V09192

COMPACT DISC PLAYER

CDC-635/95/96

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.

■ CONTENTS

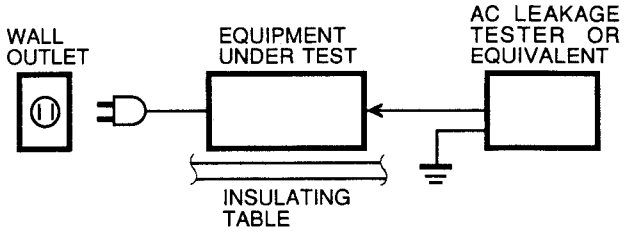
100447

YAMAHA
YAMAHA CORPORATION
P.O.Box1.Hamamatsu.Japan
3.15K-593 Printed in Japan '93.1

■ 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.

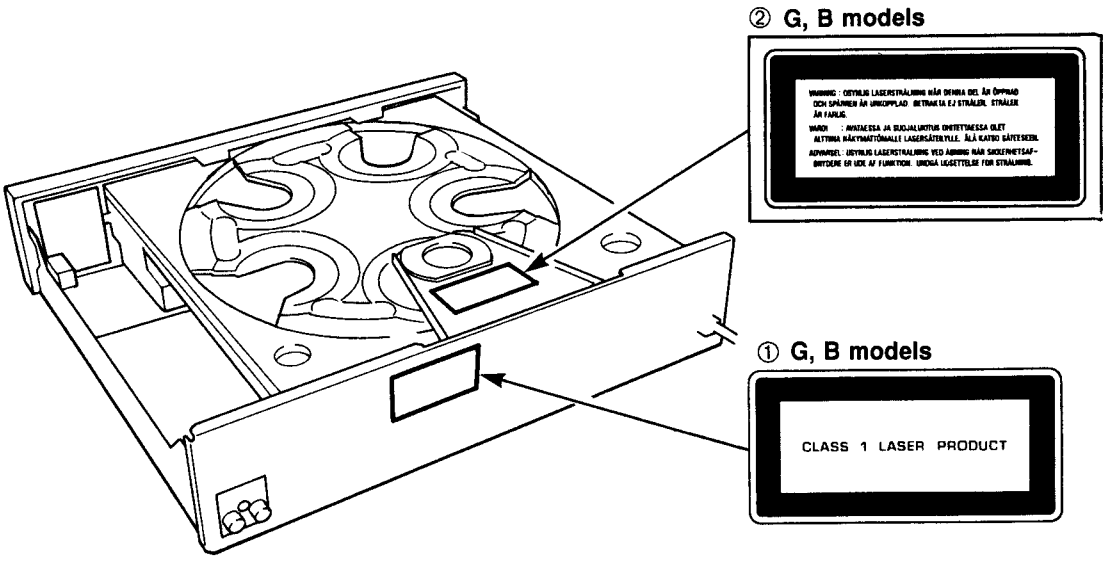
WARNING: CHEMICAL CONTENT NOTICE!

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.



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 EXPROSURE 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.

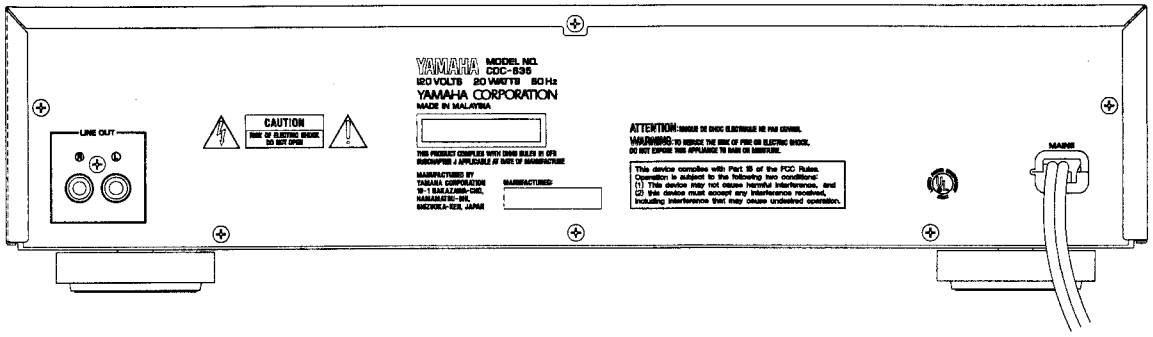
ADVARSEL : USYNLIG LASERSTRÅLING VED ÅBNING.
UNDGÅ UDSAETTELSE FOR STRÅLING.

Finnish

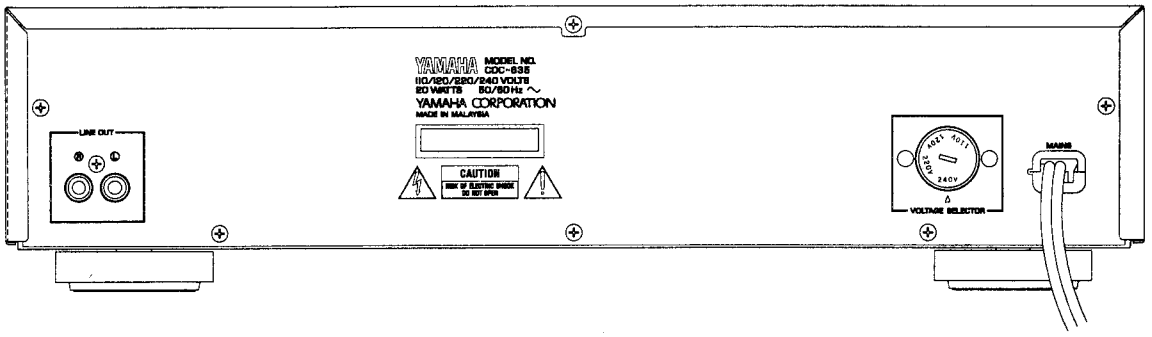
VARO! :
AVATTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

■ REAR PANELS

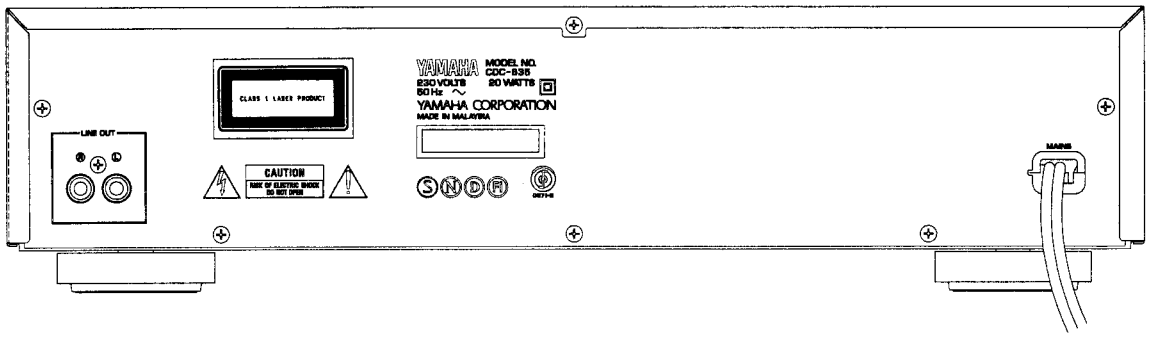
▼ USA & Canadian models



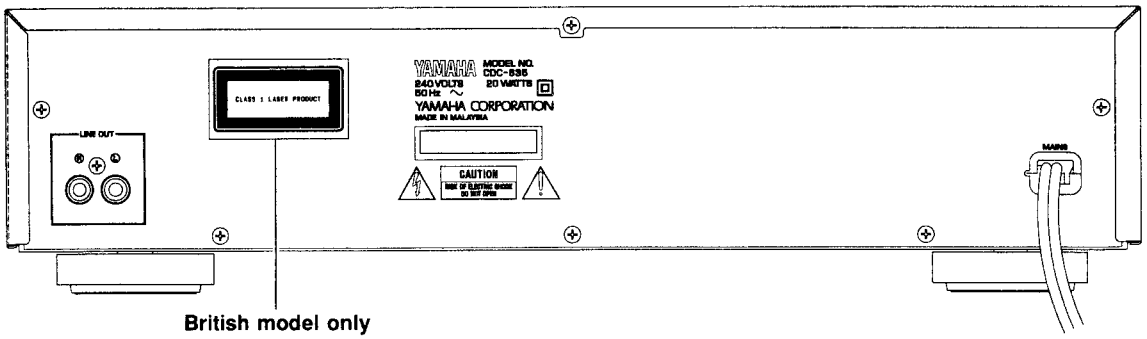
▼ General model



▼ European model

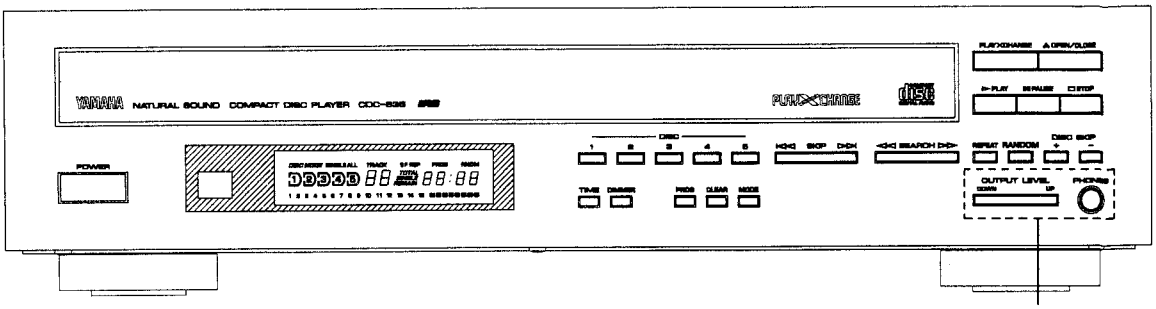


▼ Australian & British models



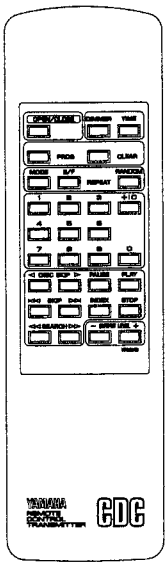
British model only

■ FRONT PANEL



CDC-635/96 only

● CDC-635/96 only



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.

D 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.

■ SPECIFICATIONS

■ AUDIO SECTION

Frequency Response	2Hz~20kHz±0.5dB
De-Emphasis Equalization	±0.5dB
Harmonic Distortion+Noise	Less than 0.003%, (1kHz)
S/N Ratio	110dB
Dynamic Range	98dB
Wow & Flutter	Unmeasurable
Output Impedance	1kΩ
Output Voltage	2.0V
Headphone Output (1kHz –20dB) [CDC-635/96]	200mV/150Ω

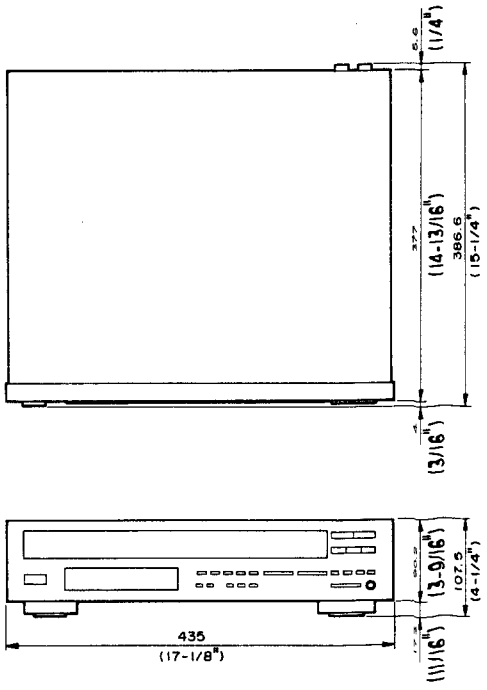
■ GENERAL

Power Requirements	
U, C models	120V AC 60Hz
A, B models	240V AC 50Hz
G model	230V AC 50Hz
R model	110/120/220/240V AC 50/60Hz
Power Consumption	20W
Dimensions (W x H x D)	435 x 107.5 x 386.6 mm (17-1/8" x 4-1/4" x 15-1/4")
Weight	5.9kg (13 lbs)
Accessories	Pin plug cord **CDC-635/96** : Remote control transmitter Dry-cell: x2 (Size "AA", R06)

** Specifications subject to change without notice.*

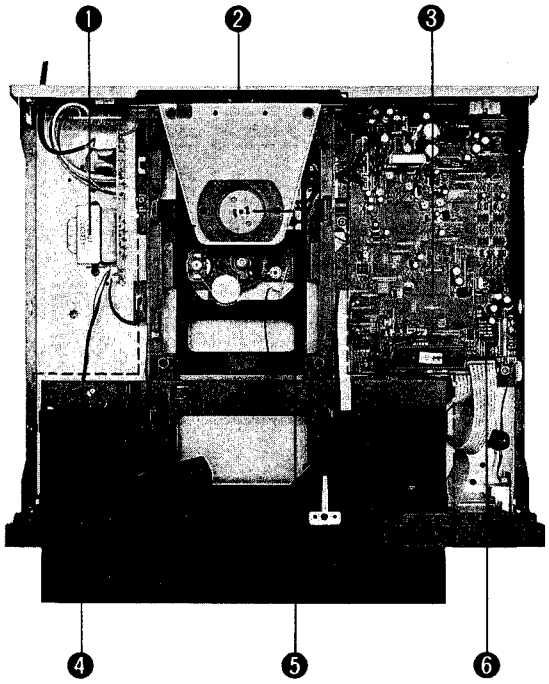
U ..... ***USA model*** ***B*** ..... ***British model***
C ..... ***Canadian model*** ***G*** ..... ***European model***
A ..... ***Australian model*** ***R*** ..... ***General model***

● DIMENSIONS



Unit : mm (inch)

■ INTERNAL VIEW



❶ POWER TRANSFORMER
❷ CM-93 UNIT
❸ MAIN P. C. B. ASS'Y (1)
❹ TRAY ASS'Y
❺ STABILIZER ASS'Y
❻ 4 bit μ-COM (IC15)

■ DISASSEMBLY PROCEDURES

(Remove parts in the order as numbered.)

Precaution for disassembly : Note that use of any screws other them specified ones may cause a radio wave interruption which will prevent the unit from maintaining its performance.

1. Removal of Top Cover

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

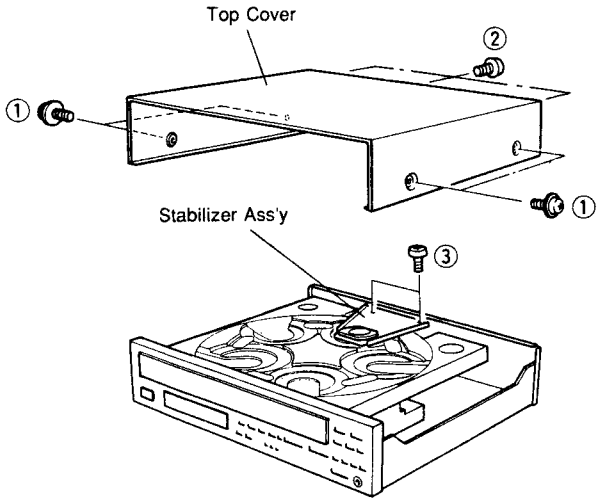
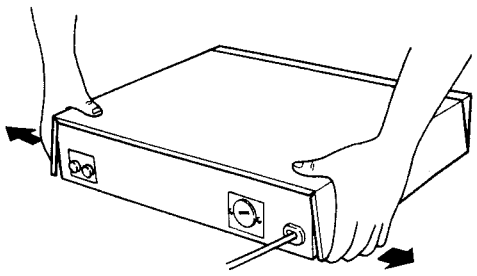


Fig. 1

b. Pull the bottom edges of the Top Cover till they get disengaged as shown in Fig. 2.
(About 5 mm at both sides)



Pull toward outside till the bottom edges are disengaged.
(by about 5 mm at both sides)

Fig. 2

c. Keep lifting up the Top Cover till it opens about 45° as shown in Fig. 3.

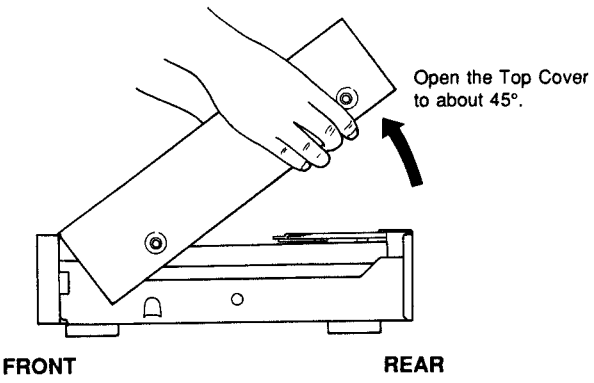


Fig. 3

d. Pull off the Top Cover diagonally as shown in Fig. 4.

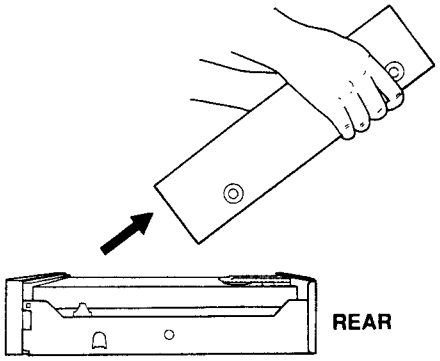


Fig. 4

2. Installation of Top Cover.

a. Fit the hooks of the Top Cover (at its front) between the front panel and sub-panel as shown in Fig. 5.

b. Pull the bottom edges of the Top Cover toward outside with both hands and lower it as shown in Fig. 5.

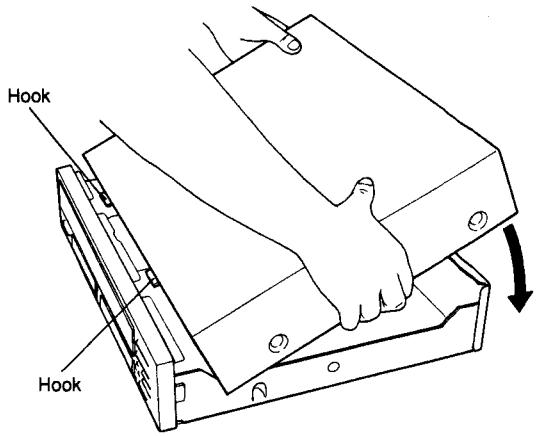


Fig. 5

3. Removal of Stabilizer Ass'y

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

4. Removal of Tray Ass'y

a. Turn the stopper/tray pin (④) counterclockwise by 90° degrees to pull it out as shown in Fig. 6.

b. Slowly remove the Tray Ass'y as shown in Fig. 6. Remove connector #4 from the Main P. C. B. Ass'y (1).

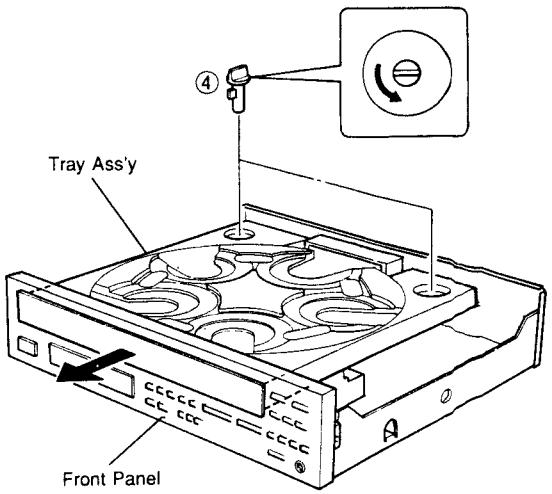


Fig. 6

5. Removal of CM-93 Unit

a. Remove 4 screws (⑤) as shown in Fig. 7.
b. Take out the CM-93 Unit out slowly as shown in Fig. 7.
c. Remove connectors #13, #1, #2, #3, #8, #9, #100, #101, #103, #104 from the Main P. C. B. Ass'y.

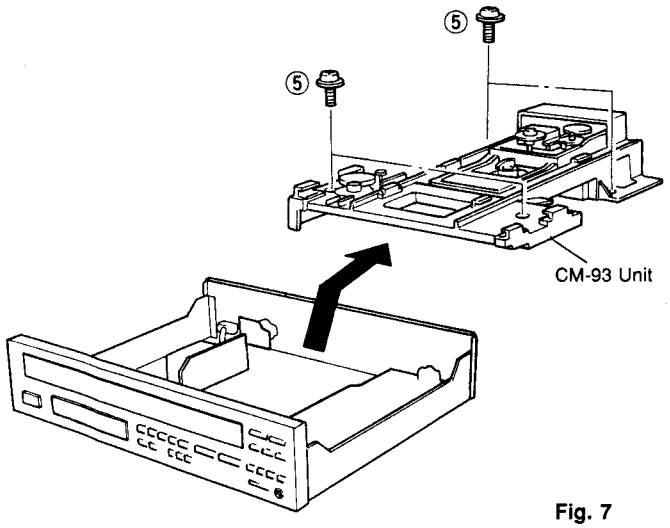


Fig. 7

6. Removal of Front Panel

a. Remove 5 screws , (⑥, ⑦) and also 1 screw (⑧) as shown in Fig. 8.
b. Take off the Front Panel Unit slowly as shown in Fig. 8.
c. Remove connectors #6, #7, #10, #11 from the Main P. C. B. Ass'y.

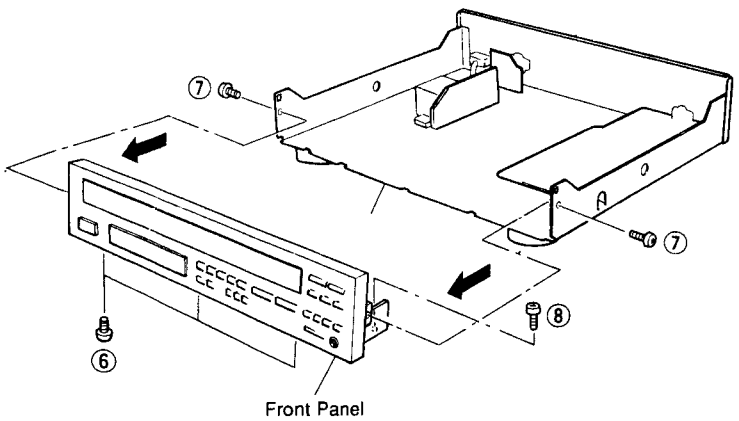


Fig. 8

7. Removal of Pick-up Head

a. Remove 2 screws (⑨) and then remove the Pick-up Ass'y as shown Fig. 9.

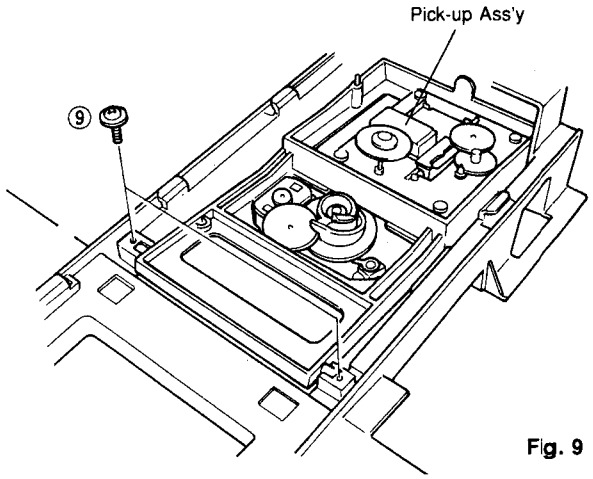


Fig. 9

b. Pull out 4 Pins (⑩) and then remove the PU Mechanism Unit as shown in Fig. 10.
* The Pick-up Head can be replaced without removing the PU Mechanism Unit.

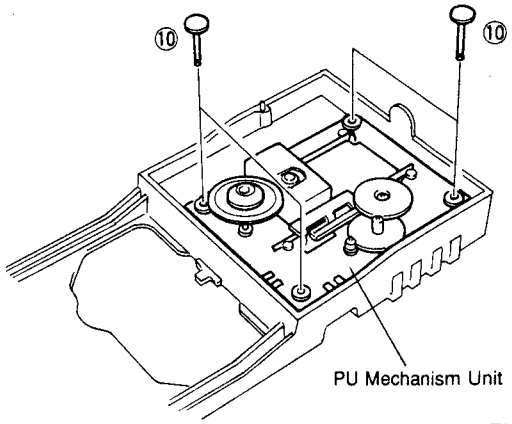


Fig. 10

c. Remove 4 screws (⑪) and then remove the Pick-up Head as shown in Fig. 11.

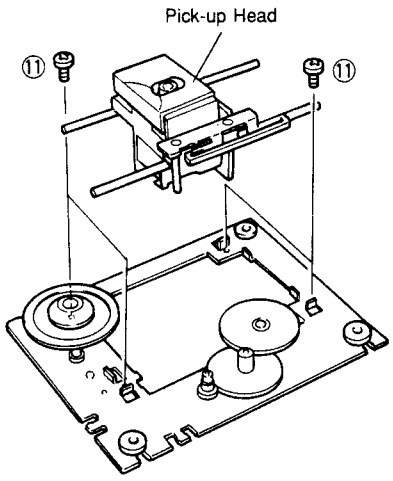
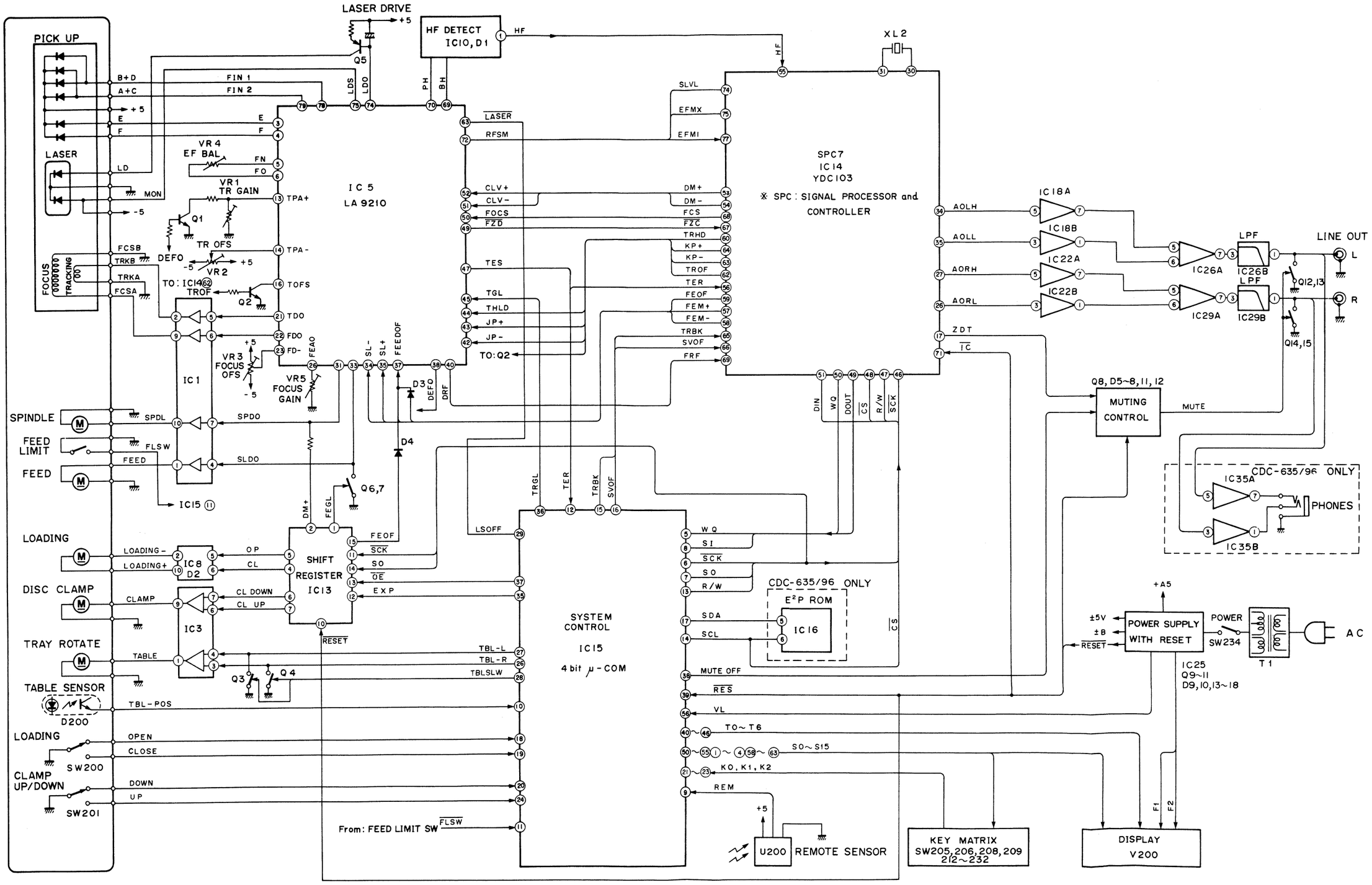


Fig. 11

■ BLOCK DIAGRAM



■ ADJUSTMENTS

● Necessary items

Measuring instruments

Oscilloscope (Band width of 50MHz or more, 2 ch type with X-Y position)	: x 1
DC voltmeter (DCVM)	: x 1
Frequency counter (FC)	: x 1
Low frequency oscillator	: x 1

Test disc

SONY YEDS-18 (P/No. TX911730), A-BEX TCD-782 (P/No. TX913350) or Philips 5	: x 1

Tools

Screwdriver (For Pre-set Potentiometer adjustment)	: x 1

● Before Adjustment

Carry out following adjustments in order as numbered.

1. Confirmation of power voltage and operation

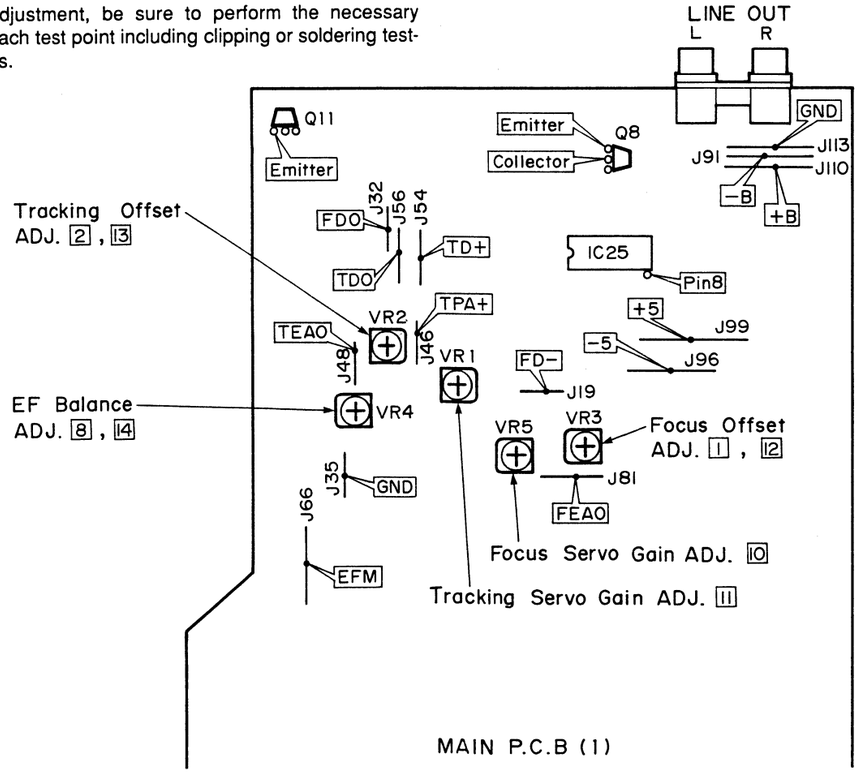
1) Confirmation of power voltage
2) Confirmation of reset operation
3) Confirmation of muting operation

2. Adjustment of pick-up servo

1) Focus offset adjustment
2) Tracking offset adjustment
3) Confirmation of focus search
4) Confirmation of loading operation
5) Confirmation of turntable operation
6) Confirmation of disc clamper operation
7) Confirmation of focus & tracking operation
8) EF balance adjustment
9) Confirmation jitter
10) Focus servo gain adjustment
11) Tracking servo gain adjustment
12) Confirmation of focus offset
13) Confirmation of tracking offset
14) Confirmation of EF balance

● TEST POINT

Before adjustment, be sure to perform the necessary work at each test point including clipping or soldering test-lead wires.



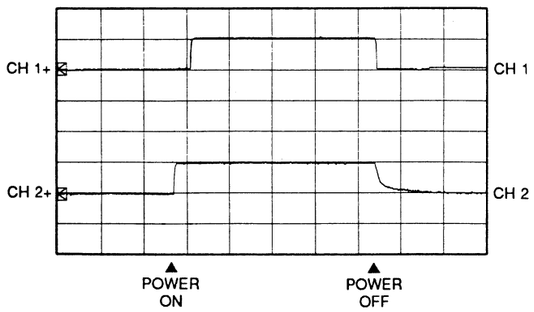
Confirmation of Power Voltage

ITEM	TEST POINT	RATING
+B	+B (J110)~GND	About 10.7V (at STOP)
–B	–B (J91)~GND	About –11.6V (at STOP)
+5	+5 (J99)~GND	5V±0.25V
–5	–5 (J96)~GND	–5V±0.25V
–20	Q11 emitter~GND	About –20.15V~–21.20V
Mute power supply	Q8 emitter~GND	4.94V~5.2V

Confirmation of Reset Operation

The Pin8 of IC25 changes from Low to High about 500msec. after the power is turned ON. Also, it changes from High to Low when the power is turned OFF and +5 drops to 4.2V.

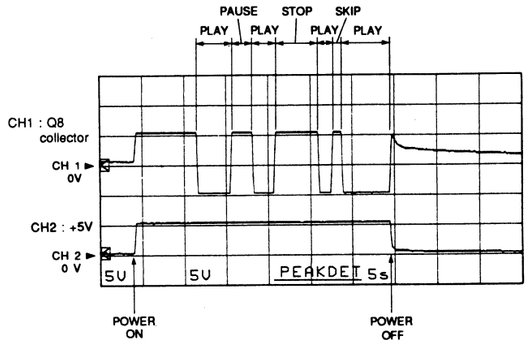
CH1 : 8 pin of IC25
CH2 : +5V



V : 500mV/div
H : 1sec/div
DC range
10:1 probe

Confirmation of Muting Operation

Load the test disc. The voltage of the Q8 collector should be about 5V immediately after the power is turned ON and –5V upon entering the PLAY mode. Also it should be 5V in PAUSE, STOP and SKIP modes and finally immediately after the power is turned OFF from the PLAY mode.



Starting TEST Mode

While pressing both the PLAY and STOP keys, turn ON the power switch. Take fingers off both keys, and all the display segments will light for about 1 second and the operation mode is then set to TEST mode.

● Contents of TEST mode

DISC 1	: Change from TEST mode to NORMAL mode
DISC 2	: ADJUSTMENT mode Step 1
DISC 3	: ADJUSTMENT mode Step 2
DISC 4	: ADJUSTMENT mode Step 3
DISC 5	: ADJUSTMENT mode Step 4

(See page 16 for TEST mode explanation.)

* When the PLAYXCHANGE key is pressed to execute FOCUS start, it sometimes takes a few seconds before FOCUS is locked. Therefore, avoid pressing the PLAY key too quickly.

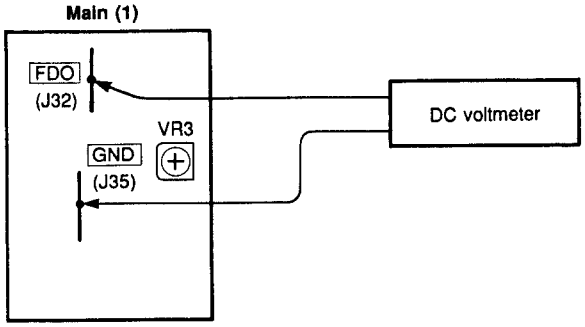
Adjustment Mode

There are Steps 1 to 4 of the adjustment mode. Use the DISC Keys (2 to 5) to select the desired step.

Content of Adjustment Mode		Panel key
Step 1	STOP Focus offset adjustment	DISC 2
Step 2	Tracking offset adjustment	DISC 3
Step 3	EF balance adjsutment	DISC 4
Step 4	Confirmation of jitter Focus servo gain adjustment Tracking servo gain adjustment	DISC 5

1 Focus Offset Adjustment

See page 10 for TP locations & potentiometers.

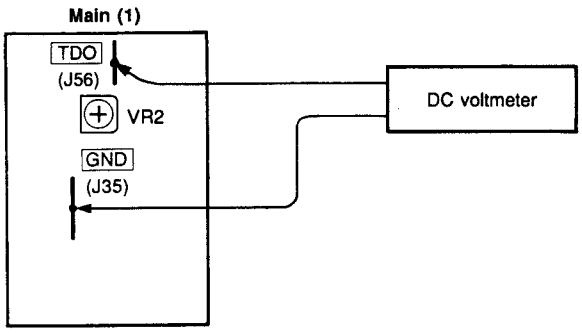


① Do not load the disc.
② Set to the TEST mode.
③ Press the DISC 2 key to adjustment mode Step 1.
④ Measure the voltage at test point FDO and adjust the VR3 so that the following rating will be satisfied.

V_{FDO} = 0V±100mV(DC)

2 Tracking Offset Adjustment

See page 10 for TP locations & potentiometers.



① Do not load the disc.
② Set to the TEST mode.
③ Press the DISC 3 key to adjustment mode Step 2.
④ Measure the voltage at the test point TDO and adjust VR2 so that the following rating will be satisfied.

V_{TDO} = 0V±50mV(DC)

3 Confirmation of Focus Search

① Do not load the disc.
② Set to the TEST mode.
③ Press the PLAYXCHANGE key.
④ Check to make sure that the laser diode of the optical pick-up head emits light and the objective lens moves smoothly from the lowest point to the highest point.
⑤ Press the STOP key.

4 Confirmation of Loading Operation

① Set to the TEST mode.
② Press OPEN side of the OPEN/CLOSE key.
③ Check to make sure that the tray opens smoothly.
④ Press CLOSE side of the OPEN/CLOSE key.
⑤ Check to make sure that the tray closes smoothly.

5 Confirmation of Turntable Operation

① Set to the TEST mode.
② Press the DISC SKIP (+ or -) key.
③ Check to make sure that the turntable spins smoothly.

6 Confirmation of Disc Clamper Operation

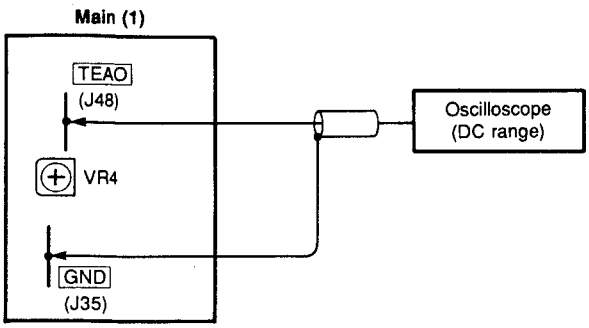
① Set to the TEST mode.
② Press the ◄◄(down) or ►►(up) key.
③ Check to make sure that the disc clamper is raised or lowered smoothly.

7 Confirmation of Focus & Tracking Operation

① Set to the TEST mode.
② Load the test disc.
(Set the disc by using ►► or ◄◄ keys)
③ Press the PLAYXCHANGE key.
④ Check to make sure that the focus servo is applied by moving the test disc a little by hand.
⑤ Press the PLAY key.
⑥ Check that the disc starts turning and the time read from the disc is displayed on the display.

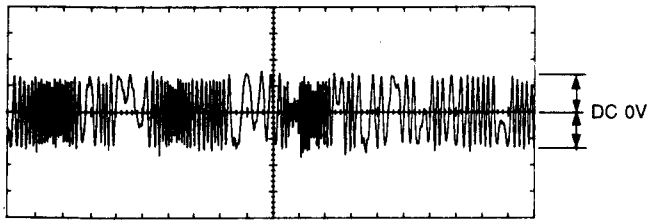
8 EF Balance Adjustment

See page 10 for TP locations & potentiometers.



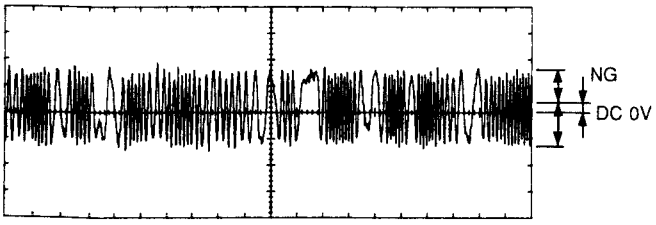
① Connect an oscilloscope to the test point TEAO.
* Make sure to use a 10 : 1 probe.
② Set to the TEST mode.
③ Load the test disc.
④ Press the DISC 4 key to adjustment mode Step 3.
⑤ Adjust VR4 so that the waveform at the test point TEAO has the same amplitude on both upper and lower sides of DC0V position.
Rating : DC offset = 0V±50mV

OK



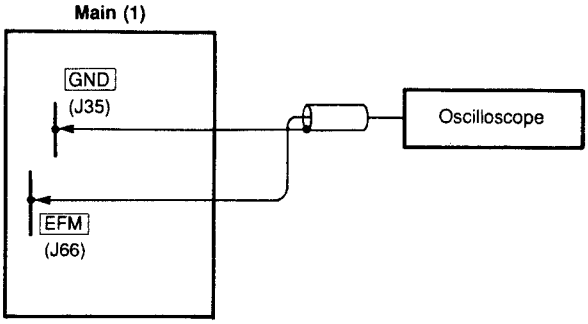
V : 100mV/div (10 :1 probe) H : 5msec/div

NG



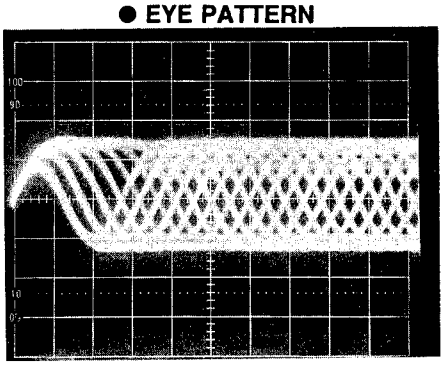
9 Confirmation of Jitter

See page 10 for TP locations & potentiometers.



① Connect an oscilloscope to the test point EFM.
② Set to the TEST mode.
③ Load the test disc.
④ Press the DISC 5 key to adjustment mode Step 4.
⑤ Check to make sure that a clear waveform (eye pattern) is obtained at the test point EFM.

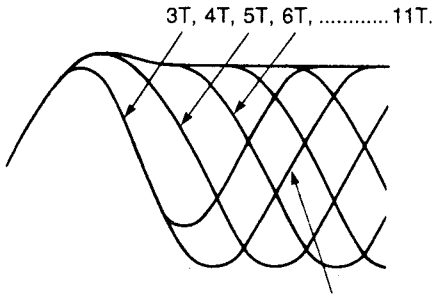
● EYE PATTERN



(AC)

V : 100mV/div (10 :1 probe) H : 0.5µsec/div

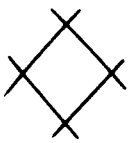
Waveforms 3T—11T.



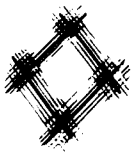
This portion is referred to as the eye pattern.

An abnormal eye pattern has less distinct lines and smaller amplitude than that of a good waveform.

Good waveform

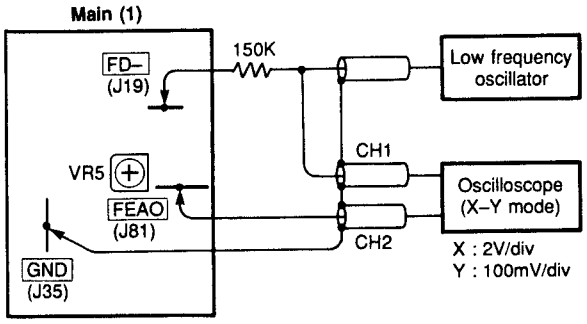


Abnormal waveform



10 Focus Servo Gain Adjustment

See page 10 for TP locations & potentiometers.



① Connect an oscilloscope and a low frequency oscillator to the test points FD– and FEAO as shown above.
② Set to the TEST mode.
③ Load the test disc.
④ Press the DISC 5 key to adjustment mode Step 4.
⑤ Apply a sine wave as in Table A to the test point FD– through a 150kΩ resistance.

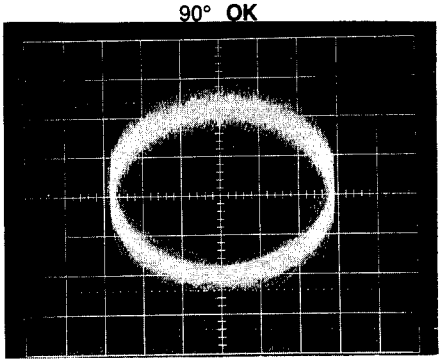
The frequency varies depending on the test disc.

Test Disc	Signal
TCD-782	660Hz, 2Vrms
YEDS-18	670Hz, 2Vrms
Philips 5	650Hz, 2Vrms

Table A

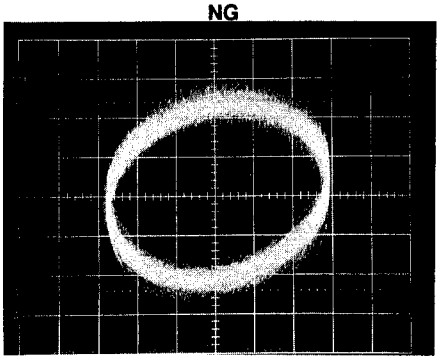
⑥ Adjust VR5 so that the phase difference between the waveform at the test point FD– and that at the FEAO becomes 90 degrees.

90° OK



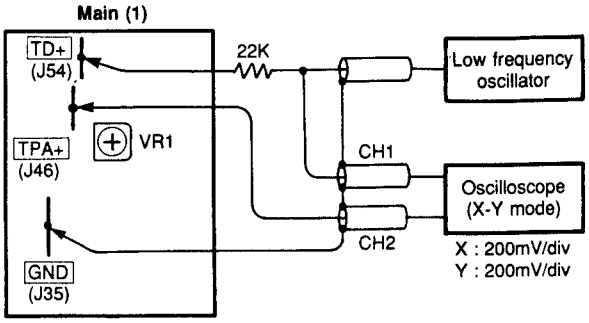
X : 2V/div Y : 100mV/div

NG



11 Tracking Servo Gain Adjustment

See page 10 for TP locations & potentiometers.



① Connect the oscilloscope and a low frequency oscillator to the test points TD+ and TPA+ .
② Set to the TEST mode.
③ Load the test disc.
④ Press the DISC 5 key to adjustment mode Step 4.
⑤ Apply a sine wave to the test point TD+ as in Table B through a 22kΩ resistance.

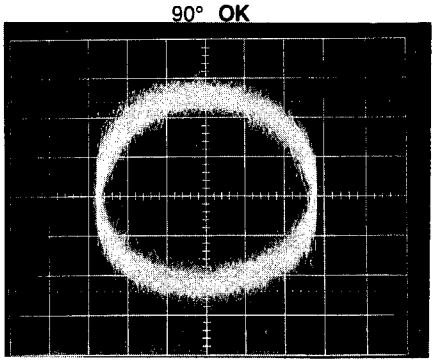
The frequency varies depending on the test disc.

Test Disc	Signal
TCD-782 (Lot No. T7098DA or T90808)	670Hz, 300mVrms
TCD-782 (Lot No. 00101A)	630Hz, 300mVrms
YEDS-18	600Hz, 300mVrms
Philips 5	640Hz, 300mVrms

Table B

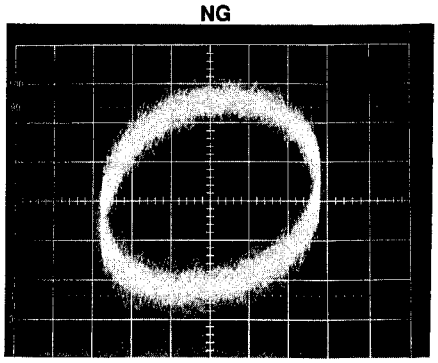
⑥ Adjust VR1 so that the phase difference between the waveform at the test point TD+ and that at the TPA+ is 90 degrees.

90° OK



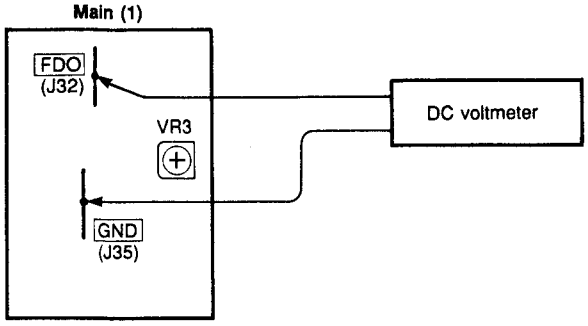
X : 200mV/div Y : 200mV/div

NG



12 Confirmation of Focus Offset

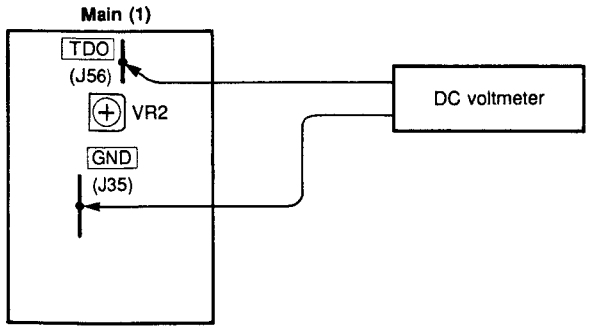
See page 10 for TP locations & potentiometers.



① Do not load the disc.
② Set to the TEST mode.
③ Press the DISC 2 key to adjustment mode Step 1.
④ Measure the voltage at the test point FDO and check if the following rating is satisfied.
Rating : V_{FDO} = 0V±100mV(DC)
⑤ If the measured voltage does not satisfy the rating, adjust VR3.

13 Confirmation of Tracking Offset

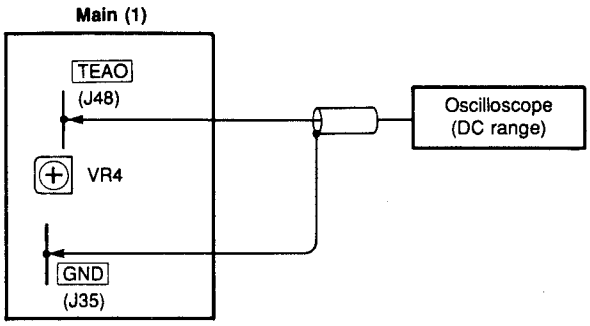
See page 10 for TP locations & potentiometers.



① Do not load the disc.
② Set to the TEST mode.
③ Press the DISC 3 key to adjustment mode Step 2.
④ Measure the voltage at the test point TDO and check if the following rating is satisfied.
Rating : V_{TDO} = 0V±50mV(DC)
⑤ If the measured voltage does not satisfy the rating, adjust VR2.

14 Confirmation of EF Balance

See page 10 for TP locations & potentiometers.



① Connect an oscilloscope to the test point TEAO .
* Make sure to use a 10 : 1 probe.
② Set to the TEST mode.
③ Load the test disc.
④ Press the DISC 4 key to adjustment mode Step 3.
⑤ Check the waveform at the test point TEAO for the same amplitude on both upper and lower sides of the DC 0V position.
Rating : DC offset = 0V±50mV
⑥ If the rating is not satisfied, adjust VR4.

NOTE : To cancel the TEST mode, turn OFF the power switch or press the DISC 1 key.

■ TEST MODE

● Starting TEST mode

Test mode is brought about when the power is turned on while the "PLAY" and "STOP" keys on the panel are simul taneously pressed and held.

When the test mode is brought about, all the displays light up for about 1 second.

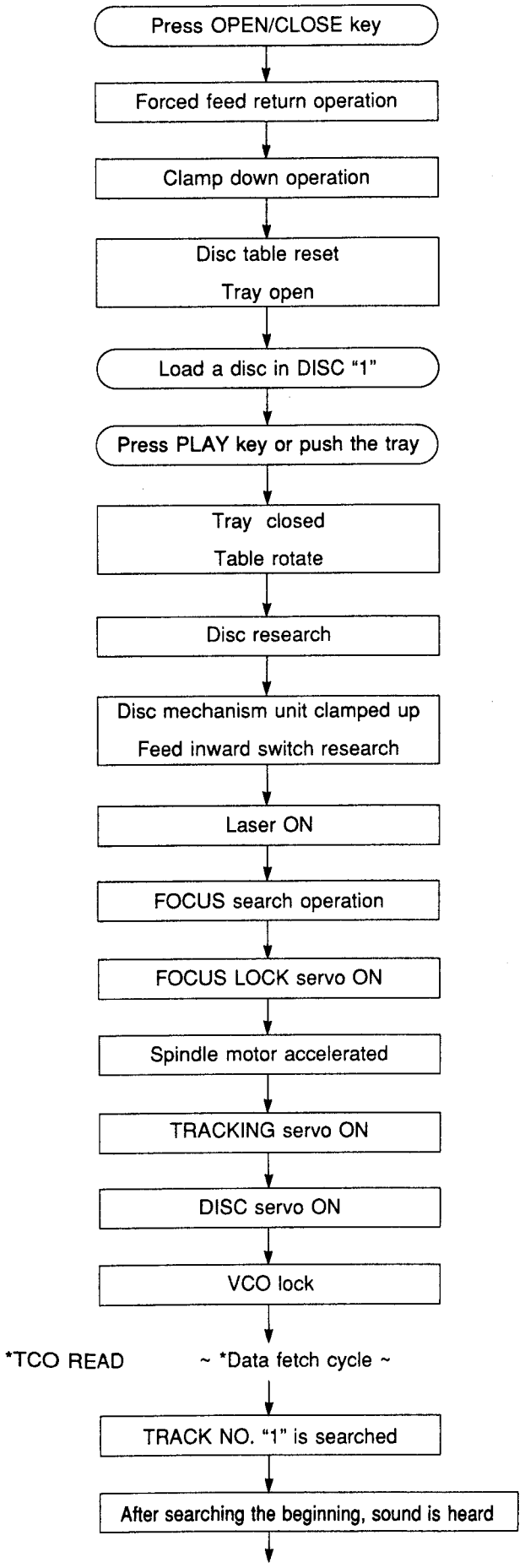
● Function List of Panel Keys

PANEL KEY	FUNCTION
OPEN/CLOSE	Tray opens/ closes.
DISC SKIP +	Skips disc once (clockwise). Effective only when tray is at open end or clamp is fully lowered.
DISC SKIP -	Skips disc once (counterclockwise). Effective only when tray is at open end or clamp is fully lowered.
PLAY	Plays if focus servo is effective.
STOP	All stop. (Focus, spindle, feed, laser, tray, etc.) Initializes FL display.
REPEAT	Tracking servo on.
⏮	Inner circumfernce feed (Stops with switch for inner circumference on again.)
⏭	Outer circumference feed.
◀◀	Disc clamp down.
▶▶	Disc clamp up.
RANDOM	Tracking servo off.
DIMMER	Rotates or accelerates spindle.
PAUSE	Laser ON
PLAYXCHANGE	Laser ON & Focus search
OUTPUT LEVEL DOWN	Turntable turns counterclockwise (High speed)
OUTPUT LEVEL UP	Turntable turns clockwise (High speed)
CLEAR	Turntable turns counterclockwise (Low speed)
MODE	Turntable turns clockwise (Low speed)
PROG	EEPROM check OK : MUTEOF "H" NG : MUTEOF "L"
TIME	Checks FL display. (All lamps → 88 88 88 → Go out.)
DISC 1	Returns to NORMAL mode. (Tray and table inoperative.)
DISC 2	Adjustment mode 1 (Laser on, VCOH, TROF, FEOF) → for focus offset adjustment.
DISC 3	Adjustment mode 2 (Laser on, TROF, FEOF) → for tracking offset adjustment.
DISC 4	Adjustment mode 3 (Laser on, TROF, FEOF) → for EF balance adjustment.
DISC 5	Adjustment mode 4 (Laser on, VCOL, TROF, FEON, MUTEOF) → for servo gain and focus adjustment.

● μ-COM operation for each key

	LS OFF	FCS	TROF	TRGL	MUTE OFF	FEOF	REMARKS
STOP	H	L	H		L	H	Focus OFF
PLAYXCHANGE	L	H⊓	H			H	Follow the focus search chart.
PLAY	—	—	L	L → H	H	L	
REPEAT	—	—	L	L	L	L	
RANDOM	—	—	H	L	L	—	
⏮	—	—				H	FE– ⊓
⏭	—	—				H	FE+ ⊓
◀◀				L			KP– ⊓
▶▶				L			KP+ ⊓
DIMMER							DM+ ⊓⊓
TIME							
DISC 1							
DISC 2	L		H	L		H	Clamp DOWN
DISC 3	H		L			H	Clamp DOWN
DISC 4	L	H⊓	H			H	Clamp UP
DISC 5	L	H⊓	L	L	H	L	Clamp UP

■ STANDARD OPERATION CHART



: "OPEN" appears in the TIME indicator.

: FEM– = "H" is output until detection of LIMIT switch.

: Proceeds to next step after detection of CLAMP switch (SW201)

: Stop after detection of LOADING switch (SW200)

: "DISC" " 1 " flash.

: Proceeds to next step after detection of LOADING switch (SW200)

: "DISC" "1" is turned to the clamp position.

: "DISC" ▢ from flashing to lighting.

: Proceeds to next step after detection of CLAMP switch (SW201)

: If FL SW = "L", PROCEED TO THE NEXT STEP.

: LSOFF = "L"

: FCS = "L" → "H"

: FCS = "H" → "L"

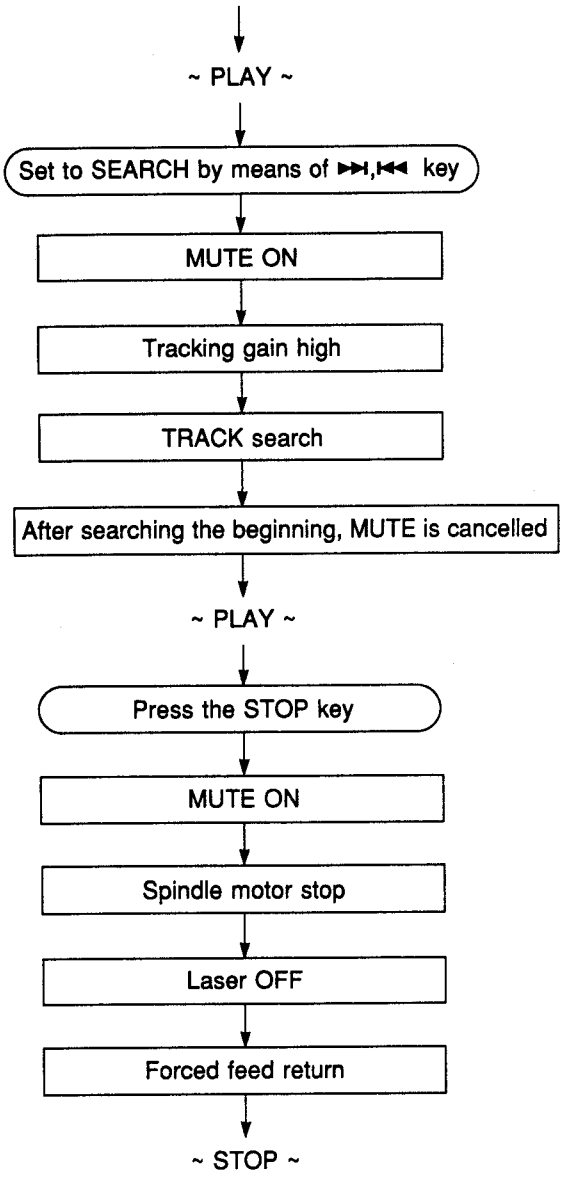
: DM+ = "L" → "H" (Pulse output)

: TROF = "H" → "L"

: SYEQ = "H"

: MUTE OFF = "L" → "H" , "0:00" appears in the time indicator

: TRGL = "L" → "H"



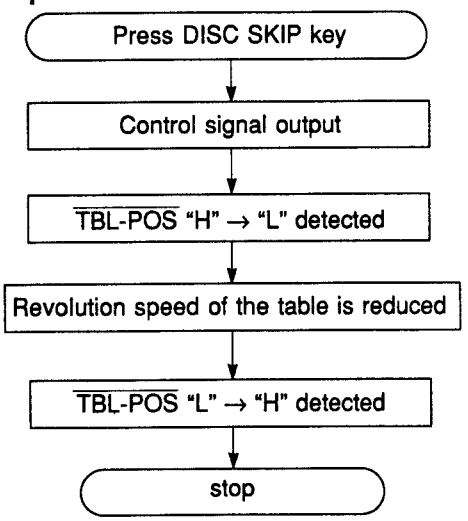
: MUTE OFF = "H"→ "L"

: MUTE OFF = "L"→ "H" , "0:00" appears in the time indicator

: LSOFF = "L"→ "H"

: FEM– = "H" , FLSW = "L"

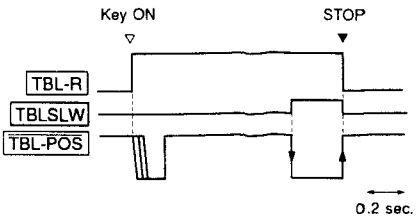
• Tray Operation



: TBL-R = "L"→ "H"

: TBL-POS = "H"→ "L"

: TBLSLW = "L"→ "H"



: TBL-POS = "L"→ "H" , Control signal off

■ 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 error messages.
(The error messages are cleared with the power off.)

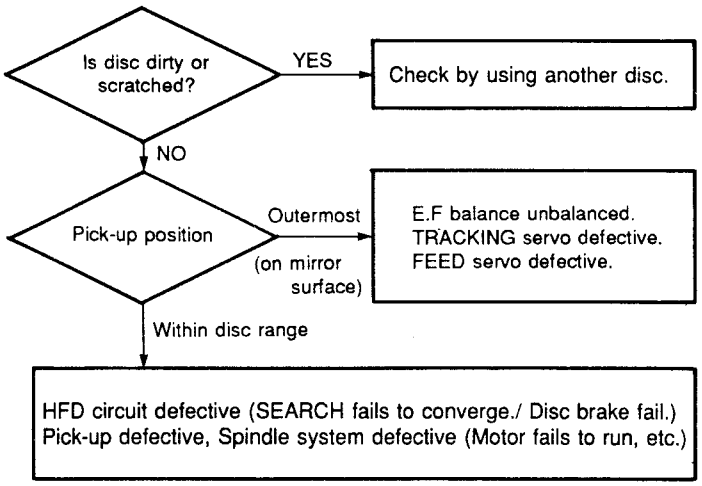
● Error Messages List

Error message	Description
E-X0	Data cannot be read after finishing search.
E-X1	Data cannot be read during PLAY (X=0) , PAUSE (X=4) , or SCAN (X=3).
E-73	Data can never be read at the start.
E-X4	CLOSE switch does not work with tray closed.
E-X5	OPEN switch does not work with tray open.
E-X6	Table does not turn.
E-X7	Feed inner circumference switch does not work.
E-X8	Recovery action fails after focus drop.
E-X9	Clamp down switch does not work with clamp down.
E-XA	Clamp up switch does not work with clamp up.

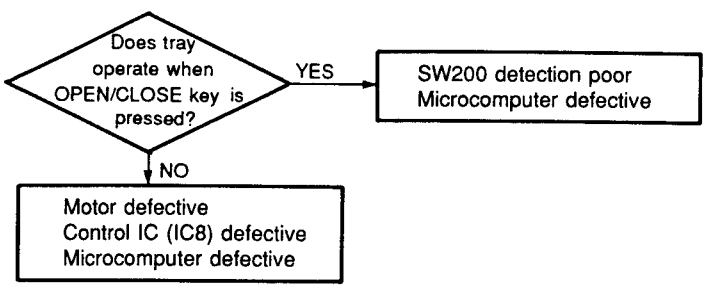
*Meaning of each state ("X") :
(X=0) ..... PLAY
(X=3) ..... SCAN
(X=4) ..... PAUSE
(X=5) ..... SEARCH
(X=7) ..... START
(X=8) ..... STOP
(X=9) ..... DISC SEARCH
(X=A) ..... EJECT
(X=C) ..... NO DISC

1) Error Code Troubleshooting

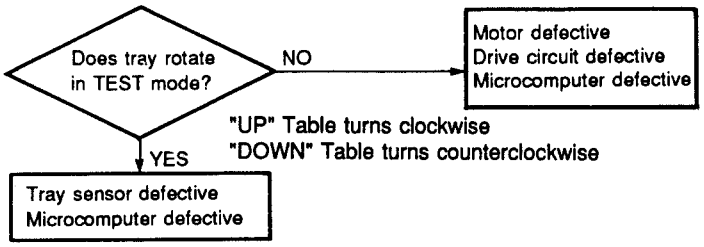
Error code [X0] , [X1] , [73] ..... Data cannot be read.



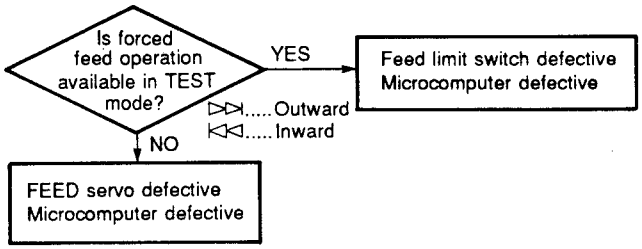
Error codes [X4] , [X5] ..... Poor tray loading operation.



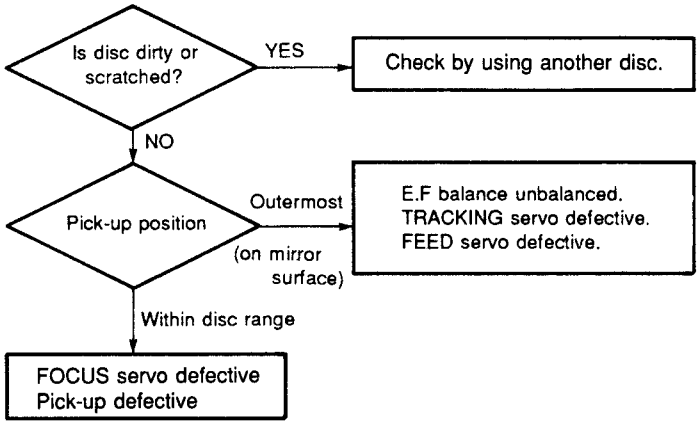
Error code **X6** ..... Poor table rotation.



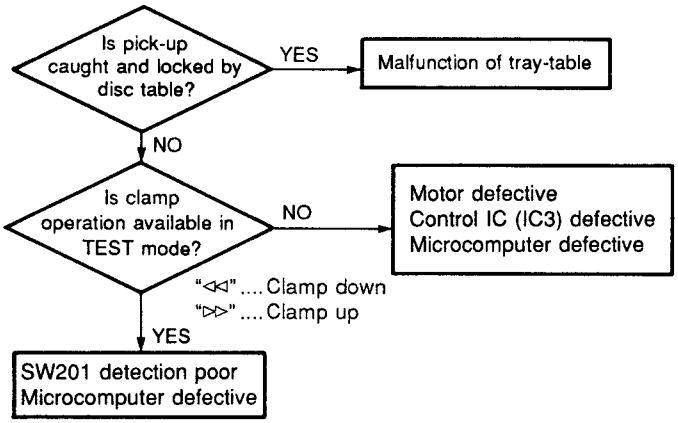
Error code **X7** ..... FEED operation defective. (Limit switch fails)



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

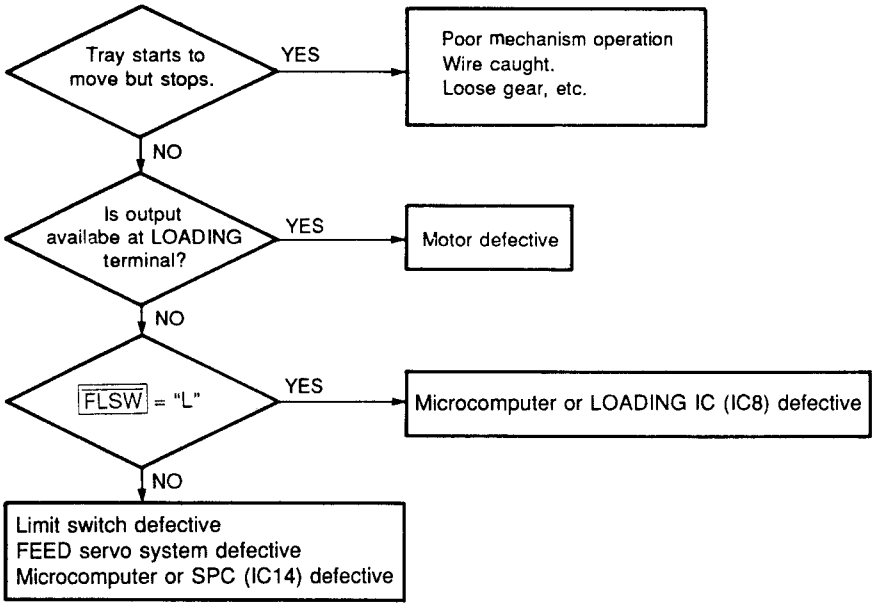


Error code [X9], [XA] ..... Poor Clamp operation.

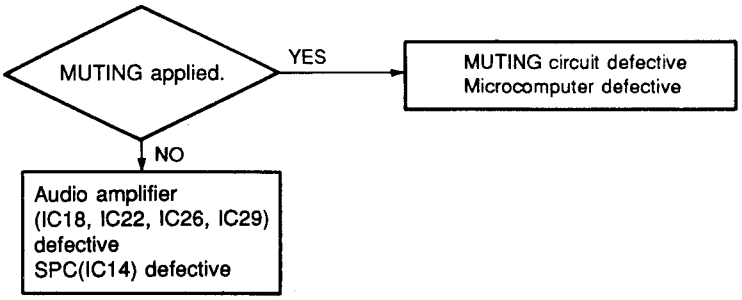


2) Troubleshooting from System Malfunctions

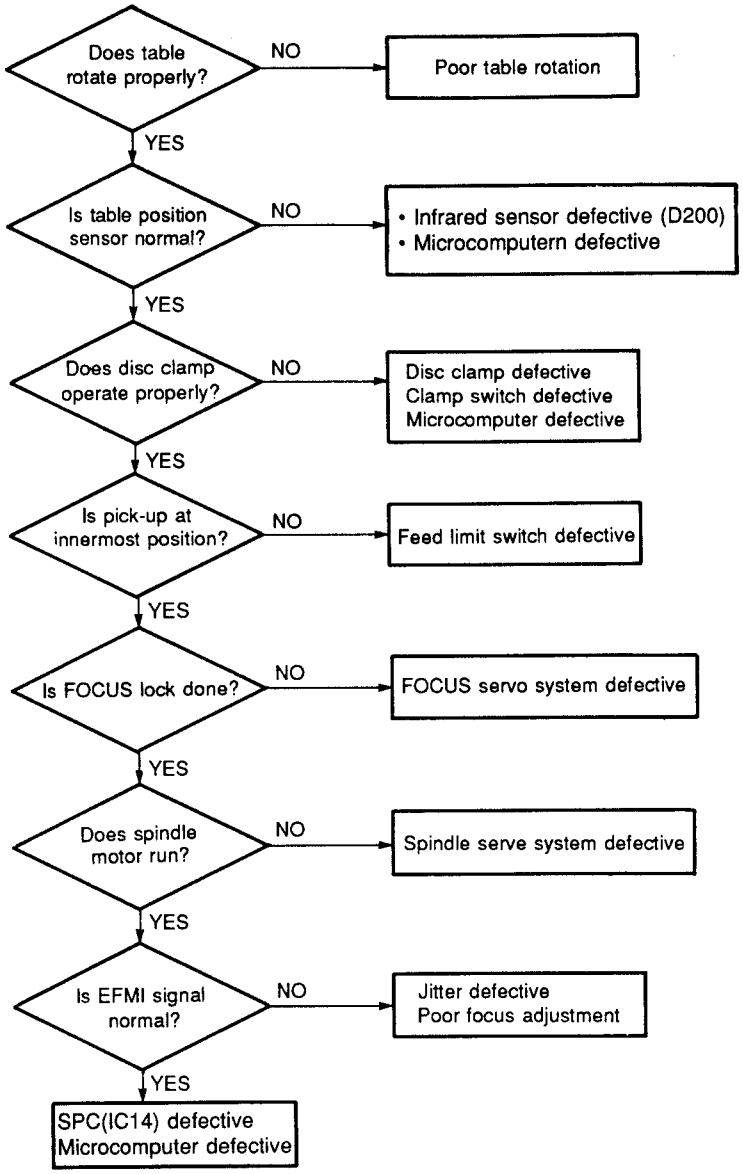
a) Tray fails to come out/go in.



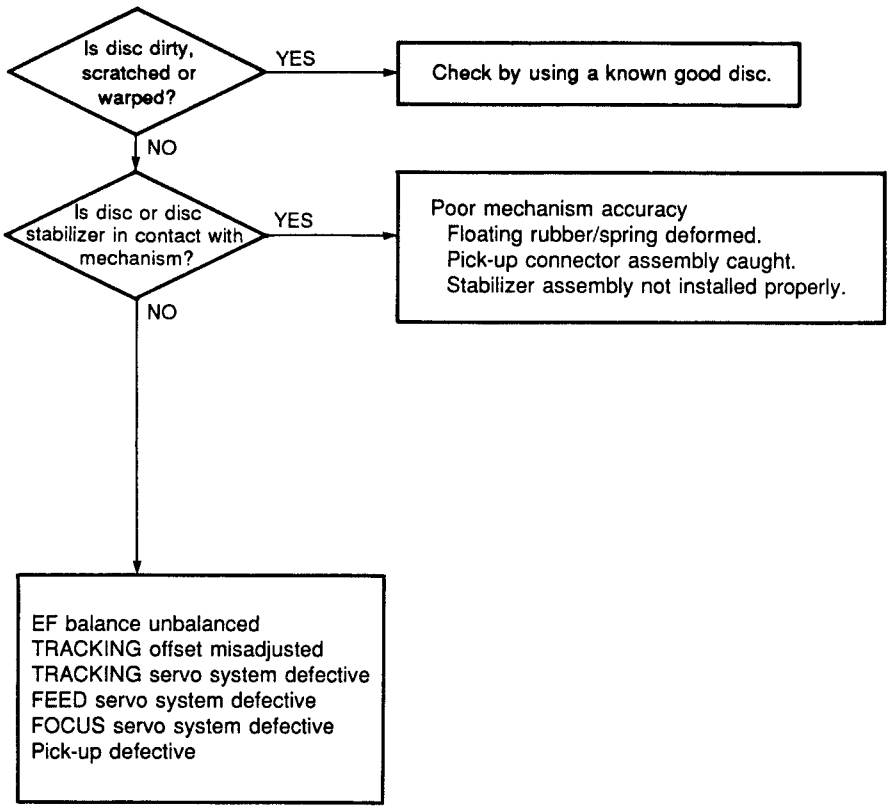
b) No sound generated, Sound cut during play. (but time display advances properly)



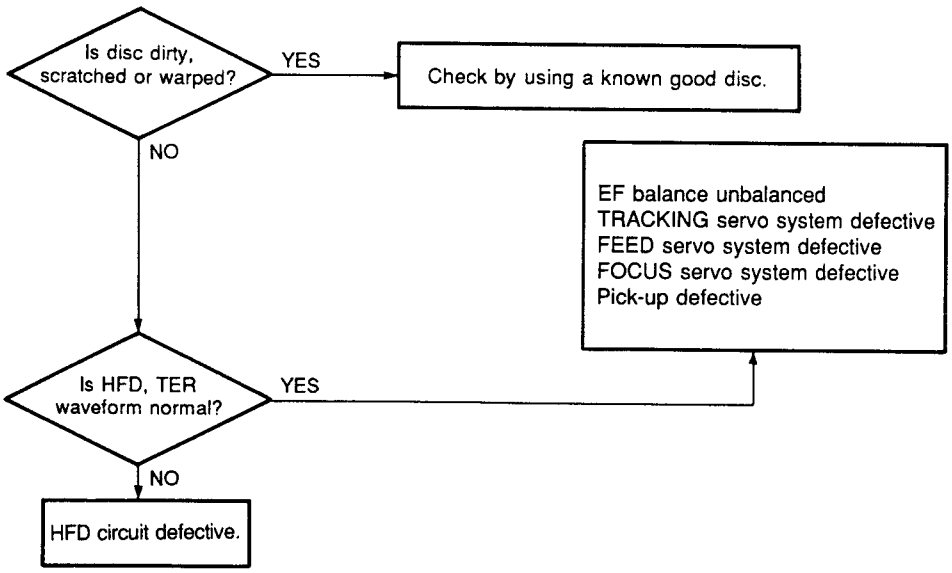
c) Operates as if no disc loaded. (although loaded)



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

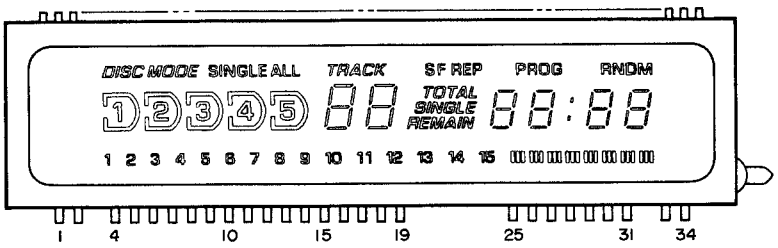


e) No search provided. (Sound skipped after search)



■ DISPLAY DATA (VP589700)

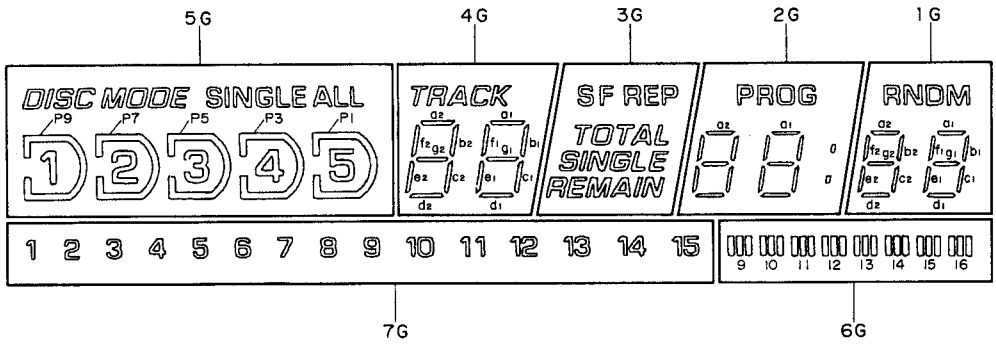
V200 : FIP8KM5



TERMINAL CONNECTION

TERMINAL NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
ELECTRODE	F1	F1	NP	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14
TERMINAL NO.	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
ELECTRODE	P15	P16	NP	NP	NP	NP	NP	7G	6G	5G	4G	3G	2G	1G	NP	F2	F2

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

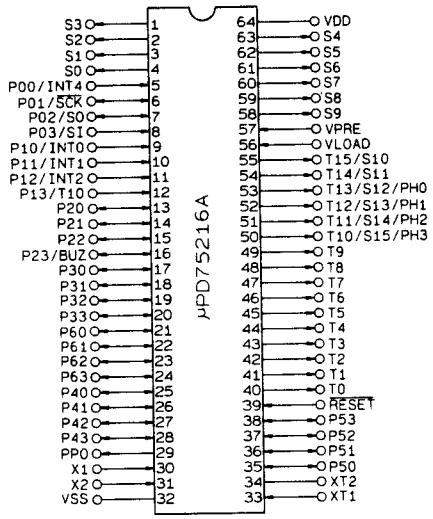


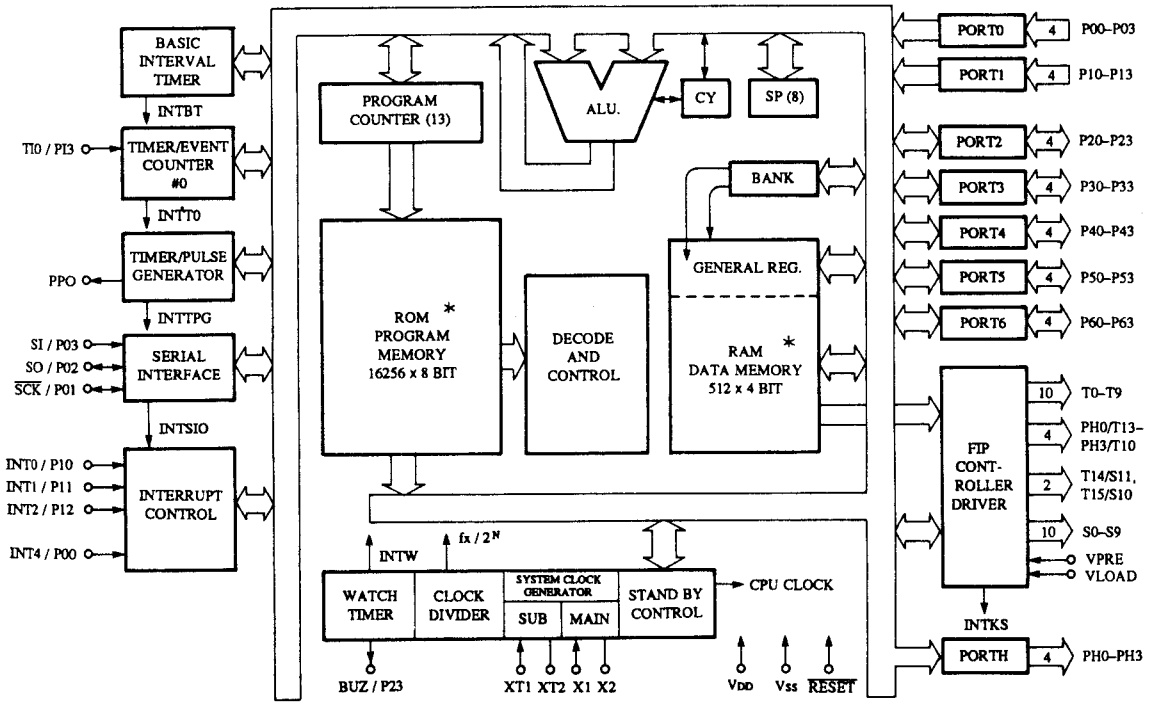
ANODE CONNECTION

Segment \ Grid	7G	6G	5G	4G	3G	2G	1G
P1	1	—	P1	d1	—	d1	d1
P2	2	—	5	e1	—	e1	e1
P3	3	—	P3	c1	—	c1	c1
P4	4	—	4	g1	—	g1	g1
P5	5	—	P5	f1	—	f1	f1
P6	6	—	3	b1	—	b1	b1
P7	7	—	P7	a1	—	a1	a1
P8	8	—	2	—	—	:	—
P9	9	9	P9	d2	*REMAIN*	d2	d2
P10	10	10	1	e2	—	e2	e2
P11	11	11	*ALL*	c2	*SINGLE*	c2	c2
P12	12	12	*SINGLE*	g2	*TOTAL*	g2	g2
P13	13	13	*DISC MODE*	f2	S	f2	f2
P14	14	14	—	b2	F	b2	b2
P15	15	15	—	a2	REP	a2	a2
P16	—	16	—	*TRACK*	—	PROG	RNDM

■ IC DATA

IC15 : μPD75P216ACW
System Controller (4bit μ-COM)

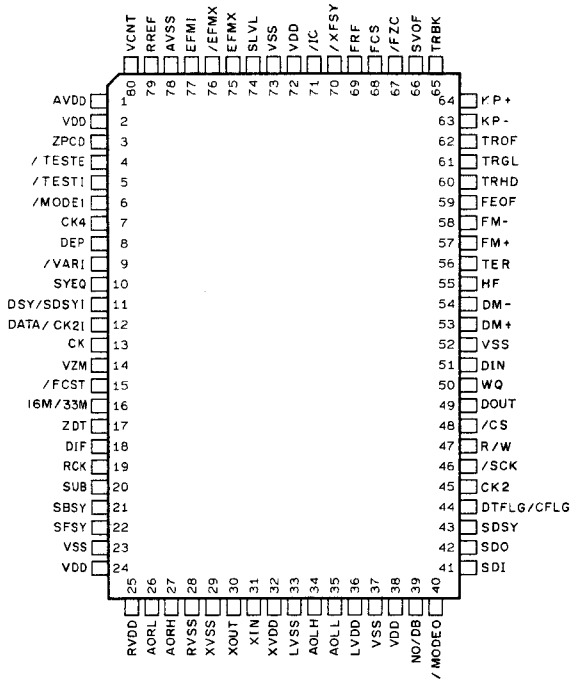


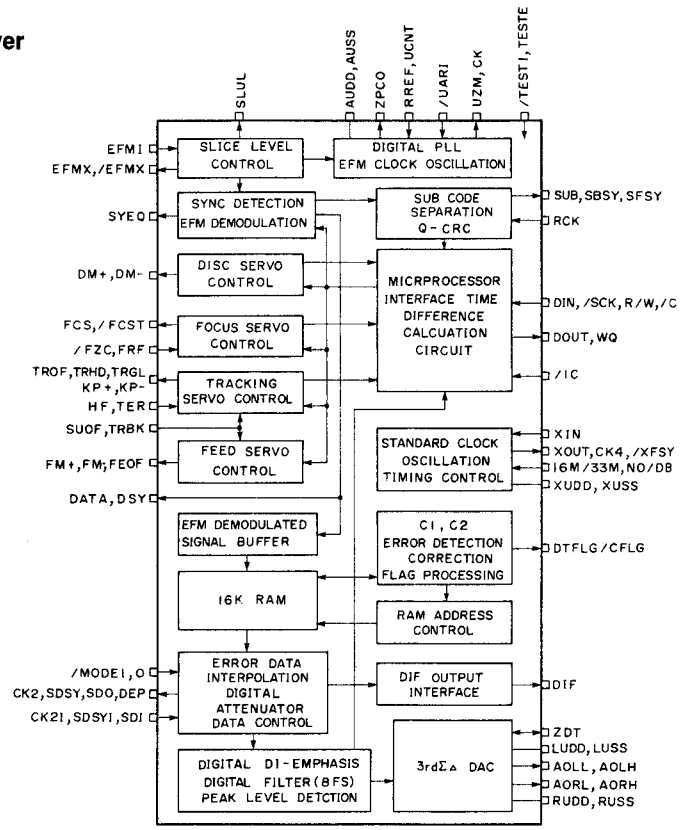


Pin No.	Pin Name	Description	Function
1	S3	S3	Fluorescent character display tube anode drive signal
2	S2	S2	
3	S1	S1	
4	S0	S0	
5	PO0	WQ	Request signal from YDC-103
6	PO1	$\overline{SCK}$	Serial clock output to YDC-103 and 74HC595
7	PO2	SO	Serial data output to YDC-103 and 74HC595
8	PO3	SI	Serial data input from YDC-103
9	P10	REM	Input from remote control beam receiving unit
10	P11	$\overline{TBL\text{-}POS}$	Sensor to detect table position
11	P12	$\overline{FLSW}$	Feed origin switch input Feed origin at "L"
12	P13	TER	Track count signal input
13	P20	R/W	From μ-COM to YDC-103 at "H" and from YDC-103 to μ-COM at "L"

Pin No.	Pin Name	Description	Function
14	P21	SCL	Serial clock signal with X24C01
15	P22	TRBK	Tracking brake enable instruction to YDC-103 Brake enable at "H"
16	P23	SVOF	Servo off instruction to YDC-103 Servo off at "H"
17	P30	SDA	Serial data signal with X24C01
18	P31	$\overline{\text{OPSW}}$	Open state of tray sensing switch input Open state at "L"
19	P32	$\overline{\text{CLSW}}$	Closed state of tray sensing switch input Closed state at "L"
20	P33	$\overline{\text{DNSW}}$	PU unit down limit switch, ON at "L"
21	P60	K0	Key matrix input
22	P61	K1	
23	P62	K2	
24	P63	$\overline{\text{UPSW}}$	PU unit up limit switch, ON at "L"
25	P40		N. C.
26	P41	TBL-R	Table rotate R. (Clockwise)
27	P42	TBL-L	Table rotate L. (Counterclockwise)
28	P43	TBLSLW	Table rotate SLOW
29	PP0	LSOFF	Laser diode ON at "L" and OFF at "H"
30	X1	XI	Crystal oscillator Oscillation terminal
31	X2	XO	
32	VSS	VSS	GND
33	XT1	XT1	GND
34	XT2	XT2	Open
35	P50	EXP	
36	P51	TRGL	LOW at tracking gain "H"
37	P52	$\overline{\text{OE}}$	
38	P53	MUTE OFF	Sound output at "H" (play, fast forward, rewind modes) Sound output muted (other mode than in parentheses at the left)
39	$\overline{\text{RESET}}$	$\overline{\text{RES}}$	Operation starts at _┌→ and stops at ¬└→ .
40	T0	T0	Fluorescent character display tube grid drive signal
41	T1	T1	
42	T2	T2	
43	T3	T3	
44	T4	T4	
45	T5	T5	
46	T6	T6	
47	T7	T7	NC
48	T8	T8	
49	T9	T9	
50	T10	S15	Fluorescent character display tube anode drive signal
51	T11	S14	
52	T12	S13	
53	T13	S12	
54	T14	S11	
55	T15	S10	
56	V LOAD	VL	–20V
57	V PRE	VP	GND
58	S9	S9	Fluorescent character display tube grid drive signal
59	S8	S8	
60	S7	S7	
61	S6	S6	
62	S5	S5	
63	S4	S4	
64	VDD	VDD	+5V

IC14 : YDC103
Signal Processor & Controller for Compact Disc Player





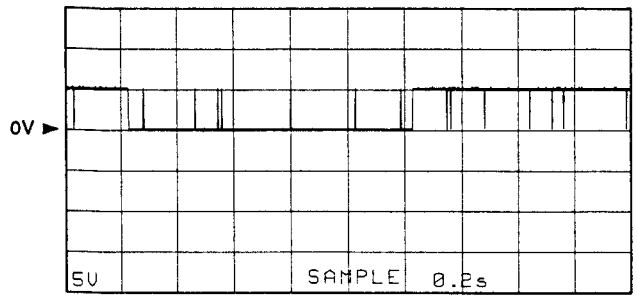
Pin No.	Pin Name	I/O	Function
1	AVDD	A	5V power supply (PLL section)
2	VDD		5V power supply (LOGIC section)
3	ZPC0	O	Phase comparison output for digital PLL drive clock generator
4	/TEST E	I+	LSI test terminal (No connection should be made)
5	/TEST I	I+	LSI test terminal (No connection should be made)
6	/MODE 1	I+	Sound output made setting 1
7	CK4	O	Clock output (4.2336MHz)
8	DEP	O	De-emphasis control output
9	/VARI	I+	Variable speed playback select ('L' : variable speed playback)
10	SYEQ	O	Synchronous equal signal output
11	DSY/SDSYI	I/O	EFM modulation signal, synchronous signal / L/R clock input when in DSP mode
12	DATA/CK2I	I/O	EFM modulation signal data signal / bit clock input when in DSP mode
13	CK	OD	EFM playback clock output
14	VZM	OD	Digital PLL drive clock output, driving into 3 or 6 output
15	/FCST	OD	Focus search start signal output
16	16M/33M	I+	Master clock select ('H' : 16.9344MHz, 'L' : 33.8688MHz)
17	ZDT	I+/O	DAC zero detect mute enable / sound zero detect output
18	DIF	O	Digital audio interface signal output
19	RCK	I-	Sub-code interface Read clock
20	SUB	OD	Sub-code interface Sub-code data
21	SBSY	OD	Sub-code interface Block synchronous signal
22	SFSY	OD	Sub-code interface Frame synchronous signal
23	VSS		Ground (Logic section)
24	VDD		5V power supply (Noise shaper section)
25	RVDD	A	5V power supply (DAC Rch section)
26	AORL	OA	DAC stream output (Rch L)
27	AORH	OA	DAC stream output (Rch H)

Pin No.	Pin Name	I/O	Function
28	RVSS	A	Ground (DAC Rch section)
29	XVSS		Ground (Crystal oscillator section)
30	XOUT	O	Crystal oscillator connection terminal
31	XIN	I	Crystal oscillator connection terminal (16.9344MHz or 33.8688MHz)
32	XVDD		5V power supply (Crystal oscillator section)
33	LVSS	A	Ground (DAC Lch section)
34	AOLH	OA	DAC stream output (Lch H)
35	AOLL	OA	DAC stream output (Lch L)
36	LVDD	A	5V power supply (DAC Lch section)
37	VSS		Ground (Noise shaper section)
38	VDD		5V power supply (Logic section)
39	NO/DB	I+	Normal/double speed playback select
40	/MODE0	I+	Sound output mode setting 0
41	SDI	I	DAC digital data input
42	SDO	O	Audio data output Serial data
43	SDSY	O	Audio data output L/R clock
44	DTFLG/CFLG	O	Audio data output Error flag
45	CK2	O	Audio data output Bit clock
46	/SCK	I	Microprocessor interface Serial clock
47	R/W	I	Microprocessor interface R/W identifying signal
48	/CS	I+	Microprocessor interface Chip select
49	DOUT	OT	Microprocessor interface Data output
50	WQ	O	Microprocessor interface Data read request signal
51	DIN	I	Microprocessor interface Data input
52	VSS		Ground (Logic section)
53	DM+	O	Disc motor control signal (acceleration)
54	DM-	O	Disc motor control signal (deceleration)
55	HF	IS	Mirror signal input
56	TER	IS	Tracking error signal input
57	FM+	O	Feed control signal (outward)
58	FM-	O	Feed control signal (inward)
59	FEOF	O	Feed servo OFF signal
60	TRHD	O	Tracking hold signal
61	TRGL	O	Tracking gain lowering signal
62	TROF	O	Tracking servo OFF signal
63	KP-	O	Kick pulse signal (inward)
64	KP+	O	Kick pulse signal (outward)
65	TRBK	I	Force tracking brake signal
66	SVOF	I	Focus servo OFF signal
67	/FZC	I+	Focus error zero cross signal input
68	FCS	O	Focus start signal
69	FRF	I	Focus reflection signal
70	/XFSY	OD+	Crystal frame synchronous signal (7.35kHz)
71	/IC	IS+	Initial clear input
72	VDD		5V power supply (Logic section)
73	VSS		Ground (Logic section)
74	SLVL	OA	EFM slice level voltage output
75	EFMX	OA	EFM duty detect output (positive phase)
76	/EFMX	OA	EFM duty detect output (nagative phase)
77	EFMI	IA	EFM signal input
78	AVSS	A	Ground (PLL section)
79	RREF	IA	Digital PLL drive clock generator Cosntant current resistor connecting terminal
80	VCNT	IA	Digital PLL drive clock generator Control terminal

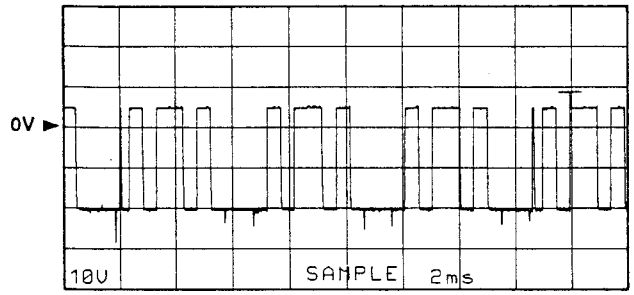
Note 1) Symbols in I/O
+ : Pull up, **−** : Pull down, **D** : Open Drain, **T** : 3-State, **S** : Schmitt Trigger, **A** : Analog Terminal

■ WAVEFORM OF TEST POINT

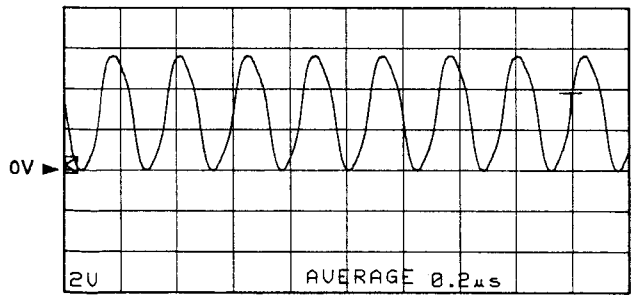
Point ①
(Pin 14 of IC 13)
V : 5 V/div H : 0.2 sec/div
DC range 1 : 1 probe



Point ②
(Pin 2 of IC 15)
V : 10 V/div H : 2 msec/div
DC range 1 : 1 probe



Point ③
(Pin 31 of IC 15)
V : 2 V/div H : 0.2 µsec/div
DC range 1 : 1 probe

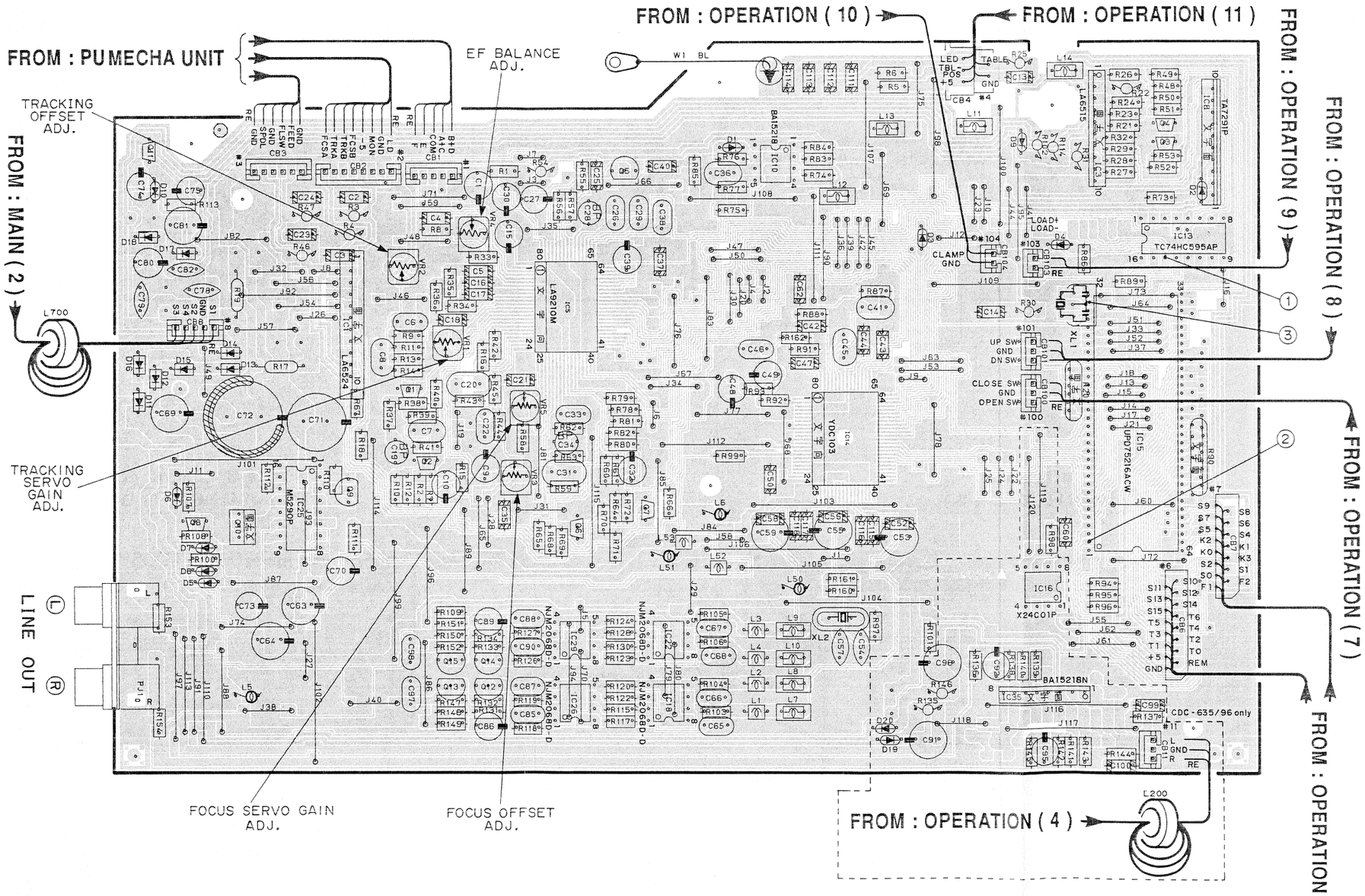


■ PRINTED CIRCUIT BOARD (Foil side)

① to ③ : WAVEFORM OF TEST POINT (See page 29)

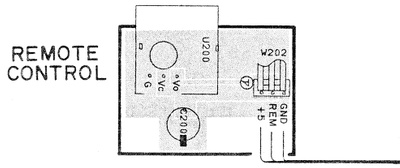
● Semiconductor Location

Ref. No.	Location
D 1	E2
D 2	G2
D 3	F3
D 4	F3
D 5	C4
D 6	C4
D 7	C4
D 8	C4
D 9	F2
D 10	C2
D 11	C3
D 12	C3
D 13	C3
D 14	C3
D 15	C3
D 16	C3
D 17	C3
D 18	C3
D 19	F5
D 20	F5
IC 1	C3
IC 3	D3
IC 5	D3
IC 8	G2
IC10	E2
IC13	G2
IC14	F3
IC15	G3
IC16	F4
IC18	E5
IC22	E4
IC25	C4
IC26	D5
IC29	D4
IC35	F4
Q 1	D3
Q 2	D3
Q 3	G2
Q 4	G2
Q 5	E2
Q 6	D4
Q 7	E4
Q 8	C4
Q 9	C4
Q 10	C4
Q 11	C2
Q 12	D4
Q 13	D4
Q 14	D4
Q 15	D4

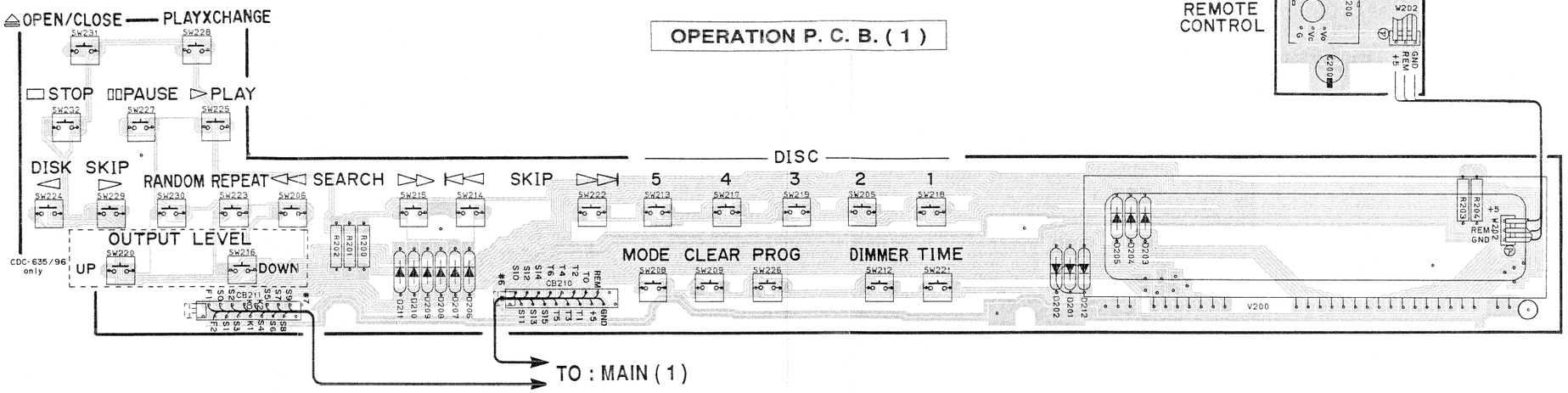


■ PRINTED CIRCUIT BOARD (Foil side)

OPERATION P. C. B. (2)

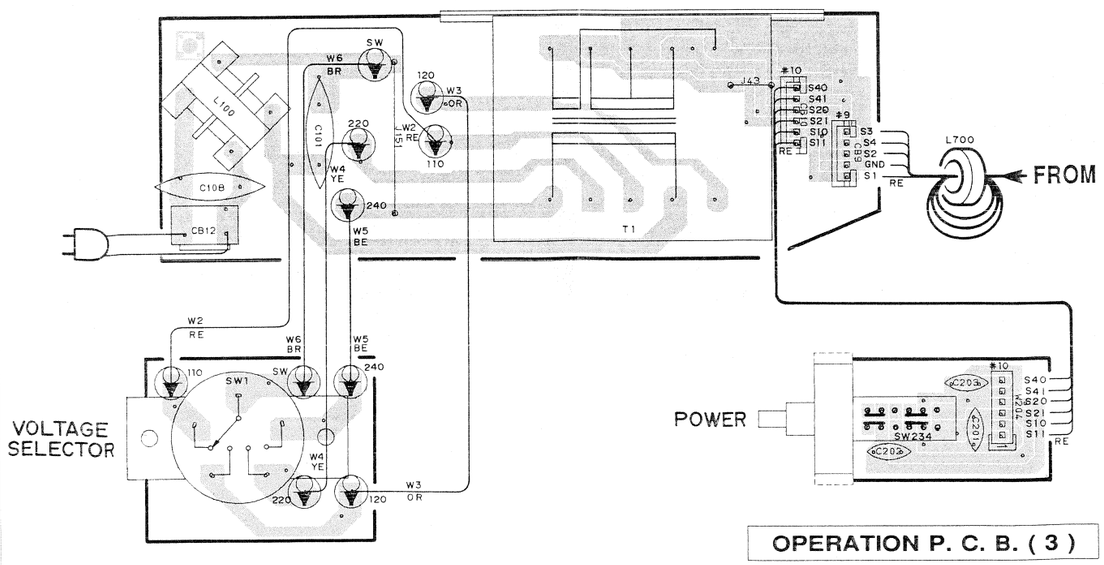


OPERATION P. C. B. (1)



● R model

MAIN P. C. B. (2)

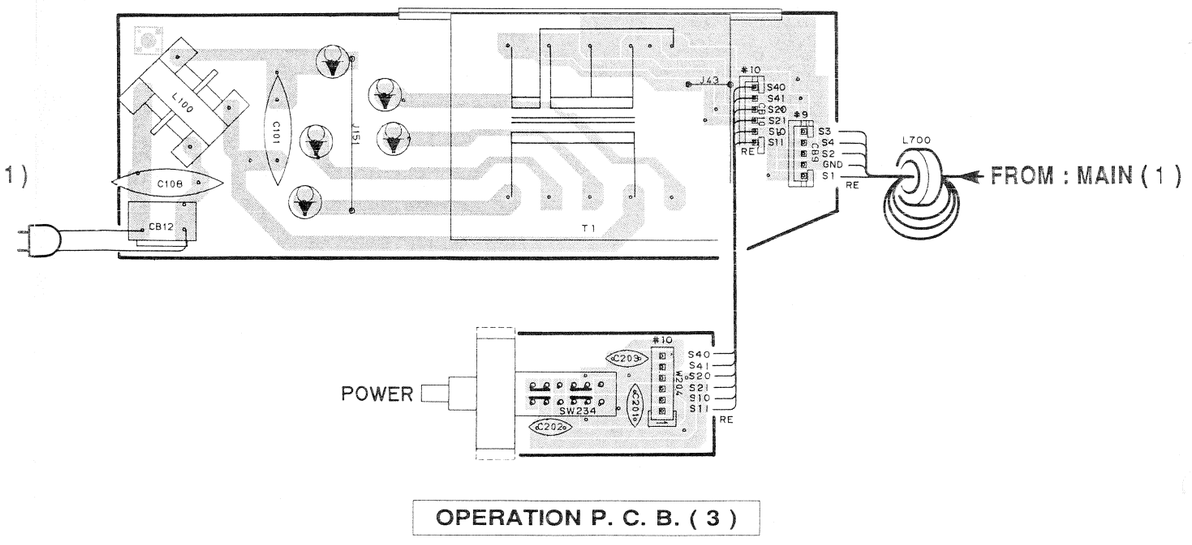


OPERATION P. C. B. (3)

MAIN P. C. B. (3)

● U, C, A, B, G models

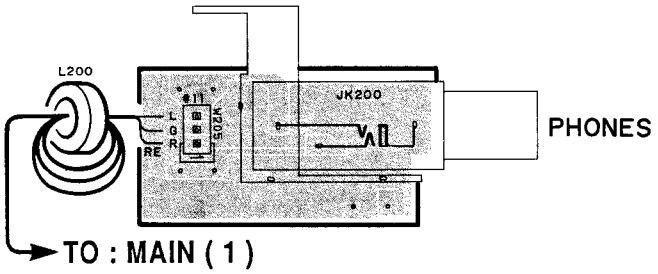
MAIN P. C. B. (2)



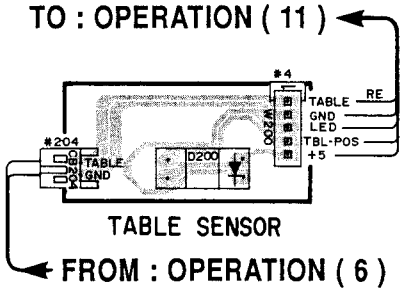
OPERATION P. C. B. (3)

■ PRINTED CIRCUIT BOARD (Foil side)

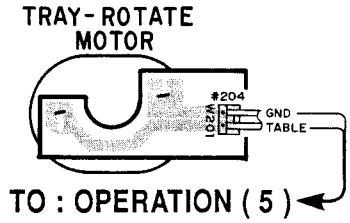
OPERATION P. C. B. (4)



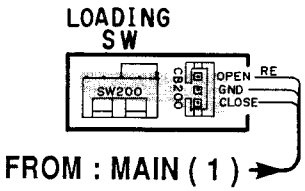
OPERATION P. C. B. (5)



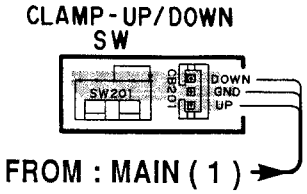
OPERATION P. C. B. (6)



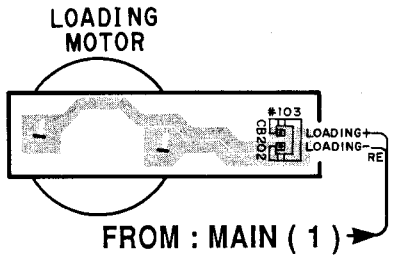
OPERATION P. C. B. (7)



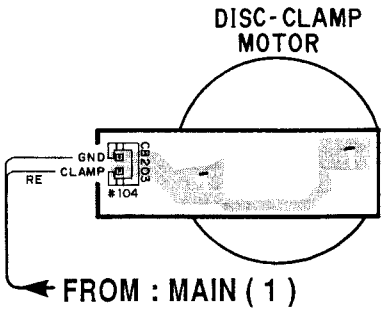
OPERATION P. C. B. (8)



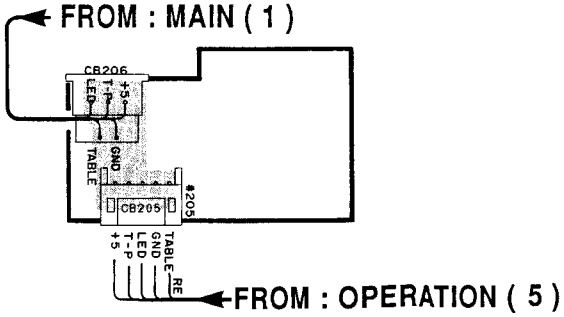
OPERATION P. C. B. (9)



OPERATION P. C. B. (10)

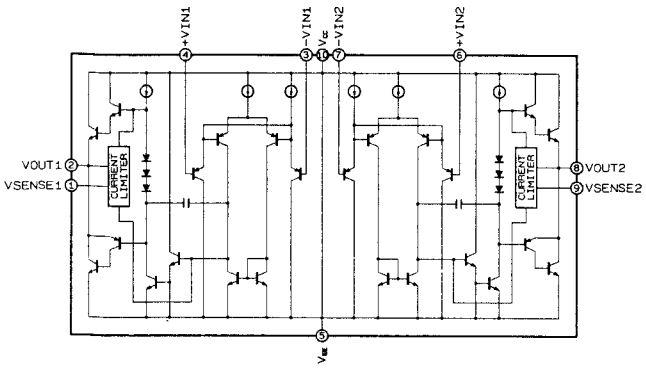


OPERATION P. C. B. (11)

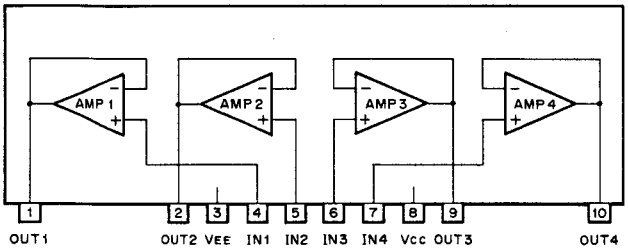


■ IC BLOCK

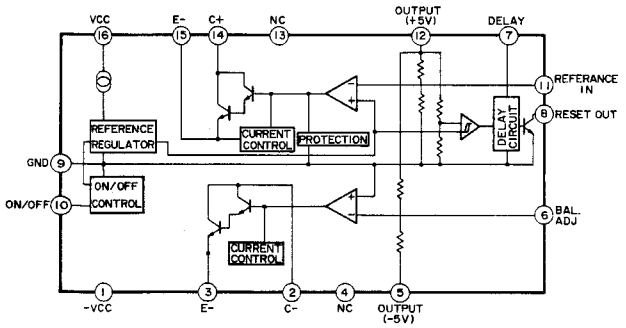
IC3 : LA6515
Dual Power Operational Amp



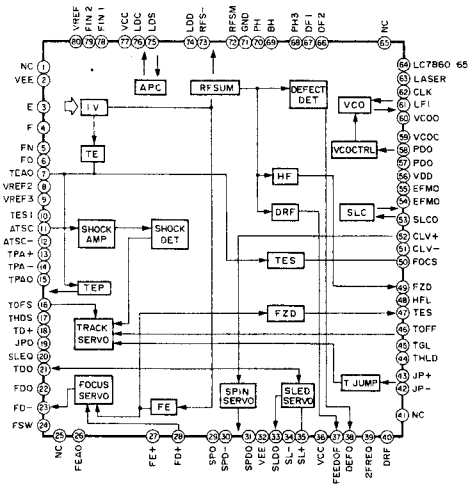
IC1 : LA6524
4-Channel Power Driver



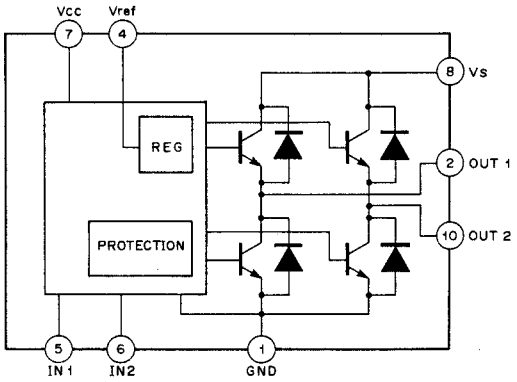
IC25 : M5290P
Constant-Voltage Tracking Supply with Reset



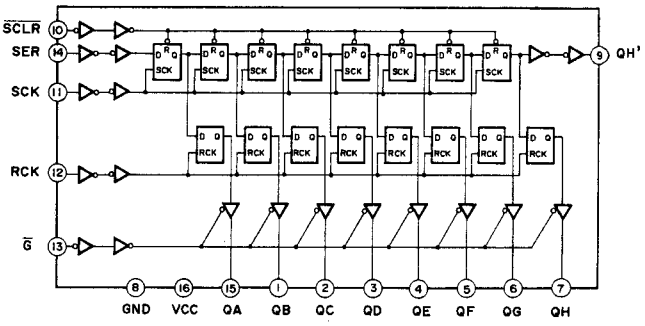
IC5 : LA9210M
RF-Amp & Servo Controller



IC8 : TA7291P
Full Bridge Motor Driver

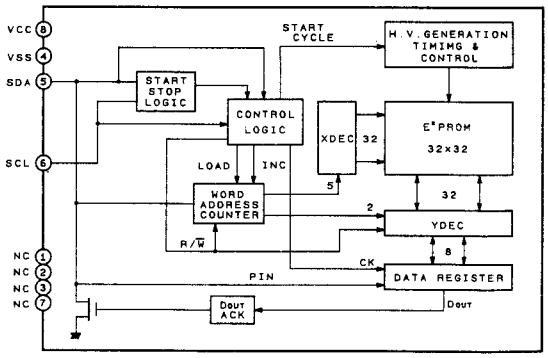


IC13 : TC74HC595AP or μPD74HC595C
8-Stage Serial In/Serial Out Parallel Out Shift Registor with Latched 3-State Output



RCK	SCK	SCLR	G	Function
X	X	X	1	QA thru QH = Tri-State
X	X	L	X	Shift Register cleared QH' = 0
X	↑	H	X	Shift Register clocked QN = Qn-1, Q0 = SER
↑	X	H	X	Contents of Stift Register transferred to output latches

IC16 : X24C01P
Electrically Erasable PROM



Other ICs

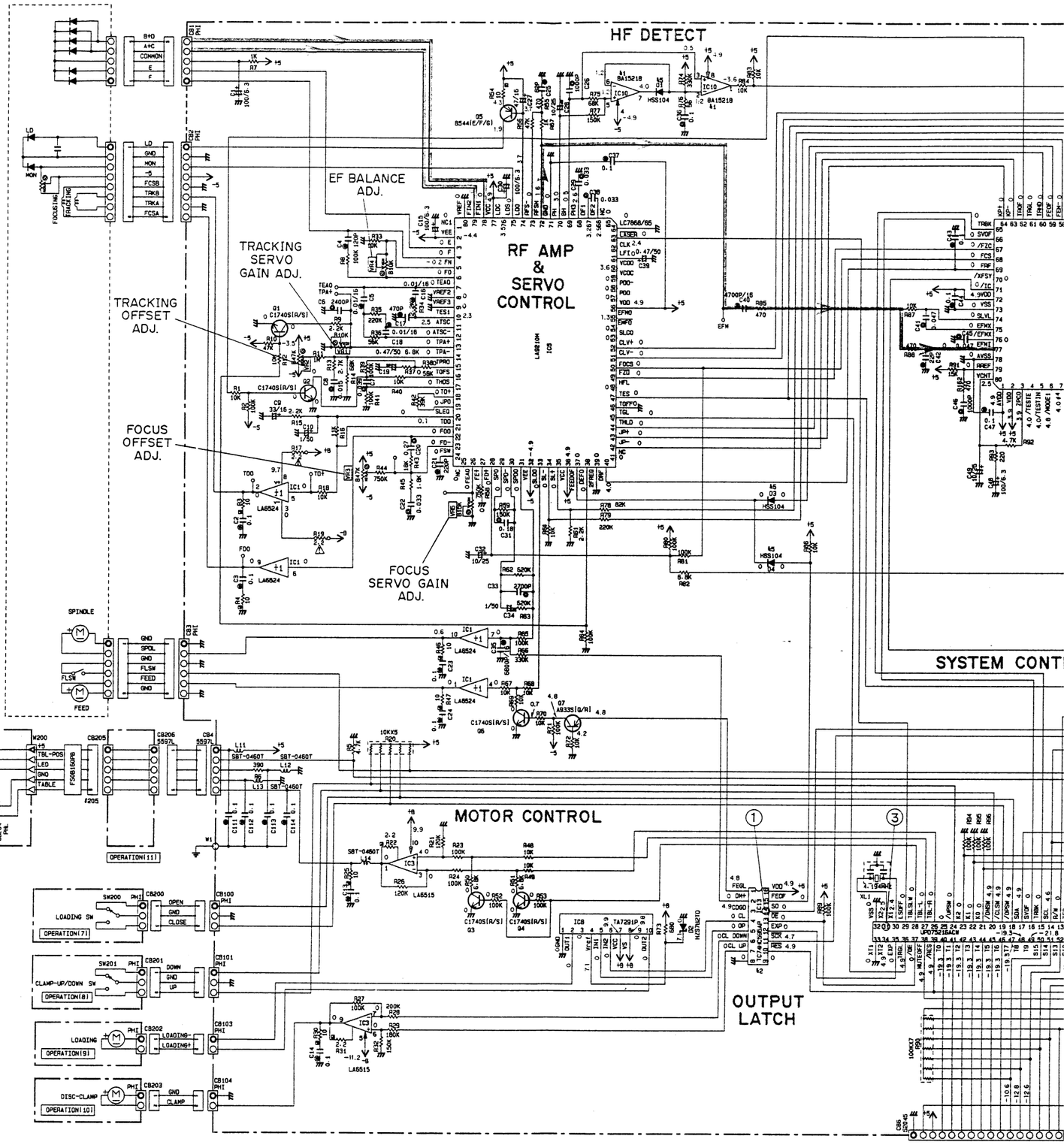
- **IC14** : YDC 103
  →See P.27
- **IC15** : μPD75P216ACW
  →See P.25

■ SCHEMATIC DIAGRAM

① to ③ : WAVEFORM OF TEST POINT (See page 29)

Interchangeable Parts at Manufacture-Stage

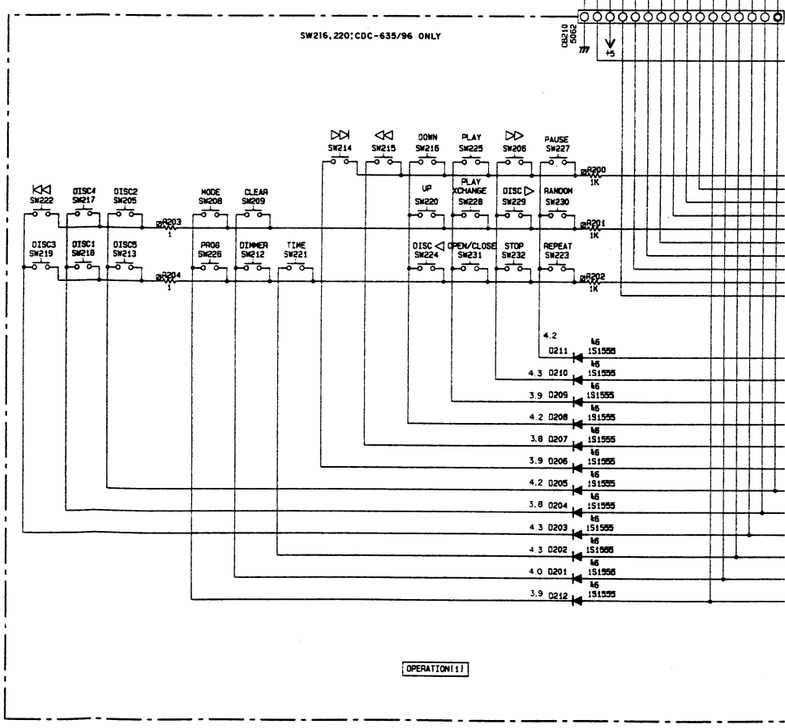
Mark	Reference Parts Number	Parts Name
▲1	IC10	BA15218 M5218AP
▲2	IC13	TC74HC595AP UPD74HC595C
▲3	IC35	BA15218N M5218AP
▲4	Q12-15	2SD1915F(S/T) 2SC2878(A/B)
▲5	D1-3-5-7-8-19-20	HSS104 1SS133 1SS176
▲6	D201-212	1S1555 1S2473

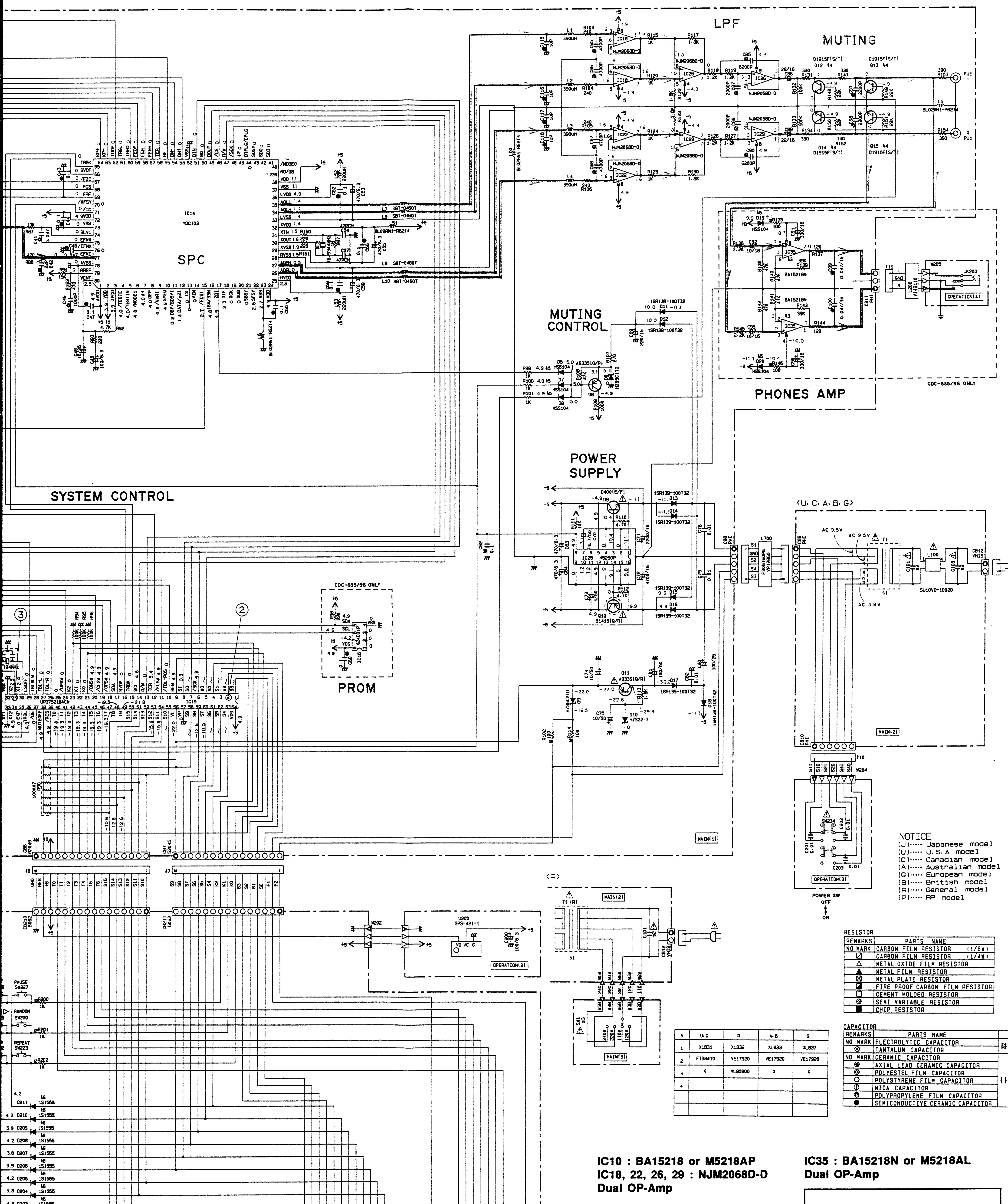


PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICS.

2SC1740S(R, S) 2SD1915(S, T) 2SC2878(A, B)	2SA933S(Q, R) 2SB544(D, E, F, G) 2SD400(E, F)	2SB1416(Q, R)	1SR139-100T32 1S2473 1S1555 HZS6C2TD HZS7B2TD HZS5C1 HZS22-3
BA15218 M5218AP	NJM2068D-D X24C01P	BA15218N M5218AL	TA7291P
LA6515	LA6524	M5290P	TC74HC595AP µPD74HC595C
µPD75P216ACW	YDC103	LA9210	

* *All voitage are measured with a 10MΩ/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.*





s	U·C	R	A·B	G
1	XL831	XL832	XL833	XL837
2	FI38410	VE17920	VE17920	VE17920
3	X	VL90800	X	X
4				

NOTICE
(J)····· Japanese model
(U)····· U.S.A model
(C)····· Canadian model
(A)····· Australian model
(G)····· European model
(B)····· British model
(R)····· General model
(P)····· RP model

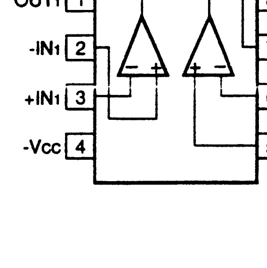
RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (1/6W)
⊠	CARBON FILM RESISTOR (1/4W)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
⊠	METAL PLATE RESISTOR
◪	FIRE PROOF CARBON FILM RESISTOR
□	CEMENT MOLDED RESISTOR
⊘	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

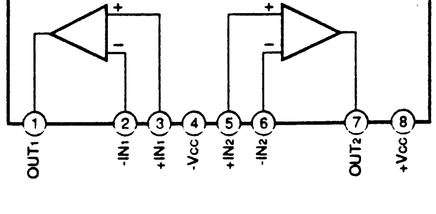
CAPACITOR

REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	
⊗	TANTALUM CAPACITOR	
NO MARK	CERAMIC CAPACITOR	
◉	AXIAL LEAD CERAMIC CAPACITOR	
◎	POLYESTEL FILM CAPACITOR	
○	POLYSTYRENE FILM CAPACITOR	
⦶	MICA CAPACITOR	
⊕	POLYPROPYLENE FILM CAPACITOR	
●	SEMICONDUCTIVE CERAMIC CAPACITOR	

IC10 : BA15218 or M5218AP
IC18, 22, 26, 29 : NJM2068D-D
Dual OP-Amp



IC35 : BA15218N or M5218AL
Dual OP-Amp



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 P. 50.

MAIN P.C.B.

	Schm Ref.	PART NO.	Description	Remarks	Markets
*		VP645700	P.C.B. ASS'y, MAIN	CDC-635,96	UC
*		VP645800	P.C.B. ASS'y, MAIN	CDC-635	R
*		VP645900	P.C.B. ASS'y, MAIN	CDC-635	AB
*		VP646000	P.C.B. ASS'y, MAIN	CDC-635	G
*		VP648200	P.C.B. ASS'y, MAIN	CDC-95	
	CB1	VD004800	CONNECTOR, BASE PIN	PH i-TYPE 5P TE	
	CB2	VD005100	CONNECTOR, BASE PIN	PH i-TYPE 8P TE	
	CB3	VD004900	CONNECTOR, BASE PIN	PH i-TYPE 6P TE	
	CB4	VN273500	BASE PIN	5597-NAPB 5P SE	
	CB6	VM859700	CONNECTOR, BASE PIN	52045 16P TE	
*	CB7	VM859600	CONNECTOR, BASE PIN	52045 15P TE	
	CB8	VD004800	CONNECTOR, BASE PIN	PH i-TYPE 5P TE	
	CB9	VD004800	CONNECTOR, BASE PIN	PH i-TYPE 5P TE	
	CB10	VD004900	CONNECTOR, BASE PIN	PH i-TYPE 6P TE	
	CB11	VD004600	CONNECTOR, BASE PIN	PH i-TYPE 3P TE	CDC-635,96
	CB12	VG879900	CONNECTOR, BASE PIN	VH 2P TE	
	CB100	VD004600	CONNECTOR, BASE PIN	PH i-TYPE 3P TE	
	CB101	VD004600	CONNECTOR, BASE PIN	PH i-TYPE 3P TE	
	CB103	VD004500	CONNECTOR, BASE PIN	PH i-TYPE 2P TE	
	CB104	VD004500	CONNECTOR, BASE PIN	PH i-TYPE 2P TE	
	C1	VF760000	ELECTROLYTIC CAP	100uF 10V	
	C2	VJ599100	CERAMIC TUBULAR CAP	0.1uF 50V	
	C3	VJ599100	CERAMIC TUBULAR CAP	0.1uF 50V	
	C4	VG278100	CERAMIC TUBULAR CAP	120pF 50V	
	C5	VF467300	CERAMIC TUBULAR CAP	0.01uF 16V	
	C6	UA653240	MYLAR FILM CAP	2400pF 50V	
	C7	UA654390	MYLAR FILM CAP	0.039uF 50V	
	C8	UA654150	MYLAR FILM CAP	0.015uF 50V	
	C9	UM397330	ELECTROLYTIC CAP	33uF 16V	
	C10	VJ839100	ELECTROLYTIC CAP	1uF 50V	
	C13	VJ599100	CERAMIC TUBULAR CAP	0.1uF 50V	
	C14	VJ599100	CERAMIC TUBULAR CAP	0.1uF 50V	
	C15	VF760000	ELECTROLYTIC CAP	100uF 10V	
	C16	VF467300	CERAMIC TUBULAR CAP	0.01uF 16V	
	C17	VF466900	CERAMIC TUBULAR CAP	470pF 50V	
	C18	VF467300	CERAMIC TUBULAR CAP	0.01uF 16V	
	C19	UK665470	ELECTROLYTIC CAP	0.47uF 50V	
	C20	UA655270	MYLAR FILM CAP	0.27uF 50V	
	C21	VG278400	CERAMIC TUBULAR CAP	220pF 50V	
	C22	UA654330	MYLAR FILM CAP	0.033uF 50V	
	C23	VJ599100	CERAMIC TUBULAR CAP	0.1uF 50V	
	C24	VJ599100	CERAMIC TUBULAR CAP	0.1uF 50V	
	C25	VG277900	CERAMIC TUBULAR CAP	82pF 50V	
	C26	UA653100	MYLAR FILM CAP	1000pF 50V	
	C27	VJ837200	ELECTROLYTIC CAP	47uF 16V	
	C28	VE040000	ELECTROLYTIC CAP	10uF 25V	
	C29	UA654330	MYLAR FILM CAP	0.033uF 50V	
	C30	VF760000	ELECTROLYTIC CAP	100uF 10V	
	C31	UA655180	MYLAR FILM CAP	0.18uF 50V	
	C32	UM417100	ELECTROLYTIC CAP	10uF 50V	
	C33	UA653270	MYLAR FILM CAP	2700pF 50V	
	C34	VG722100	ELECTROLYTIC CAP	1uF 50V	
	C35	VG279900	CERAMIC TUBULAR CAP	6800pF 16V	

*New Parts (新規部品)

MAIN P.C.B.

Schm Ref.	PART NO.	Description		Remarks	Markets
C36	UA655100	MYLAR FILM CAP	0.1uF 50V		
C37	VJ599100	CERAMIC TUBULAR CAP	0.1uF 50V		
C38	UA654330	MYLAR FILM CAP	0.033uF 50V		
C39	VJ839000	ELECTROLYTIC CAP	0.47uF 50V		
C40	VF467100	CERAMIC TUBULAR CAP	4700pF 16V		
C41	UA654470	MYLAR FILM CAP	0.047uF 50V		
C42	VG276600	CERAMIC TUBULAR CAP	22pF 50V (SL)		
C43	VJ599100	CERAMIC TUBULAR CAP	0.1uF 50V		
C44	VJ599100	CERAMIC TUBULAR CAP	0.1uF 50V		
C45	UA654470	MYLAR FILM CAP	0.047uF 50V		
C46	UA653100	MYLAR FILM CAP	1000pF 50V		
C47	VJ599100	CERAMIC TUBULAR CAP	0.1uF 50V		
C48	VF760000	ELECTROLYTIC CAP	100uF 10V		
C49	UM417100	ELECTROLYTIC CAP	10uF 50V		
C50	VJ599100	CERAMIC TUBULAR CAP	0.1uF 50V		
C52	VJ599100	CERAMIC TUBULAR CAP	0.1uF 50V		
C53	UJ628470	ELECTROLYTIC CAP	470uF 10V		
C54	VA761400	CERAMIC CAP	47pF 50V (CH)		
C55	UJ628470	ELECTROLYTIC CAP	470uF 10V		
C56	VJ599100	CERAMIC TUBULAR CAP	0.1uF 50V		
C57	VA761400	CERAMIC CAP	47pF 50V (CH)		
C58	VJ599100	CERAMIC TUBULAR CAP	0.1uF 50V		
C59	UJ628470	ELECTROLYTIC CAP	470uF 10V		
C60	VJ599100	CERAMIC TUBULAR CAP	0.1uF 50V		
C62	VJ599100	CERAMIC TUBULAR CAP	0.1uF 50V		
C63	UJ628470	ELECTROLYTIC CAP	470uF 10V		
C64	UJ628470	ELECTROLYTIC CAP	470uF 10V		
C65	UA653470	MYLAR FILM CAP	4700pF 50V		
C66	UA653470	MYLAR FILM CAP	4700pF 50V		
C67	UA653470	MYLAR FILM CAP	4700pF 50V		
C68	UA653470	MYLAR FILM CAP	4700pF 50V		
C69	UJ648220	ELECTROLYTIC CAP	220uF 25V		
C70	UM416470	ELECTROLYTIC CAP	4.7uF 50V		
C71	VF904800	ELECTROLYTIC CAP	2200uF 16V		
C72	VH520900	ELECTROLYTIC CAP	4700uF 16V		
C73	VJ839100	ELECTROLYTIC CAP	1uF 50V		
C74	UM417100	ELECTROLYTIC CAP	10uF 50V		
C75	UM417100	ELECTROLYTIC CAP	10uF 50V		
C78	UG444100	CERAMIC CAP	0.01uF 50V		
C79	UG444100	CERAMIC CAP	0.01uF 50V		
C80	UJ648100	ELECTROLYTIC CAP	100uF 25V		
C81	UJ668100	ELECTROLYTIC CAP	100uF 50V		
C82	UG444100	CERAMIC CAP	0.01uF 50V		
C85	UA653620	MYLAR FILM CAP	6200pF 50V		
C86	UM407220	ELECTROLYTIC CAP	22uF 25V		
C87	UA653200	MYLAR FILM CAP	2000pF 50V		
C88	UA653200	MYLAR FILM CAP	2000pF 50V		
C89	UM407220	ELECTROLYTIC CAP	22uF 25V		
C90	UA653620	MYLAR FILM CAP	6200pF 50V		
C91	UJ638330	ELECTROLYTIC CAP	330uF 16V	CDC-635,96	
C92	VJ836900	ELECTROLYTIC CAP	10uF 16V	CDC-635,96	
C95	VJ836900	ELECTROLYTIC CAP	10uF 16V	CDC-635,96	
C96	UJ638330	ELECTROLYTIC CAP	330uF 16V	CDC-635,96	

*New Parts (新規部品)

MAIN P.C.B.

	Schm Ref.	PART NO.	Description		Remarks	Markets	
	C97	UA653220	MYLAR FILM CAP	2200pF 50V			
	C98	UA653220	MYLAR FILM CAP	2200pF 50V			
	C99	VJ599000	CERAMIC TUBULAR CAP	0.047uF 16V	CDC-635,96		
	C100	VJ599000	CERAMIC TUBULAR CAP	0.047uF 16V	CDC-635,96		
	C101	Fi384100	CERAMIC CAP	0.01uF 400V		UC	⚠
	C101	VE179200	CERAMIC CAP	0.01uF 400V		RABG	⚠
	C108	Fi384100	CERAMIC CAP	0.01uF 400V		UC	⚠
	C108	VE179200	CERAMIC CAP	0.01uF 400V		RABG	⚠
	C111	VJ599100	CERAMIC TUBULAR CAP	0.1uF 50V			
	C112	VJ599100	CERAMIC TUBULAR CAP	0.1uF 50V			
	C113	VJ599100	CERAMIC TUBULAR CAP	0.1uF 50V			
	C114	VJ599100	CERAMIC TUBULAR CAP	0.1uF 50V			
	C115	VF466600	CERAMIC TUBULAR CAP	10pF 50V			
	C116	VF466600	CERAMIC TUBULAR CAP	10pF 50V			
	C117	VF466600	CERAMIC TUBULAR CAP	10pF 50V			
	C118	VF466600	CERAMIC TUBULAR CAP	10pF 50V			
	D1	VD631600	DIODE	1SS133,176,HSS104			
	D2	VM974700	ZENER DIODE	HZS7B2TD 7.0V			
	D3	VD631600	DIODE	1SS133,176,HSS104			
	D4	VD631600	DIODE	1SS133,176,HSS104			
	D5	VD631600	DIODE	1SS133,176,HSS104			
*	D6	VP642400	ZENER DIODE	HZS5C1 5.0V			
	D7	VD631600	DIODE	1SS133,176,HSS104			
	D8	VD631600	DIODE	1SS133,176,HSS104			
	D9	VM974500	ZENER DIODE	HZS6C2TD 6.0V			
*	D10	VP914500	ZENER DIODE	HZS22-3 22V			
	D11	VH770800	DIODE	1SR139-100 T-32			
	D12	VH770800	DIODE	1SR139-100 T-32			
	D13	VH770800	DIODE	1SR139-100 T-32			
	D14	VH770800	DIODE	1SR139-100 T-32			
	D15	VH770800	DIODE	1SR139-100 T-32			
	D16	VH770800	DIODE	1SR139-100 T-32			
	D17	VH770800	DIODE	1SR139-100 T-32			
	D18	VH770800	DIODE	1SR139-100 T-32			
	D19	VD631600	DIODE	1SS133,176,HSS104	CDC-635,96		
	D20	VD631600	DIODE	1SS133,176,HSS104	CDC-635,96		
	IC1	XJ740B00	IC	LA6524			
	IC3	Xi250A00	IC	LA6515			
	IC5	XJ742A00	IC	LA9210			
	IC8	XK583A00	IC	TA7291P			
	IC10	Xi249A00	IC	BA15218			
	IC13	iR059500	IC	TC74HC595AP			
*	IC14	XL834A00	IC	YDC103			
*	IC15	XL830A00	IC	uPD75216ACW-XXX			
	IC16	Xi668A00	IC	X24C01P	CDC-635,96		
	IC18	XA987001	IC	NJM2068D-D			
	IC22	XA987001	IC	NJM2068D-D			
	IC25	XD201A00	IC	M5290P			
	IC26	XA987001	IC	NJM2068D-D			
	IC29	XA987001	IC	NJM2068D-D			
	IC35	XG938A00	IC	BA15218N	CDC-635,96		
*	L1	VP642200	COIL	390uH			
*	L2	VP642200	COIL	390uH			

※New Parts (新規部品)

MAIN P.C.B.

	Schm Ref.	PART NO.	Description	Remarks	Markets	
*	L3	VP642200	COIL 390uH			
*	L4	VP642200	COIL 390uH			
	L5	VP133800	FERRITE BEADS BL02RN1-R62T4			
	L6	VP133800	FERRITE BEADS BL02RN1-R62T4			
	L7	VD473700	COIL 60uH			
	L8	VD473700	COIL 60uH			
	L9	VD473700	COIL 60uH			
	L10	VD473700	COIL 60uH			
	L11	VD473700	COIL 60uH			
	L12	VD473700	COIL 60uH			
	L13	VD473700	COIL 60uH			
	L14	VD473700	COIL 60uH			
	L50	VP133800	FERRITE BEADS BL02RN1-R62T4			
	L51	VP133800	FERRITE BEADS BL02RN1-R62T4			
	L52	Vi546100	COIL 220uH			
	L53	Vi546100	COIL 220uH			
	L100	VH227500	LINE FILTER 20uH SU10VD-10020			⚠
	PJ1	VE484600	PIN JACK 2P			
	Q1	iC174020	TRANSISTOR 2SC1740S R,S			
	Q2	iC174020	TRANSISTOR 2SC1740S R,S			
	Q3	iC174020	TRANSISTOR 2SC1740S R,S			
	Q4	iC174020	TRANSISTOR 2SC1740S R,S			
	Q5	iB054430	TRANSISTOR 2SB544 D,E,F,G			
	Q6	iC174020	TRANSISTOR 2SC1740S R,S			
	Q7	iA093320	TRANSISTOR 2SA933S Q,R			
	Q8	iA093320	TRANSISTOR 2SA933S Q,R			
	Q9	iD040040	TRANSISTOR 2SD400			⚠
	Q10	VH481100	TRANSISTOR 2SB1416(TA) Q,R			⚠
	Q11	iA093320	TRANSISTOR 2SA933S Q,R			⚠
	Q12	VK432900	TRANSISTOR 2SD1915(F) S,T			
	Q13	VK432900	TRANSISTOR 2SD1915(F) S,T			
	Q14	VK432900	TRANSISTOR 2SD1915(F) S,T			
	Q15	VK432900	TRANSISTOR 2SD1915(F) S,T			
	R3	HV454100	FLAME PROOF CARBON RESISTOR 10Ω 1/4W			
	R4	HV454100	FLAME PROOF CARBON RESISTOR 10Ω 1/4W			
	R17	VH293400	FUSABLE RESISTOR 2.2Ω 1/6W			⚠
	R19	VH293400	FUSABLE RESISTOR 2.2Ω 1/6W			⚠
	R20	VM758200	RESISTOR ARRAY 10KΩx5			
	R22	HV453220	FLAME PROOF CARBON RESISTOR 2.2Ω 1/4W			
	R25	HV454100	FLAME PROOF CARBON RESISTOR 10Ω 1/4W			
	R30	HV454100	FLAME PROOF CARBON RESISTOR 10Ω 1/4W			
	R31	HV453220	FLAME PROOF CARBON RESISTOR 2.2Ω 1/4W			
	R46	HV454100	FLAME PROOF CARBON RESISTOR 10Ω 1/4W			
	R47	HV454100	FLAME PROOF CARBON RESISTOR 10Ω 1/4W			
	R54	HV454100	FLAME PROOF CARBON RESISTOR 10Ω 1/4W			
	R102	HV455100	FLAME PROOF CARBON RESISTOR 100Ω 1/4W			
	R114	HV455100	FLAME PROOF CARBON RESISTOR 100Ω 1/4W			
	R135	HV455100	FLAME PROOF CARBON RESISTOR 100Ω 1/4W	CDC-635,96		
	R146	HV455100	FLAME PROOF CARBON RESISTOR 100Ω 1/4W	CDC-635,96		
	SW1	VL908000	VOLTAGE SELECTOR ESE-370		R	⚠
*	T1	XL831A00	POWER TRANSFORMER		UC	⚠
*	T1	XL832A00	POWER TRANSFORMER		R	⚠
*	T1	XL833A00	POWER TRANSFORMER		AB	⚠

*New Parts (新規部品)

MAIN & OPERATION P.C.B.

	Schm Ref.	PART NO.	Description			Remarks	Markets
*	T1	XL837A00	POWER TRANSFORMER				G
	VR1	VJ693600	TRIMMER POTENTIOMETER	B10KΩ			
	VR2	VJ694000	TRIMMER POTENTIOMETER	B47KΩ			
	VR3	VJ694000	TRIMMER POTENTIOMETER	B47KΩ			
	VR4	VJ693600	TRIMMER POTENTIOMETER	B10KΩ			
	VR5	VJ693700	TRIMMER POTENTIOMETER	B15KΩ			
	XL1	VJ677200	CERAMIC RESONATOR	4.19MHz			
	XL2	VJ719800	CRYSTAL RESONATOR	16.9344MHz			
		VA119100	HEAT SINK				
		VM988600	RADIATOR				
		VB966900	CONNECTOR	IMSA-6024			
		EN340030	BONDING HEAD B-TITE SCREW	3x6	FCRM3-BL		
*		VP646100	P.C.B. ASS'y, OPERATION			CDC-635,96	
*		VP648300	P.C.B. ASS'y, OPERATION			CDC-95	
	CB201	VD004600	CONNECTOR, BASE PIN	PH	i-TYPE 3P TE		
	CB202	VD004500	CONNECTOR, BASE PIN	PH	i-TYPE 2P TE		
	CB203	VD004500	CONNECTOR, BASE PIN	PH	i-TYPE 2P TE		
	CB204	VB858100	CONNECTOR, BASE POST	PH	2P SE		
	CB205	VD005700	BASE PIN	PH	5P SE		
	CB206	VN273500	BASE PIN	5597-NAPB	5P SE		
	CB210	VM689500	CONNECTOR	5062	16P TE		
	CB211	VM689400	CONNECTOR	5062	15P TE		
	C200	VF760000	ELECTROLYTIC CAP	100uF	10V		
	C201	UG444100	CERAMIC CAP	0.01uF	50V		
	C202	UG444100	CERAMIC CAP	0.01uF	50V		
	C203	UG444100	CERAMIC CAP	0.01uF	50V		
	CB200	VD004600	CONNECTOR, BASE PIN	PH	i-TYPE 3P TE		
	D200	VJ544400	PHOTO INTERRUPTER	RPI-2572			
	D201	iF003840	DIODE	1S1555			
	D202	iF003840	DIODE	1S1555			
	D203	iF003840	DIODE	1S1555			
	D204	iF003840	DIODE	1S1555			
	D205	iF003840	DIODE	1S1555			
	D206	iF003840	DIODE	1S1555			
	D207	iF003840	DIODE	1S1555			
	D208	iF003840	DIODE	1S1555			
	D209	iF003840	DIODE	1S1555			
	D210	iF003840	DIODE	1S1555			
	D211	iF003840	DIODE	1S1555			
	D212	iF003840	DIODE	1S1555			
	JK200	LB301720	PHONES JACK	M1669-A		CDC-635,96	
	L200	Vi491100	FERRITE CORE	BP53RB19012080M		CDC-635,96	
	SW200	Vi294000	LEVER SWITCH	SSCF21			
	SW201	Vi294000	LEVER SWITCH	SSCF21			
	SW205	VG392900	SWITCH	SKHVAA			
	SW206	VG392900	SWITCH	SKHVAA			
	SW208	VG392900	SWITCH	SKHVAA			
	SW209	VG392900	SWITCH	SKHVAA			
	SW212	VG392900	SWITCH	SKHVAA			
	SW213	VG392900	SWITCH	SKHVAA			

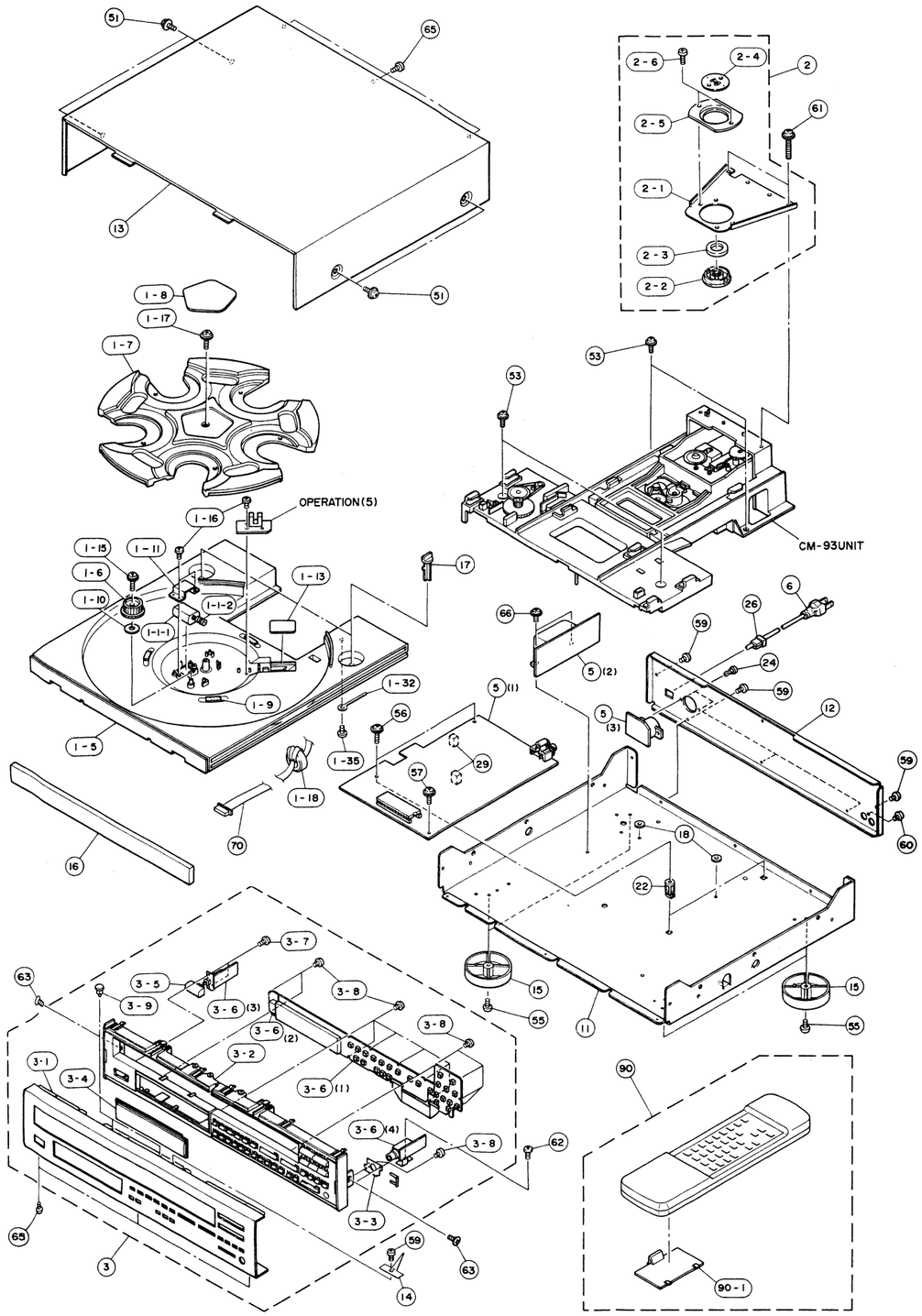
※New Parts (新規部品)

OPERATION P.C.B.

Schm Ref.	PART NO.	Description			Remarks	Markets
SW214	VG392900	SWITCH		SKHVAA		
SW215	VG392900	SWITCH		SKHVAA		
SW216	VG392900	SWITCH		SKHVAA	CDC-635,96	
SW217	VG392900	SWITCH		SKHVAA		
SW218	VG392900	SWITCH		SKHVAA		
SW219	VG392900	SWITCH		SKHVAA		
SW220	VG392900	SWITCH		SKHVAA	CDC-635,96	
SW221	VG392900	SWITCH		SKHVAA		
SW222	VG392900	SWITCH		SKHVAA		
SW223	VG392900	SWITCH		SKHVAA		
SW224	VG392900	SWITCH		SKHVAA		
SW225	VG392900	SWITCH		SKHVAA		
SW226	VG392900	SWITCH		SKHVAA		
SW227	VG392900	SWITCH		SKHVAA		
SW228	VG392900	SWITCH		SKHVAA		
SW229	VG392900	SWITCH		SKHVAA		
SW230	VG392900	SWITCH		SKHVAA		
SW231	VG392900	SWITCH		SKHVAA		
SW232	VG392900	SWITCH		SKHVAA		
SW234	Vi272700	PUSH SWITCH				
U200	VK498900	LIGHT DETECTING MODULE		S-100		
V200	VP589700	FLUORESCENT DISPLAY		FIP8KM5		
	VP931600	SHEET		FL 25x98		
	VP608600	SPACER		FL		
	VM725500	GROUND PLATE		HP	CDC-635,96	
	VP660700	CONNECTOR, FLAT CABLE		15P	165mm	
	VP660800	CONNECTOR, FLAT CABLE		16P	270mm	

※New Parts (新規部品)

■ EXPLODED VIEW



■ MECHANICAL PARTS

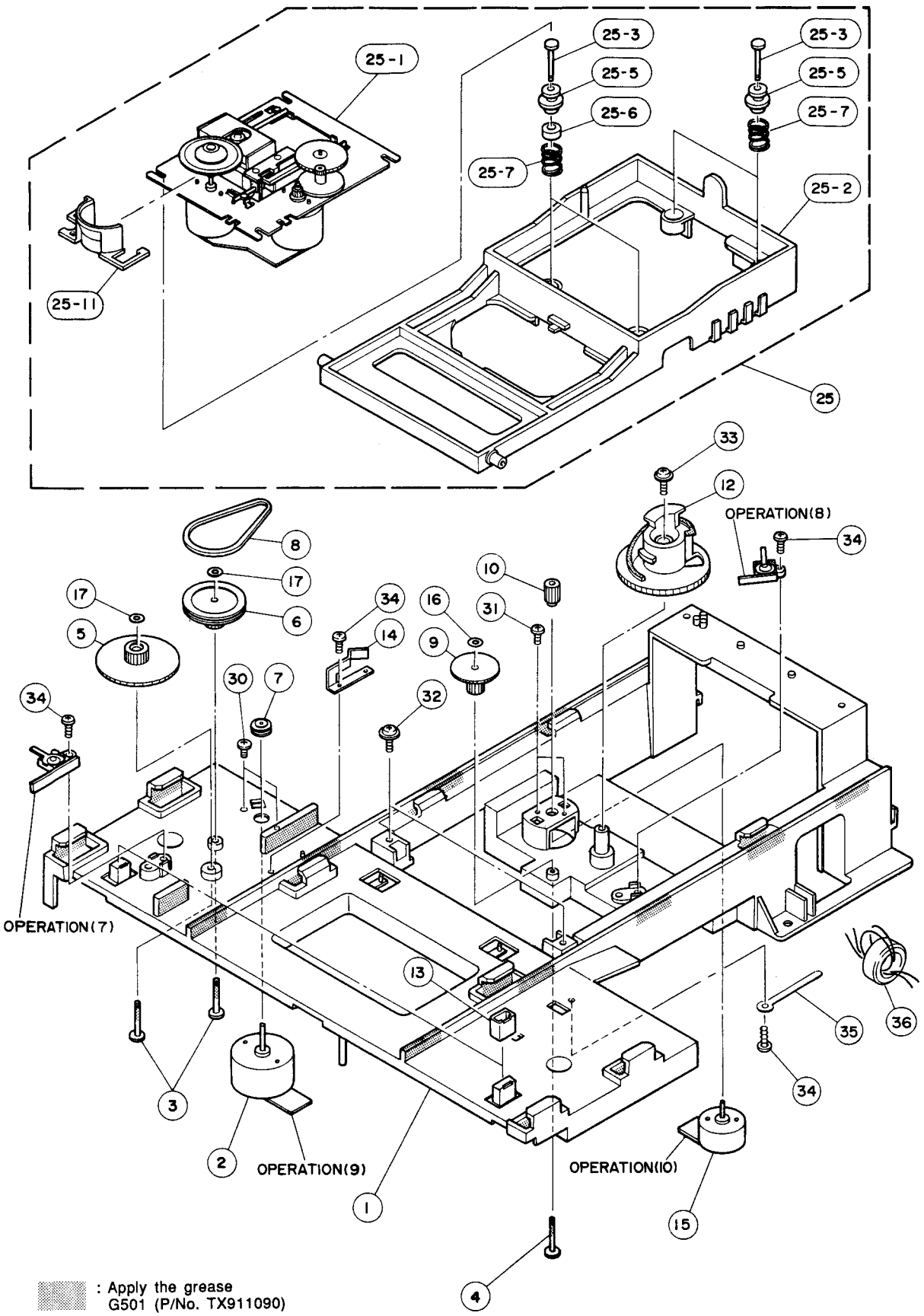
	Ref. No.	PART NO.	Description		Remarks	Markets
	1-1-1	VF956900	GEAR	WO		
	1-1-2	VL138500	MOTOR	DC FF-130SH-11340		
	1- 5	VL241100	TRAY		BL	
	1- 5	VL241200	TRAY		TI	
	1- 6	Vi238800	GEAR	WW		
	1- 7	VL241400	ROTARY TABLE		BL	
	1- 7	VL241500	ROTARY TABLE		TI	
*	1- 8	VP942800	PLATE, TABLE		BL	
*	1- 8	VP942900	PLATE, TABLE		TI	
	1- 9	VM427600	SPACER, TRAY			
	1-10	VK390800	SPACER	GEAR 2		
	1-11	VL794400	SUPPORT			
*	1-13	VP943000	SHEET, TRAY			
	1-15	EX601600	BW HEAD P-TITE SCREW	2.6x10 FCRM3-BL		
	1-16	EP620150	BIND HEAD P-TITE SCREW	2.6x5 ZMC2-BL		
	1-17	EX602620	BW HEAD P-TITE SCREW	3x12-10 ZMC2-Y		
	1-18	VP128600	FERRITE CORE	FSOB160PB		
	1-32	VC380200	BINDING TIE	S-15		
	1-35	Ei326066	BIND HEAD TAPPING SCREW	2.6x6 ZMC2-BL	PACK	
*	2	VP645600	STABILIZER ASS'y			
*	2-1	VP627500	CLAMPER	STABILIZER		
	2-2	VL782500	STABILIZER			
	2-3	Vi493400	MAGNET			
	2-4	VJ106100	PLATE			
	2-5	VL382300	HOLDER	STABILIZER		
	2-6	EP600760	BIND HEAD S-TITE SCREW	3x6 FCRM3-BL		
*	3	VP645000	FRONT PANEL UNIT		CDC-635BL	
*	3	VP645100	FRONT PANEL UNIT		CDC-635TI	
*	3	VP648000	FRONT PANEL UNIT		CDC-95BL	
*	3	VP648100	FRONT PANEL UNIT		CDC-95TI	
*	3	VP649000	FRONT PANEL UNIT		CDC-96BL	
*	3-1	VP554400	FRONT PANEL		CDC-635BL	
*	3-1	VP554500	FRONT PANEL		CDC-635TI	
*	3-1	VP578900	FRONT PANEL		CDC-95BL	
*	3-1	VP579000	FRONT PANEL		CDC-95TI	
*	3-1	VP652500	FRONT PANEL		CDC-96	
	3-2	VL752800	SUB PANEL		BL	
*	3-2	VP663300	SUB PANEL		TI	
	3-3	VL753700	SUPPORT			
*	3-4	VP605000	WINDOW PANEL			
	3-5	VH841900	BUTTON	POWER	BL	
*	3-5	VP663400	BUTTON	POWER	TI	
*	3-6	VP646100	P.C.B. ASS'y, OPERATION		CDC-635,96	
*	3-6	VP648300	P.C.B. ASS'y, OPERATION		CDC-95	
	3-7	EX601360	BIND HEAD P-TITE SCREW	3x10 FCRM3-BL		
	3-8	Ei326066	BIND HEAD TAPPING SCREW	2.6x6 ZMC2-BL	PACK	
	3-9	CB609260	PLASTIC RIVET	No.6206		
*	5	VP645700	P.C.B. ASS'y, MAIN		CDC-635,96	UC
*	5	VP645800	P.C.B. ASS'y, MAIN		CDC-635	R
*	5	VP645900	P.C.B. ASS'y, MAIN		CDC-635	AB
*	5	VP646000	P.C.B. ASS'y, MAIN		CDC-635	G
*	5	VP648200	P.C.B. ASS'y, MAIN		CDC-95	
	6	VL012900	POWER CORD ASS'y			UC ⚠

※New Parts (新規部品)

	Ref. No.	PART NO.	Description		Remarks	Markets	
	6	VL238100	POWER CORD ASS'y			R	⚠
	6	VL238400	POWER CORD ASS'y			A	⚠
*	6	VL238900	POWER CORD ASS'y			G	⚠
	6	VN804500	POWER CORD ASS'y			B	⚠
*	11	VP613400	CHASSIS				
*	12	VP579400	REAR PANEL		CDC-635	U,C	
*	12	VP579500	REAR PANEL		CDC-635	R	
*	12	VP579600	REAR PANEL		CDC-635	A,B	
*	12	VP579700	REAR PANEL		CDC-635	G	
*	12	VP579800	REAR PANEL		CDC-95	U,C	
*	12	VP579900	REAR PANEL		CDC-96	U,C	
*	13	VP613200	TOP COVER		BL		
*	13	VP613300	TOP COVER		TI		
	14	VN806000	GROUND PLATE				
	15	VK016600	LEG	φ60/H16	CDC-95		
	15	VK016800	LEG		CDC-635,96		
*	16	VP604500	LID		BL		
*	16	VP604600	LID		TI		
	17	VG414400	STOPPER	TRAY			
	18	CA070810	WASHER				
	22	Vi048500	PC SUPPORT				
	24	CB601420	PLASTIC RIVET	No.6204		R	
	26	VD375900	CORD STOPPER			RABG	
	26	VN158600	CORD STOPPER	No.2104		UC	
	29	VL298200	SPACER, P.C.B.				
	51	EK365090	BW HEAD SCREW	4x8 ZMC2-BL	BL		
	51	EX601150	BW HEAD S-TITE SCREW	4x8-10 FNM3-BL	TI		
	53	EL300470	BW HEAD S-TITE SCREW	4x8-10 FCRM3-BL			
	55	EK930010	BW HEAD TAPPING SCREW	3x8-8 FCRM3-BL			
	56	EP630640	BIND HEAD P-TITE SCREW	3x20 FCRM3-BL			
	57	EX602610	BW HEAD B-TITE SCREW	3x6-8 FCM3			
	59	EN340030	BONDING HEAD B-TITE SCREW	3x6 FCRM3-BL			
*	60	EX602710	BIND HEAD BONDING P-T. SCREW	3x8 FCRM3-BL			
	61	EX602280	BW HEAD P-TITE SCREW	3x12-10 FCRM3-BL			
	62	Ei330066	BIND HEAD B-TITE SCREW	3x6 FCRM3-BL	PACK		
	63	E0030066	FLAT HEAD SCREW	3x6 ZMC2-Y	PACK		
	65	EN301010	BIND HEAD BONDING TAP. SCREW	3x8 FCRM3-BL			
	66	EK396010	BIND HEAD S-TITE SCREW	4x8 FCRM3-BL			
	70	VP994200	CONNECTOR, FLAT CABLE	5P 190mm			
			ACCESSORIES				
*	90	VP608400	REMOTE CONTROL TRANSMITTER		CDC-635,96		
	90-1	CX674370	LID		54x32.9		
		VN159900	PIN-PLUG CORD	1.0m			
			BATTERY, MANGANESE	SUM-3,AA,R06			

※New Parts (新規部品)

■ EXPLODED VIEW (CM-93 Unit)



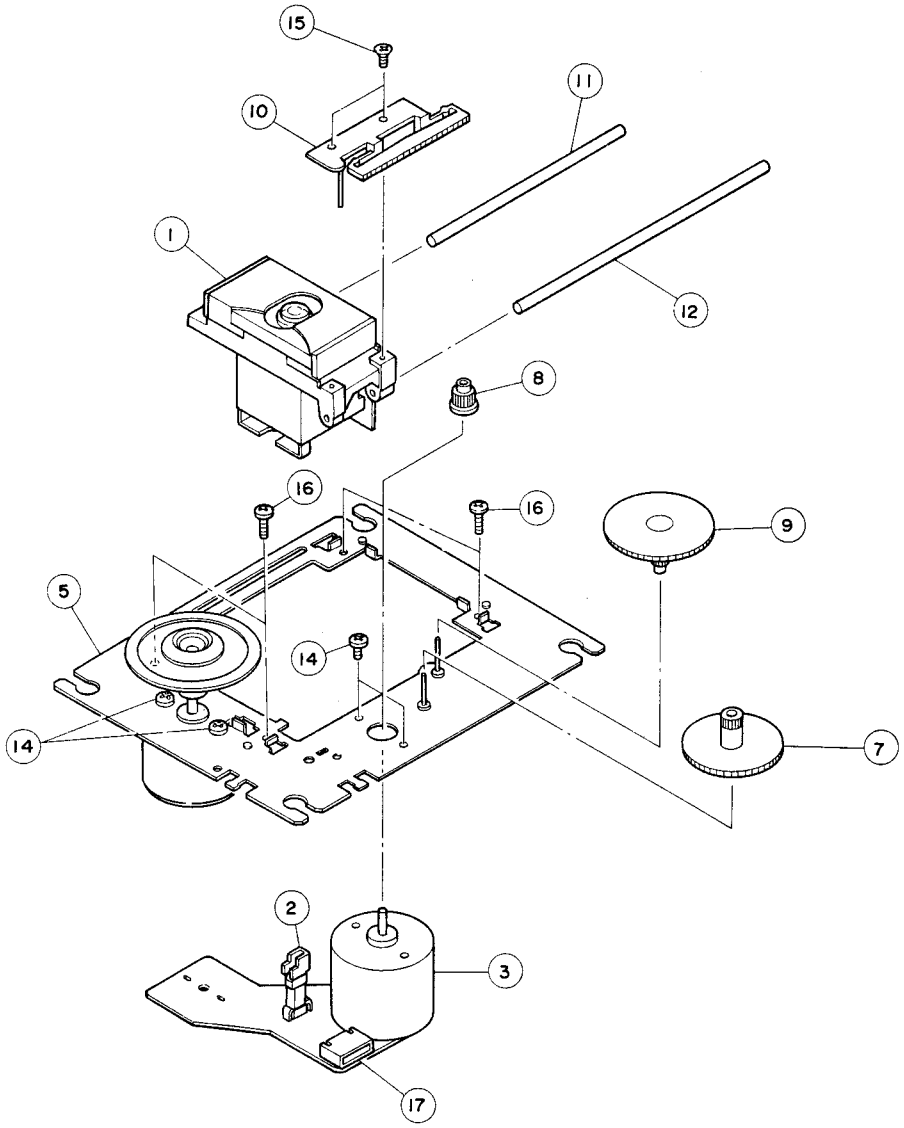
: Apply the grease
G501 (P/No. TX911090)

■ MECHANICAL PARTS (CM-93 Unit)

Ref. No.	PART NO.	Description	Remarks	Markets
1	VL241701	CHASSIS	CM	
2	VM444200	MOTOR	RF-500TB-14415	
3	Vi239100	PIN	ϕ3	
4	VJ143700	PIN		
5	VJ613000	GEAR	LO/CM	
6	VJ612900	GEAR, PULLEY		
7	VG254500	PULLEY	S	
8	VB820600	BELT, V		
* 9	VP627800	GEAR, CAM		
* 10	VP627900	GEAR, CL		
12	VL241900	CAM	CM	
13	VJ354100	DAMPER	TRAY	
14	VL782800	LEVER		
15	VM444100	MOTOR	RF-320CH-12400	
16	VM672200	CUT WASHER	1.5x4x0.25	
17	Vi907700	CUT WASHER	2.2x5x0.25	
25	VP646500	PICK UP ASS'y		
25-1	VM444300	PU MECHA. UNIT	CD90V1YA	
25-2	VL242100	HOLDER	PU	
25-3	VJ143700	PIN		
25-5	VJ635200	DAMPER	BUSH	
25-6	VJ635300	CUSHION, DAMPER		
25-7	VJ635400	SPRING	FRONT	
25-11	VP660500	BARRIER	PU	
30	ED326056	BIND HEAD SCREW	2.6x5 ZMC2-BL	PACK
31	ED320056	BIND HEAD SCREW	2x5 FCRM3-BL	
* 32	EX602620	BW HEAD P-TITE SCREW	3x12-10 ZMC2-Y	
33	EX602600	BW HEAD P-TITE SCREW	2.6x12 ZMC2-Y	
34	EX601590	BIND HEAD P-TITE SCREW	2.6x8 FCRM3-BL	
35	CB836200	BINDING TIE	S-70B	
36	VP128600	FERRITE CORE	FSOB160PB	

※New Parts (新規部品)

■ EXPLODED VIEW (PU Mecha Unit)

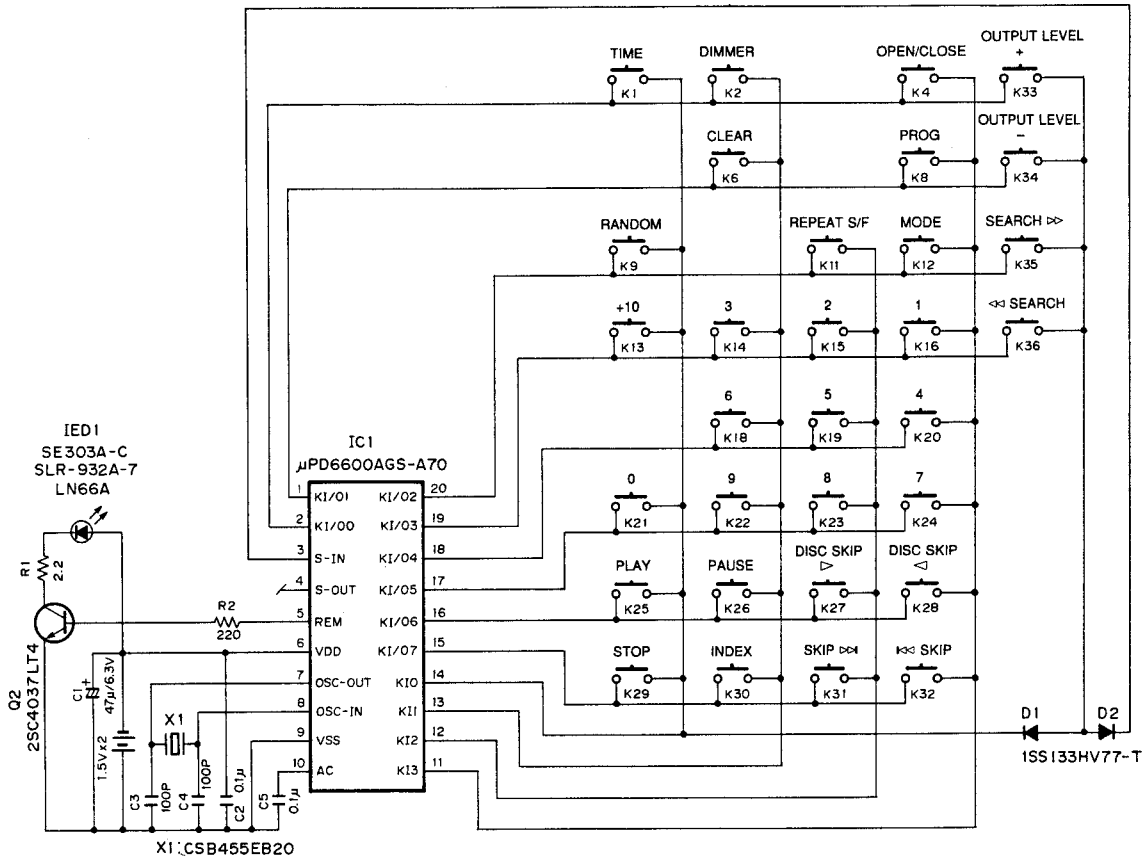


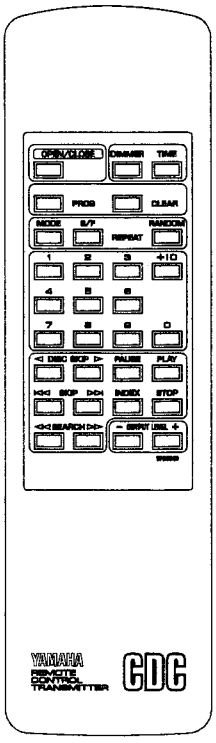
Ref. NO.	PART NO.	Description		Remarks	Markets
	VM444300	PU MECHA. UNIT	CD90V1YA		
1	PX601520	PICK UP ASS'y	SF-91P	1EA0A41A03100	
2	KX603540	LIMIT SWITCH		1EA4S13A00800	
3	JX601050	MOTOR		1EA4M10A02100	⚠
5	NX611200	CHASSIS ASS'y		1EA0311A02900	⚠
7	CX618680	GEAR, MIDDLE		1EA2511A06300	
8	CX618690	GEAR, 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 (新規部品)

CDC-635/96 REMOTE CONTROL TRANSMITTE

■ SCHEMATIC DIAGRAM





KEY No.	FUNCTION	CUSTOM CODE	REVERSE CUSTOM CODE	DATA CODE	REMARK
K1	TIME	79	86	0A	01010000
K2	DIMMER	79	86	1E	01111000
K4	OPEN/CLOSE	79	86	01	10000000
K6	CLEAR	79	86	0D	10110000
K8	PROG	79	86	0C	00110000
K9	RANDOM	79	86	1B	11011000
K11	REPEAT S/F	79	86	08	00010000
K12	MODE	79	86	00	00000000
K13	+10	79	86	1A	01011000
K14	3	79	86	13	11001000
K15	2	79	86	12	01001000
K16	1	79	86	11	10001000
K18	6	79	86	16	01101000
K19	5	79	86	15	10101000
K20	4	79	86	14	00101000
K21	0	79	86	10	00001000
K22	9	79	86	19	10011000
K23	8	79	86	18	00011000
K24	7	79	86	17	11101000
K25	PLAY	79	86	02	01000000
K26	PAUSE	79	86	55	10101010
K27	DISC SKIP ▷	79	86	4F	11110010
K28	◁ DISC SKIP	79	86	50	00001010
K29	STOP	79	86	56	01101010
K30	INDEX	79	86	0B	11010000
K31	SKIP ▷▷|	79	86	07	11100000
K32	|◁◁ SKIP	79	86	04	00100000
K33	OUTPUT LEVEL +	79	86	1D	10111000
K34	– OUTPUT LEVEL	79	86	1C	00111000
K35	SEARCH ▷▷	79	86	06	01100000
K36	◁◁ SEARCH	79	86	05	10100000

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