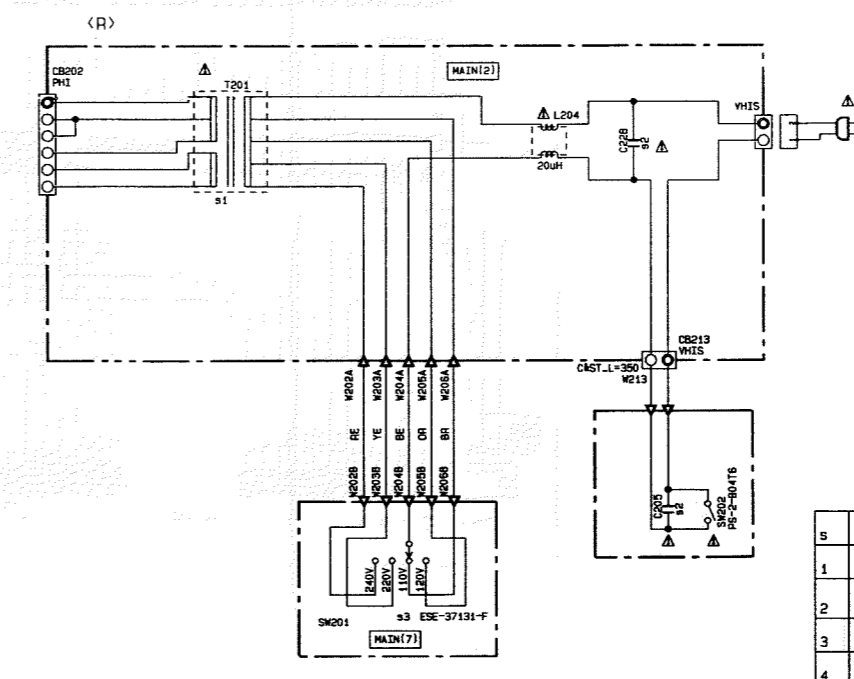
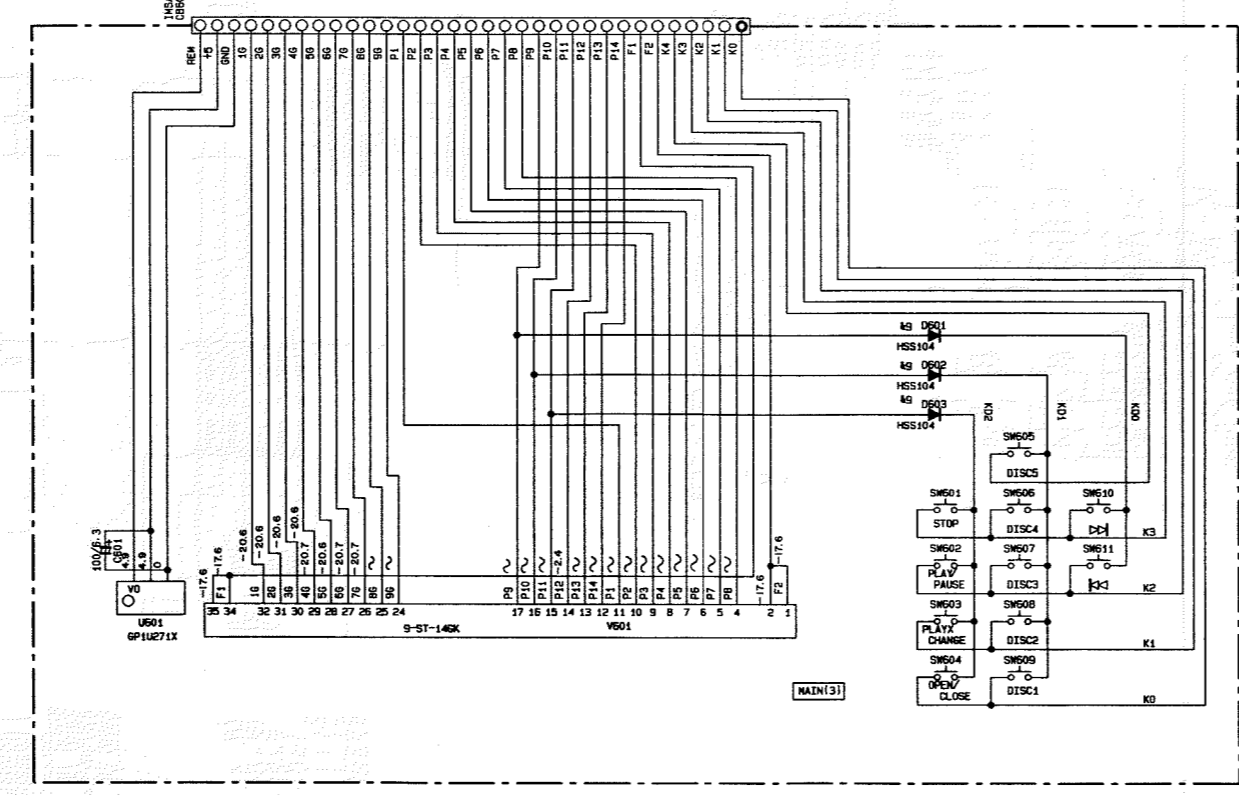
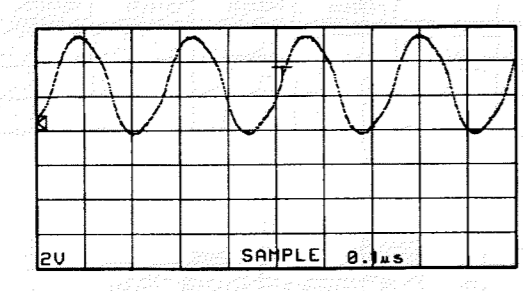
Point ① (Pin 58 of IC3)
V : 2V/div H : 50sec/div
DC range 1 : 1 probe



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
41	02.3.200.201.206	25A93316/R1 25A113016/P1 25A1309416/R/S1
42	0202	H256C1 MT2.5-1B
43	0205	H256C2 MT2.5-2B
44	0206	H256E2 MT2.5-6C
45	0207	H25242 MT2.64-DC
46	0209	H256A3 MT2.5-6B
47	0301	H257C2 MT2.7-5C
48	01	25A9341P/Q/R1 25B441E/P/G1
49	D203.204.210.601-603	H55104 155133 155176
410		
411	1C1	AN68032B AN68069B
412	0301-303	25C1740516/S1 25C26031E/V1 25C3311A1E/P/S1

	U.C	R	A	B.G
1	T201	XL831	XL832	XL833
2	C22B-C205	F138410	V574170	V574170
3	SW201	X	VL90800	X
4				
5				

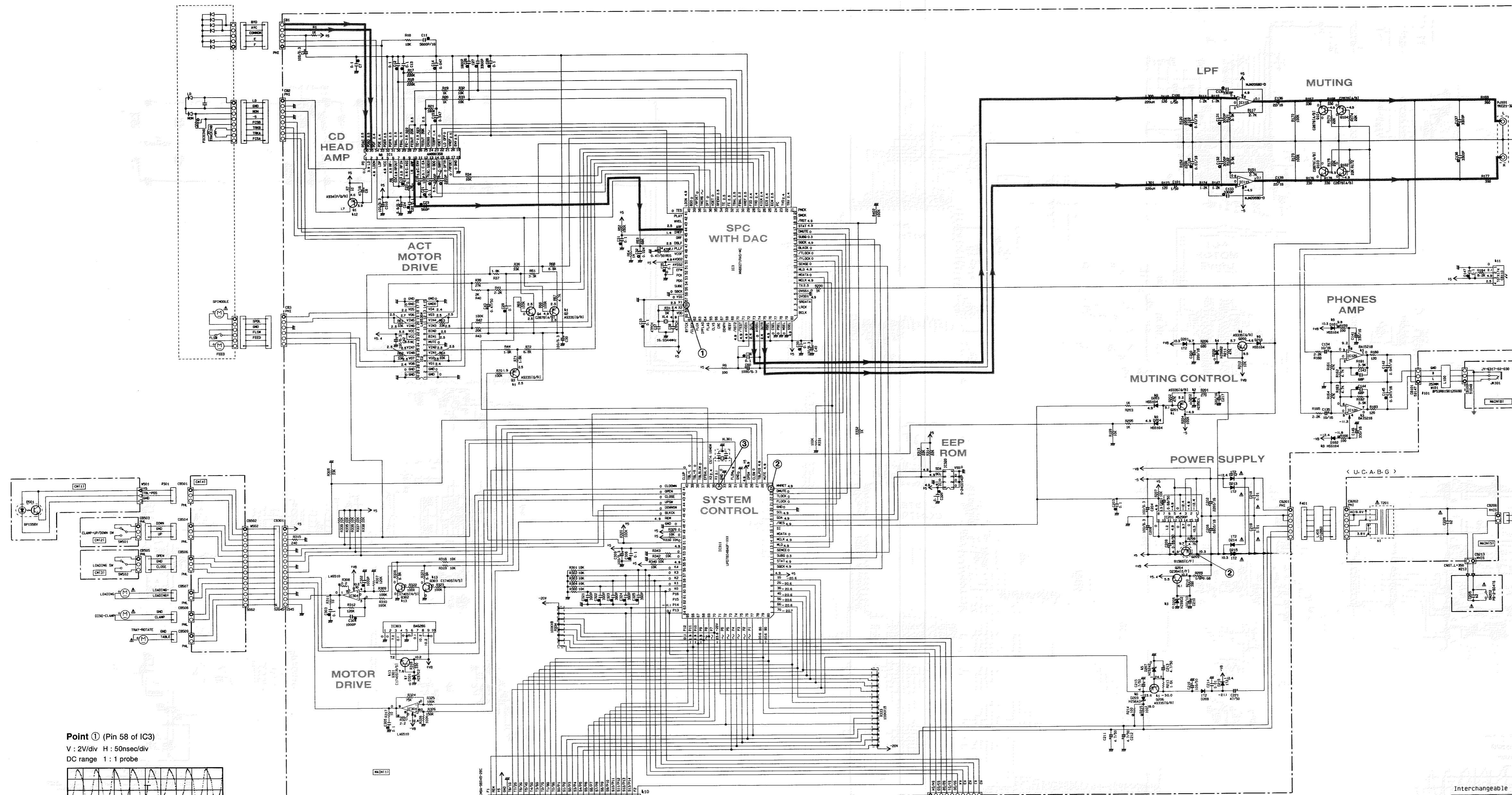
NOTICE (mode3)
(J)--- JAPANESE
(U)--- U.S.A
(C)--- CANADIAN
(P)--- GENERAL
(A)--- ALGERIAN
(B)--- BRITISH
(G)--- EUROPEAN
(T)--- CHINA
(L)--- SINGAPORE

CAPACITOR	REMARKS	PARTS NAME
①	NO MARK	ELECTROLYTIC CAPACITOR
②		TANTALUM CAPACITOR
③		CERAMIC TUBULAR CAPACITOR
④		PORCELAIN CERAMIC CAPACITOR
⑤		POLYESTER FILM CAPACITOR
⑥		POLYPROPYLENE FILM CAPACITOR
⑦		MICA CAPACITOR
⑧		POLYETHYLENE FILM CAPACITOR
⑨		SEMICONDUCTIVE CERAMIC CAPACITOR

RESISTOR	REMARKS	PARTS NAME
①	NO MARK	CARBON FILM RESISTOR (P-5)
②		CARBON FILM RESISTOR (P-10)
③		METAL FILM RESISTOR
④		METAL FILM RESISTOR
⑤		FINE PATTERN CARBON FILM RESISTOR
⑥		COBALT NITRIDE RESISTOR
⑦		SEMI-CONDUCTIVE RESISTOR
⑧		CHIP RESISTOR

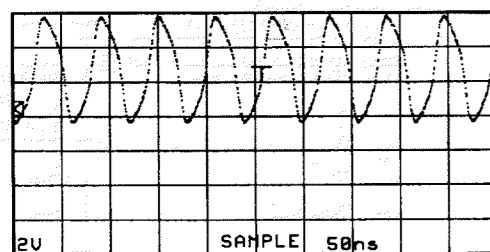
All voltage are measured with a 10MΩ/V DC electric volt meter.
Components having special characteristics are marked Δ, and must be replaced with parts having specifications equal to those originally installed.
Schematic diagram is subject to change without notice.

CDC-665/CDC-902 SCHEMATIC DIAGRAM



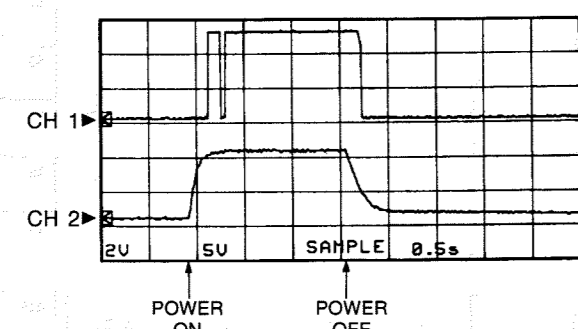
Point ① (Pin 58 of IC3)

V : 2V/div H : 50nsec/div
DC range 1 : 1 probe



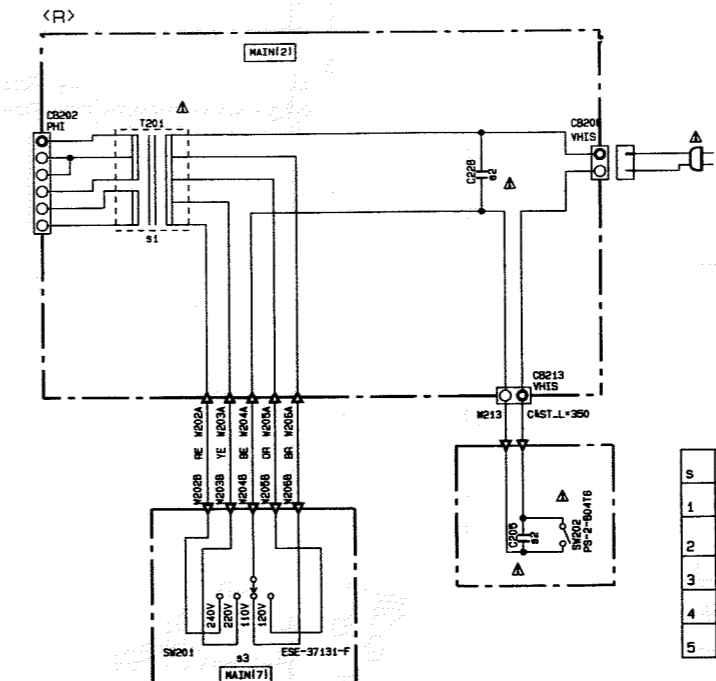
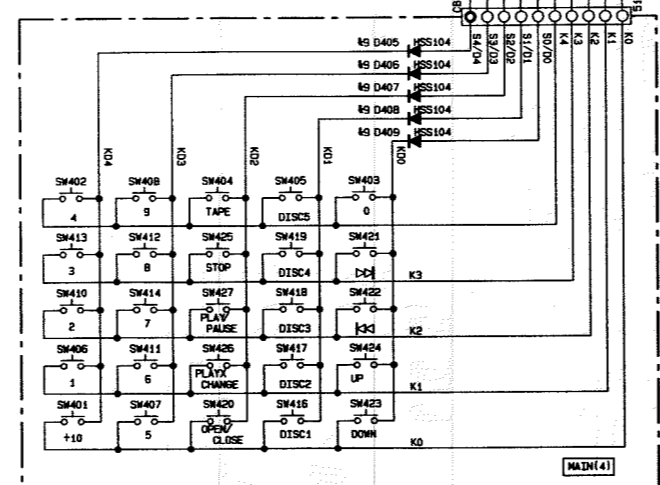
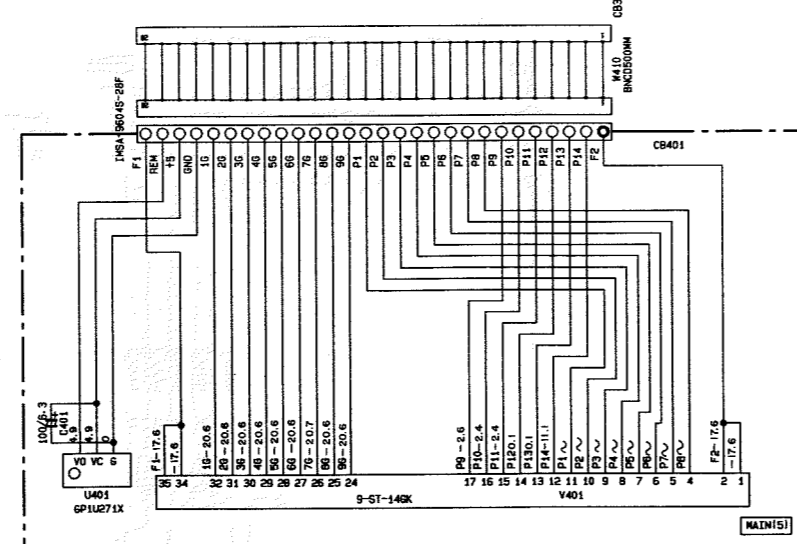
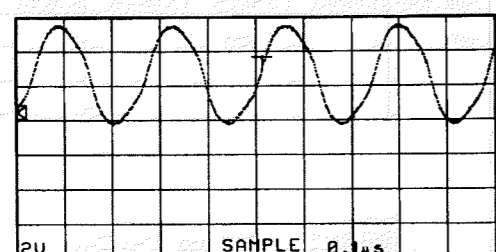
Point ②
CH 1 : Pin 24 of IC311
CH 2 : Collector of Q204

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



S	U.C	R	A	B.S
1	T201	XL831	XL832	XL833
2	C228 - C205	F138410	V574170	V574170
3	SW201	X	VL90800	X

Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
81	gp. 3.200.201.206	25A033016H1 25A113516/F1 25A1303A16/R/S1
82	D202	H255C1 MTZ.J5.1B
83	D205	H255C2 MTZ.J5.2B
84	D206	H255B2 MTZ.J5.6C
85	D207	H25242 MTZ.Q4.0C
86	D209	H255A3 MTZ.J5.6B
87	D301	H257C2 MTZ.L7.5C
88	IC1	AN8035B AN8005B
89	D101-102-203-204-210	H55104 H55133 H55176
90	C8304	S2045-20P
91	CB110	TOTX174 TOTX176
92	G1	25A03A16/R/S1 25B04A16/F/S1
93	D301-303	25C174051R/S1 25C26031E/F1 25C331A1Q/R/S1

NOTICE (mode 1)
(J)..... JAPANESE
(U)..... U.S.A.
(C)..... CANADIAN
(G)..... GENERAL
(A)..... AUSTRALIAN
(E)..... BRITISH
(O)..... EUROPEAN
(T)..... CHINA
(L)..... SINGAPORE

REMARKS PARTS NAME
NO MARK ELECTROLYTIC CAPACITOR
NO MARK TANTALUM CAPACITOR
NO MARK CERAMIC CAPACITOR
C CERAMIC SUBSTRATE CAPACITOR
P POLYESTER FILM CAPACITOR
POLYESTER FILM CAPACITOR
MICA CAPACITOR
POLYPROPYLENE FILM CAPACITOR
SEMICONDUCTIVE CERAMIC CAPACITOR

REMARKS PARTS NAME
NO MARK ELECTROLYTIC RESISTOR (P=5)
NO MARK CARBON FILM RESISTOR (P=1)
NO MARK CARBON FILM RESISTOR (P=1)
METAL FILM RESISTOR
METAL GLAZE RESISTOR
FIRE PROOF CARBON FILM RESISTOR
CEMENT HOLES RESISTOR
SEMI VARIABLE RESISTOR
CHIP RESISTOR

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

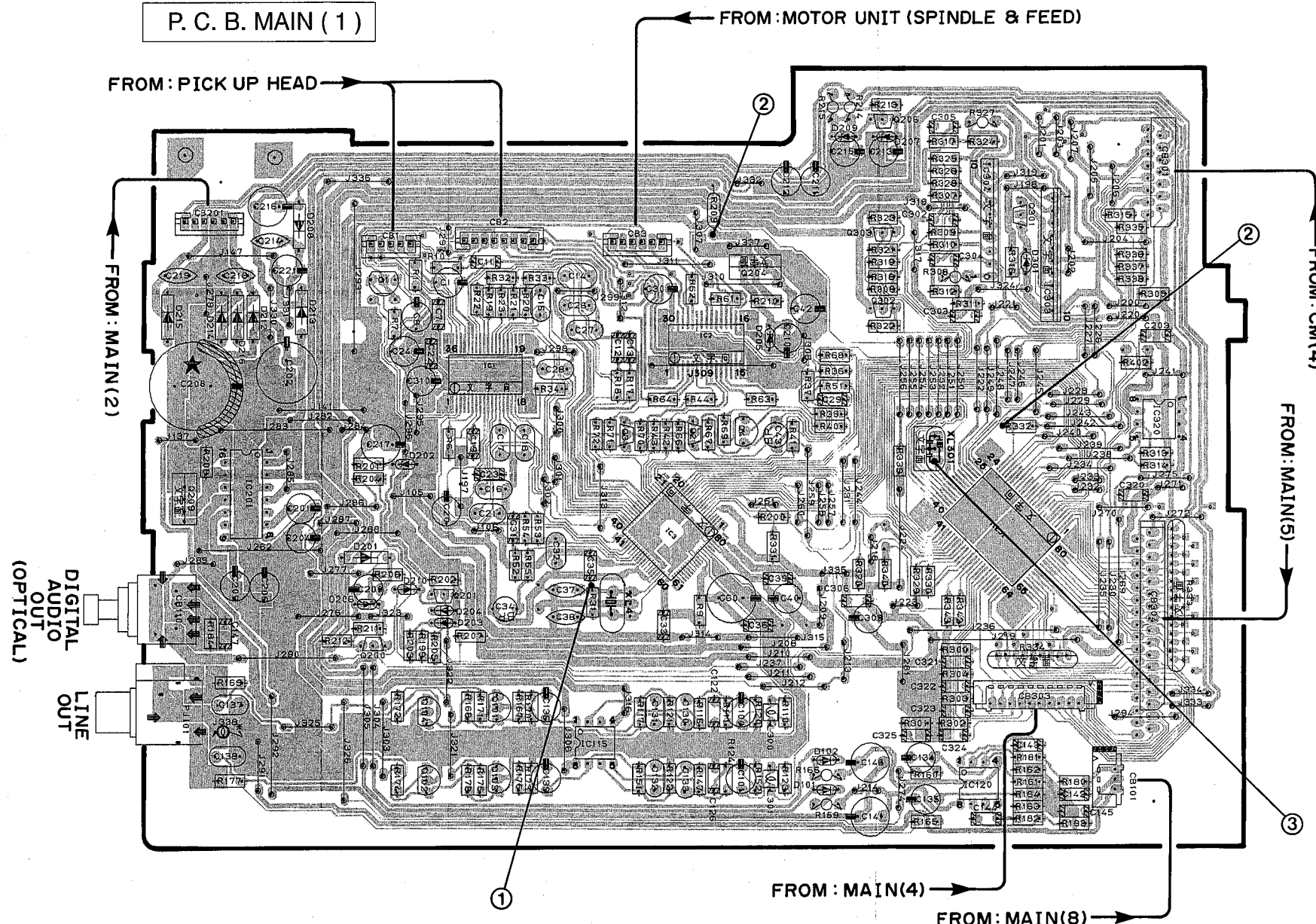
■ CDC-665/CDC-902 PRINTED CIRCUIT BOARD (Foil side)

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

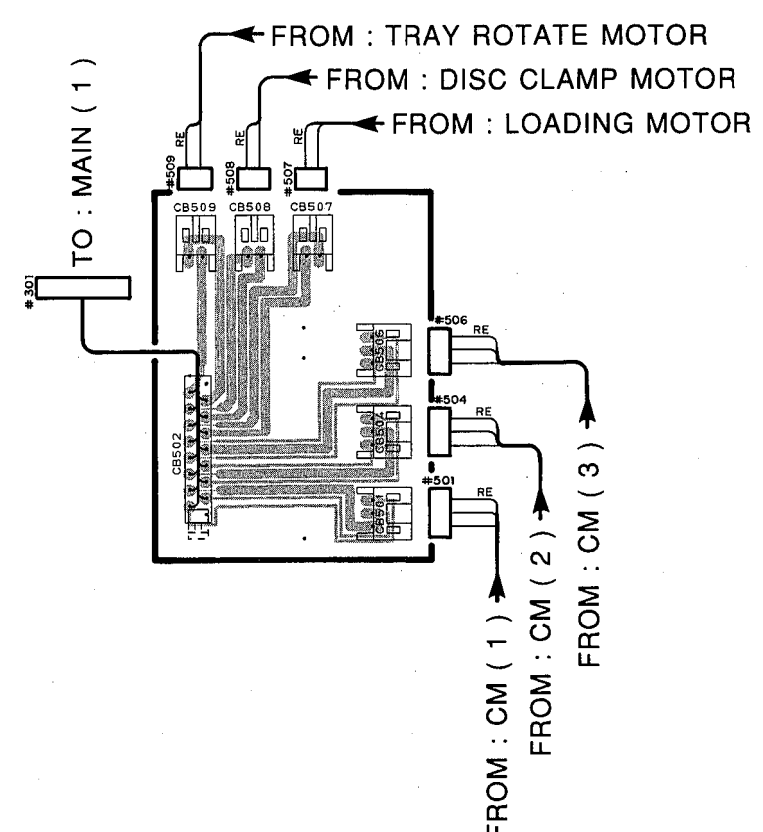
● Semiconductor Location

Ref No.	Location	Ref No.	Location
IC1	E2	Q1	D2
IC2	F2	Q2	F3
IC3	E3	Q3	E3
IC115	E4	Q4	F3
IC120	G4	Q101	E4
IC201	D3	Q102	E4
IC303	G2	Q103	E4
IC304	G2	Q104	E4
IC311	G3	Q200	D3
IC320	G3	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)

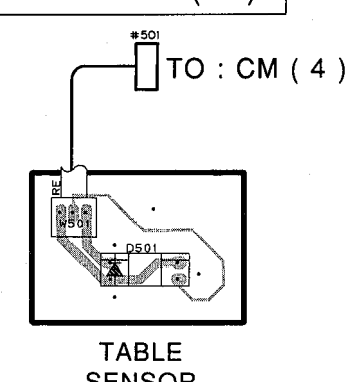
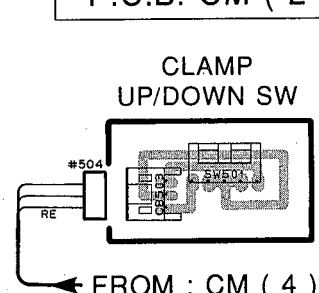


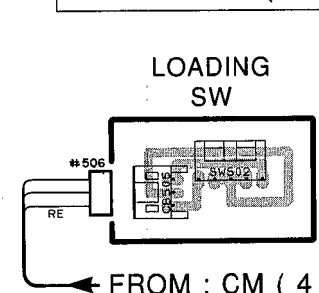
TABLE SENSOR

P. C. B. CM (2)



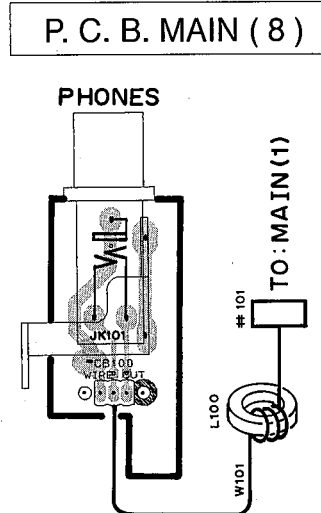
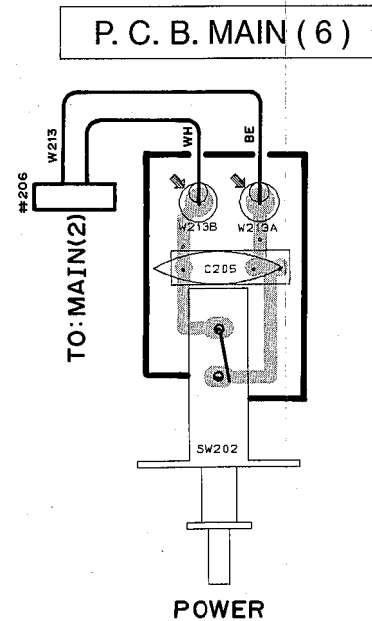
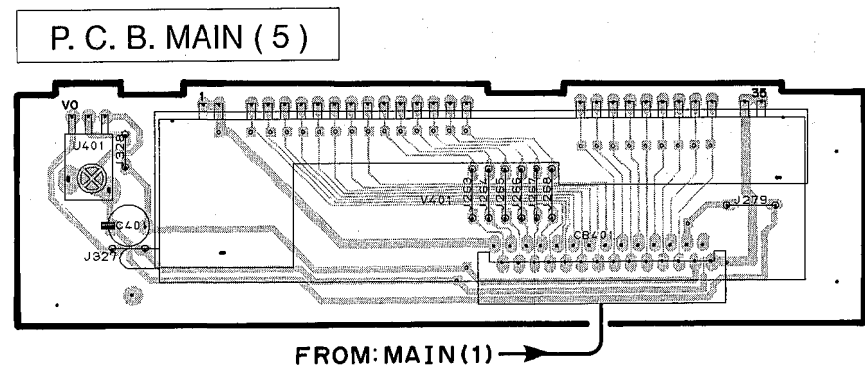
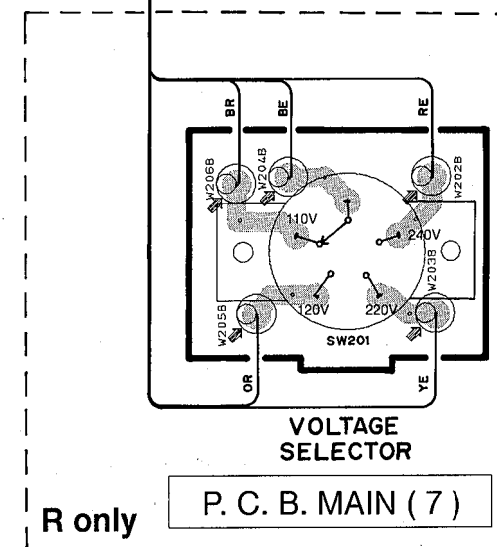
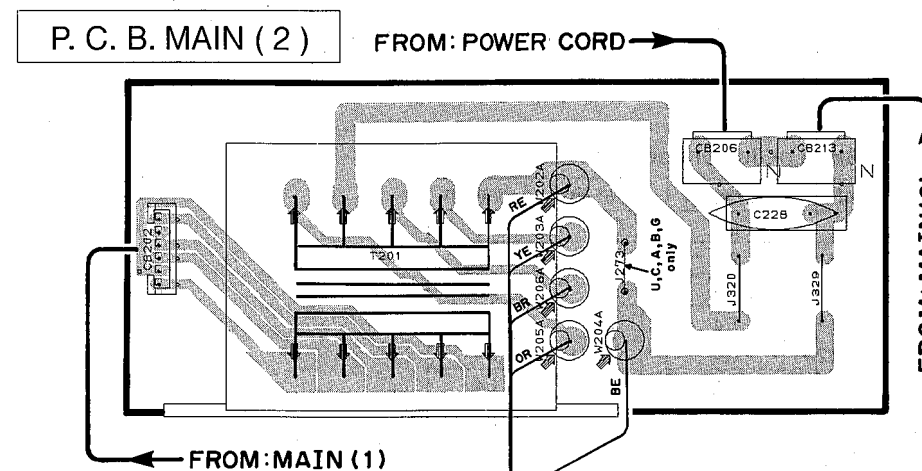
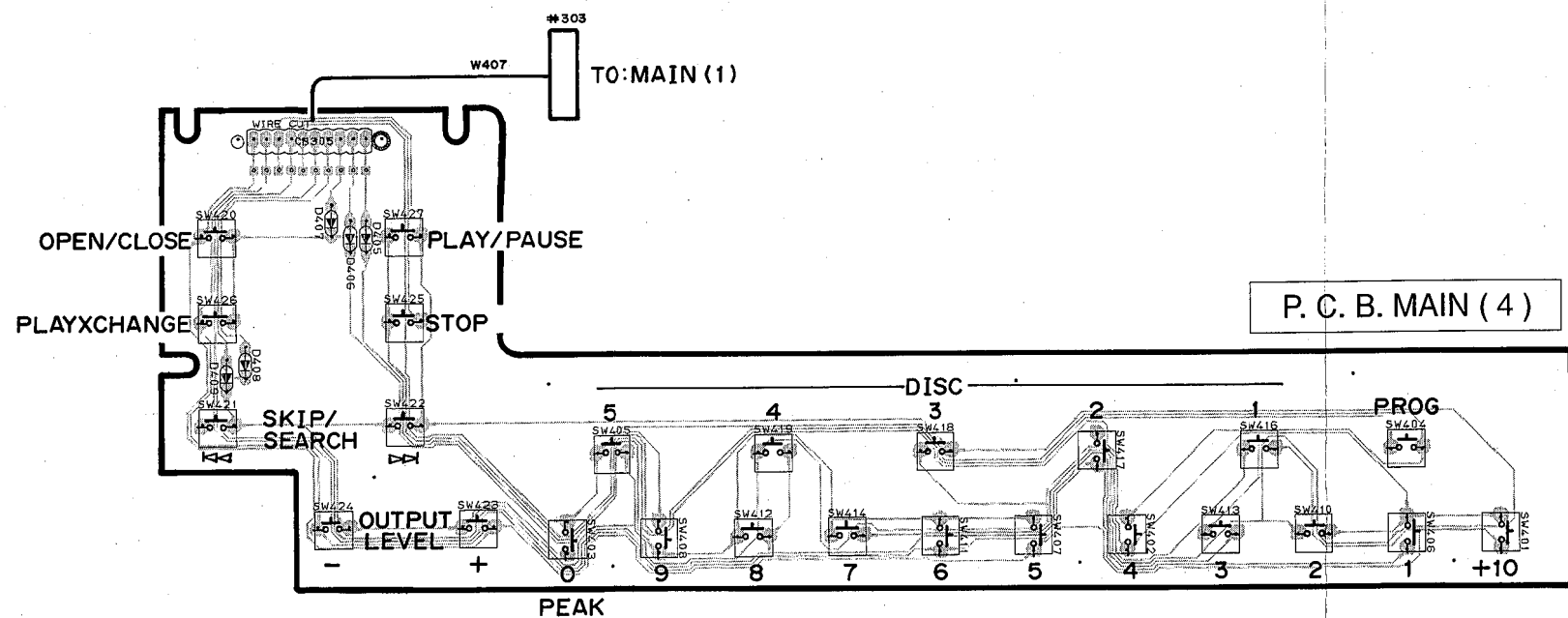
CLAMP UP/DOWN SW

P. C. B. CM (3)



LOADING SW

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



CDC-665/902

PARTS LIST

■ ELECTRICAL PARTS

■ WARNING

Components having special characteristics are marked Δ 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	L.EMIT	: LIGHT EMITTING MODULE
C.CE	: CERAMIC CAP	LED.DSPLY	: LED DISPLAY
C.CE.ARRAY	: CERAMIC CAP ARRAY	LED.INFRD	: LED, INFRARED
C.CE.CHP	: CHIP CERAMIC CAP	MODUL.RF	: MODULATOR, RF
C.CE.ML	: MULTILAYER CERAMIC CAP	PHOT.CPL	: PHOTO COUPLER
C.CE.M.CHP	: CHIP MULTILAYER CERAMIC CAP	PHOT.INTR	: PHOTO INTERRUPTER
C.CE.SAFTY	: RECOGNIZED CERAMIC CAP	PHOT.RFLCT	: PHOTO REFLECTOR
C.CE.TUBLR	: CERAMIC TUBULAR CAP	PIN.TEST	: PIN, TEST POINT
C.CE.SMI	: SEMI CONDUCTIVE CERAMIC CAP	PLST.RIVET	: PLASTIC RIVET
C.EL	: ELECTROLYTIC CAP	R.ARRAY	: RESISTOR ARRAY
C.MICA	: MICA CAP	R.CAR	: CARBON RESISTOR
C.ML.FLM	: MULTILAYER FILM CAP	R.CAR.CHP	: CHIP RESISTOR
C.MP	: METALLIZED PAPER CAP	R.CAR.FP	: FLAME PROOF CARBON RESISTOR
C.MYLAR	: MYLAR FILM CAP	R.FUS	: FUSABLE RESISTOR
C.MYLAR.ML	: MULTILAYER MYLAR FILM CAP	R.MTL.CHP	: CHIP METAL FILM RESISTOR
C.PAPER	: PAPER CAPACITOR	R.MTL.FLM	: METAL FILM RESISTOR
C.PLS	: POLYSTYRENE FILM CAP	R.MTL.OXD	: METAL OXIDE FILM RESISTOR
C.POL	: POLYESTER FILM CAP	R.MTL.PLAT	: METAL PLATE RESISTOR
C.POLY	: POLYETHYLENE FILM CAP	RSNR.CE	: CERAMIC RESONATOR
C.PP	: POLYPROPYLENE FILM CAP	RSNR.CRYS	: CRYSTAL RESONATOR
C.TNTL	: TANTALUM CAP	R.TW.CEM	: TWIN CEMENT FIXED RESISTOR
C.TNTL.CHP	: CHIP TANTALUM CAP	R.WW	: WIRE WOUND RESISTOR
C.TRIM	: TRIMMER CAP	SCR.BND.HD	: BIND HEAD B-TITE SCREW
CN	: CONNECTOR	SCR.BW.HD	: BW HEAD TAPPING SCREW
CN.BS.PIN	: CONNECTOR, BASE PIN	SCR.CUP	: CUP TITE SCREW
CN.CANNON	: CONNECTOR, CANNON	SCR.TERM	: SCREW TERMINAL
CN.DIN	: CONNECTOR, DIN	SCR.TR	: SCREW, TRANSISTOR
CN.FLAT	: CONNECTOR, FLAT CABLE	SUPRT.PCB	: SUPPORT, P.C.B.
CN.POST	: CONNECTOR, BASE POST	SURG.PRTCT	: SURGE PROTECTOR
COIL.MX.AM	: COIL, AM MIX	SW.TACT	: TACT SWITCH
COIL.AT.FM	: COIL, FM ANTENNA	SW.LEAF	: LEAF SWITCH
COIL.DT.FM	: COIL, FM DETECT	SW.LEVER	: LEVER SWITCH
COIL.MX.FM	: COIL, FM MIX	SW.MICRO	: MICRO SWITCH
COIL.OUTPT	: OUTPUT COIL	SW.PUSH	: PUSH SWITCH
DIOD.ARRAY	: DIODE ARRAY	SW.RT.ENC	: ROTARY ENCODER
DIODE.BRG	: DIODE BRIDGE	SW.RT.MTR	: ROTARY SWITCH WITH MOTOR
DIODE.CHP	: CHIP DIODE	SW.RT	: ROTARY SWITCH
DIODE.VAR	: VARACTOR DIODE	SW.SLIDE	: SLIDE SWITCH
DIOD.Z.CHP	: CHIP ZENER DIODE	TERM.SP	: SPEAKER TERMINAL
DIODE.ZENR	: ZENER DIODE	TERM.WRAP	: WRAPPING TERMINAL
DSCR.CE	: CERAMIC DISCRIMINATOR	THRMST.CHP	: CHIP THERMISTOR
FER.BEAD	: FERRITE BEADS	TR.CHP	: CHIP TRANSISTOR
FER.CORE	: FERRITE CORE	TR.DGT	: DIGITAL TRANSISTOR
FET.CHP	: CHIP FET	TR.DGT.CHP	: CHIP DIGITAL TRANSISTOR
FL.DSPLY	: FLUORESCENT DISPLAY	TRANS	: TRANSFORMER
FLTR.CE	: CERAMIC FILTER	TRANS.PULS	: PULSE TRANSFORMER
FLTR.COMB	: COMB FILTER MODULE	TRANS.PWR	: POWER TRANSFORMER ASS'y
FLTR.LC.RF	: LC FILTER ,EMI	TUNER.AM	: TUNER PACK, AM
GND.MTL	: GROUND PLATE	TUNER.FM	: TUNER PACK, FM
GND.TERM	: GROUND TERMINAL	TUNER.PK	: FRONT-END TUNER PACK
HOLDER.FUS	: FUSE HOLDER	VR	: ROTARY POTENTIOMETER
IC.PRTCT	: IC PROTECTOR	VR.MTR	: POTENTIOMETER WITH MOTOR
JUMPER.CN	: JUMPER CONNECTOR	VR.SW	: POTENTIOMETER WITH ROTARY SW
JUMPER.TST	: JUMPER, TEST POINT	VR.SLIDE	: SLIDE POTENTIOMETER
L.DTCT	: LIGHT DETECTING MODULE	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 BLO2RN1-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

* New Parts

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 RGL15X104J
R334	VF772300	R. ARRAY RGL8X104J
△ 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. CRYST 16.9344MHz
XL301	VJ677200	RSNR. CE 4.19MHz
	VB966900	CN IMSA-6024
	VA119100	HEAT. SINK

* New Parts

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

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

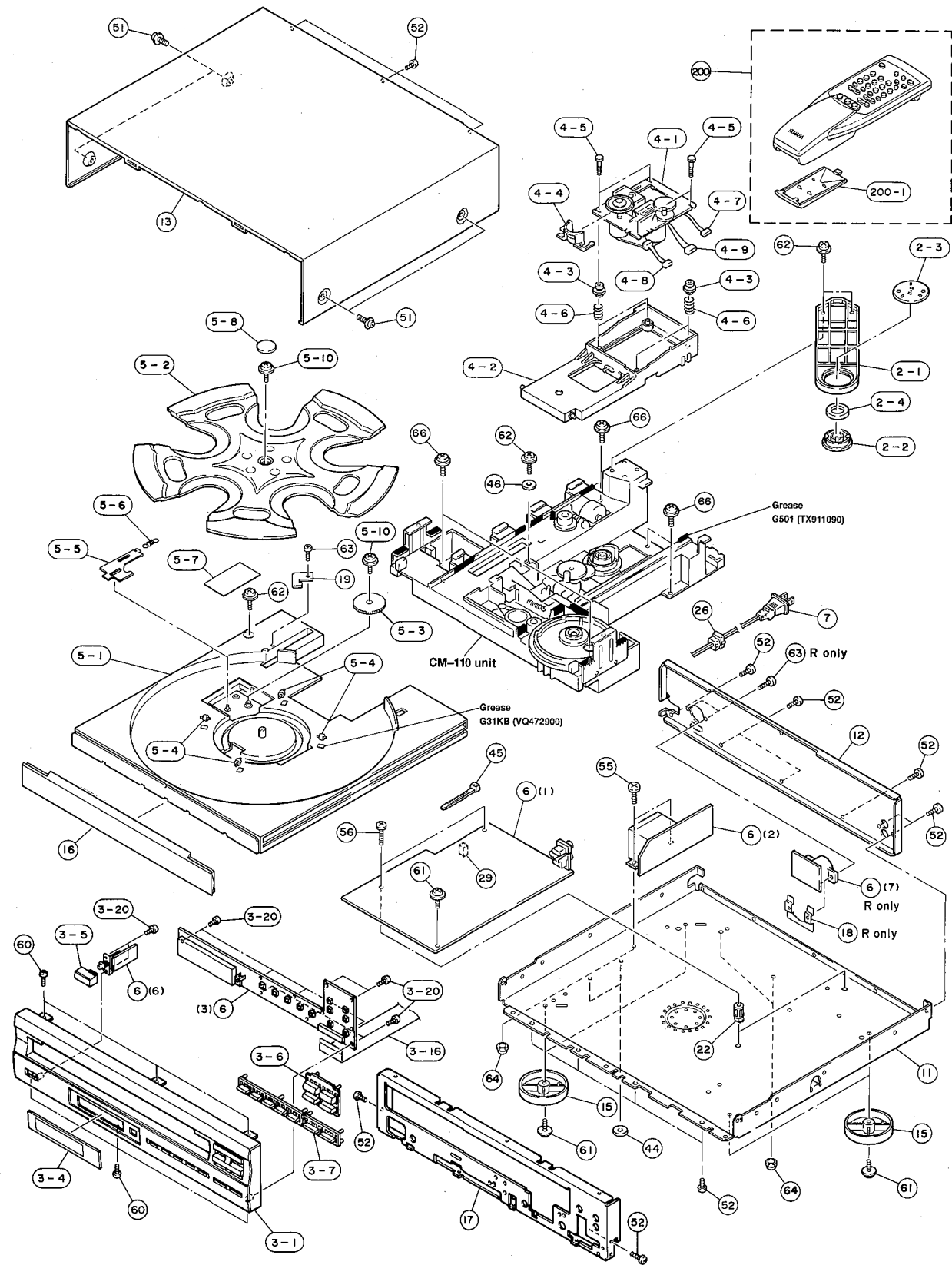
* New Parts

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/CDC-665/CDC-902

■ 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

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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-565/CDC-502/CDC-665/CDC-902

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■ CDC-665/CDC-902 EXPLODED VIEW

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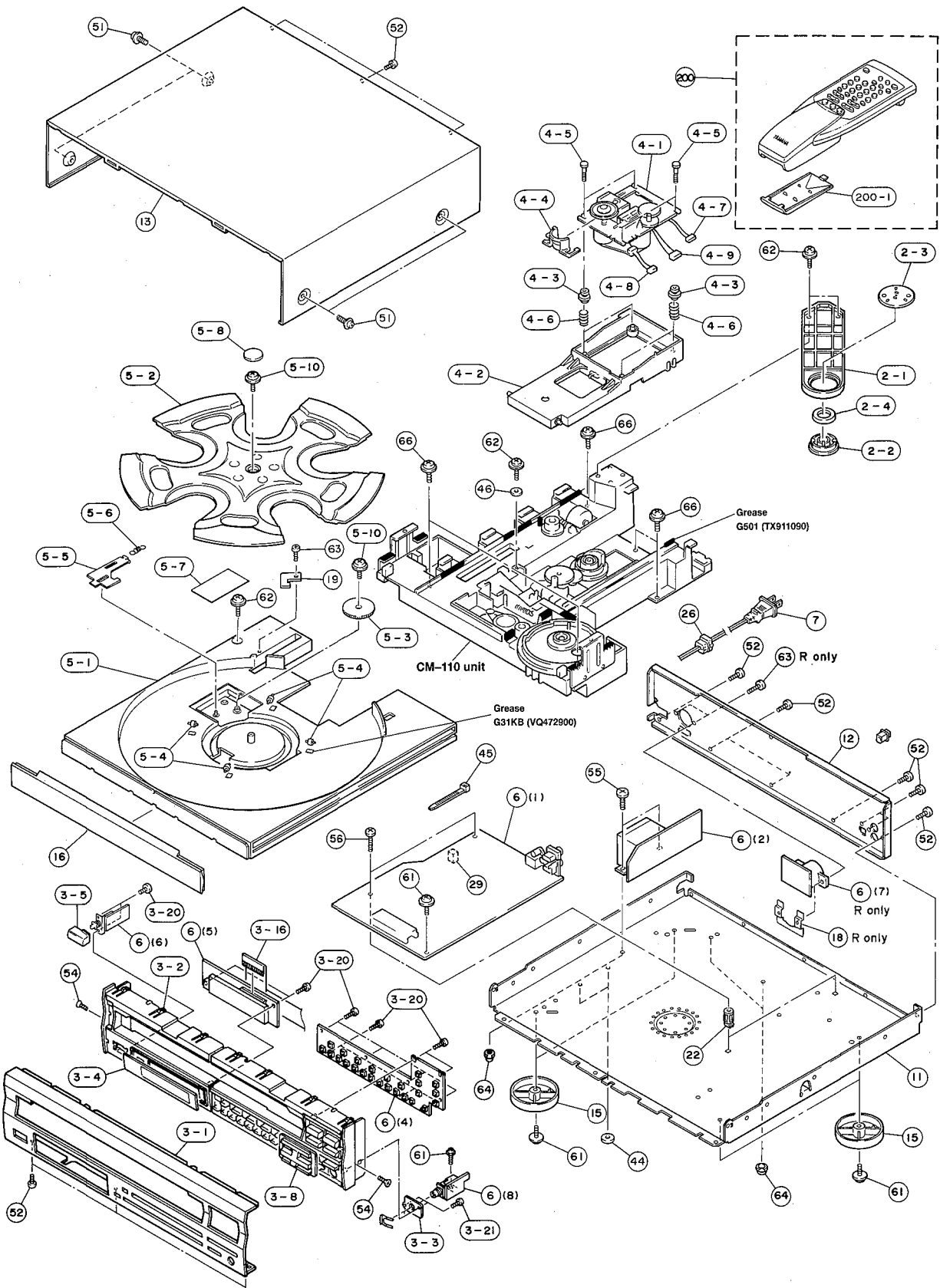
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MECHANICAL PARTS (CDC-665/CDC-902)

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)

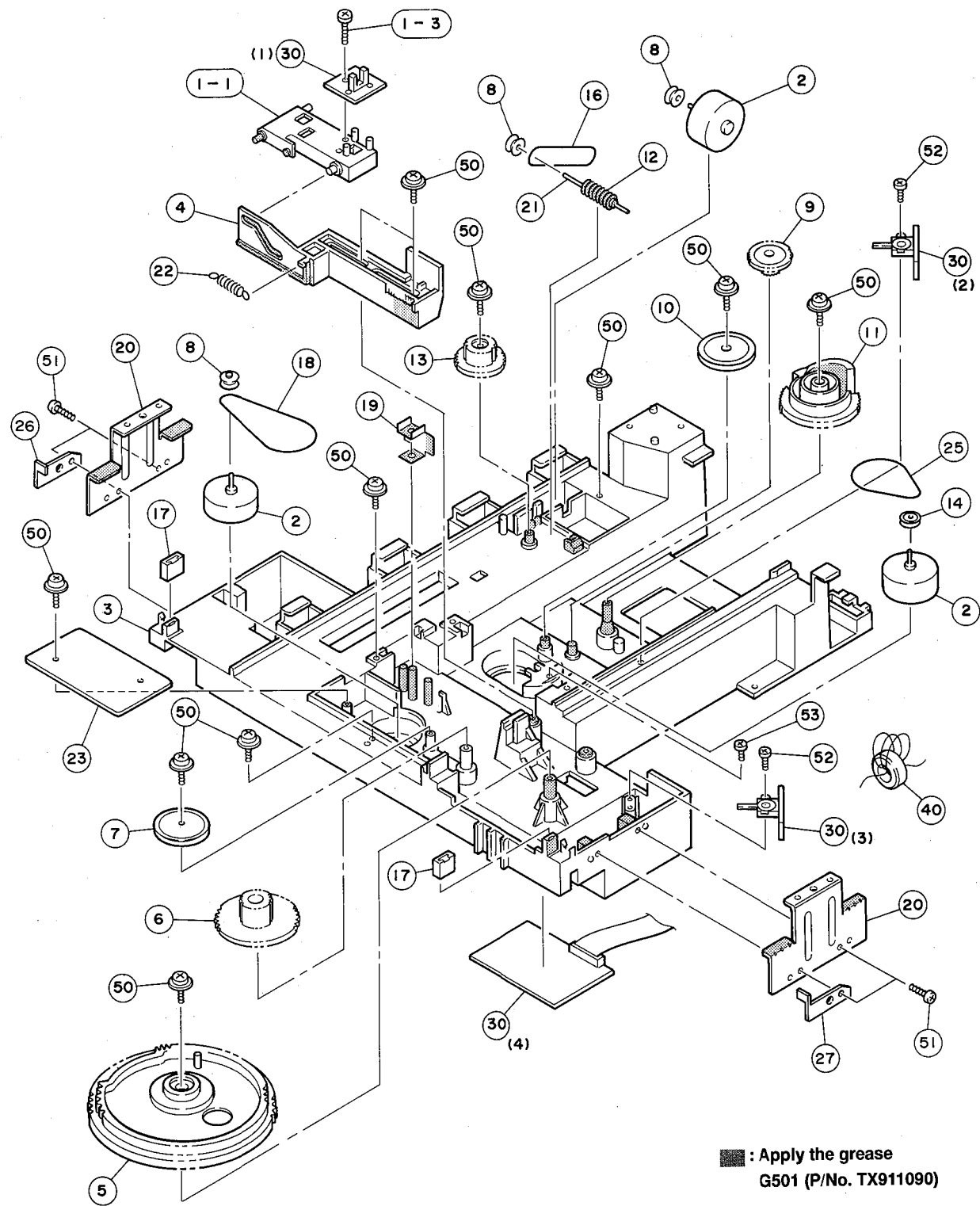
* New Parts

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	E0030066	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	
* 200	VV275100	ACCESSORIES		
200-1	CX679050	REMOTE CONTROL TRANSMITTER	SBGH20013A CDC1	
	VS381600	LID	74x34BLALPS	
		PIN PLUG CORD	1. 0m	
		BATTERY, MANGANESE	SUM-3, AA, R06	

* New Parts

CDC-565/CDC-502/CDC-665/CDC-902

1 ■ EXPLODED VIEW (CM-110 Unit)



1 ■ 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

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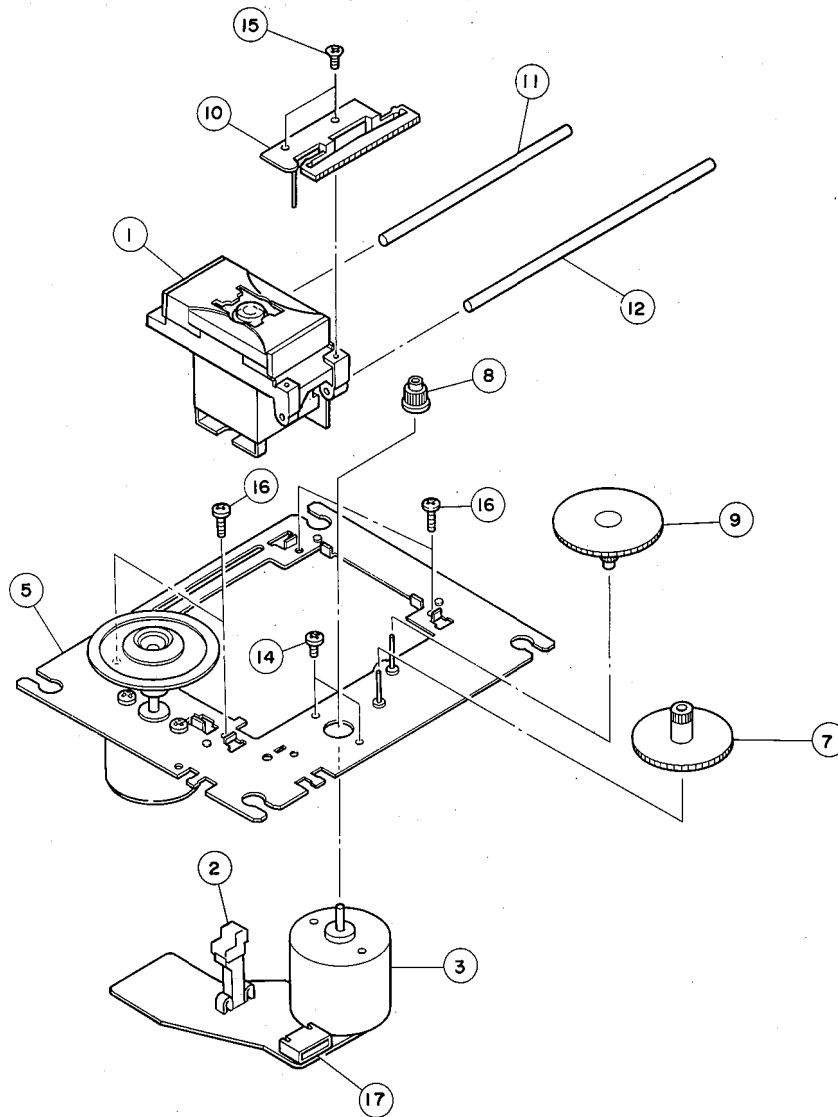
EXPLODED VIEW (PU Mecha. Unit)

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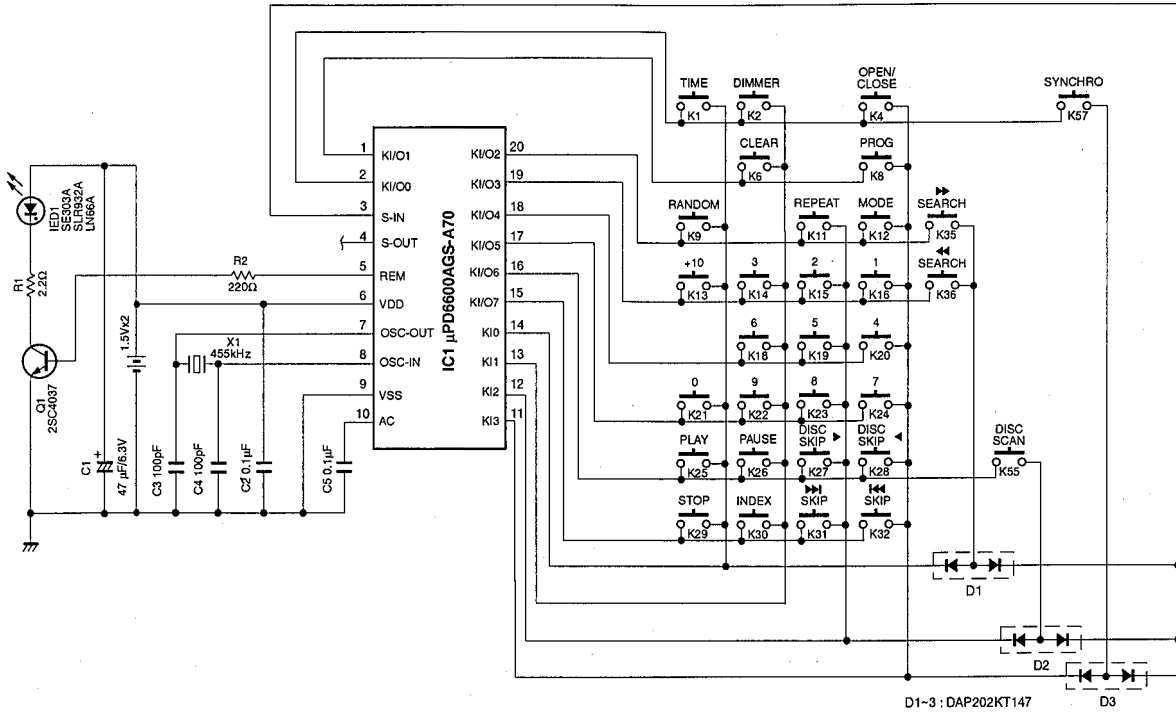
Ref. No.	PART NO.	Description	Remarks	Markets
	VM444300	PU MECHA. UNIT	CD90V1YA	
1	PX601521	PICK UP ASS'y	SF-91P	1EA0A41A03100
2	KX603540	LIMIT SWITCH		1EA4S13A00800
3	JX601050	MOTOR		1EA4M10A02100
5	NX611201	CHASSIS ASS'y		1EA0311A02900
7	CX618680	GEAR	MIDDLE	1EA2511A06300
8	CX618690	GEAR	MOTOR	1EA2511A06400
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	SE1FN205ROSE
16	EX602310	SPECIAL SCREW		SFXEA01800
17	LX606800	CONNECTOR	6P	42369750000

* New Parts

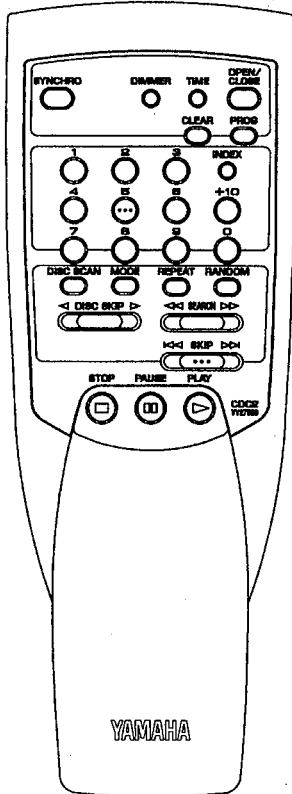
CDC-565/CDC-502/CDC-665/CDC-902

CDC-565/CDC-502 REMOTE CONTROL TRANSMITTER

■ SCHEMATIC DIAGRAM



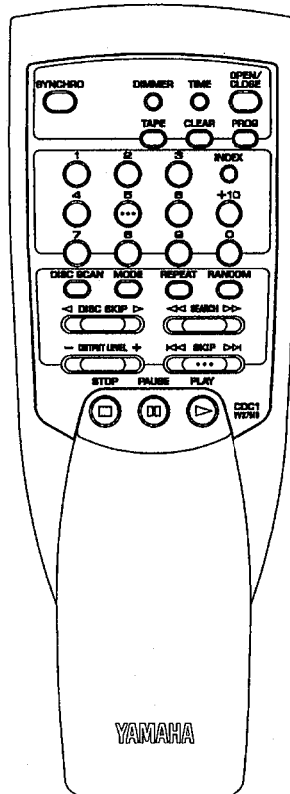
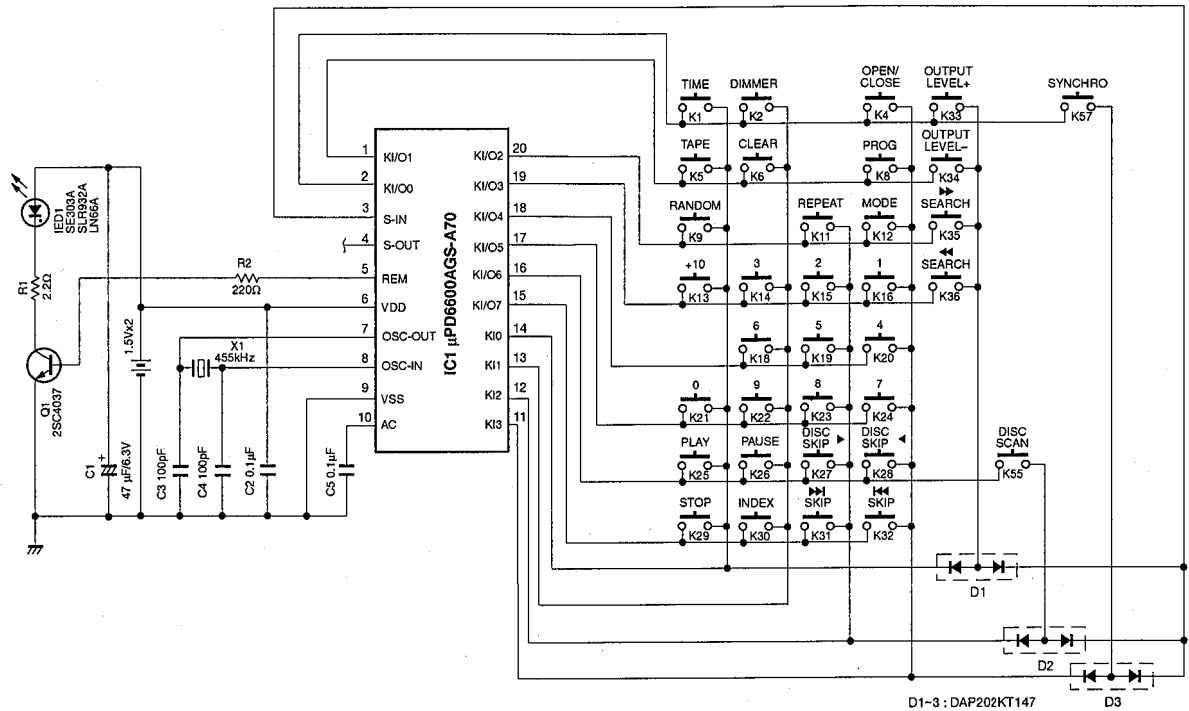
D1-3 : DAP202KT147 D3



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 ►►	79	86	07
K32	◄◄ 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 ►►	79	86	07
K32	◄◄ 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			

