



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.

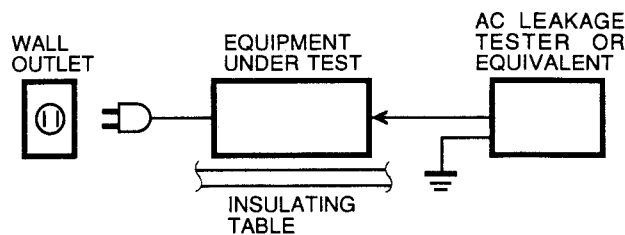
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■ TO SERVICE PERSONNEL

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.

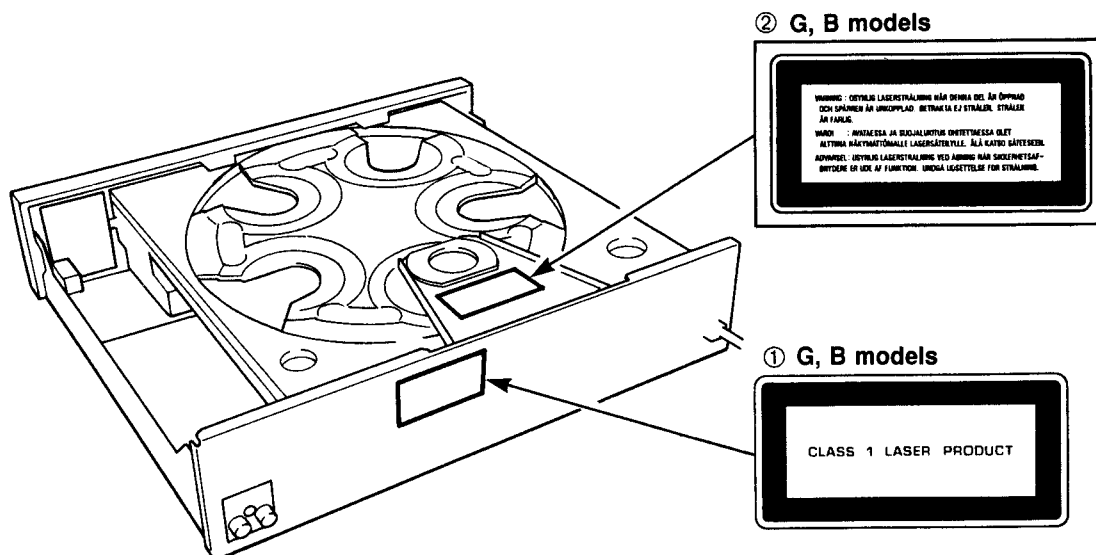
WARNING: CHEMICAL CONTENT NOTICE!

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.



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

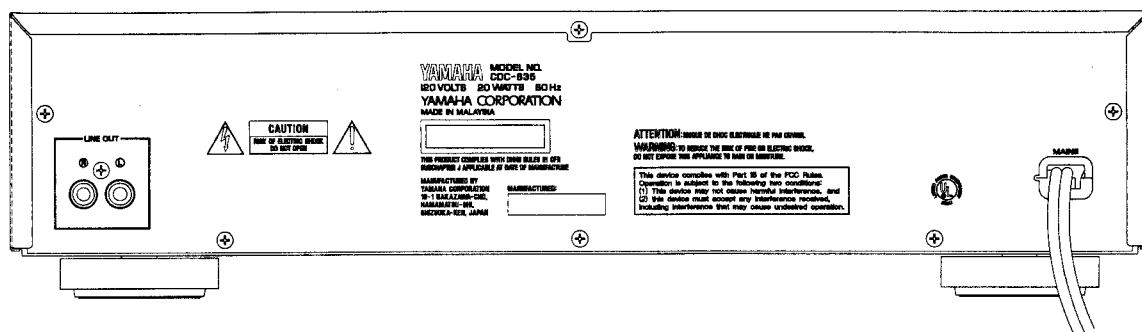
ADVARSEL : USYNLIG LASERSTRÅLING VED ÅBNING.
UNDGÅ UDSÆTTELSE FOR STRÅLING.

Finnish

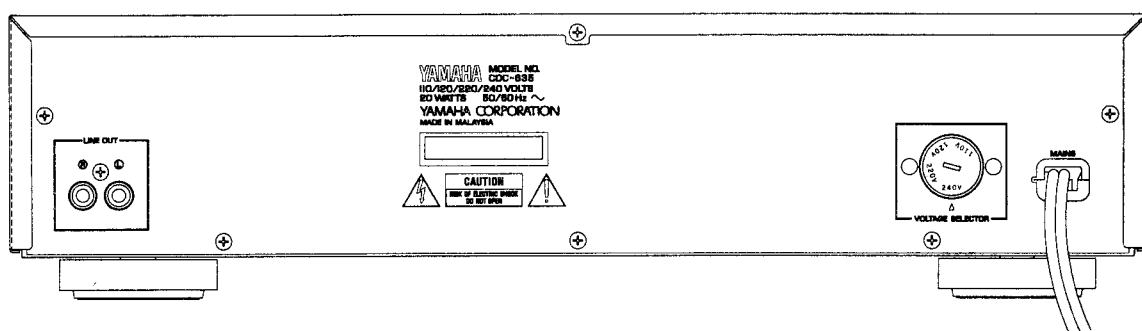
VARO! :
AVATTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

REAR PANELS

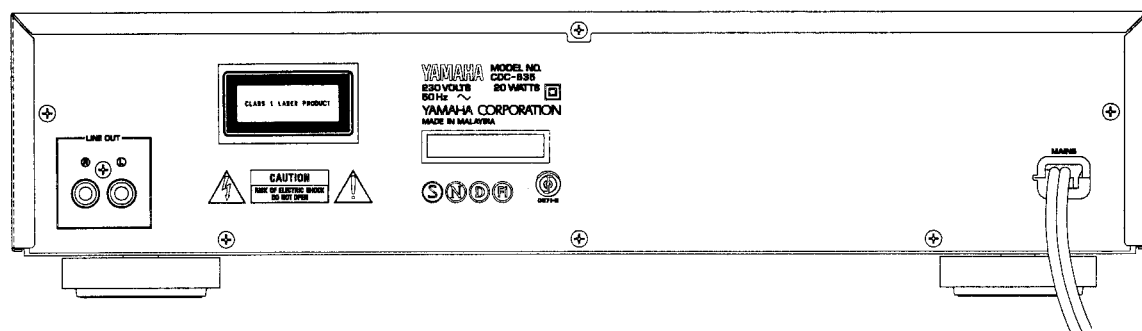
USA & Canadian models



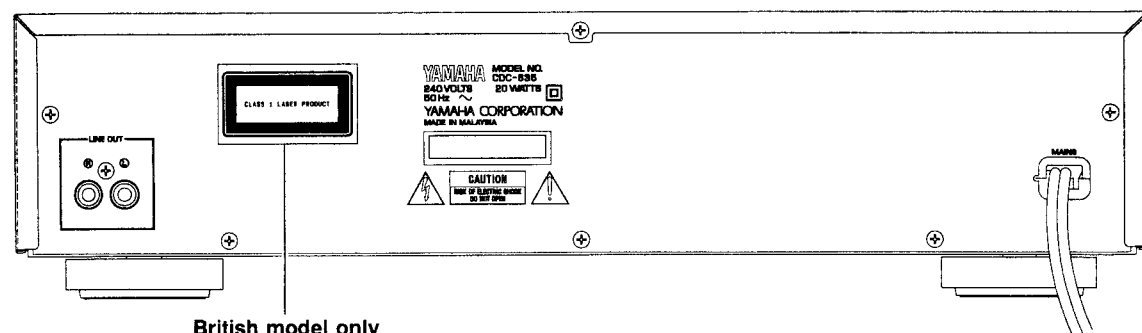
General model



European model

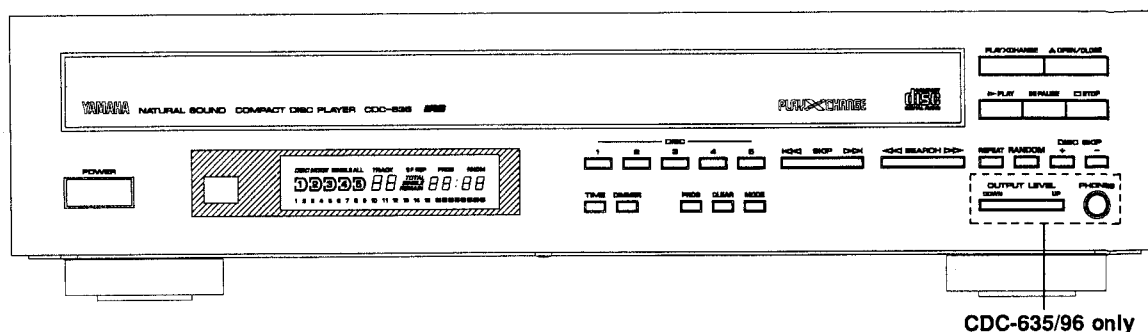


Australian & British models



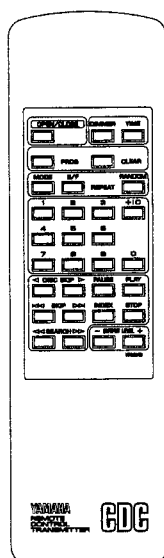
British model only

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.



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

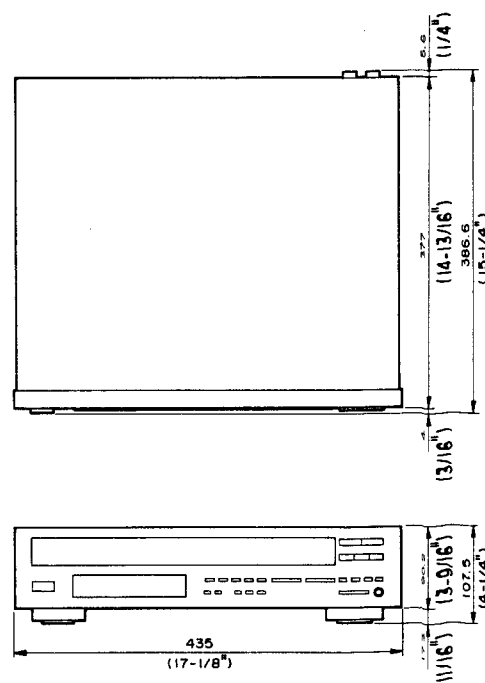
Frequency Response	2Hz~20kHz±0.5dB
De-Emphasis Equalization	±0.5dB
Harmonic Distortion+Noise	Less than 0.003%, (1kHz)
S/N Ratio	110dB
Dynamic Range	98dB
Wow & Flutter	Unmeasurable
Output Impedance	1kΩ
Output Voltage	2.0V
Headphone Output (1kHz -20dB) [CDC-635/96]	200mV/150Ω

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.

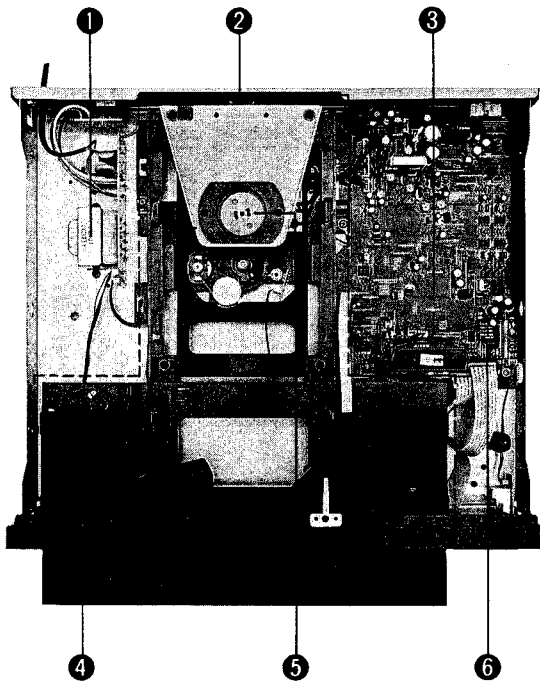
● DIMENSIONS



Unit : mm (inch)

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

INTERNAL VIEW



- ① POWER TRANSFORMER
- ② CM-93 UNIT
- ③ MAIN P. C. B. ASS'Y (1)
- ④ TRAY ASS'Y
- ⑤ STABILIZER ASS'Y
- ⑥ 4 bit μ -COM (IC15)

DISASSEMBLY PROCEDURES

(Remove parts in the order as numbered.)

Precaution for disassembly : Note that use of any screws other than 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.

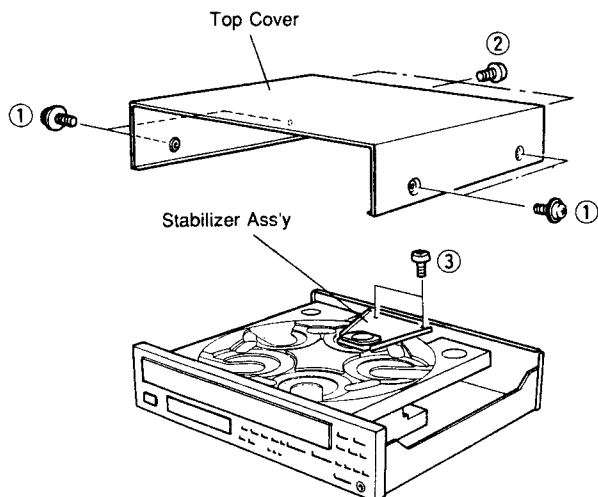
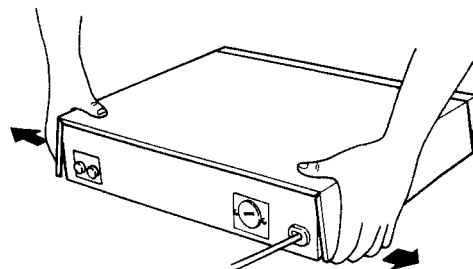


Fig. 1

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.

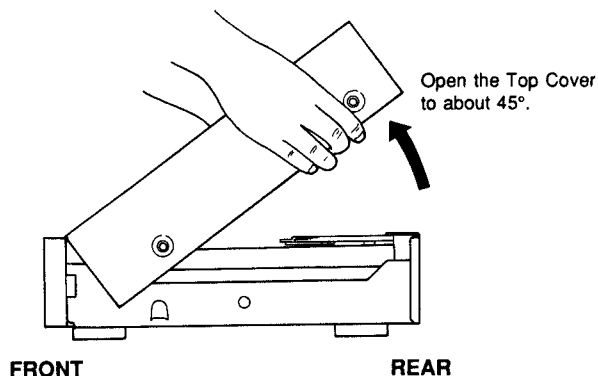


Fig. 3

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

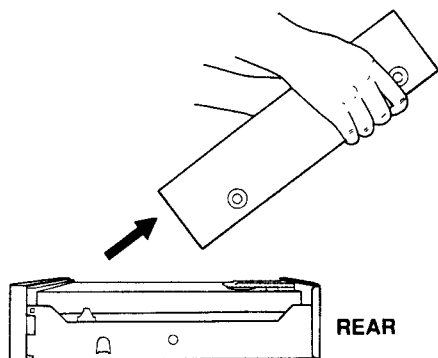


Fig. 4

2. Installation of Top Cover.

- Fit the hooks of the Top Cover (at its front) between the front panel and sub-panel as shown in Fig. 5.
- Pull the bottom edges of the Top Cover toward outside with both hands and lower it as shown in Fig. 5.

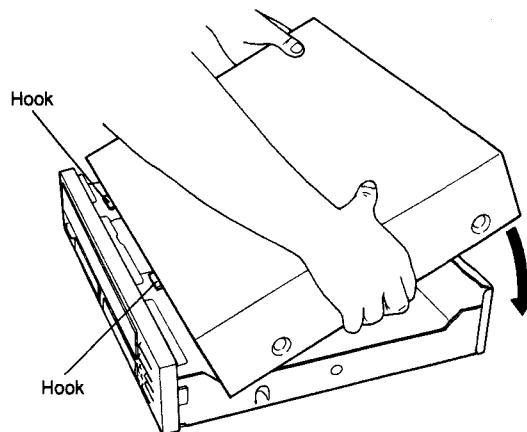


Fig. 5

3. Removal of Stabilizer Ass'y

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

4. Removal of Tray Ass'y

- Turn the stopper/tray pin (④) counterclockwise by 90° degrees to pull it out as shown in Fig. 6.
- Slowly remove the Tray Ass'y as shown in Fig. 6. Remove connector #4 from the Main P. C. B. Ass'y (1).

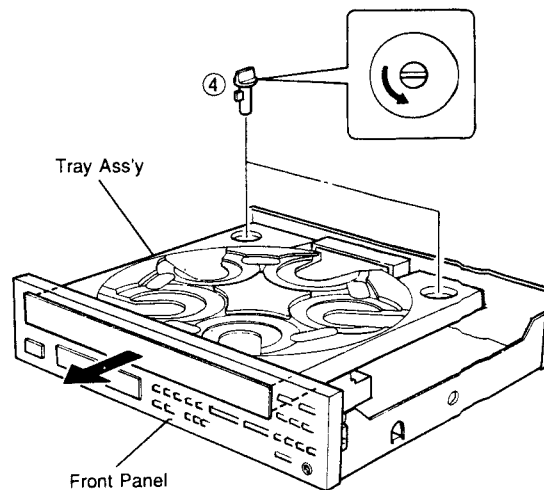


Fig. 6

5. Removal of CM-93 Unit

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

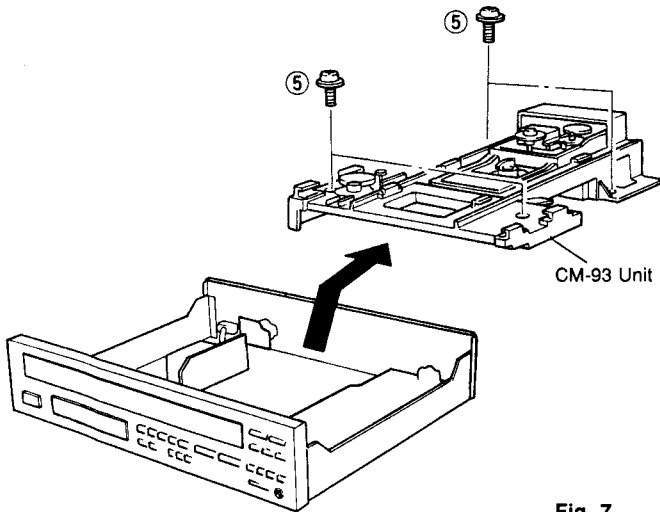


Fig. 7

6. Removal of Front Panel

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

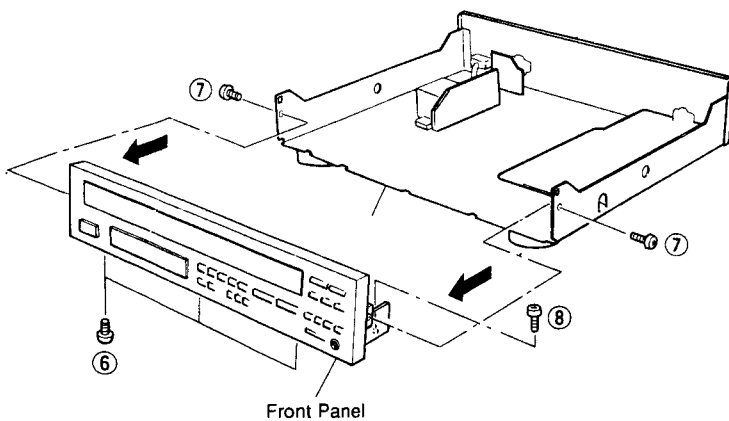


Fig. 8

7. Removal of Pick-up Head

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

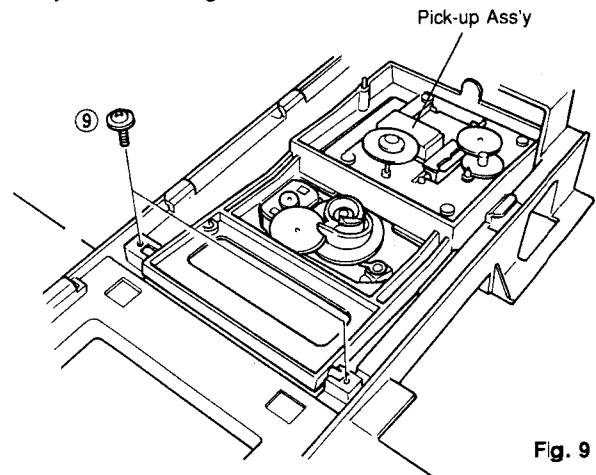


Fig. 9

- 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.

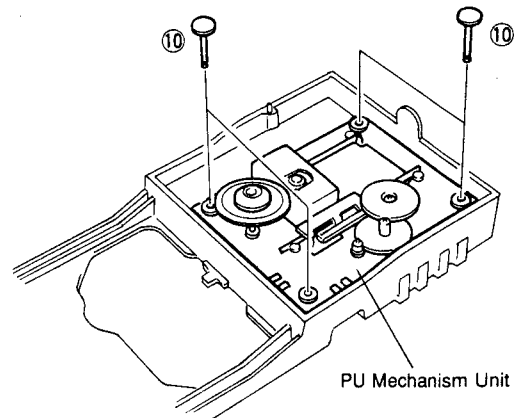


Fig. 10

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

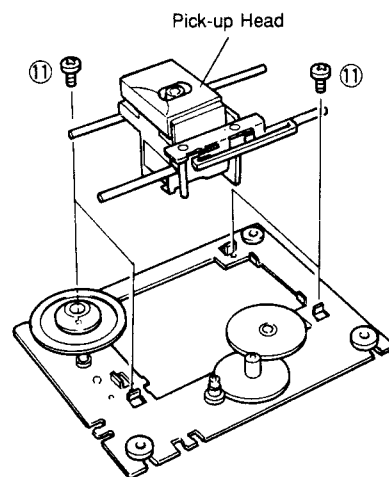
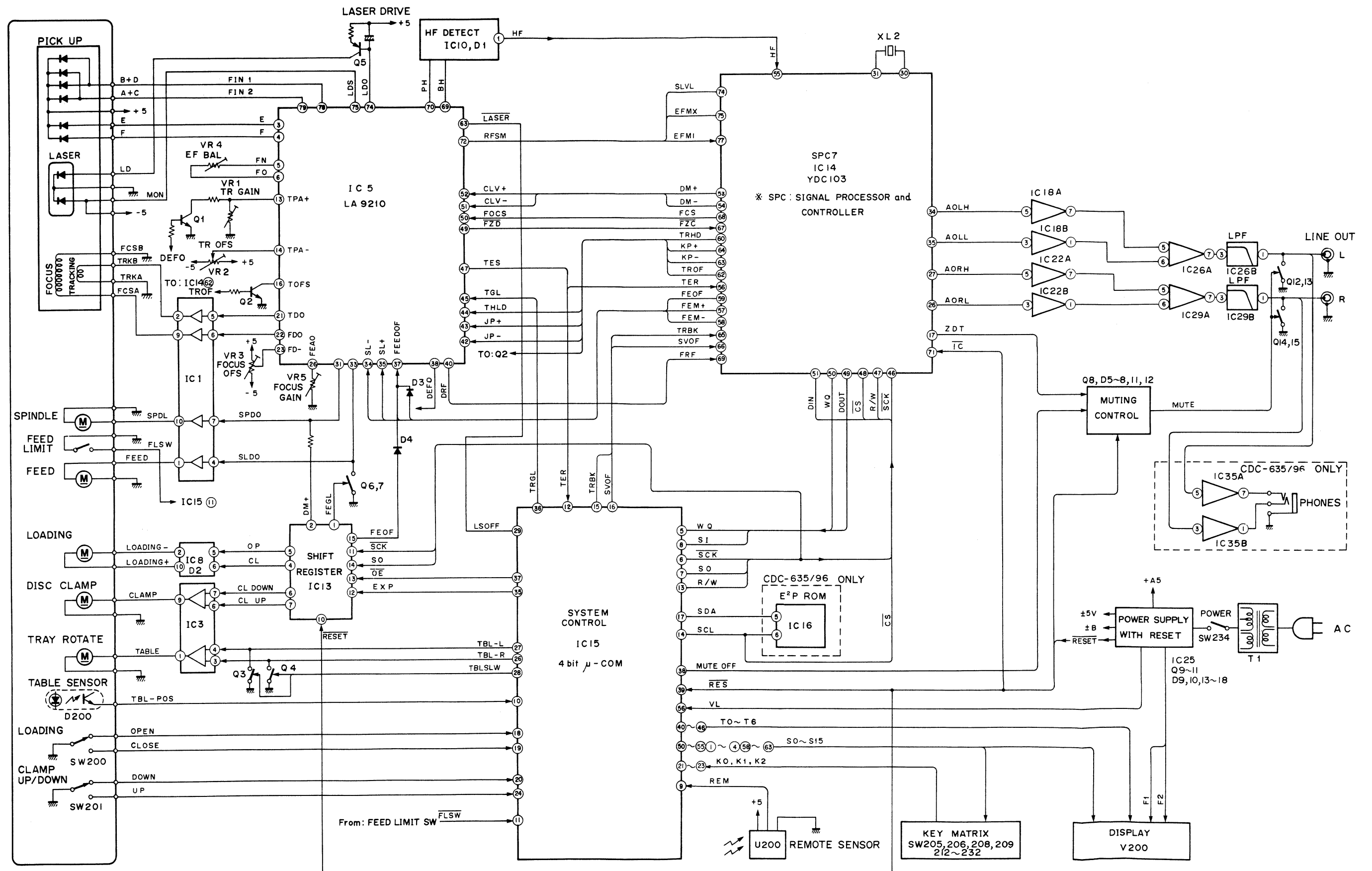


Fig. 11

■ BLOCK DIAGRAM



ADJUSTMENTS

Necessary items

- Measuring Instruments
 - Oscilloscope : x 1
 - (Band width of 50MHz or more,
 - 2 ch type with X-Y position)
 - 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 : x 1
 - (For Pre-set Potentiometer adjustment)

Before Adjustment

Carry out following adjustments in order as numbered.

1. Confirmation of power voltage and operation

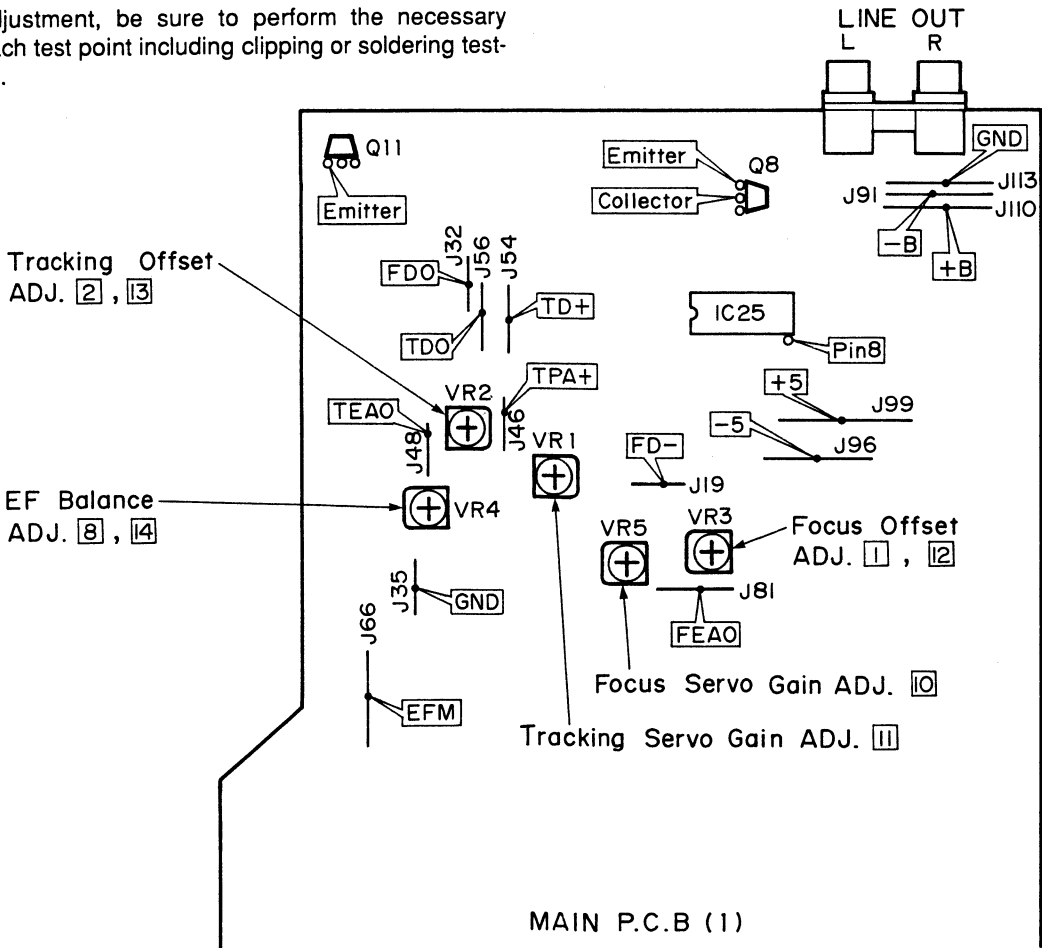
- 1) Confirmation of power voltage
- 2) Confirmation of reset operation
- 3) Confirmation of muting operation

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 clamber 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.



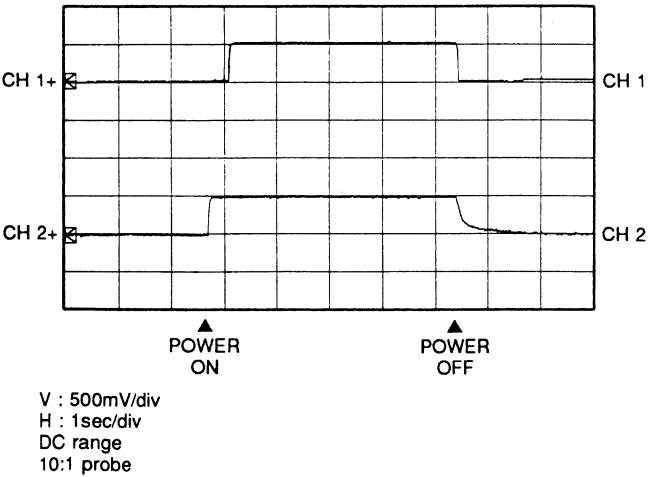
Confirmation of Power Voltage

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

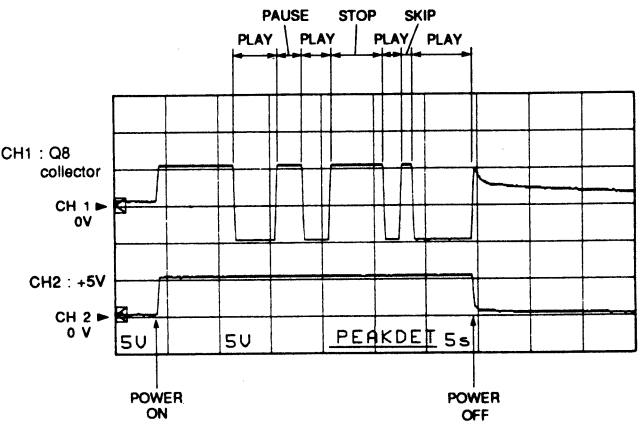
The Pin8 of IC25 changes from Low to High about 500msec. after the power is turned ON. Also, it changes from High to Low when the power is turned OFF and +5 drops to 4.2V.

CH1 : 8 pin of IC25
CH2 : +5V



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.

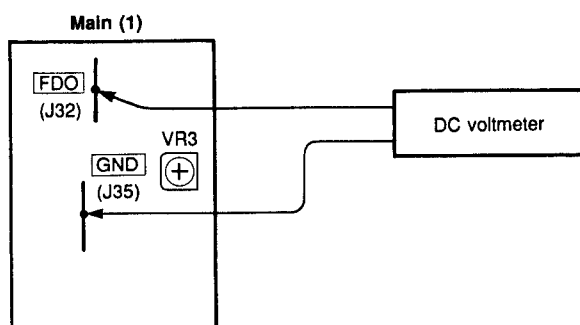
Adjustment Mode

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 adjustment	DISC 4
Step 4	Confirmation of jitter Focus servo gain adjustment Tracking servo gain adjustment	DISC 5

1 Focus Offset Adjustment

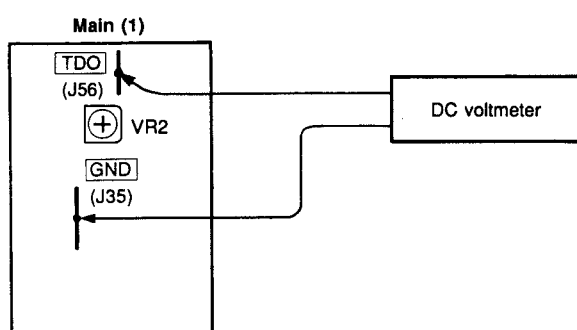
See page 10 for TP locations & potentiometers.



- 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.
 $V_{FDO} = 0V \pm 100mV(DC)$

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.
 $V_{TDO} = 0V \pm 50mV(DC)$

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

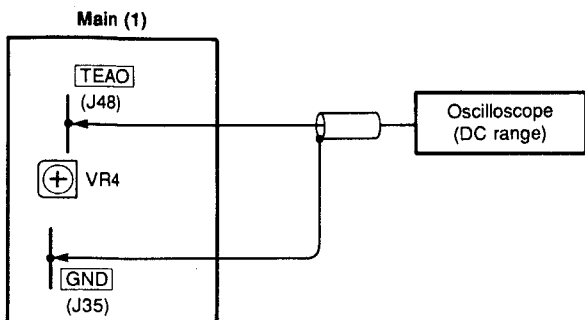
- ① Set to the TEST mode.
- ② Press the ◀(down) or ▶(up) key.
- ③ Check to make sure that the disc clamper is raised or lowered smoothly.

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

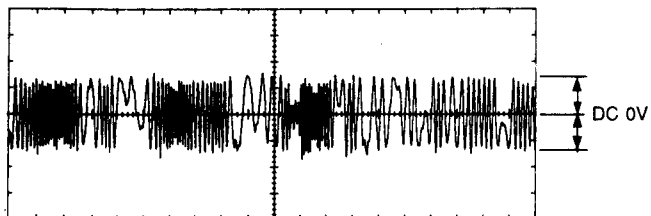
See page 10 for TP locations & potentiometers.



- 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.

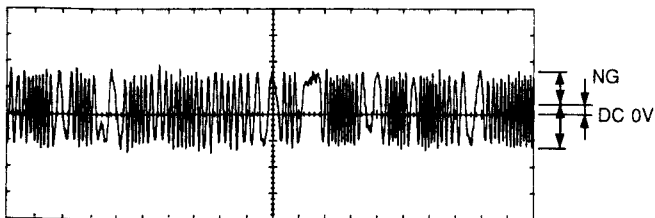
Rating : DC offset = $0V \pm 50mV$

OK



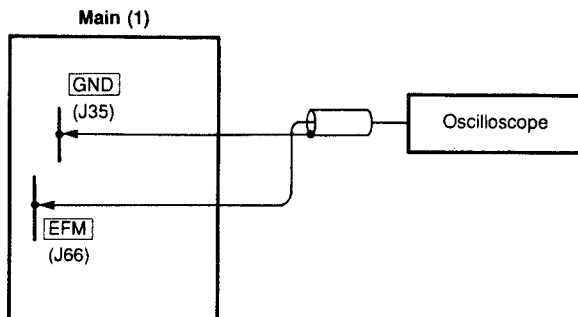
V : 100mV/div (10 :1 probe) H : 5msec/div

NG



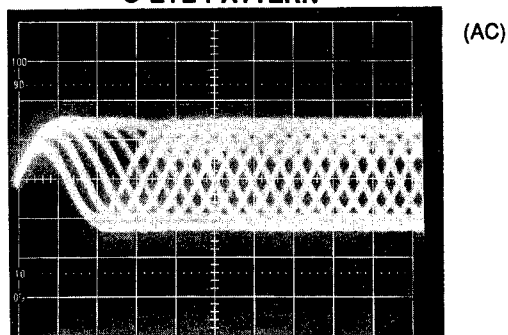
9 Confirmation of Jitter

See page 10 for TP locations & potentiometers.



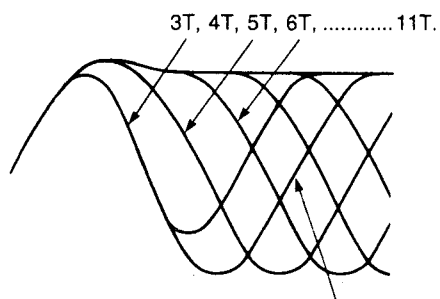
- ① Connect an oscilloscope to the test point **EFM**.
- ② Set to the TEST mode.
- ③ Load the test disc.
- ④ Press the DISC 5 key to adjustment mode Step 4.
- ⑤ Check to make sure that a clear waveform (eye pattern) is obtained at the test point **EFM**.

● EYE PATTERN



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.

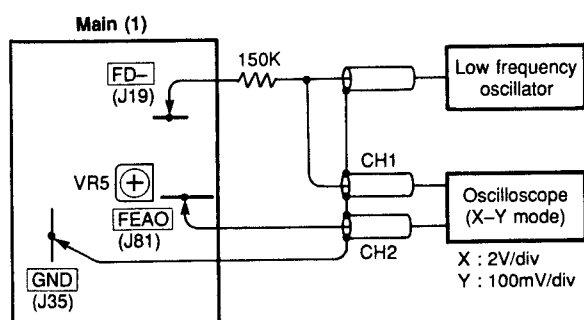
Good waveform

Abnormal waveform



10 Focus Servo Gain Adjustment

See page 10 for TP locations & potentiometers.



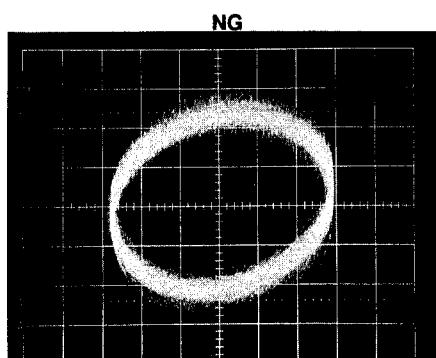
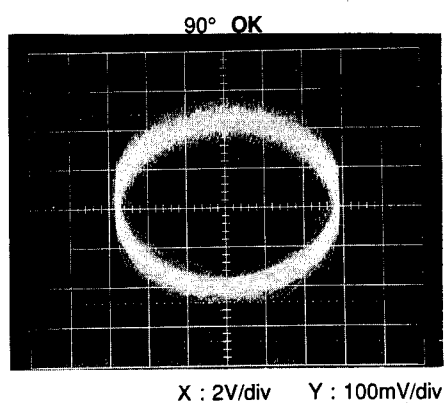
- 1 Connect an oscilloscope and a low frequency oscillator to the test points **FD-** and **FEAO** as shown above.
- 2 Set to the TEST mode.
- 3 Load the test disc.
- 4 Press the DISC 5 key to adjustment mode Step 4.
- 5 Apply a sine wave as in Table A to the test point **FD-** through a 150kΩ resistance.

The frequency varies depending on the test disc.

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

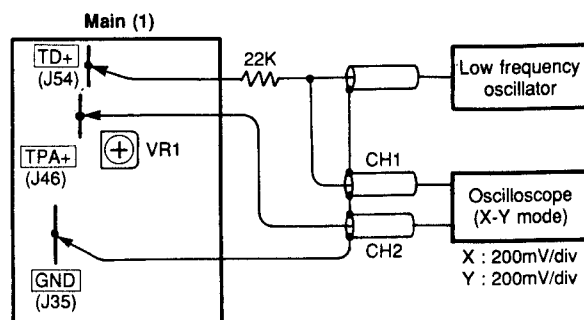
Table A

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



11 Tracking Servo Gain Adjustment

See page 10 for TP locations & potentiometers.



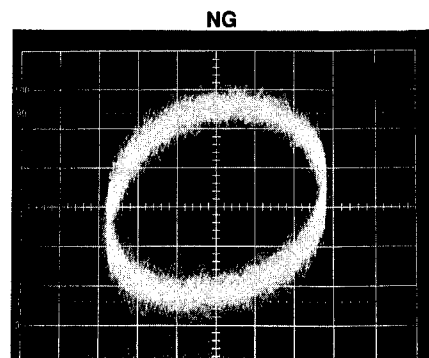
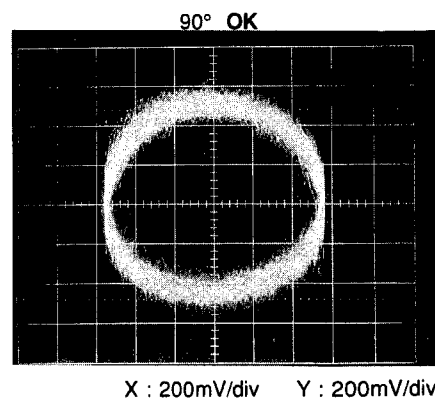
- 1 Connect the oscilloscope and a low frequency oscillator to the test points **TD+** and **TPA+**.
- 2 Set to the TEST mode.
- 3 Load the test disc.
- 4 Press the DISC 5 key to adjustment mode Step 4.
- 5 Apply a sine wave to the test point **TD+** as in Table B through a 22kΩ resistance.

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

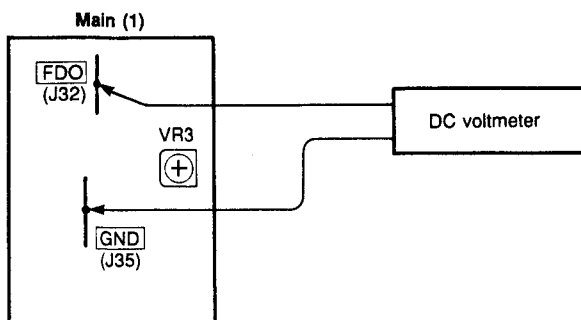
Table B

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



12 Confirmation of Focus Offset

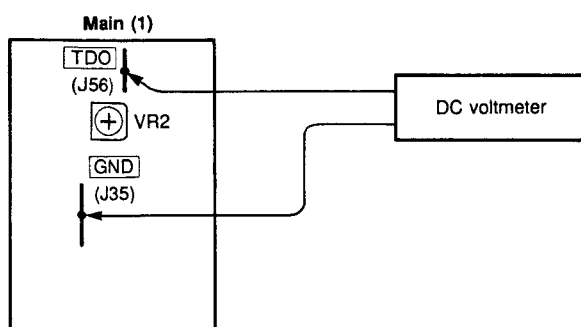
See page 10 for TP locations & potentiometers.



- 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 : $V_{FDO} = 0V \pm 100mV(DC)$
- ⑤ If the measured voltage does not satisfy the rating, adjust VR3.

13 Confirmation of Tracking Offset

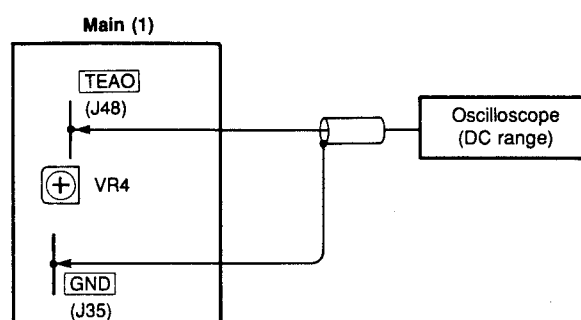
See page 10 for TP locations & potentiometers.



- 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 : $V_{TDO} = 0V \pm 50mV(DC)$
- 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 = $0V \pm 50mV$
- 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

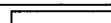
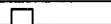
Test mode is brought about when the power is turned on while the "PLAY" and "STOP" keys on the panel are simultaneously pressed and held.

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

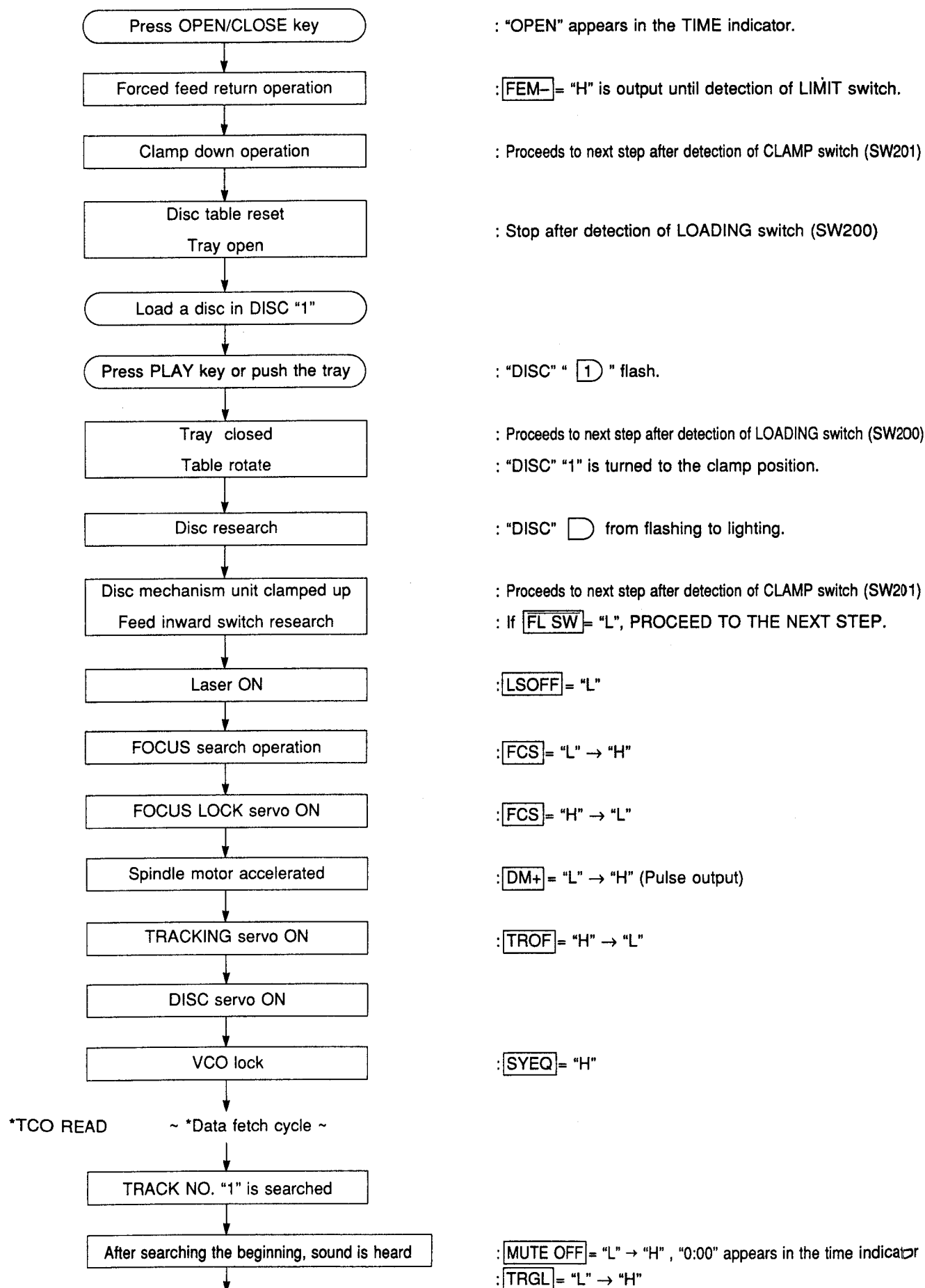
● Function List of Panel Keys

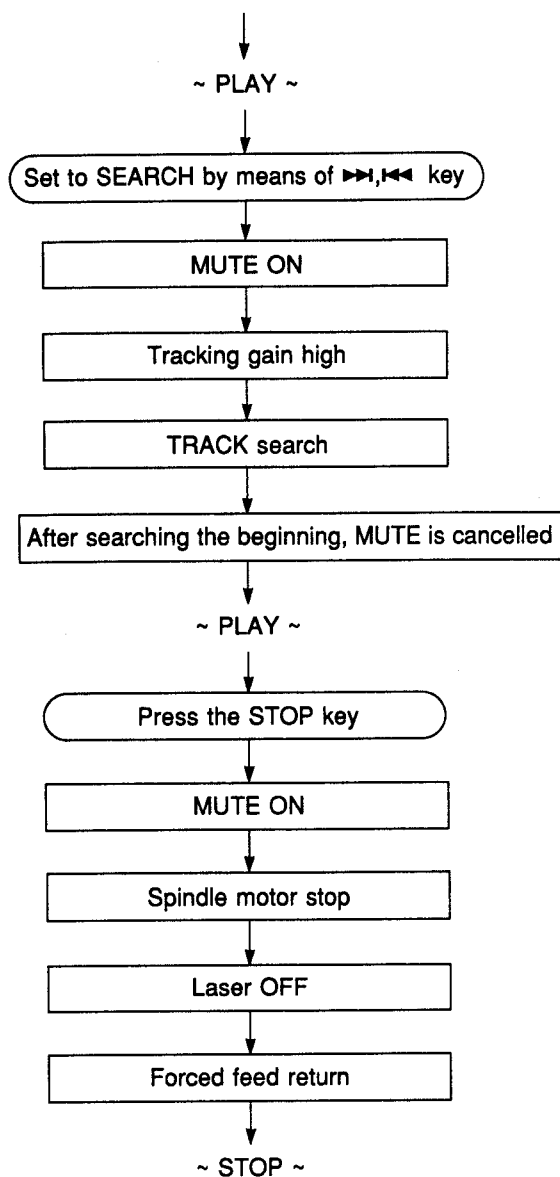
PANEL KEY	FUNCTION
OPEN/CLOSE	Tray opens/ closes.
DISC SKIP +	Skips disc once (clockwise). Effective only when tray is at open end or clamp is fully lowered.
DISC SKIP -	Skips disc once (counterclockwise). Effective only when tray is at open end or clamp is fully lowered.
PLAY	Plays if focus servo is effective.
STOP	All stop. (Focus, spindle, feed, laser, tray, etc.) Initializes FL display.
REPEAT	Tracking servo on.
◀◀	Inner circumference 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 : MUTE OF "H" NG : MUTE OF "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, MUTE OF) → 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





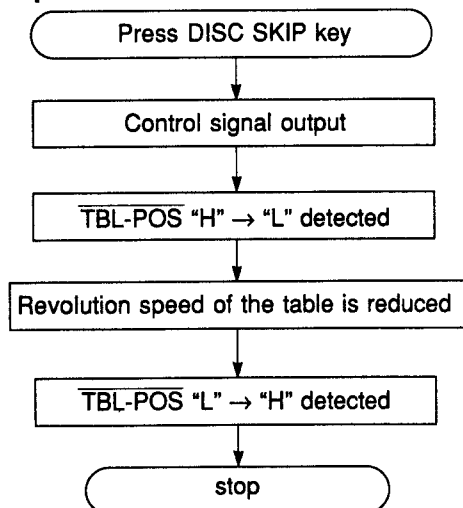
: MUTE OFF = "H" → "L"

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

: LSOFF = "L" → "H"

: FEM = "H", FLSW = "L"

● Tray Operation

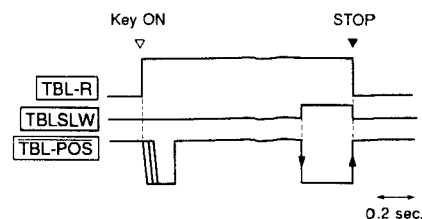


: TBL-R = "L" → "H"

: 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.)

DISC MODE ALL TRACK
 1 2 3 4 5 1 SINGLE E-:73
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

● Error Messages List

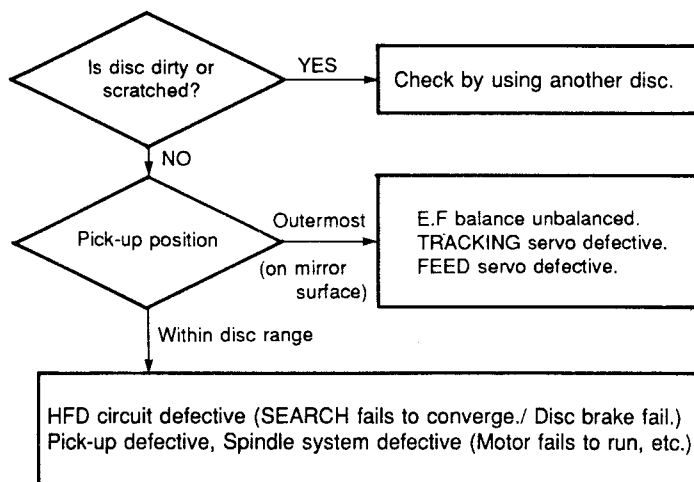
Error message	Description
E-X0	Data cannot be read after finishing search.
E-X1	Data cannot be read during PLAY (X=0), PAUSE (X=4), or SCAN (X=3).
E-73	Data can never be read at the start.
E-X4	CLOSE switch does not work with tray closed.
E-X5	OPEN switch does not work with tray open.
E-X6	Table does 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") :

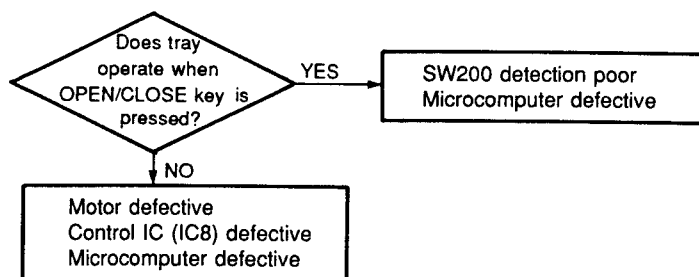
(X=0) PLAY
 (X=3) SCAN
 (X=4) PAUSE
 (X=5) SEARCH
 (X=7) START
 (X=8) STOP
 (X=9) DISC SEARCH
 (X=A) EJECT
 (X=C) NO DISC

1) Error Code Troubleshooting

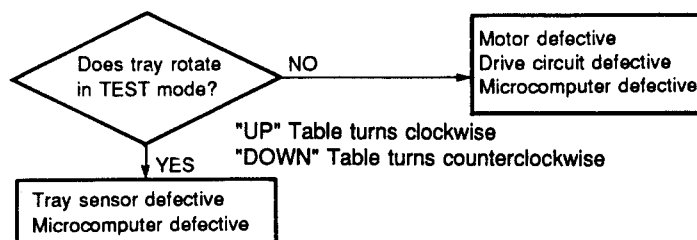
Error code **X0**, **X1**, **73** Data cannot be read.



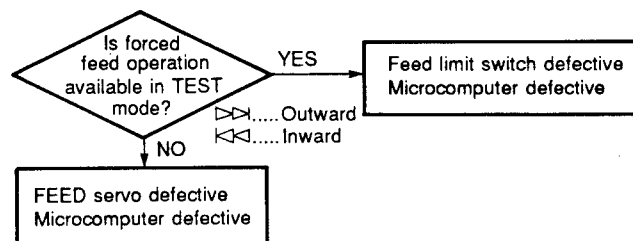
Error codes **X4**, **X5** Poor tray loading operation.



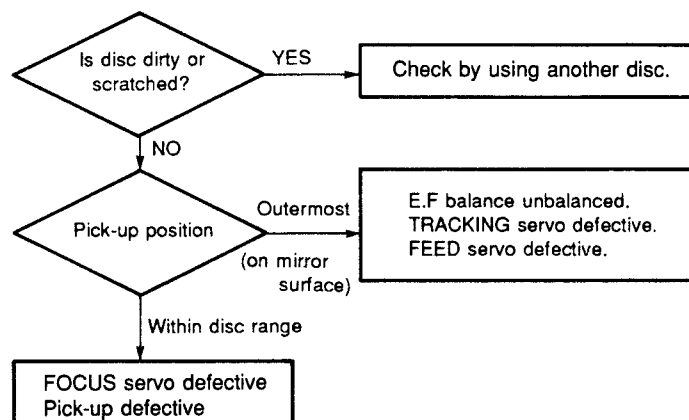
Error code **X6** Poor table rotation.



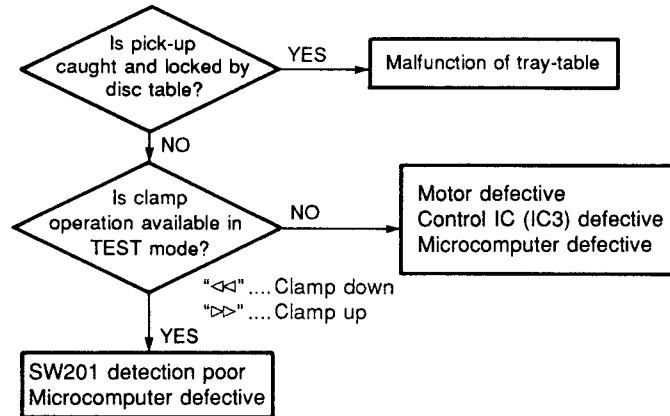
Error code **X7** FEED operation defective. (Limit switch fails)



Error code **X8** Focus drops.

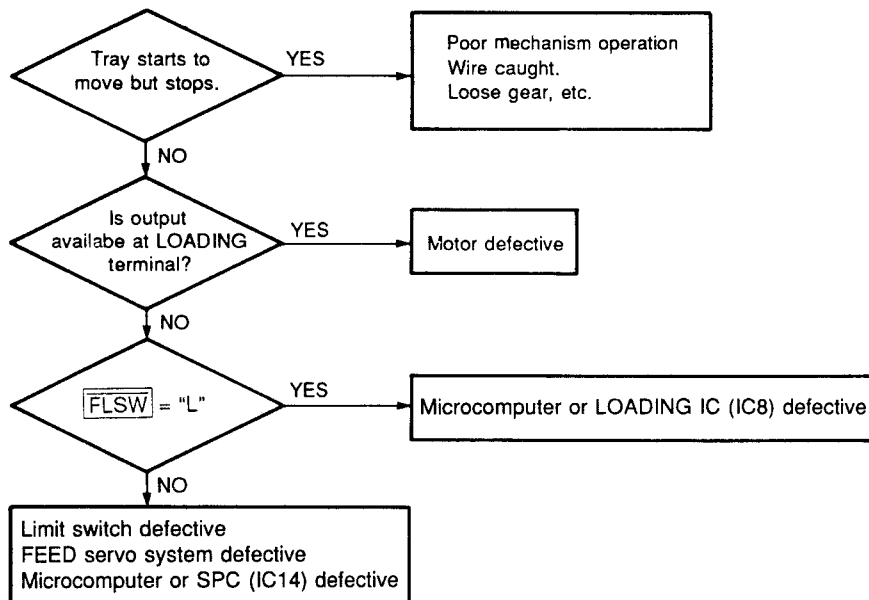


Error code **X9** , **XA** Poor Clamp operation.

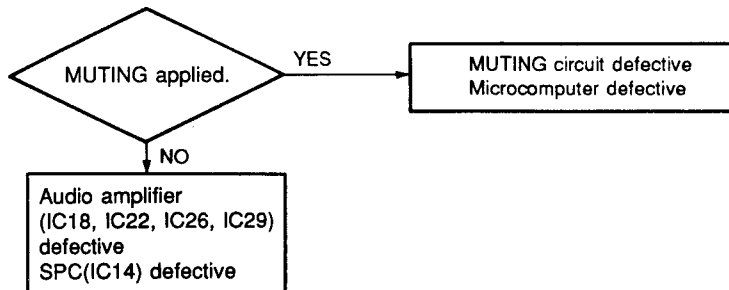


2) Troubleshooting from System Malfunctions

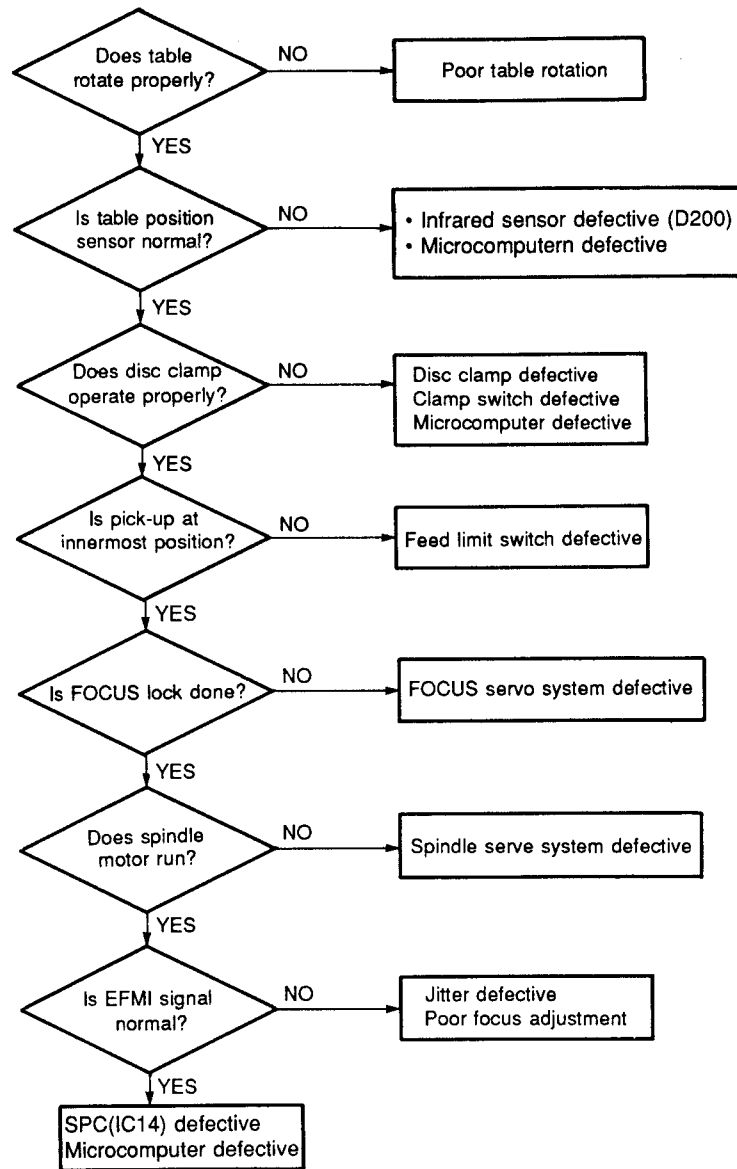
a) Tray fails to come out/go in.



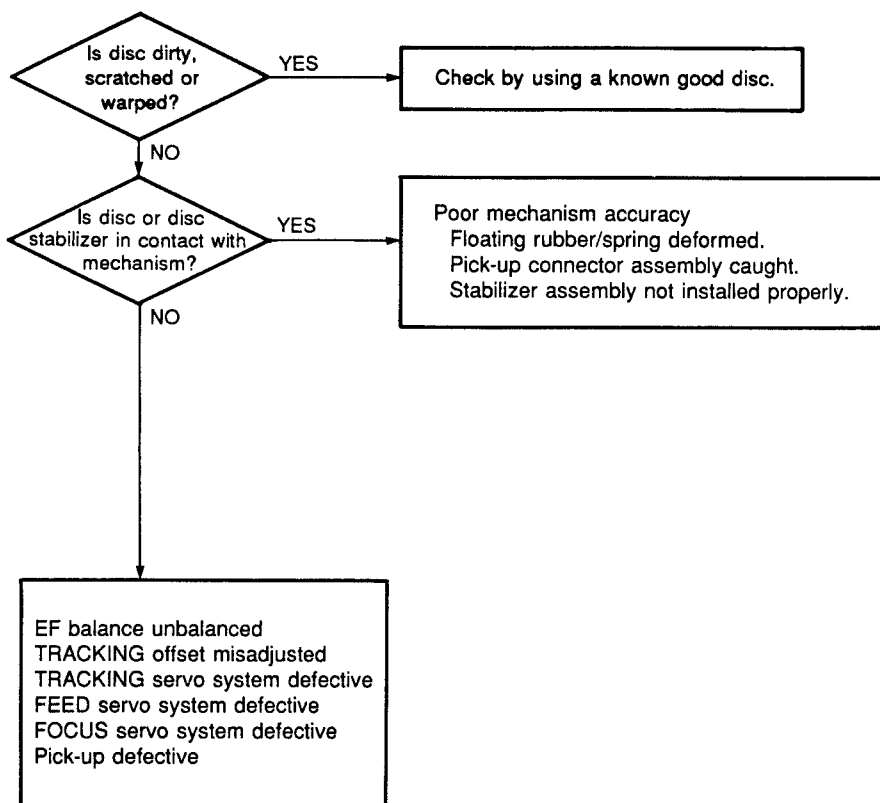
b) No sound generated, Sound cut during play. (but time display advances properly)



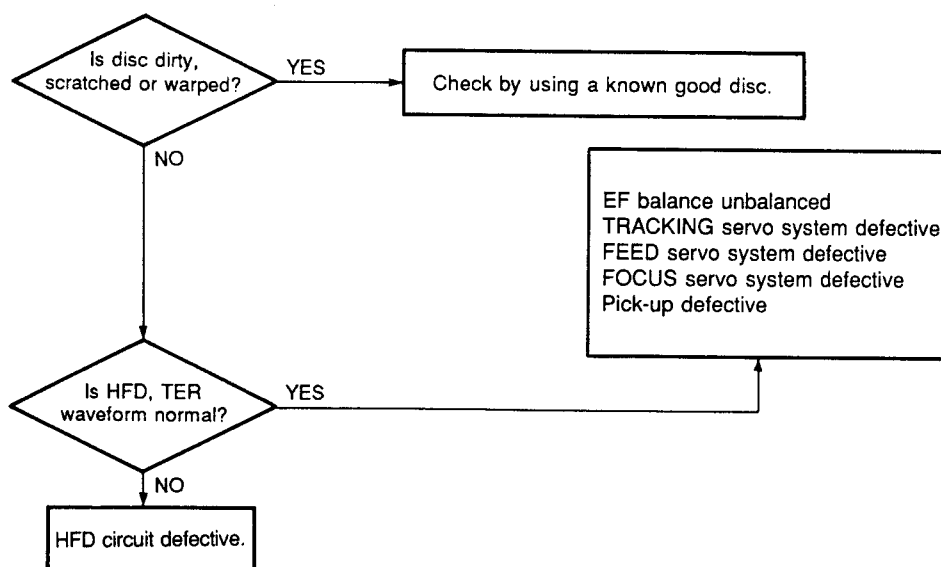
c) Operates as if no disc loaded. (although loaded)



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

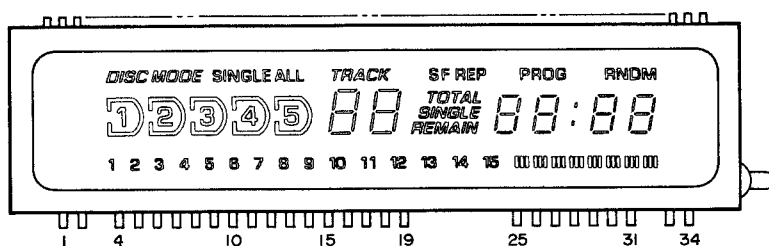


e) No search provided. (Sound skipped after search)



■ DISPLAY DATA (VP589700)

V200 : FIP8KM5

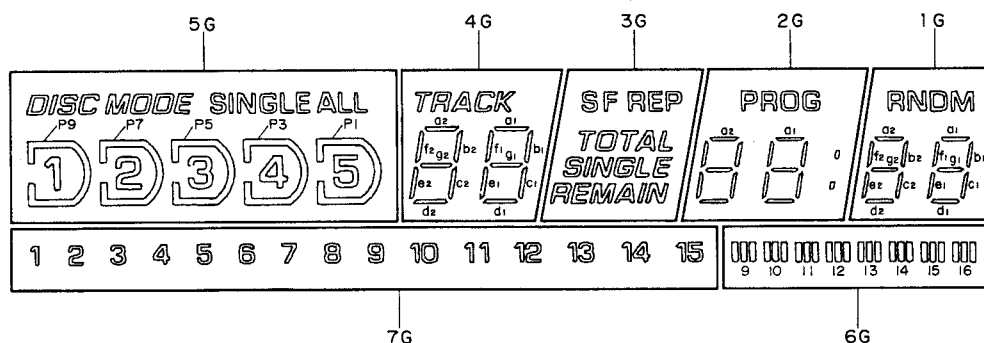


TERMINAL CONNECTION

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

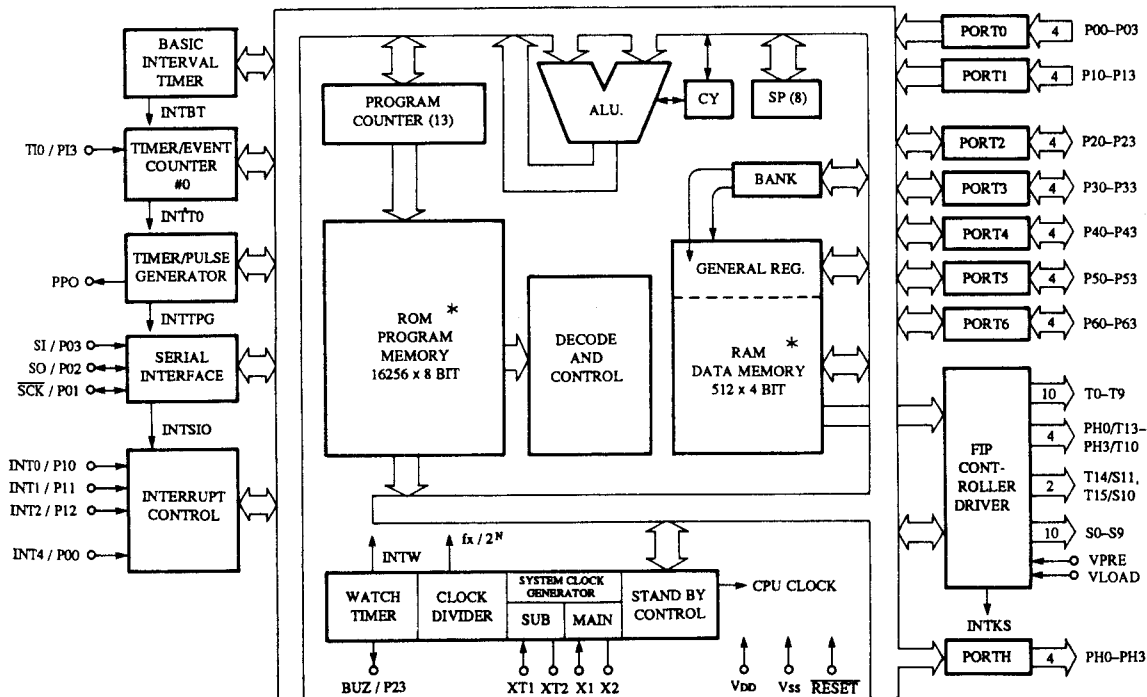
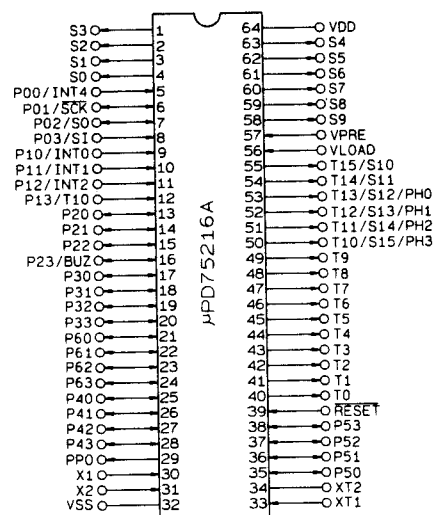
F: Filament
G: Grid
P: Anode
NP: No Pin



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

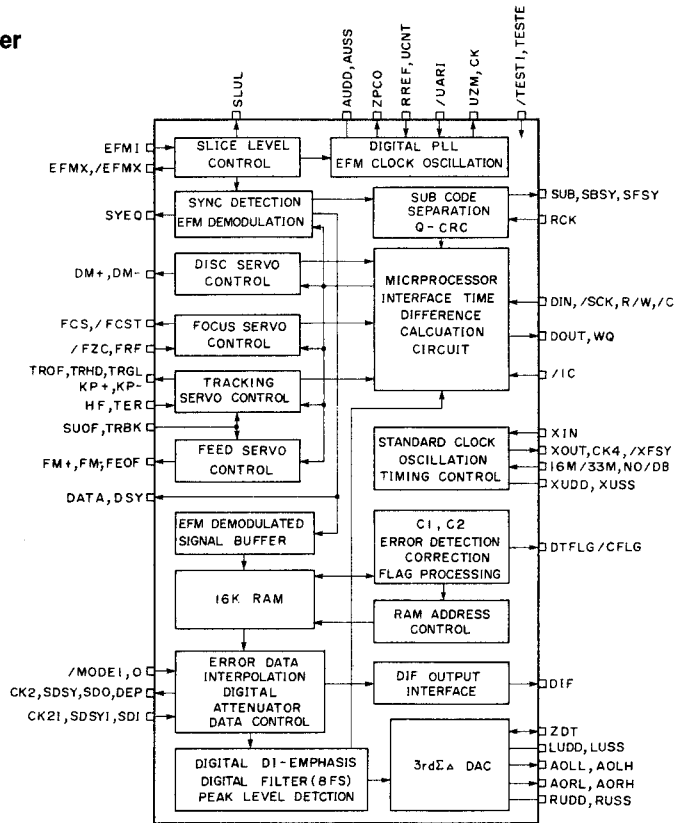
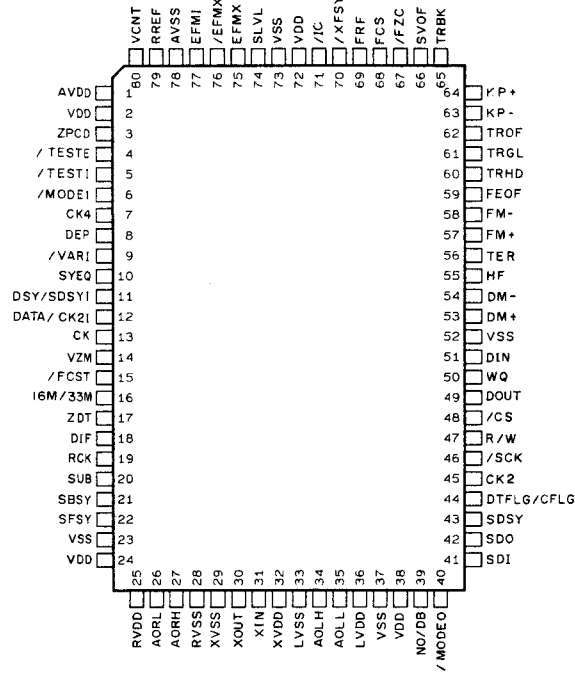
IC15 : μ PD75P216ACWSystem Controller (4bit μ -COM)

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	P00	WQ	Request signal from YDC-103
6	P01	SCK	Serial clock output to YDC-103 and 74HC595
7	P02	SO	Serial data output to YDC-103 and 74HC595
8	P03	SI	Serial data input from YDC-103
9	P10	REM	Input from remote control beam receiving unit
10	P11	TBL-POS	Sensor to detect table position
11	P12	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	OPSW	Open state of tray sensing switch input Open state at "L"
19	P32	CLSW	Closed state of tray sensing switch input Closed state at "L"
20	P33	DNSW	PU unit down limit switch, ON at "L"
21	P60	K0	Key matrix input
22	P61	K1	
23	P62	K2	
24	P63	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	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	RESET	RES	Operation starts at $\underline{\quad}$ and stops at $\overline{\quad}$.
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 mode 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 (negative phase)
77	EFMI	IA	EFM signal input
78	AVSS	A	Ground (PLL section)
79	RREF	IA	Digital PLL drive clock generator Constant 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

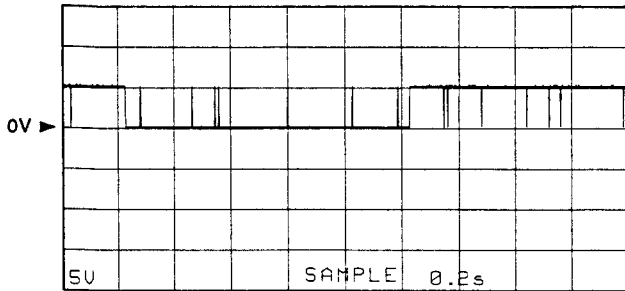
■ WAVEFORM OF TEST POINT

Point ①

(Pin 14 of IC 13)

V : 5 V/div H : 0.2 sec/div

DC range 1 : 1 probe

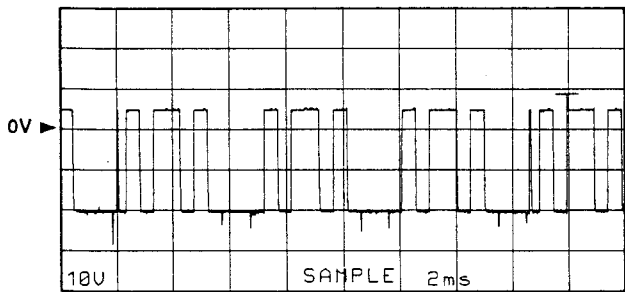


Point ②

(Pin 2 of IC 15)

V : 10 V/div H : 2 msec/div

DC range 1 : 1 probe

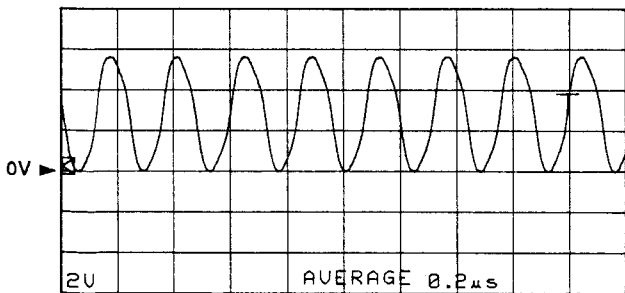


Point ③

(Pin 31 of IC 15)

V : 2 V/div H : 0.2 μ sec/div

DC range 1 : 1 probe



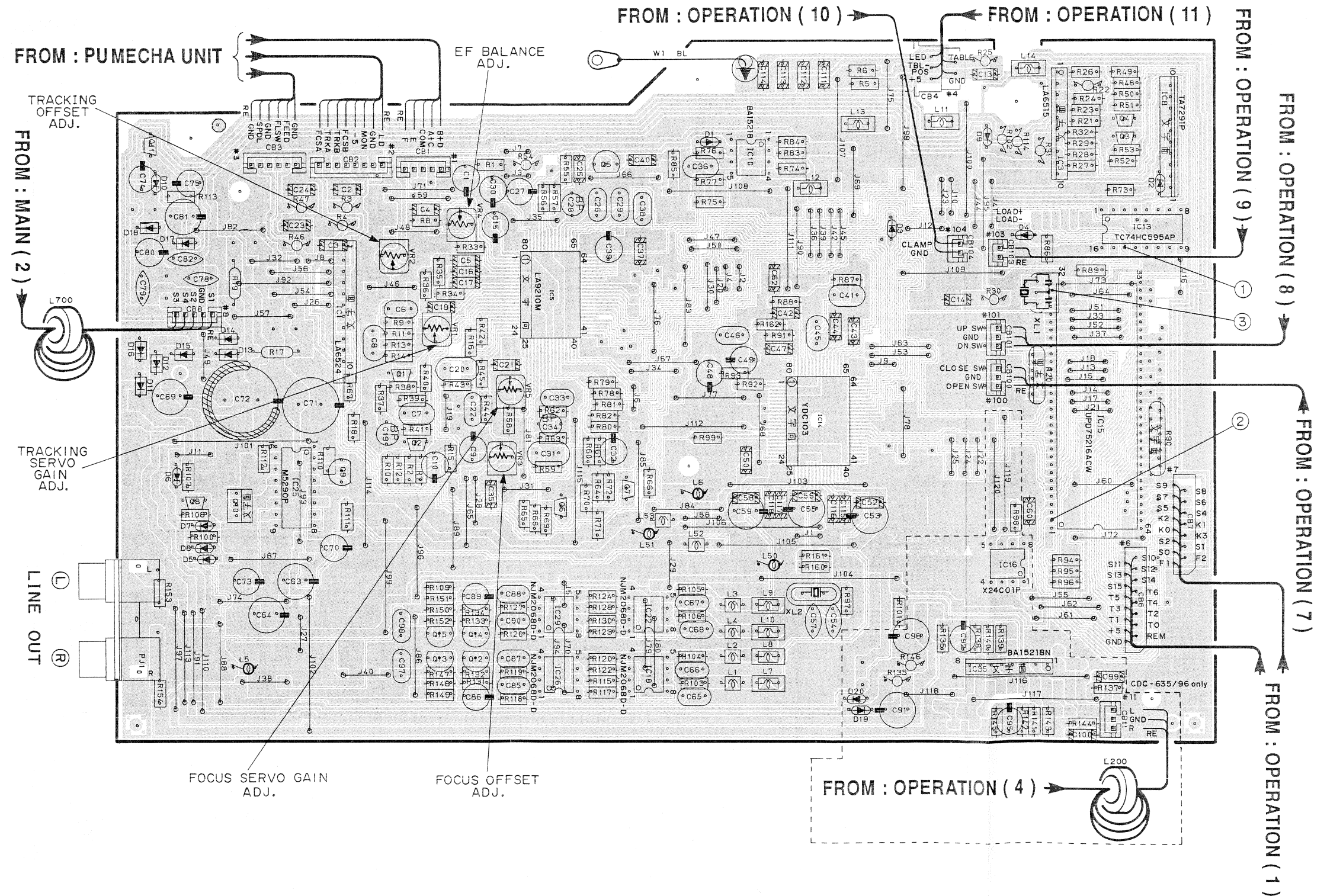
PRINTED CIRCUIT BOARD (Foil side)

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

MAIN P. C. B. (1)

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
IC 10	E2
IC 13	G2
IC 14	F3
IC 15	G3
IC 16	F4
IC 18	E5
IC 22	F4
IC 25	C4
IC 26	D5
IC 29	D4
IC 35	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)

△ OPEN/CLOSE — PLAYXCHANGE

□ STOP □ PAUSE ▷ PLAY

DISK SKIP RANDOM REPEAT SEARCH

OUTPUT LEVEL

UP

DOWN

OPERATION P. C. B. (1)

DISC

MODE CLEAR PROG DIMMER TIME

TO : MAIN (1)

OPERATION P. C. B. (2)

REMOTE CONTROL

● R model

MAIN P. C. B. (2)

● U, C, A, B, G models

MAIN P. C. B. (2)

VOLTAGE SELECTOR

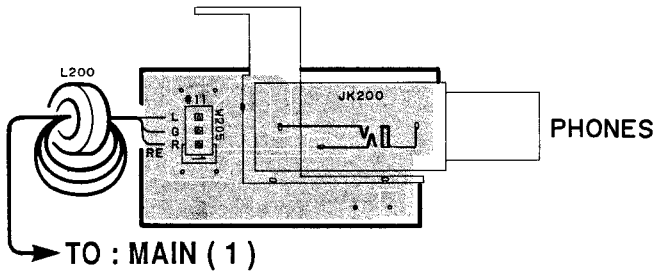
MAIN P. C. B. (3)

OPERATION P. C. B. (3)

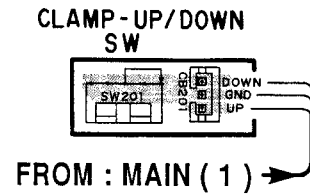
OPERATION P. C. B. (3)

PRINTED CIRCUIT BOARD (Foil side)

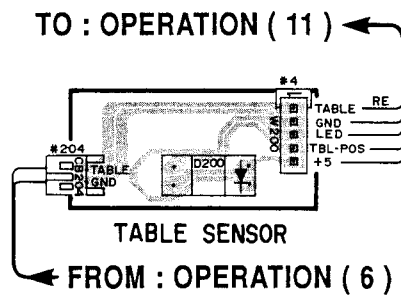
OPERATION P. C. B. (4)



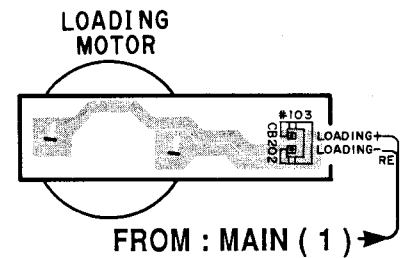
OPERATION P. C. B. (8)



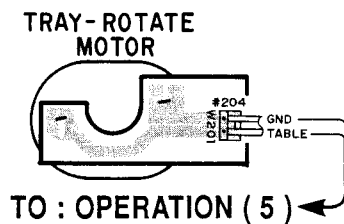
OPERATION P. C. B. (5)



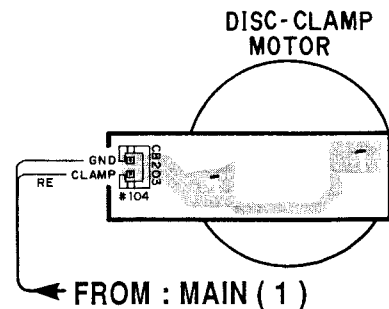
OPERATION P. C. B. (9)



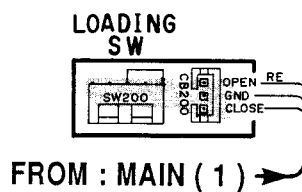
OPERATION P. C. B. (6)



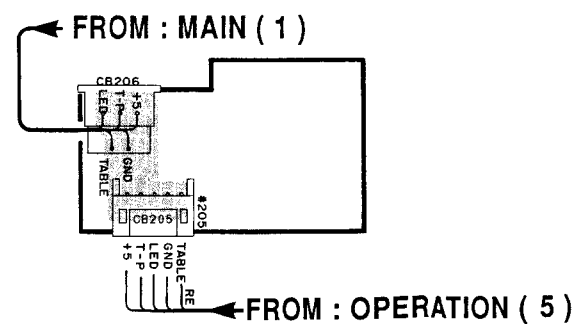
OPERATION P. C. B. (10)



OPERATION P. C. B. (7)



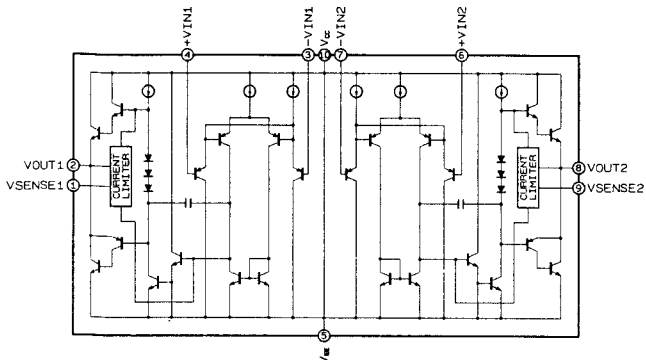
OPERATION P. C. B. (11)



IC BLOCK

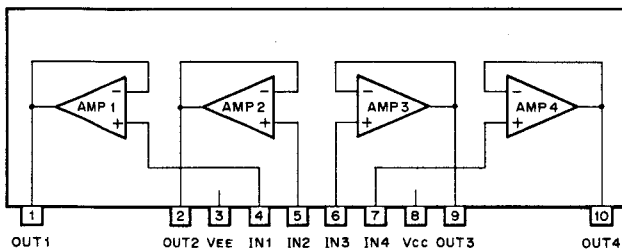
IC3 : LA6515

Dual Power Operational Amp



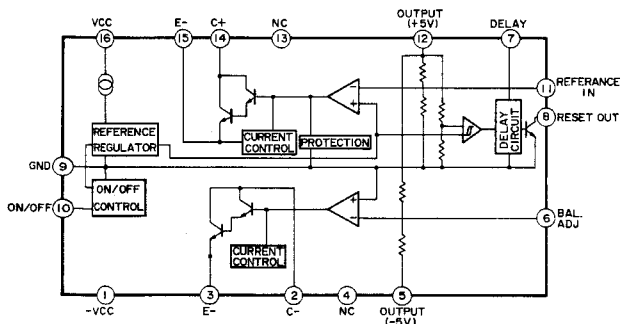
IC1 : LA6524

4-Channel Power Driver



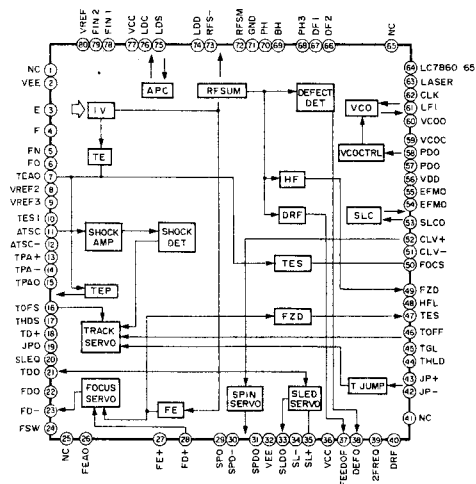
IC25 : M5290P

Constant-Voltage Tracking Supply with Reset



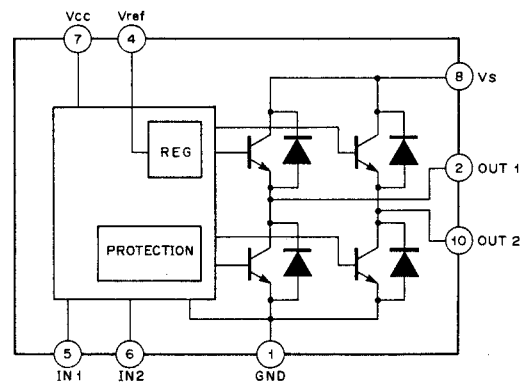
IC5 : LA9210M

RF-Amp & Servo Controller



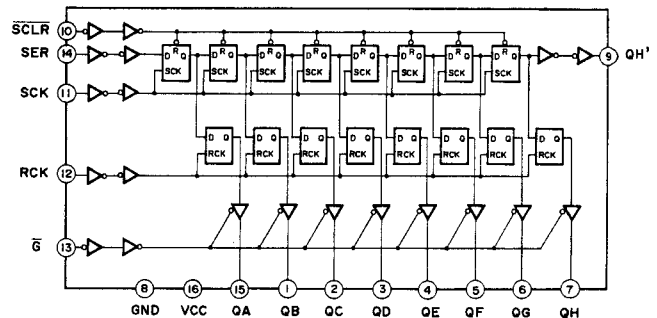
IC8 : TA7291P

Full Bridge Motor Driver



IC13 : TC74HC595AP or μ PD74HC595C

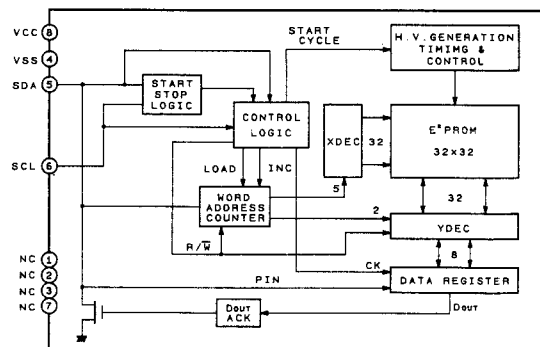
8-Stage Serial In/Serial Out Parallel Out Shift Register with Latched 3-State Output



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 Shift Register transferred to output latches

IC16 : X24C01P

Electrically Erasable PROM



Other ICs

- IC14 : YDC 103
→ See P.27
- IC15 : μ PD75P216ACW
→ See P.25

A

B

C

D

E

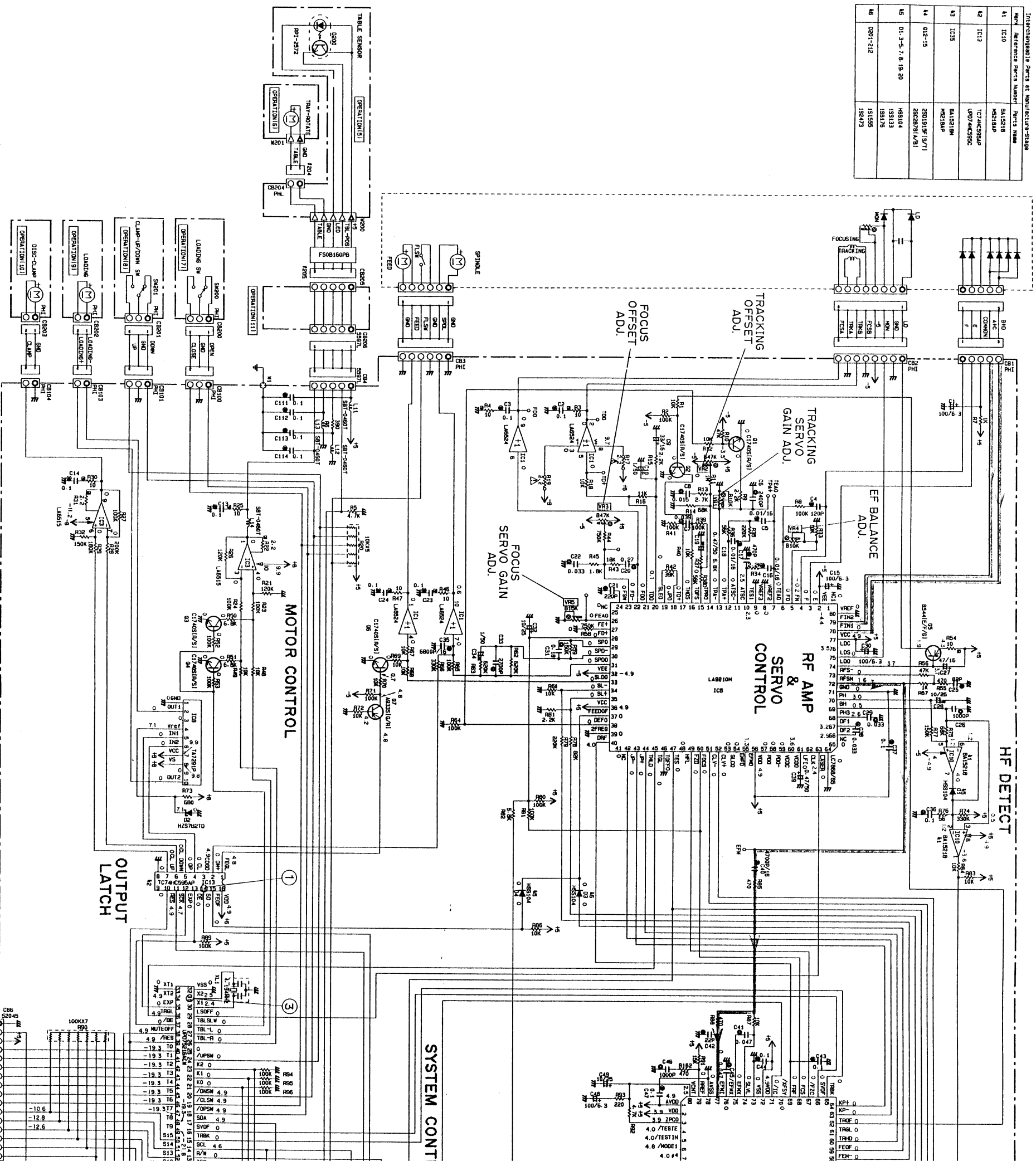
F

SCHEMATIC DIAGRAM

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

Interchangeable Parts at Manufacture's Option

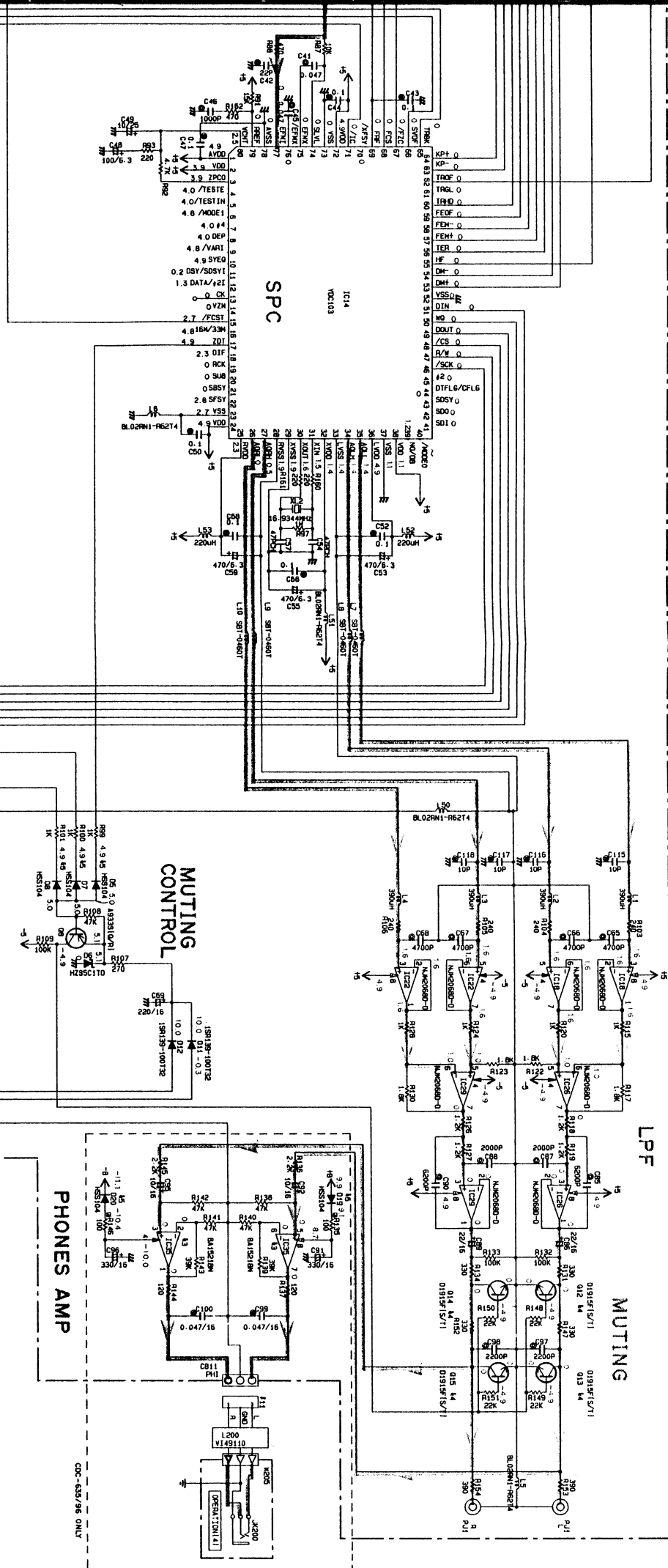
Part	Reference Part's Number	Part's Name
IC1	IC10	BA12218
IC2	IC13	TC74HC595
IC3	IC25	UPT4AC555C
IC4	IC23	BA12218
IC5	IC15	2SC1919F(E71)
IC6	IC1-3, 7, 8, 18, 20	HSB104
IC7	IC13	HSB13
IC8	IC13	HSB176
IC9	IC13	HSB176
IC10	IC13	HSB176
IC11	IC13	HSB176
IC12	IC13	HSB176
IC13	IC13	HSB176
IC14	IC13	HSB176
IC15	IC13	HSB176
IC16	IC13	HSB176
IC17	IC13	HSB176
IC18	IC13	HSB176
IC19	IC13	HSB176
IC20	IC13	HSB176
IC21	IC13	HSB176
IC22	IC13	HSB176
IC23	IC13	HSB176
IC24	IC13	HSB176
IC25	IC13	HSB176
IC26	IC13	HSB176
IC27	IC13	HSB176
IC28	IC13	HSB176
IC29	IC13	HSB176
IC30	IC13	HSB176
IC31	IC13	HSB176
IC32	IC13	HSB176
IC33	IC13	HSB176
IC34	IC13	HSB176
IC35	IC13	HSB176
IC36	IC13	HSB176
IC37	IC13	HSB176
IC38	IC13	HSB176
IC39	IC13	HSB176
IC40	IC13	HSB176
IC41	IC13	HSB176
IC42	IC13	HSB176
IC43	IC13	HSB176
IC44	IC13	HSB176
IC45	IC13	HSB176
IC46	IC13	HSB176
IC47	IC13	HSB176
IC48	IC13	HSB176
IC49	IC13	HSB176
IC50	IC13	HSB176
IC51	IC13	HSB176
IC52	IC13	HSB176
IC53	IC13	HSB176
IC54	IC13	HSB176
IC55	IC13	HSB176
IC56	IC13	HSB176
IC57	IC13	HSB176
IC58	IC13	HSB176
IC59	IC13	HSB176
IC60	IC13	HSB176
IC61	IC13	HSB176
IC62	IC13	HSB176
IC63	IC13	HSB176
IC64	IC13	HSB176
IC65	IC13	HSB176
IC66	IC13	HSB176
IC67	IC13	HSB176
IC68	IC13	HSB176
IC69	IC13	HSB176
IC70	IC13	HSB176
IC71	IC13	HSB176
IC72	IC13	HSB176
IC73	IC13	HSB176
IC74	IC13	HSB176
IC75	IC13	HSB176
IC76	IC13	HSB176
IC77	IC13	HSB176
IC78	IC13	HSB176
IC79	IC13	HSB176
IC80	IC13	HSB176
IC81	IC13	HSB176
IC82	IC13	HSB176
IC83	IC13	HSB176
IC84	IC13	HSB176
IC85	IC13	HSB176
IC86	IC13	HSB176
IC87	IC13	HSB176
IC88	IC13	HSB176
IC89	IC13	HSB176
IC90	IC13	HSB176
IC91	IC13	HSB176
IC92	IC13	HSB176
IC93	IC13	HSB176
IC94	IC13	HSB176
IC95	IC13	HSB176
IC96	IC13	HSB176
IC97	IC13	HSB176
IC98	IC13	HSB176
IC99	IC13	HSB176
IC100	IC13	HSB176



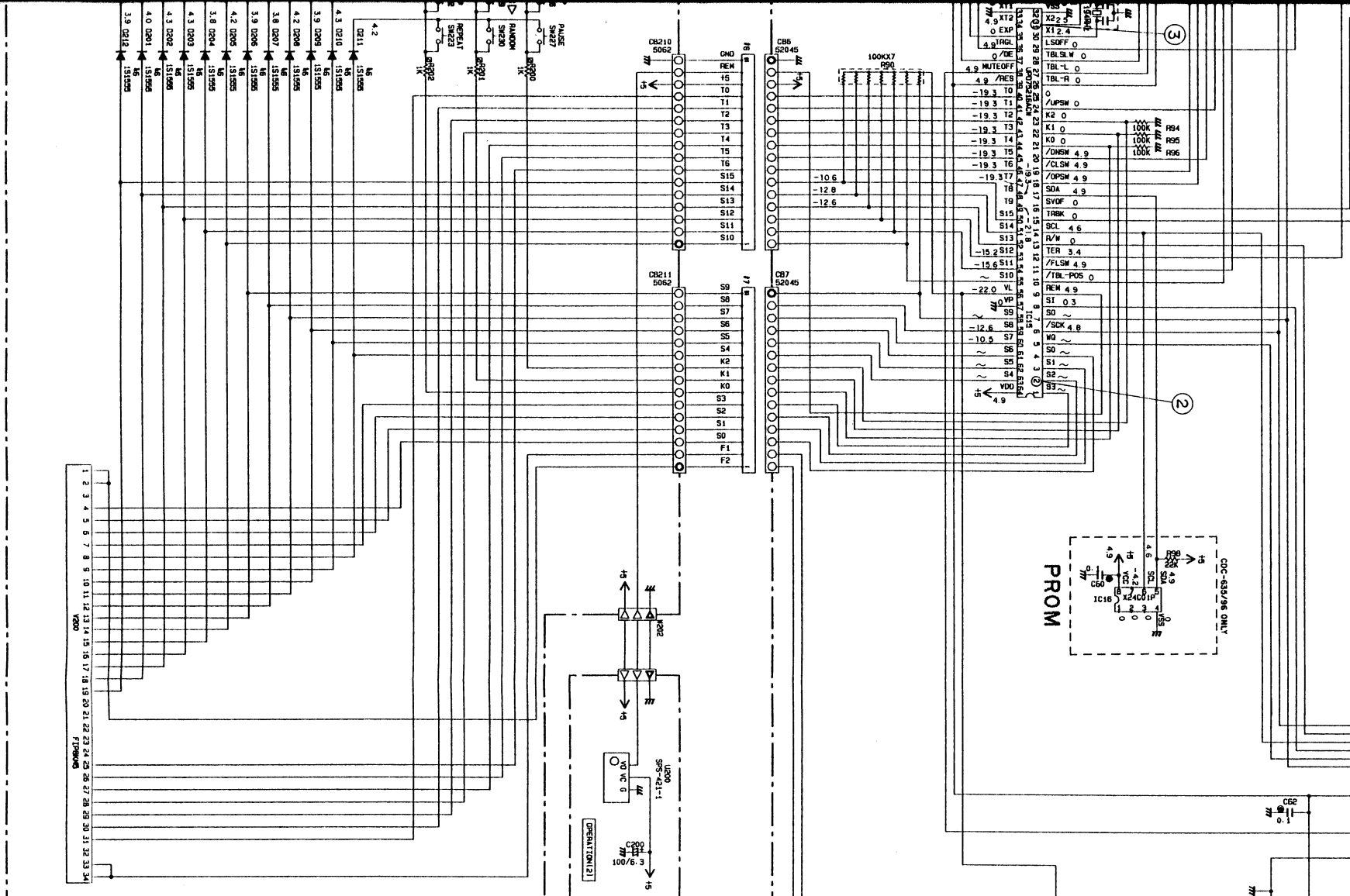
PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICs.

2SC1740S(R, S) 2SD1915S, T 2SC2878(A, B)	2SA933S(Q, R) 2SB344(D, E, F, G) 2SD401(E, F)	2SB1416(Q, R) IS12473 IS1555 H2S8C2TD H2S7B2TD H2S5C1 H2S22-3
BA15218 M5218AP	NJM2068D-D X24CO1P	BA15218N M5218AL
LA6515	LA6524	M5290P
LA6515	LA6524	TC74HC595AP μPD74HC595C
μPD75P218ACV	YDC103	LA9210

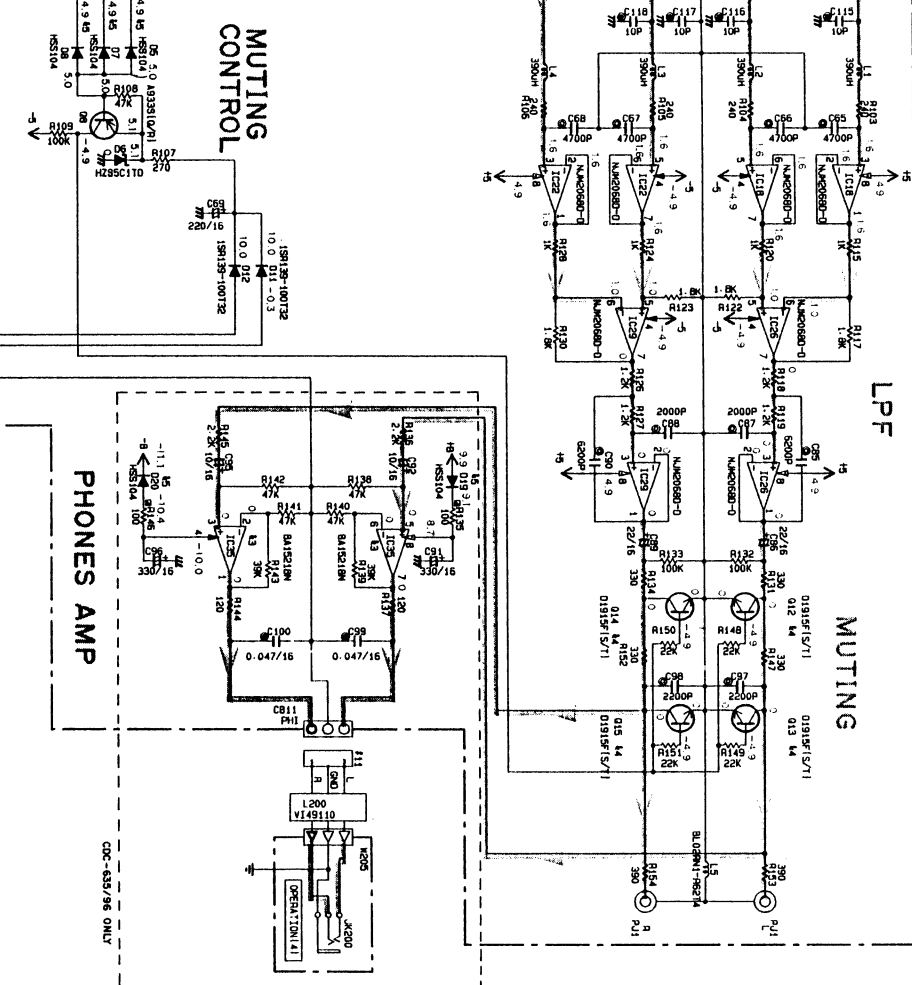
* All voltage are measured with a 10MΩ/DC electric vol meter.
* Components having special characteristics are marked Δ
to those originally installed.
* Schematic diagram is subject to change without notice.



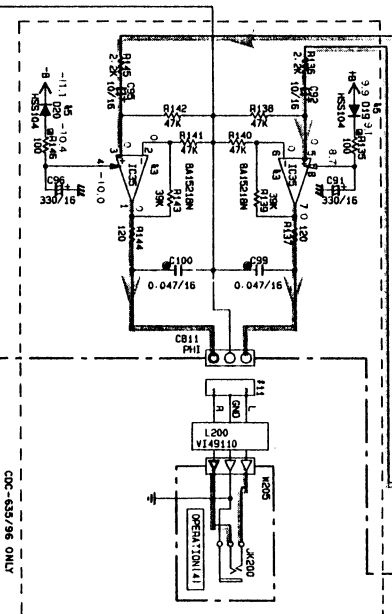
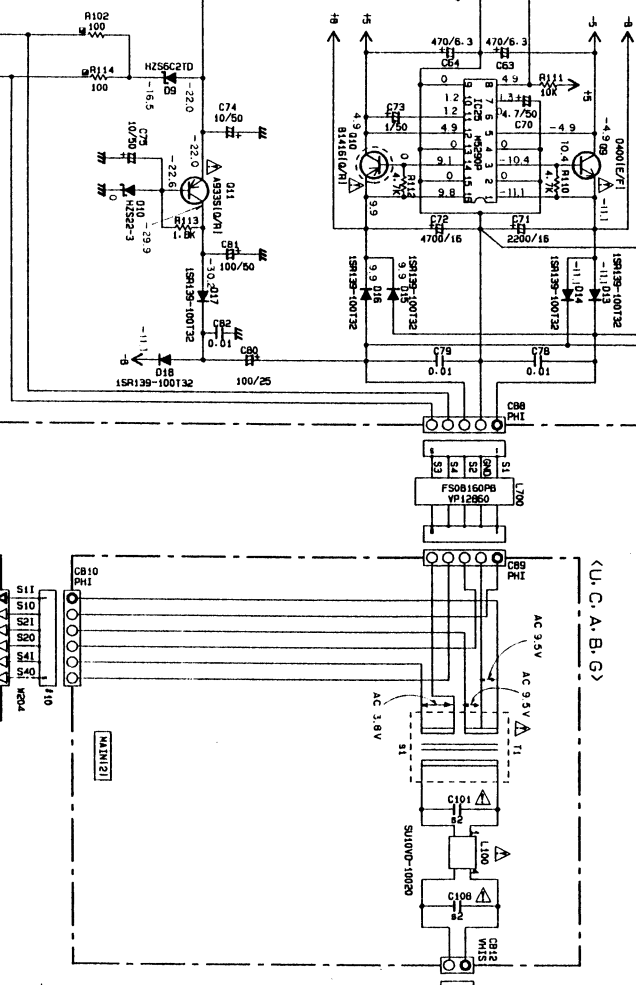
SYSTEM CONTROL



**MUTING
CONTROL**



PHONES AMP

POWER
SUPPLY

<U.C.A.B.G>

NOTICE
(J).... J

NOTICE

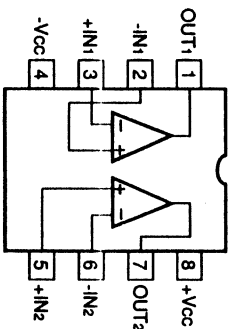
- (J)..... Japanese model
- (U)..... U.S.A model
- (C)..... Canadian model
- (A)..... Australian model
- (G)..... European model
- (B)..... British model
- (R)..... General model
- (P)..... PP model

REMARKS	PARTS NAME	QTY	UNIT
NO MARK	CARBON FILM RESISTOR	115/51	
Δ	CARBON FILM RESISTOR	11/5M	
Δ	METAL OXIDE FILM RESISTOR		
Δ	METAL FILM RESISTOR		
Δ	METAL PLATE RESISTOR		
Δ	FIRE-PROOF CARBON FILM RESISTOR		
□	CEMENT-GLUED RESISTOR		
□	SCMI VARIABLE RESISTOR		
□	CRIP RESISTOR		

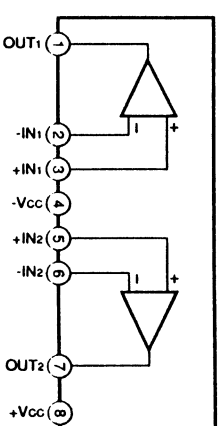
CAPACITOR	PARTS NAME
REMARKS	
NO MARK	ELECTROLYTIC CAPACITOR
⊗	TANTALUM CAPACITOR
NO MARK	CERAMIC CAPACITOR
③	AXIAL LEAD CERAMIC CAPACITOR
○	POLYESTER FILM CAPACITOR
①	POLYSTYRENE FILM CAPACITOR
②	MICA CAPACITOR
●	POLYPROPYLENE FILM CAPACITOR
●	SEMICONDUCTIVE CERAMIC CAPACITOR

1	1A	B	A, B	G
1	KL031	KL032	KL033	KL037
2	FL30410	VE17300	VE17300	VE17300
3	X	VL00000	X	X
4				

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 $\triangle$ 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-85	
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	

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	10KΩ x5	
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	

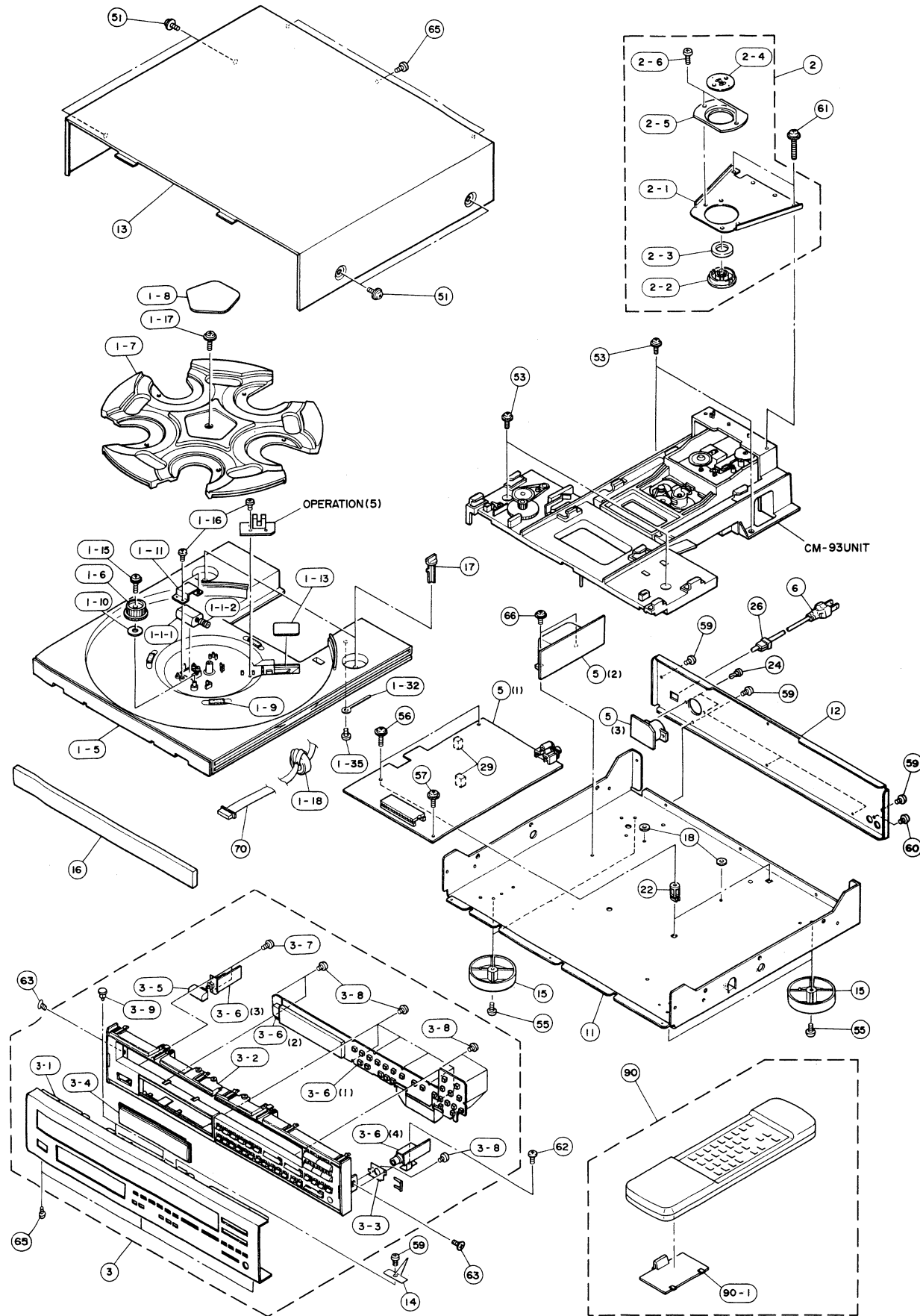
*New Parts (新規部品)

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

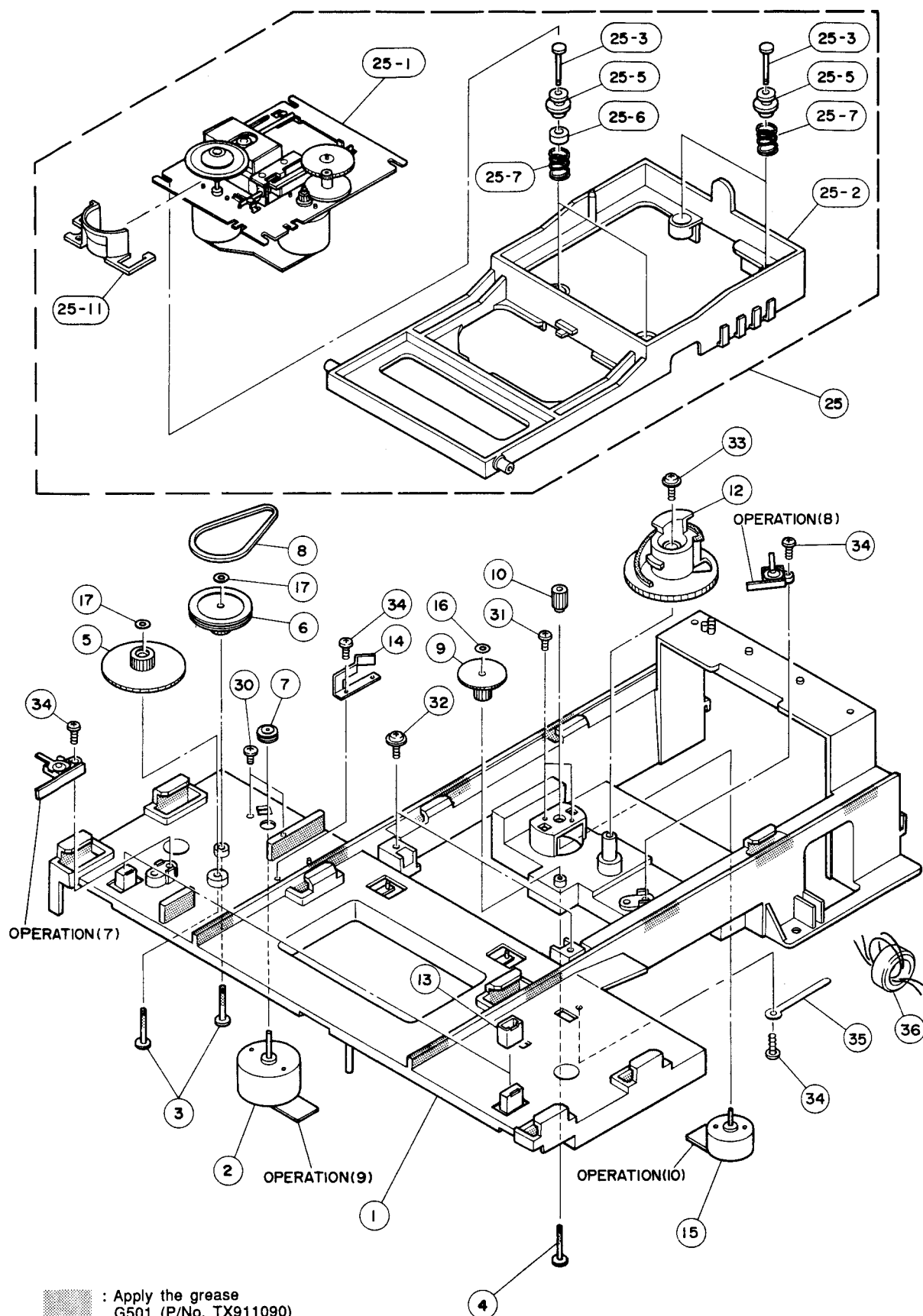
*New Parts (新規部品)

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	φ 60/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	EO030066	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)

CDC-635/95/96

■ EXPLODED VIEW (CM-93 Unit)



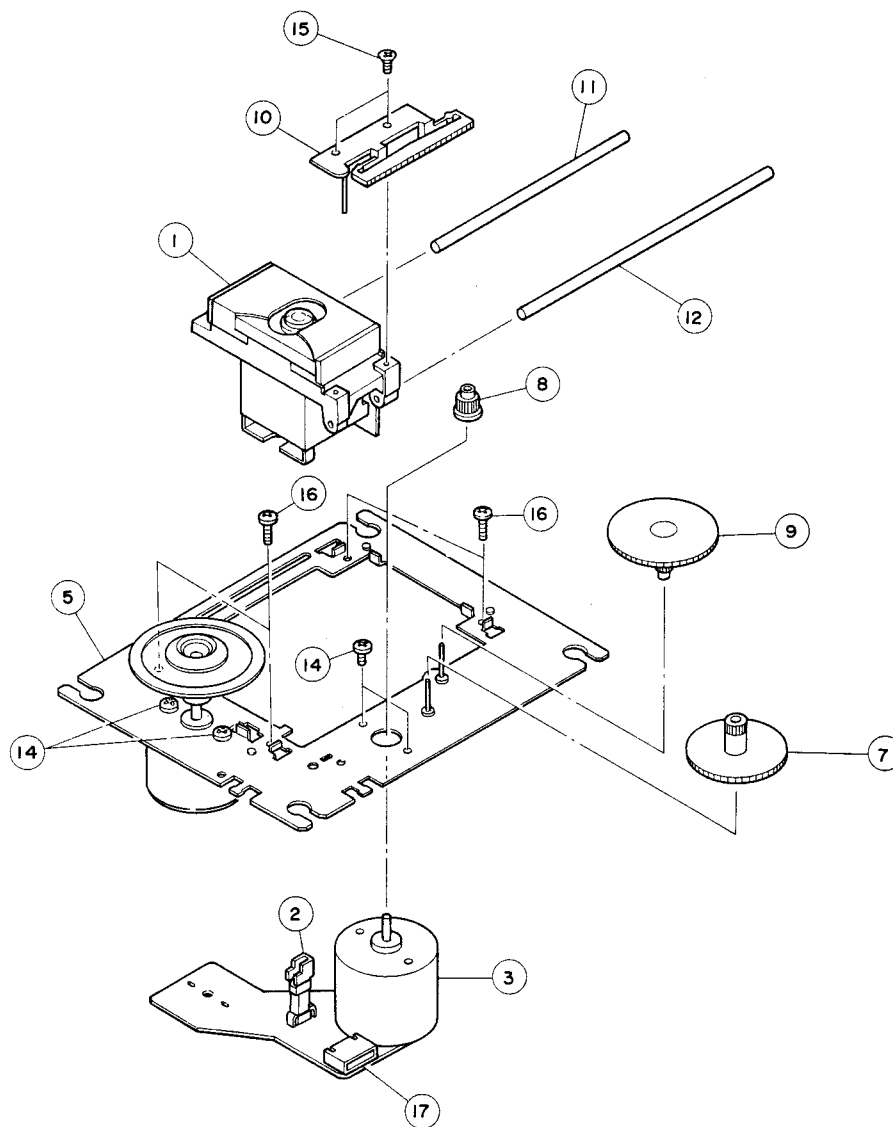
■ MECHANICAL PARTS (CM-93 Unit)

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)

CDC-635/95/96

■ EXPLODED VIEW (PU Mecha Unit)



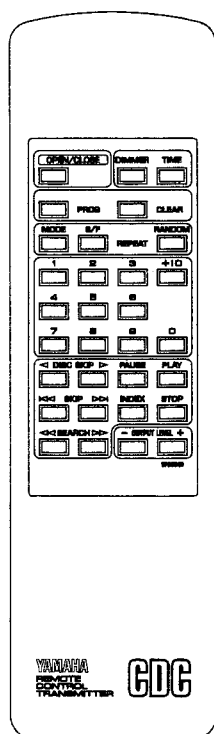
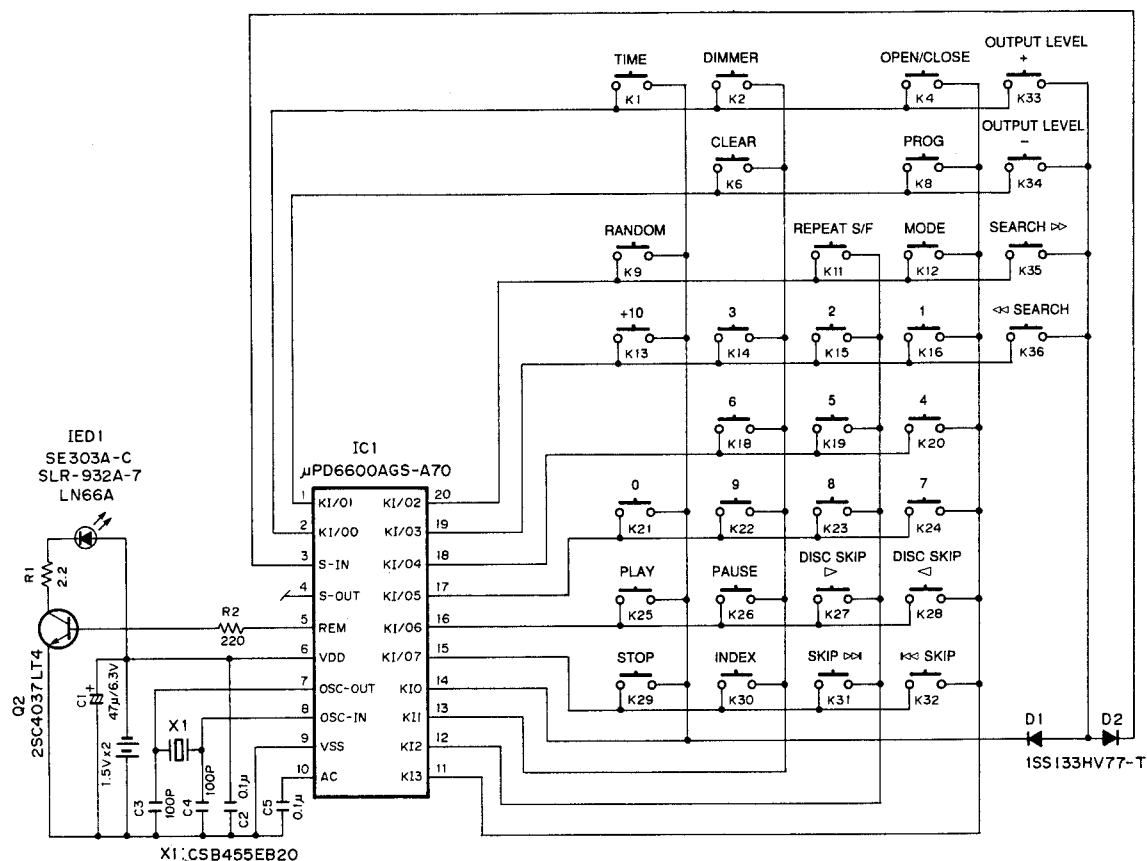
Ref. NO.	PART NO.	Description	Remarks	Markets
	VM444300	PU MECHA. UNIT	CD90V1YA	
1	PX601520	PICK UP ASS'y	SF-91P	1EA0A41A03100
2	KX603540	LIMIT SWITCH		1EA4S13A00800
3	JX601050	MOTOR		1EA4M10A02100
5	NX611200	CHASSIS ASS'y		1EA0311A02900
7	CX618680	GEAR, MIDDLE		1EA2511A06300
8	CX618690	GEAR, MOTOR		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-635/95/96

CDC-635/96 REMOTE CONTROL TRANSMITTE

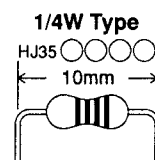
■ SCHEMATIC DIAGRAM



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 k Ω	HF45 7100	HF45 7100
1.8 Ω	HJ35 3180	*	11 k Ω	HF45 7110	HF45 7110
2.2 Ω	HJ35 3220	HF85 3220	12 k Ω	HJ35 7120	HF85 7120
3.3 Ω	HJ35 3330	HF85 3330	13 k Ω	HF45 7130	HF45 7130
4.7 Ω	HJ35 3470	HF85 3470	15 k Ω	HF45 7150	HF45 7150
5.6 Ω	HJ35 3560	HF85 3560	18 k Ω	HF45 7180	HF45 7180
10 Ω	HF45 4100	HF45 4100	22 k Ω	HF45 7220	HF45 7220
15 Ω	HJ35 4150	HF85 4150	24 k Ω	HF45 7240	HF45 7240
22 Ω	HF45 4220	HF45 4220	27 k Ω	HJ35 7270	HF85 7270
27 Ω	HJ35 4270	HF85 4270	30 k Ω	HF45 7300	HF45 7300
33 Ω	HF45 4330	HF45 4330	33 k Ω	HF45 7330	HF45 7330
39 Ω	HJ35 4470	HF85 4390	36 k Ω	HF45 7360	HF45 7360
47 Ω	HF45 4470	HF45 4470	39 k Ω	HF45 7390	HF45 7390
56 Ω	HF45 4560	HF45 4560	47 k Ω	HF45 7470	HF45 7470
68 Ω	HF45 4680	HF45 4680	51 k Ω	HF45 7510	HF45 7510
75 Ω	HF45 4750	HF45 4750	56 k Ω	HF45 7560	HF45 7560
82 Ω	HF45 4820	HF45 4820	62 k Ω	HF45 7620	HF45 7620
91 Ω	HF45 4910	HF45 4910	68 k Ω	HF45 7680	HF45 7680
100 Ω	HF45 5100	HF45 5100	82 k Ω	HF45 7820	HF45 7820
110 Ω	HJ35 5110	HF85 5110	91 k Ω	HF45 7910	HF45 7910
120 Ω	HF45 5120	HF45 5120	100 k Ω	HF45 8100	HF45 8100
150 Ω	HF45 5150	HF45 5150	110 k Ω	HF45 8110	HF45 8110
160 Ω	HJ35 5160	*	120 k Ω	HF45 8120	HF45 8120
180 Ω	HF45 5180	HF45 5180	150 k Ω	HF45 8150	HF45 8150
200 Ω	HF45 5200	HF45 5200	180 k Ω	HF45 8180	HF45 8180
220 Ω	HF45 5220	HF45 5220	220 k Ω	HJ35 8220	HF85 8220
270 Ω	HF45 5270	HF45 5270	270 k Ω	HF45 8270	HF45 8270
330 Ω	HF45 5330	HF45 5330	300 k Ω	HF45 8300	HF45 8300
390 Ω	HF45 5390	HF45 5390	330 k Ω	HF45 8330	HF45 8330
430 Ω	HF45 5430	HF45 5430	390 k Ω	HJ35 8390	HF85 8390
470 Ω	HF45 5470	HF45 5470	470 k Ω	HF45 8470	HF45 8470
510 Ω	HF45 5510	HF45 5510	560 k Ω	HJ35 8560	HF85 8560
560 Ω	HF45 5560	HF45 5560	680 k Ω	HJ35 8680	HF85 8680
680 Ω	HF45 5680	HF45 5680	820 k Ω	HJ35 8820	HF85 8820
820 Ω	HF45 5820	HF45 5820	1.0 M Ω	HF45 9100	HF45 9100
910 Ω	HF45 5910	HF45 5910	1.2 M Ω	HJ35 9120	*
1.0 k Ω	HF45 6100	HF45 6100	1.5 M Ω	HJ35 9150	HF85 9150
1.2 k Ω	HF45 6120	HF45 6120	1.8 M Ω	HJ35 9180	HF85 9180
1.5 k Ω	HF45 6150	HF45 6150	2.2 M Ω	HJ35 9220	HF85 9220
1.8 k Ω	HF45 6180	HF45 6180	3.3 M Ω	HJ35 9330	HF85 9330
2.0 k Ω	HJ35 6200	HF85 6200	3.9 M Ω	HJ35 9390	*
2.2 k Ω	HF45 6220	HF45 6220	4.7 M Ω	HJ35 9470	HF85 9470
2.4 k Ω	HJ35 6240	HF85 6240			
2.7 k Ω	HF45 6270	HF45 6270			
3.0 k Ω	HF45 6300	HF45 6300			
3.3 k Ω	HF45 6330	HF45 6330			
3.6 k Ω	HJ35 6360	HF85 6360			
3.9 k Ω	HF45 6390	HF45 6390			
4.7 k Ω	HF45 6470	HF45 6470			
5.1 k Ω	HF45 6510	HF45 6510			
5.6 k Ω	HF45 6560	HF45 6560			
6.8 k Ω	HF45 6680	HF45 6680			
8.2 k Ω	HF45 6820	HF45 6820			
9.1 k Ω	HF45 6910	HF45 6910			



1/4W Type
HF45 ○○○○

1/6W Type
HF85 ○○○○

