COMPACT DISC PLAYER

CDX-870/670

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 inherant 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 all 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 reserch, 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 parts replacement. Recheck all work before you apply power to the unit.

CONTENTS

100445

YAMAHA

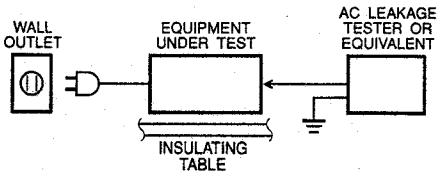
YAMAHA CORPORATION
P.O.Box1,Hamamatsu,Japan

1.53K-875 Printed in Japan '93.3

CDX-870
CDX-670

■ 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.



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.

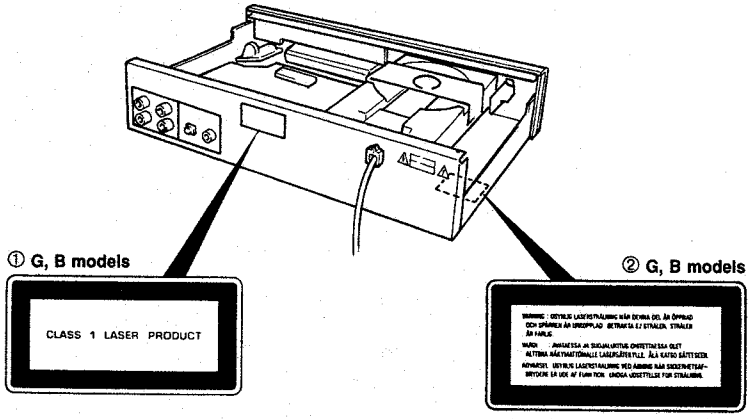
PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

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.



CDX-870/670

CDX-870
CDX-670

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.

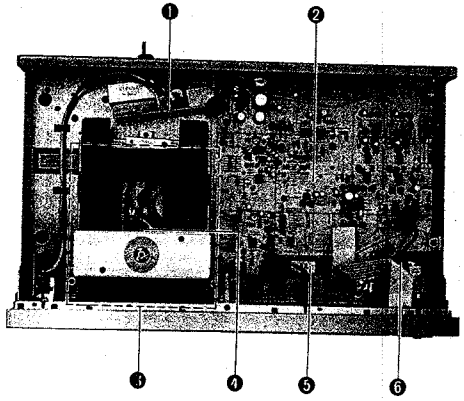
ADVARSEL : USYNLIG LASERSTRÅLING VED ÅBNING.
UNDGÅ UDSAETTELSE FOR STRÅLING.

Finnish

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

CDX-870/670

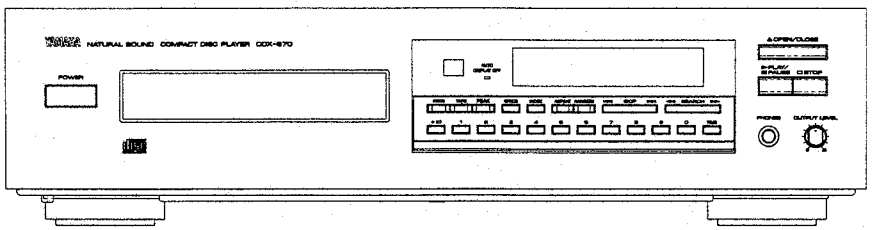
■ INTERNAL VIEW



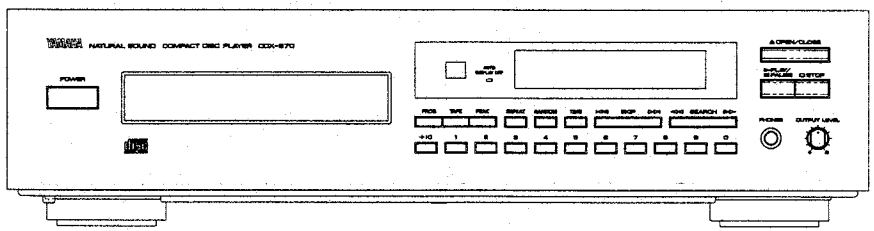
1. OPERATION P.C.B. ASS'Y (1)
2. MAIN P.C.B. ASS'Y (1)
3. PU MECHANICAL UNIT
4. OPTICAL PICK UP HEAD
5. IC7 : μ-PD75P216ACW (4bit μ-COM)
6. OPERATION P.C.B. ASS'Y (3)

■ FRONT PANELS

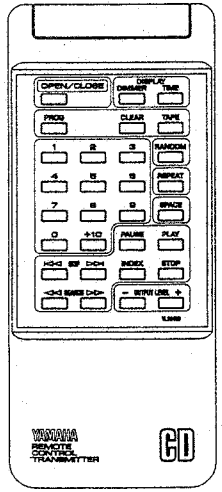
● CDX-870



● CDX-670

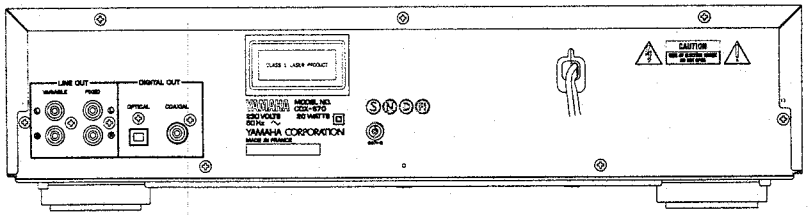


● CDX-870/670

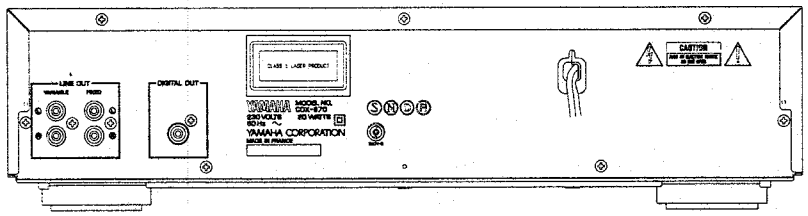


■ REAR PANELS

● CDX-870



● CDX-670



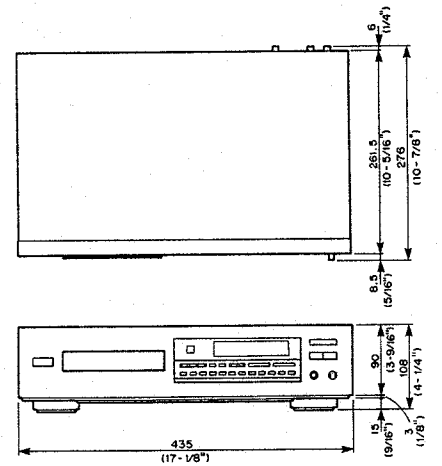
■ SPECIFICATIONS

Output Level	
1kHz, 0dB	2.0V±0.3V
Signal to Noise Ratio (EIAJ)	118dB
Dynamic Range	100dB
Harmonic Distortion+Noise (1kHz)	
CDX-870	0.002%
CDX-670	0.0025%
Frequency Response	
5Hz — 20kHz	±0.5dB
De-Emphasis Equalization Deviation	±0.5dB
Headphone Output	
150Ω, -20dB Input	300mV±50mV
Power Requirements	
G model	230V AC 50Hz
B model	240V AC 50Hz
Power Consumption	20W
Dimensions (W x H x D)	435 x 108 x 276mm (17-1/8" x 4-1/4" x 10-7/8")
Weight	
CDX-870	4.8kg (10 lbs 9 oz)
CDX-670	4.7kg (10 lbs 5 oz)
Accessories	Pin plug code Remote control transmitter Dry-cell: x 2 (Size "AAA", R03)

**Specifications are subject to change without notice.*

***B** .....British model* ***G** .....European model*

● DIMENSION



Unit : mm (inch)

CDX-870
CDX-670

■ DISASSEMBLY PROCEDURES

(Remove parts in disassembly order as numbered.)

1. Removal of Top Cover
- a. Remove 7 screws (①) in Fig. 1.
- b. Lift the Top Cover to the back side and move it rearward slantingly.

2. Removal of Front Panel
- a. Remove 5 screws (②) in Fig. 1.
- b. Pull the Front Panel forward.
- c. Remove the Power Switch by removing 2 screws (③) in Fig. 1.
- d. Remove 4 connectors (#1, #3, #4, #5).
  Note) #3 : CDX-870 only
- e. Remove 2 ground wires by removing 2 screws (④) in Fig. 1. (CDX-870 only)

3. Removal of PU Mechanism Unit
- a. Remove 3 screws (⑤) in Fig. 1.
- b. Remove 4 connectors (#8 to #11).

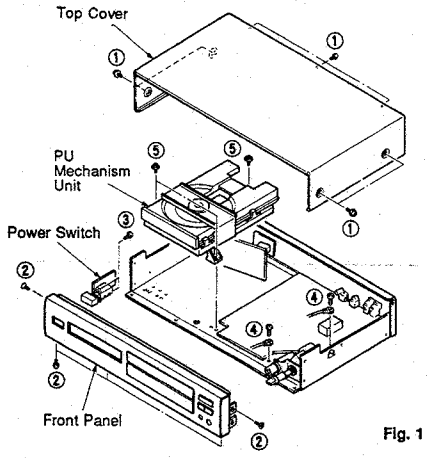


Fig. 1

4. Removal of Pick-up Head
- a. Remove 2 screws (⑥) in Fig. 2.
- b. Remove the tray by turn the Control Cam.
- c. Remove 2 screws (⑦) and remove the finge holder in Fig 2.

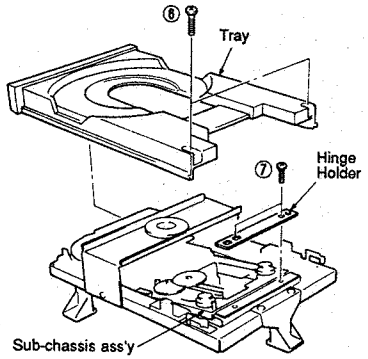


Fig. 2

- d. Remove the Mechanism Sub Ass'y by removing 4 screws (⑧) in Fig. 3.

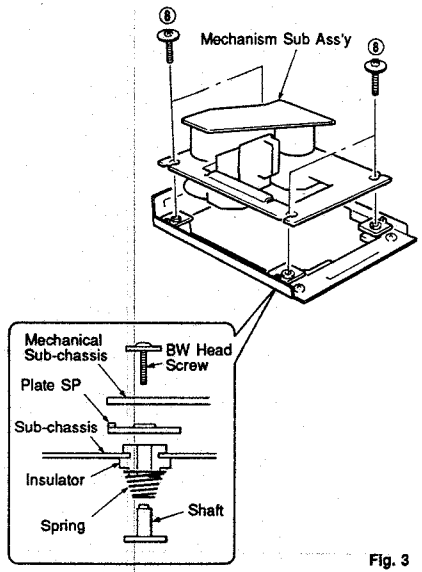


Fig. 3

- e. Remove the gear A in Fig. 4.
- f. Pull out the Slide Shaft in Fig. 4.
- g. Remove the Pick-up Head.

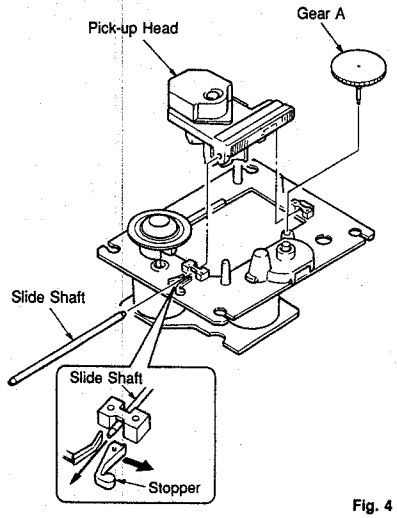
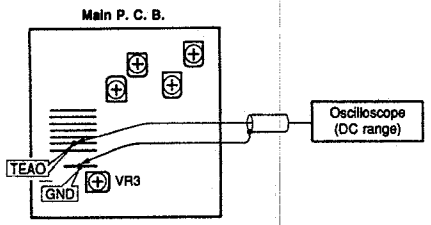


Fig. 4

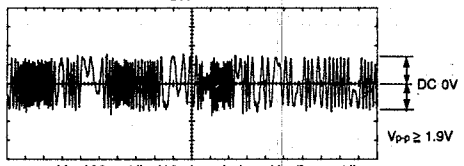
3 EF Balance Adjustment

See page 8 for TP locations & potentiometers.



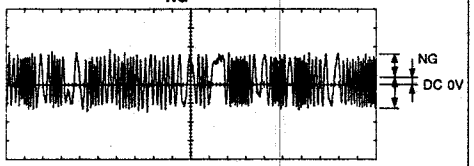
① Connect an oscilloscope to the test point TEAO.
* Make sure to use a 10 : 1 probe.
② Set to the TEST mode.
③ Load the test disc by using OPEN/CLOSE key.
④ Press the "4" key to adjustment mode Step 3.
⑤ Adjust VR3 so that the waveform at the test point TEAO has the same amplitude on both upper and lower sides of DC0V position.
Rating : DC offset = 0V±50mV
⑥ The distance between the top and the bottom of the waveform should be 1.9V or over.

OK



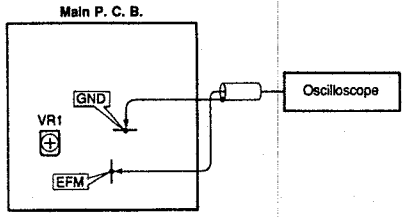
V : 100mv/div (10 :1 probe) H : 5msec/div

NG

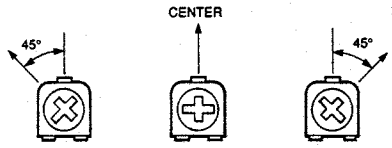


4 Focus Balance Adjustment

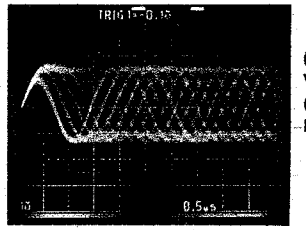
See page 8 for TP locations & potentiometers.



① Connect an oscilloscope to the test point EFM.
② Set to the TEST mode.
③ Load the test disc by using the OPEN/CLOSE key.
④ Press the "5" key to adjustment mode Step 4.
⑤ Confirm that the EFM signal (eye pattern) waveform is distinct and clear.
⑥ Adjust VR1 only when the eye pattern has not been obtained properly.
When adjusting it, however, note that adjustment should be done within 45° from its center position.
* If no change has occurred even after adjustment of VR1, set it to the center position mechanically.

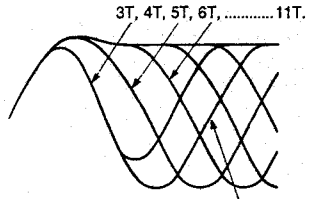


● **EYE PATTERN**



(AC)
V : 1V/div
(1 : 1 probe)
H : 0.5µsec/div

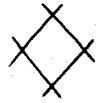
Waveforms 3T—11T.



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.

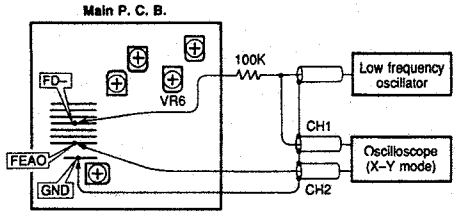
Good waveform



Abnormal waveform

5 Focus Servo Gain Adjustment

See page 8 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 by using the OPEN/CLOSE key.
④ Press the "5" key to adjustment mode Step 4.
⑤ Apply a sine wave as in Table A to the test point FD– through a 100kΩ resistance.

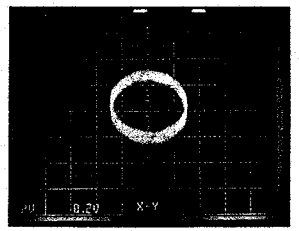
The frequency varies depending on the test disc.

Test Disc	Lot No.	Signal
YEDS-7	2-26	680Hz, 2Vrms
YEDS-18	31	605Hz, 2Vrms
TCD-782	T00702A	655Hz, 2Vrms
TCD-782	000101A	590Hz, 2Vrms
Philips 5	———	575Hz, 2Vrms

Table A

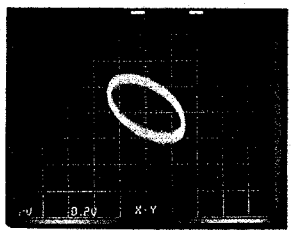
⑥ Adjust VR6 so that the phase difference between the waveform at the test point FD– and that at the FEAO becomes 90 degrees.

90° OK



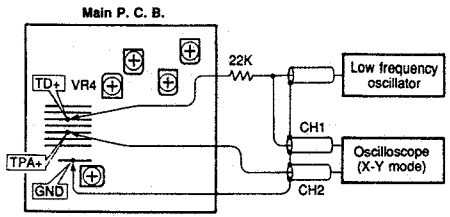
X : 2V/div Y : 200mV/div

NG



6 Tracking Servo Gain Adjustment

See page 8 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 by using the OPEN/CLOSE key.
④ Press the "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.

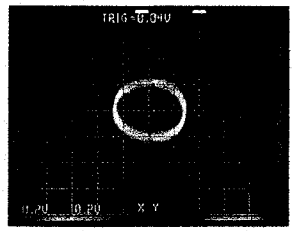
The frequency varies depending on the test disc.

Test Disc	Lot No.	Signal
YEDS-7	2-26	640Hz, 0.2Vrms
YEDS-18	31	615Hz, 0.2Vrms
TCD-782	T00702A	685Hz, 0.2Vrms
TCD-782	000101A	685Hz, 0.2Vrms
Philips 5	———	660Hz, 0.2Vrms

Table B

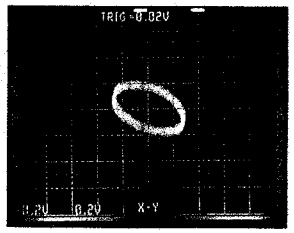
⑥ Adjust VR4 so that the phase difference between the waveform at the test point TD+ and that at the TPA+ is 90 degrees.

90° OK



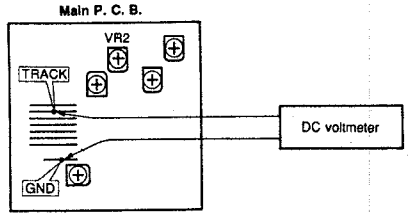
X : 200mV/div Y : 200mV/div

NG



7 Confirmation of Track Offset

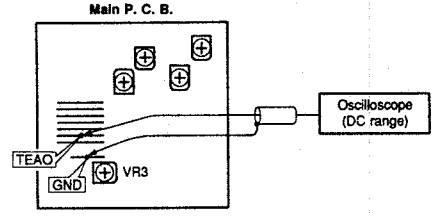
See page 8 for TP locations & potentiometers.



① Do not load the disc.
② Set to the TEST mode.
③ Press the "6" key to adjustment mode Step 5.
④ Measure the voltage at the test point TRACK and check if the following rating is satisfied.
Rating : VTRACK COIL = 0V±50mV(DC)
⑤ If the measured voltage does not satisfy the rating, adjust VR2.

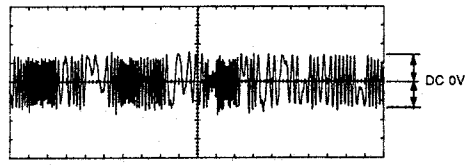
8 Confirmation of EF Balance

See page 8 for TP locations & potentiometers.



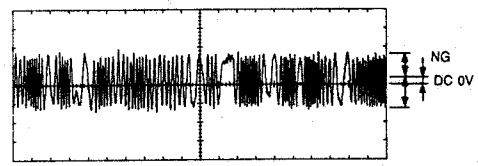
① Connect an oscilloscope to the test point TEAO.
* Make sure to use a 10 : 1 probe.
② Set to the TEST mode.
③ Load the test disc by using OPEN/CLOSE key.
④ Press the "7" key to adjustment mode Step 6.
⑤ Check the waveform at the test point TEAO for the same amplitude on both upper and lower sides of the DC 0V position.
Rating : DC offset = 0V±50mV
⑥ If the rating is not satisfied, adjust VR3.

OK



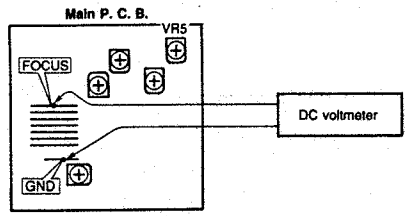
V : 100mv/div (10 :1 probe) H : 5msec/div

NG



9 Confirmation of Focus Offset

See page 8 for TP locations & potentiometers.



① Do not load the disc.
② Set to the TEST mode.
③ Press the "8" key to adjustment mode Step 7.
④ Measure the voltage at the test point FOCUS and check if the following rating is satisfied.
Rating : VFOCUS COIL = 0V±100mV(DC)
⑤ If the measured voltage does not satisfy the rating, adjust VR5.

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

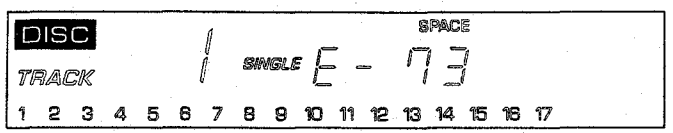
■ TEST MODE

(1) Turning ON the POWER while pressing the keys "4" and "7" will set to the TEST mode. (When the TEST mode is set, all indicators light for 1 second and then go off except "DISC".)
(2) Shown below are the panel keys in the TEST mode. (Panel keys only)

Panel key	Operation
OPEN/CLOSE	Tray open/close
PLAY/PAUSE	Play & TRON, MUTEOF, TRGL
STOP	All stop (Focus, spindle, feed, laser, tray, etc.) FL indicator initialized
⏮ SKIP	Feed inward (Stop at inward switch ON)
⏭ SKIP	Feed outward
◀◀ SEARCH	10 TRK KICK inward
▶▶ SEARCH	10 TRK KICK outward
INDEX (CDX-870 only)	Laser ON
1	To NORMAL mode
2	ADJUSTMENT mode 1 (Tray open, laser ON, TRGH, TROF, FEOF)
3	ADJUSTMENT mode 2 (Tray close, laser OFF, TRON,FEOF)
4	ADJUSTMENT mode 3 (Tray close, laser ON, TROF, FEOF)
5	ADJUSTMENT mode 4 (Tray close, laser ON, TRGL, TRON, FEON, MUTEOF)
6	ADJUSTMENT mode 5 (Same as ADJUSTMENT mode 2)
7	ADJUSTMENT mode 6 (Same as ADJUSTMENT mode 3)
8	ADJUSTMENT mode 7 (Same as ADJUSTMENT mode 1)
9	Motor volume - forced HI LED (AUTO DISPLAY OFF) ON, FL OFF
0	Motor volume + forced Hi
+10	Laser ON
REP S/F/OFF	TROF, FEOF
REP A-B	–
DIMMER	–
TIME	FL indication check
RANDOM	TRON & TRGH, MUTEON
PROGRAM	Spindle acceleration
PEAK	EEPROM test (MUTE ON at OK)
TAPE	Laser ON & focus research
SPACE (CDX-870 only)	Feed gain LO & feed inward (inward SW neglected)

■ ERROR MESSAGE

(1) When operation is terminated in an abnormal condition (stop or open), pressing STOP on the remote control while pressing STOP on the panel will set to the error message display enable mode.
(2) Shown below is an example of display. ("E-73" as an example)



(3) This function stays effective till the power is turned OFF. (It is cleared at OFF.)
(4) Listed in the table below are error messages.

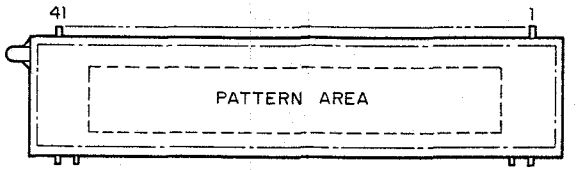
No.	Error Message	Content
1	E-X0	Data not read after search
2	E-X1	Data not read during PLAY(X=0), PAUSE(X=4) and SCAN(X=3)
3	E-73	Data not read at start (even once)
4	E-95	Tray closed but CLOSE switch fails to turn ON.
5	E--5	Tray opened but OPEN switch fails to turn ON.
6	E-X7	Feed executed inward but INWARD switch fails to turn ON.
7	E-X8	Recovery fails after focus drop

*No. for each state (meaning of "X")

PLAY	X="0"
SCAN	X="3"
PAUSE	X="4"
PEAK SEARCH	X="5"
SEARCH	X="6"
START	X="7"
STOP	X="8"
LOAD	X="9"
OPEN	X="-"
NO DISC	X="C"

■ DISPLAY DATA (VM663400)

● V401 : 8-BT-123GK



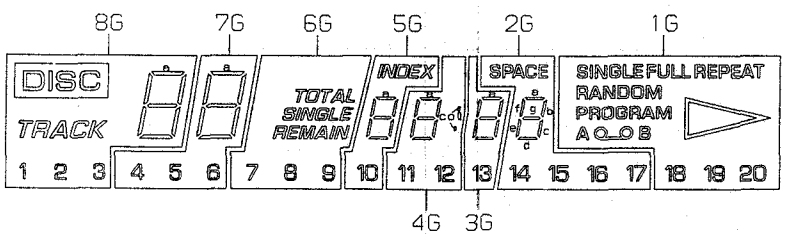
PIN CONNECTION

PIN NO.	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21
CONNECTION	F2	F2	NP	NP	8G	7G	6G	5G	4G	3G	2G	1G	NC	NC	NC	NC	NP	NP	NP	NP	NP

PIN NO.	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
CONNECTION	NP	NP	NP	NP	P12	P11	P10	P9	P8	P7	P6	P5	P4	P3	P2	P1	NP	NP	F1	F1

NOTE 1) F1, F2.....Filament
2) NP .....No pin
3) NC .....No connection
4) 1G~8G.....Grid

GRID ASSIGNMENT



ANODE CONNECTION

	8G	7G	6G	5G	4G	3G	2G	1G
P1	a	a	—	a	a	a	a	FULL
P2	b	b	TOTAL	b	b	b	b	REPEAT
P3	c	c	—	c	c	c	c	▷
P4	d	d	—	d	d	d	d	oo
P5	e	e	—	e	e	e	e	A
P6	f	f	SINGLE	f	f	f	f	RANDOM
P7	g	g	REMAIN	g	g	g	g	PROGRAM
P8	DISC	—	—	INDEX	—	—	SPACE	SINGLE
P9	TRACK	—	—	—	:	—	17	B
P10	3	6	9	10	12	13	16	20
P11	2	5	8	—	11	—	15	19
P12	1	4	7	—	—	—	14	18

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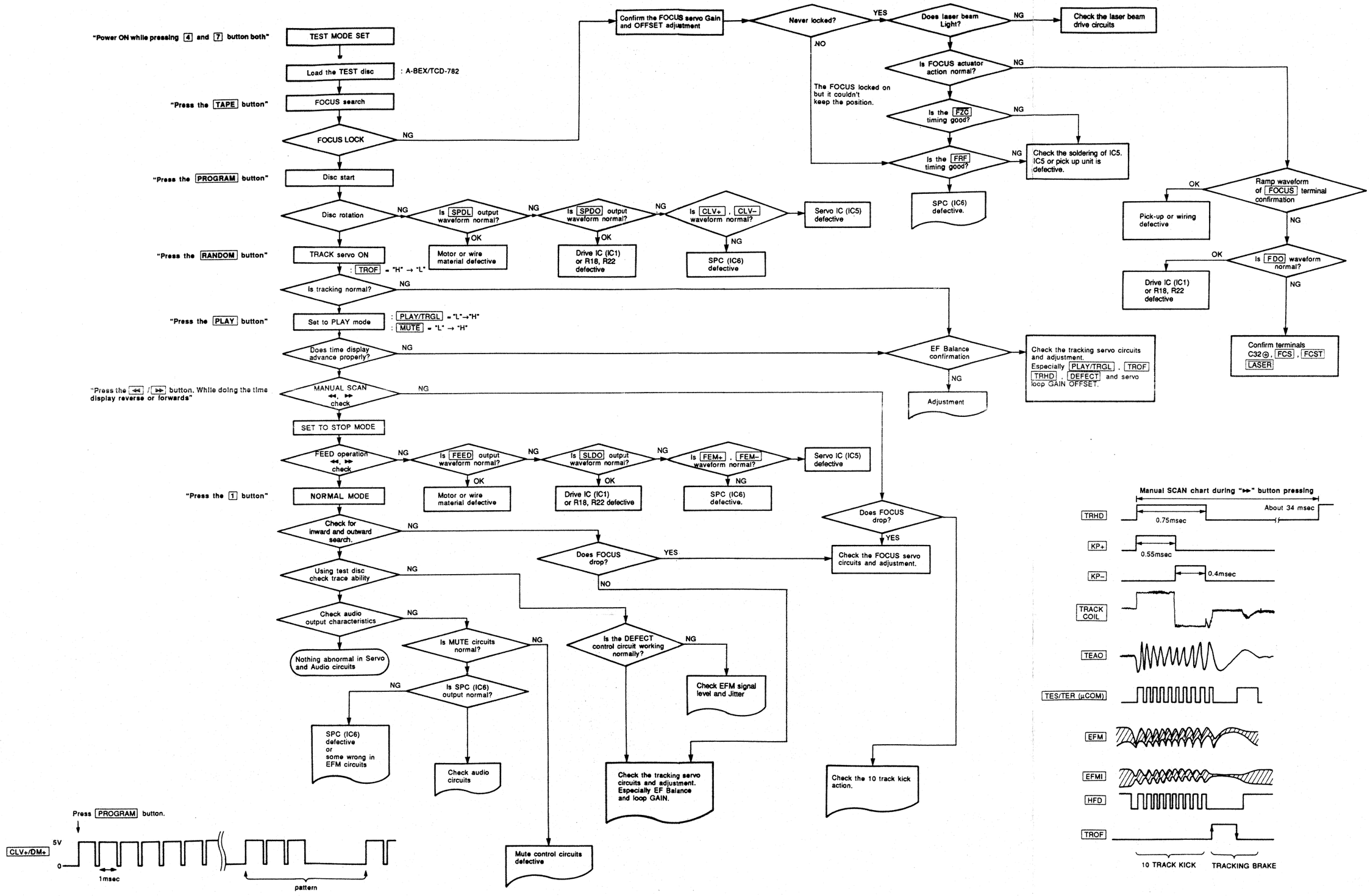
■ OPERATING CONFIRMATION TROUBLESHOOTING



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■ PRINTED CIRCUIT BOARD (Foil side)

● Semiconductor Location

Ref. No.	Location
D 1	D5
D 2	F4
D 3	D4
D 4	E4
D 5	E4
D 6	G5
D 7	G5
D 8	F3
D 9	F4
D 10	F4
D 11	F3
D 12	G5
D 13	G5
D 14	G5
D 15	G5
D 16	G5
D 17	G5
D 18	G5
D 19	G5
D 20	F2
D 21	F2
D 22	C4
D 23	C4
D 24	C4
D 25	C4
D 26	C4
D 27	C4
D 28	F2
D 29	F2

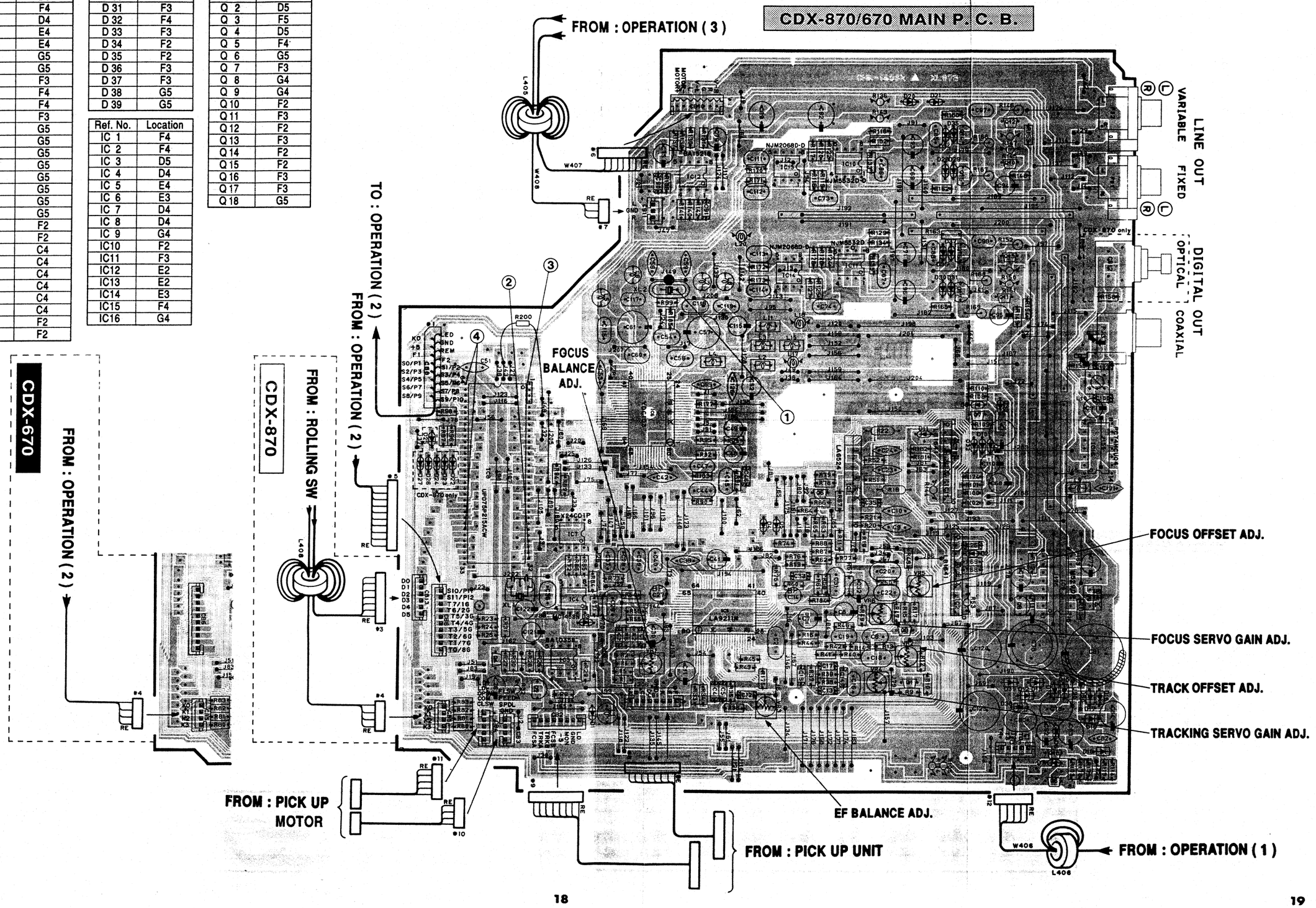
Ref. No.	Location
D 30	F3
D 31	F3
D 32	F4
D 33	F3
D 34	F2
D 35	F2
D 36	F3
D 37	F3
D 38	G5
D 39	G5

Ref. No.	Location
IC 1	F4
IC 2	F4
IC 3	D5
IC 4	D4
IC 5	E4
IC 6	E3
IC 7	D4
IC 8	D4
IC 9	G4
IC10	F2
IC11	F3
IC12	E2
IC13	E2
IC14	E3
IC15	F4
IC16	G4

Ref. No.	Location
Q 1	F5
Q 2	D5
Q 3	F5
Q 4	D5
Q 5	F4
Q 6	G5
Q 7	F3
Q 8	G4
Q 9	G4
Q10	F2
Q11	F3
Q12	F2
Q13	F3
Q14	F2
Q15	F2
Q16	F3
Q17	F3
Q18	G5

① to ④ : WAVEFORM OF TEST POINT (See page 22)

CDX-870/670 MAIN P. C. B.



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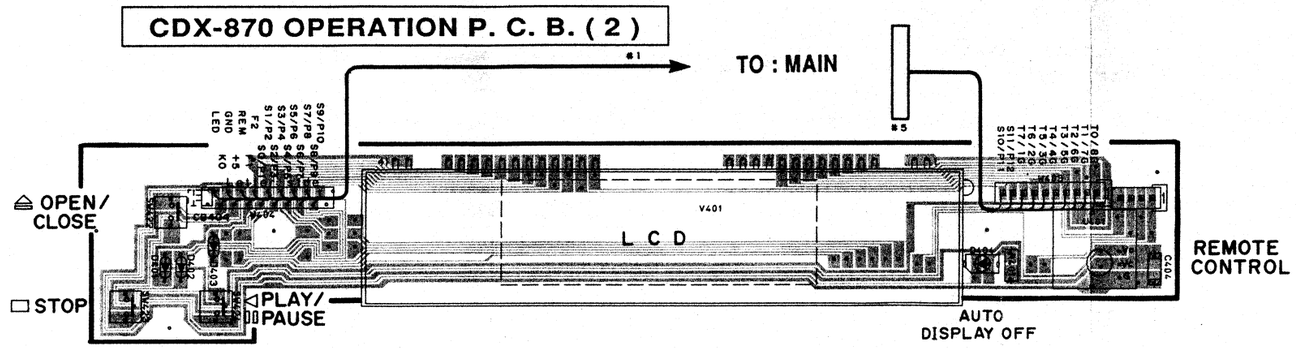
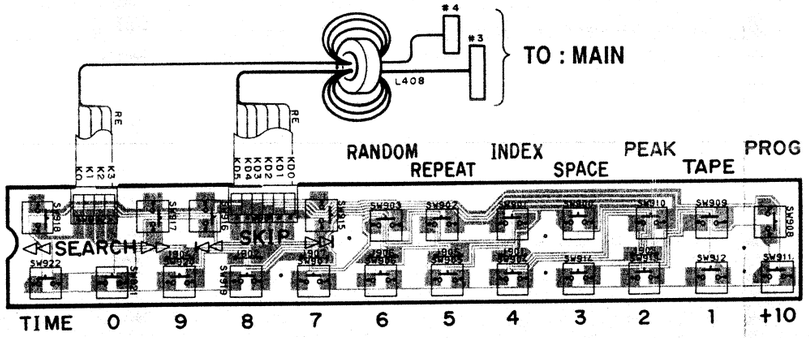
■ PRINTED CIRCUIT BOARD (Foil side)

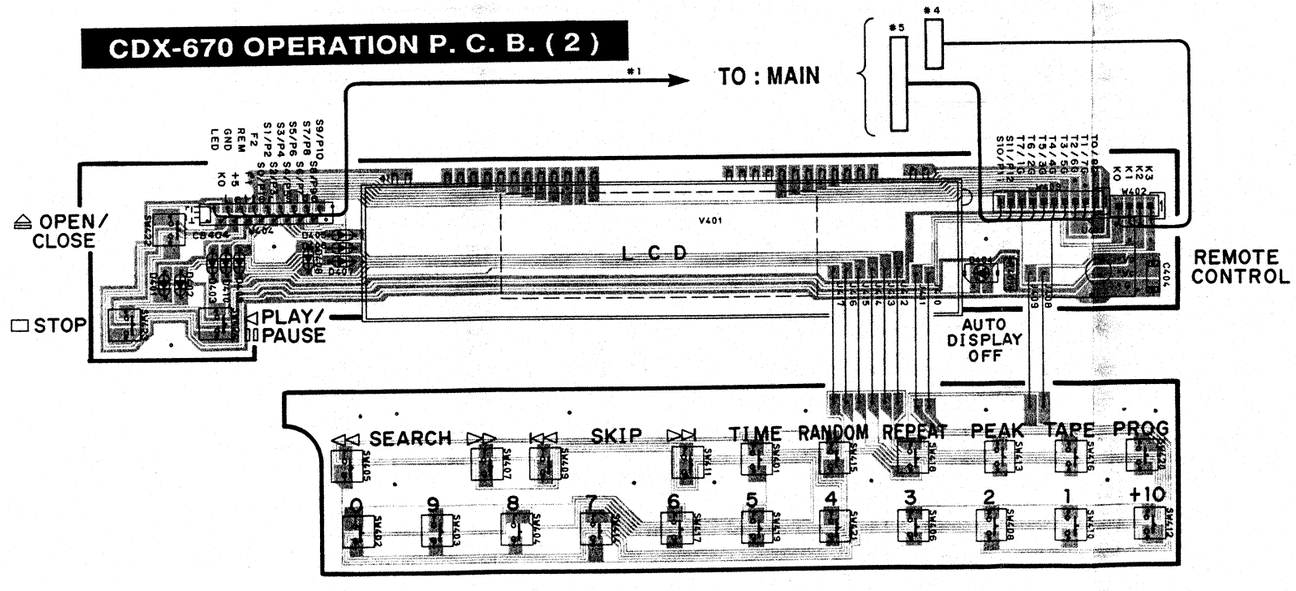
CDX-870 OPERATION P. C. B. (2)



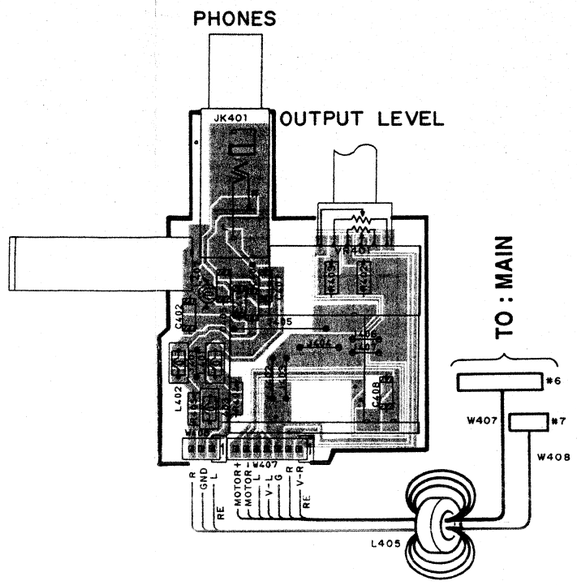
CDX-870 ROLLING SW P. C. B.



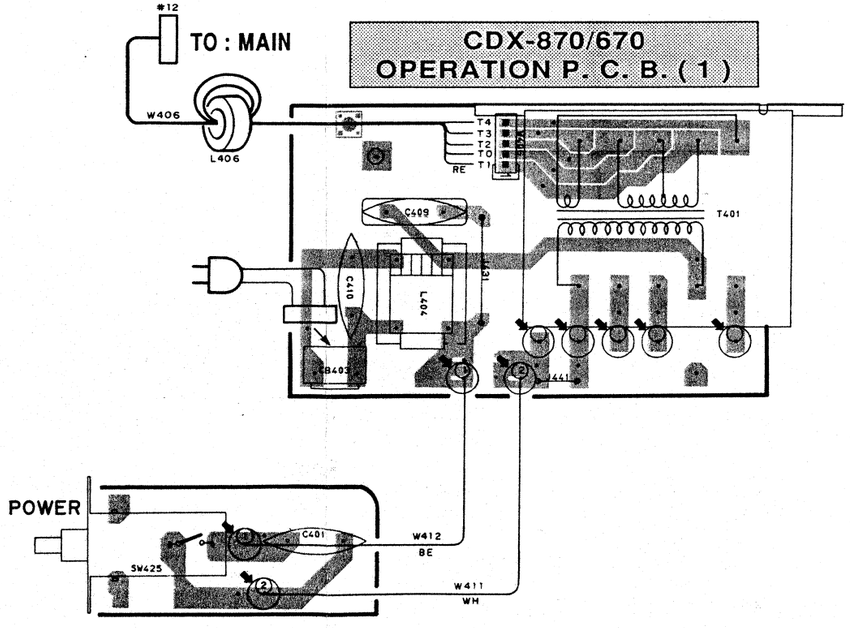
CDX-670 OPERATION P. C. B. (2)



CDX-870/670 OPERATION P. C. B. (3)



CDX-870/670 OPERATION P. C. B. (1)



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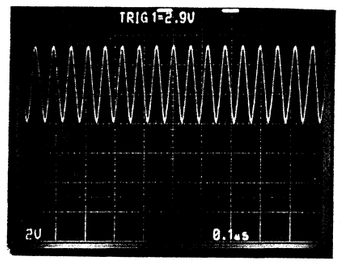
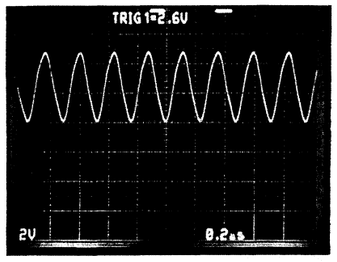
■ WAVEFORM OF TEST POINT

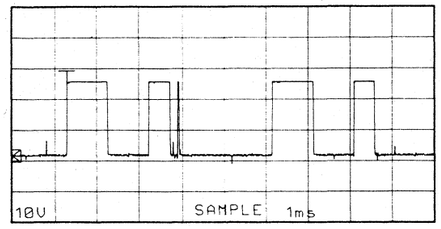
Point ① : XOUT
(Pin 30 of IC6)
V: 2V/div H : 0.1µsec/div
DC range 1 : 1 probe



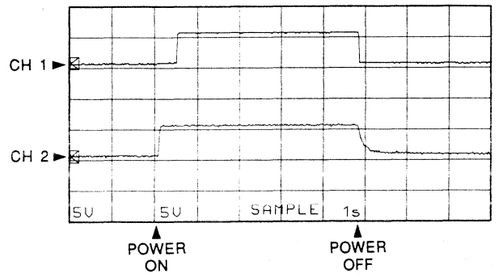
Point ② : XO
(Pin 31 of IC8)
V: 2V/div H : 0.2µsec/div
DC range 1 : 1 probe



Point ③ : S0 to S3
(Pin 1 to 4 of IC8)
V: 10V/div H : 1msec/div
DC range 1 : 1 probe



Point ④ : $\overline{\text{RESET}}$, +5V
(CH 1 : Pin 39 of IC8)
(CH 2 : Pin 64 of IC8)
V: 5V/div H : 1sec/div
DC range 1 : 1 probe



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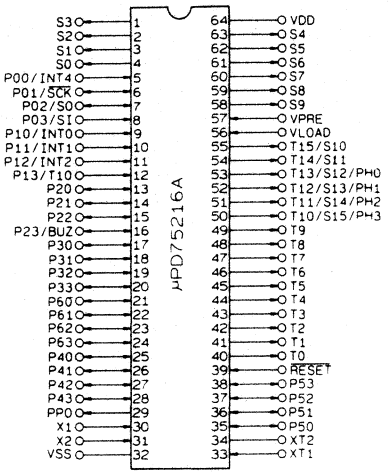
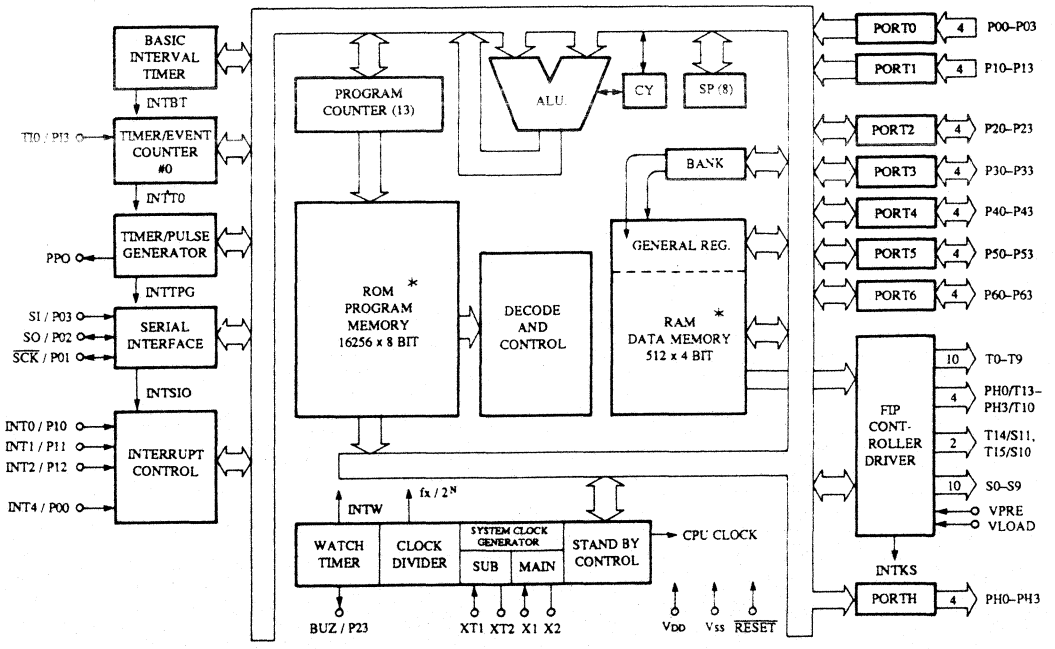
■ IC DATA

IC8 : 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
7	PO2	SO	Serial data output to YDC-103
8	PO3	SI	Serial data input from YDC-103
9	P10	REM	Input from remote control beam receiving unit
10	P11	–	Open
11	P12	FLSW	Feed origin switch input Feed origin at "L"
12	P13	TER	Track count signal input
13	P20	TRBK	Tracking brake enable instruction to YDC-103 Brake enable at "H"

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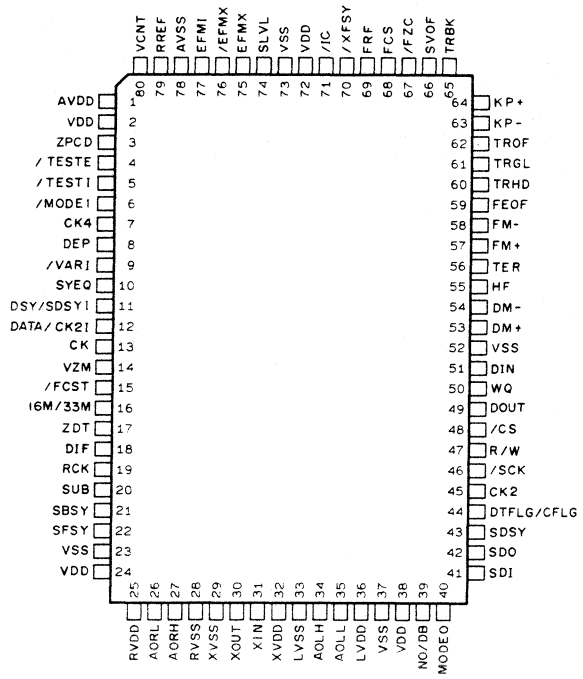
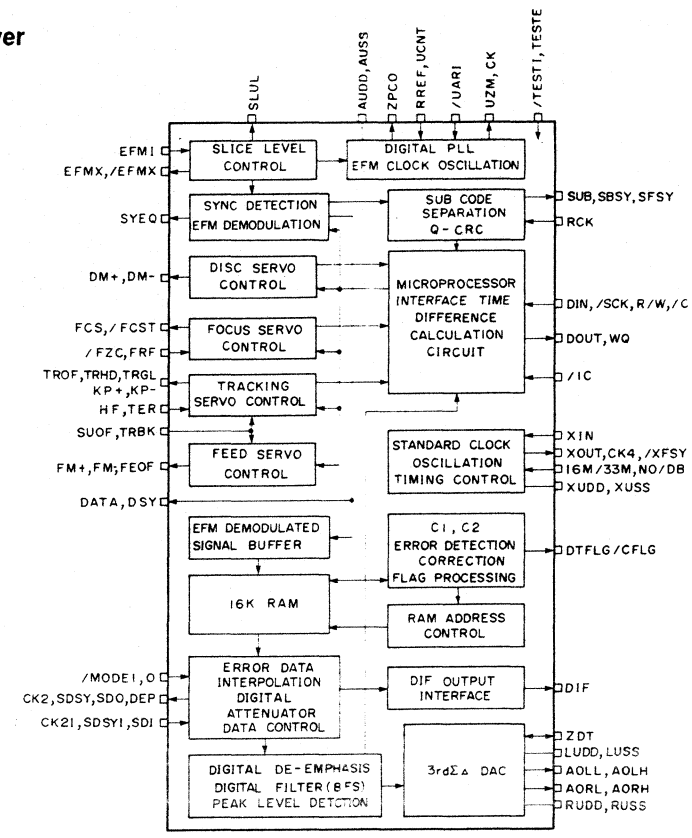
IC6 : YDC103
Signal Processor & Controller for Compact Disc Player





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	Description	Function
14	P21	SVOF	Servo off instruction to YDC-103 Servo off at "H"
15	P22	R/W	From microprocessor to YCDC-103 at "H" and from YCDC-103 to microprocessor at "L"
16	P23	FLOF	FL Display OFF
17	P30	OPSW	Open state of tray sensing switch input Open state at "L"
18	P31	CLSW	Closed state of tray sensing switch input Closed state at "L"
19	P32	SDA	Serial data signal with X24C01
20	P33	DVL-	Digital volume down (N.C.)
21	P60	FEOF	Feed servo OFF at "H" and feed servo ON at "L"
22	P61	FEGL	Feed gain H at "L" (during forced feeding) and gain L at "H" (other mode than forced feed)
23	P62	DM+	Spindle motor speed increase signal
24	P63	DM-	Spindle motor speed reduction signal
25	P40	$\overline{\text{LED}}$	LED ON/OFF signal (AUTO DISPLAY OFF)
26	P41	$\overline{\text{MUTE}}$	Sound output at "H" (play, fast forward, rewind modes) Sound output muted (other mode than in parentheses above)
27	P42	SCL	Serial clock signal with X24C01
28	P43	PLAY	VOC gain L and tracking gain L at "H" (during play mode) VOC gain H and tracking gain H at "L" (other than play mode)
29	PP0	$\overline{\text{LS}}$	Laser diode ON at "H" and OFF at "L"
30	X1	X1	Crystal oscillator Oscillation terminal (4.19MHz)
31	X2	X0	
32	VSS	VSS	GND
33	XT1	–	Open
34	XT2	–	Open
35	P50	K3	Key matrix input
36	P51	K2	
37	P52	K1	
38	P53	K0	
39	$\overline{\text{RESET}}$	$\overline{\text{RESET}}$	Operation starts at _┌→ and stops at ¬└→
40	T0	T0/8G	Fluorescent character display tube grid drive signal
41	T1	T1/7G	
42	T2	T2/6G	
43	T3	T3/5G	
44	T4	T4/4G	
45	T5	T5/3G	
46	T6	T6/2G	
47	T7	T7/1G	
48	T8	–	Open
49	T9	–	Open
50	T10	OPEN	Opening of tray at OP "H" and CL "L"
51	T11	CLOSE	Closing of tray at CL "H" and OP "L"
52	T12	VLUP	Volume motor drive signal (UP)
53	T13	VLDN	Volume motor drive signal (DOWN)
54	T14	S11	Fluorescent character display tube anode drive signal
55	T15	S10	
56	V LOAD	-VP	-20V
57	V PRE	GND	GND
58	S9	S9	Fluorescent character display tube anode drive signal
59	S8	S8	
60	S7	S7	
61	S6	S6	
62	S5	S5	
63	S4	S4	
64	VDD	VDD	+5V

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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 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

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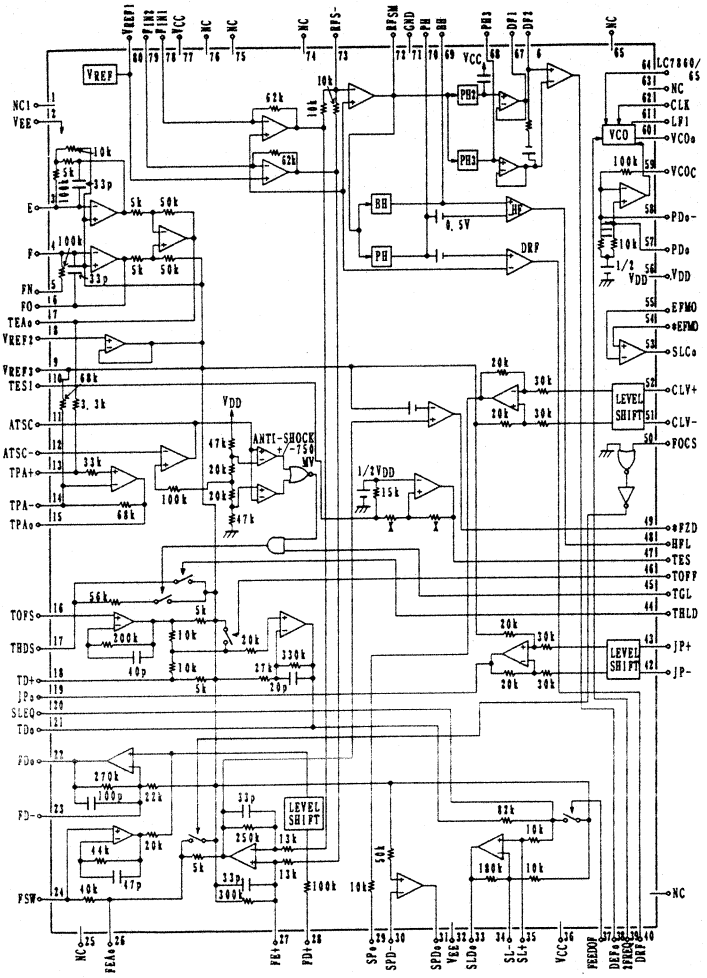
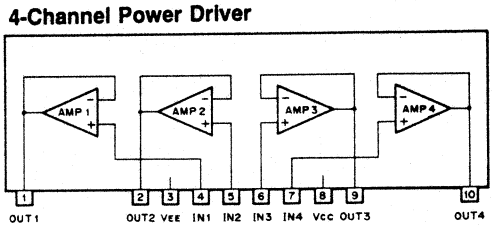
■ IC BLOCK

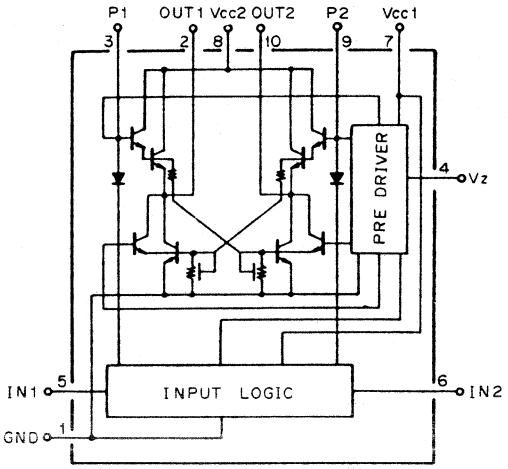
IC5 : LA9211M
RF Amp & Servo Controller



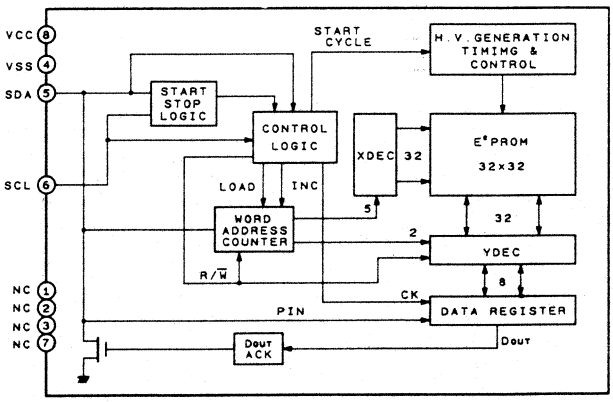
IC1 : LA6524
4-Channel Power Driver



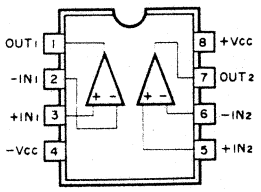
IC2, 15 : LB1641
Motor Driver



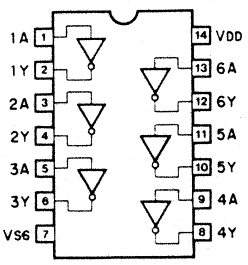
IC7 : X24C01P
Electrically Erasable PROM



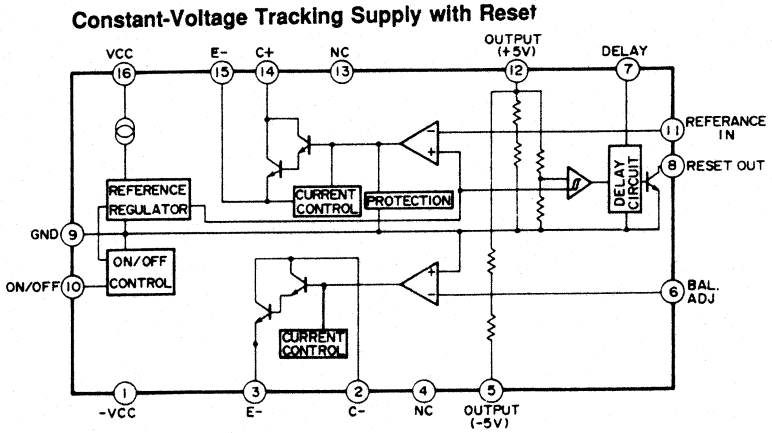
IC3 : BA10358, μPC358C or LM358N
IC4 : MC1458N or BA15218
IC13, 14 : NJM2068D-D
IC10, 11 : NJM5532D-D
IC12 : BA15218
Dual OP-Amp



IC16 : PC74HCU04
Hex Inverter

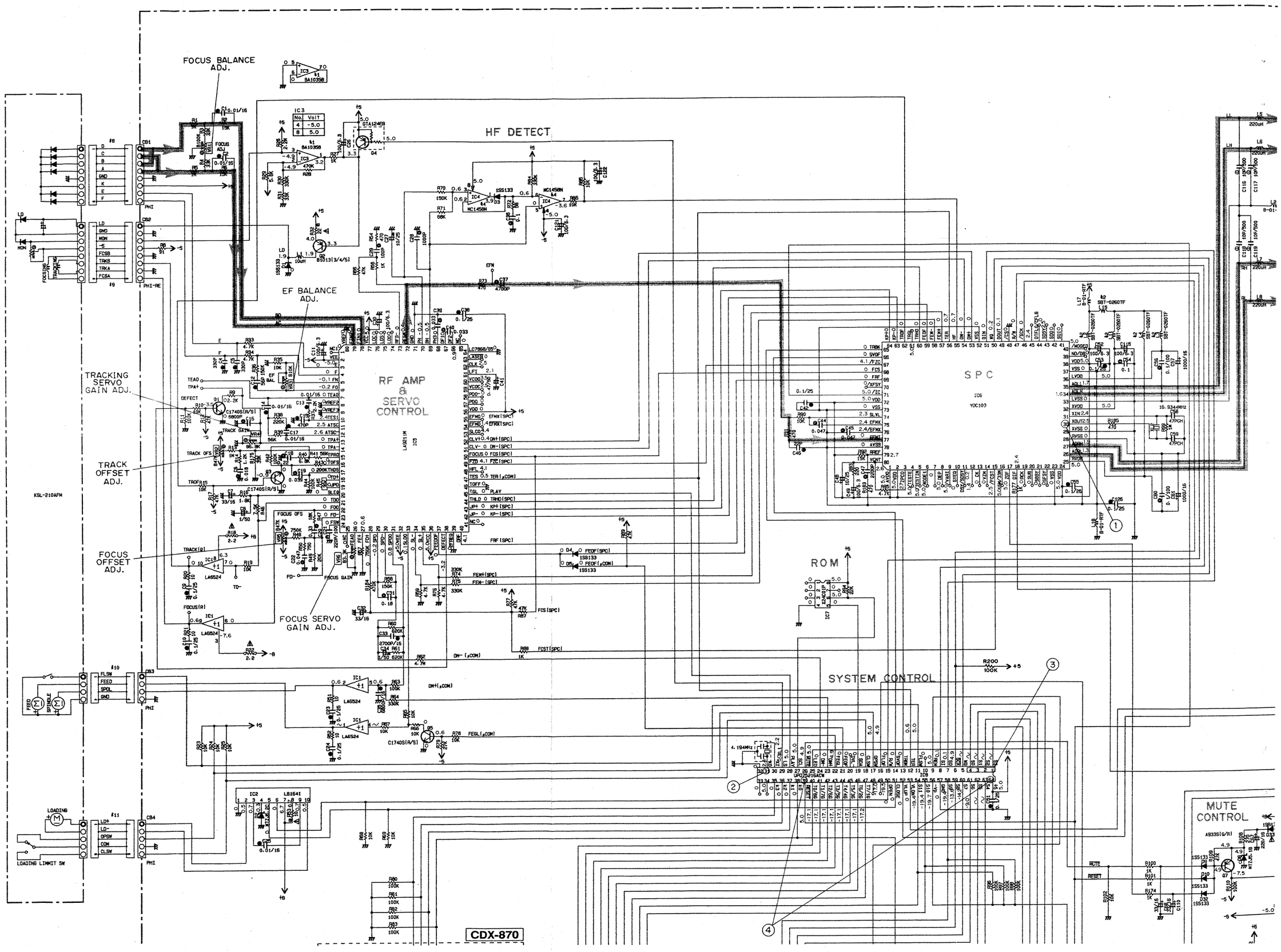


IC9 : M5290P
Constant-Voltage Tracking Supply with Reset

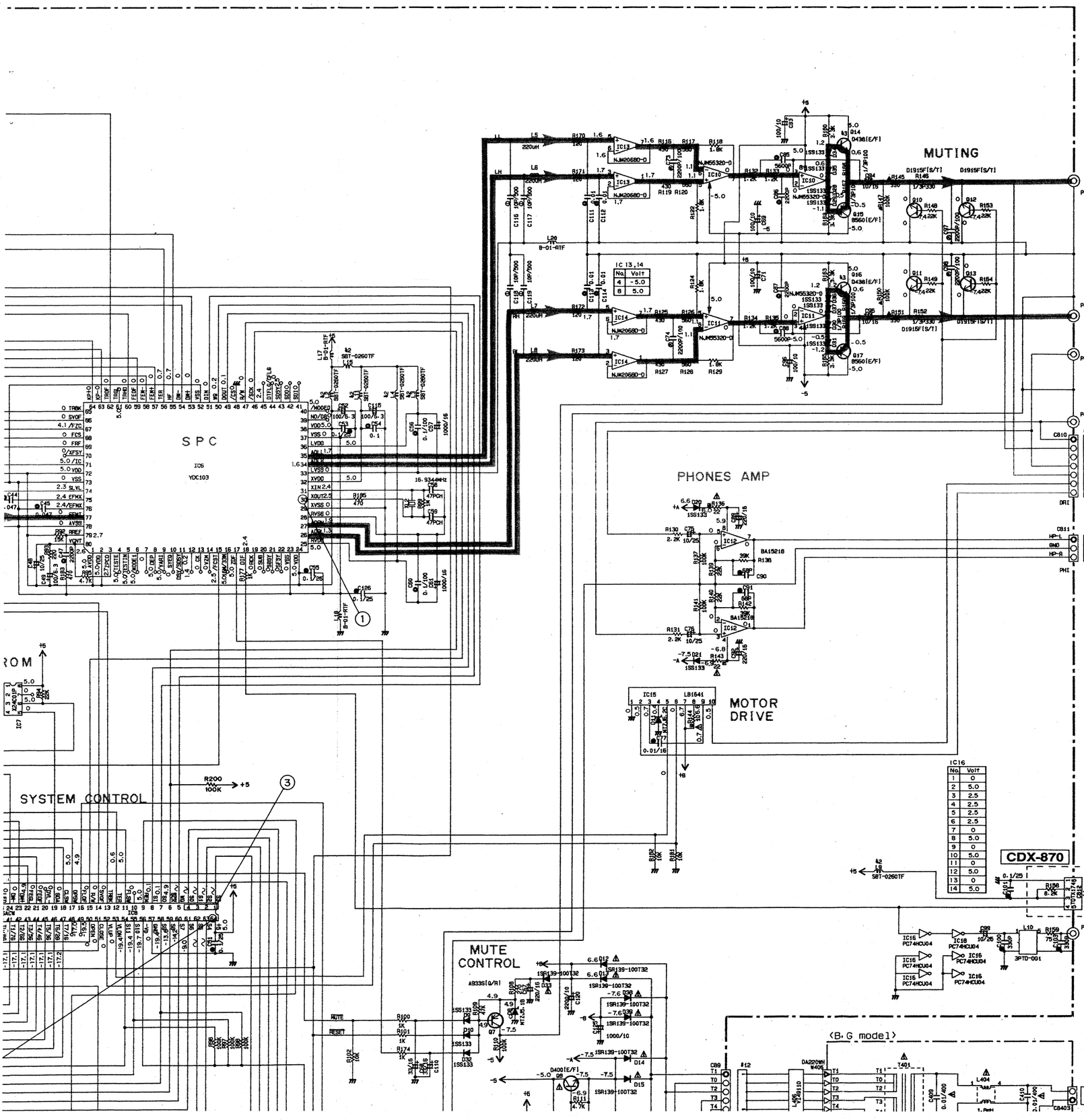


■ SCHEMATIC DIAGRAM

① to ④ : WAVEFORM OF TEST POINT (See page 22)

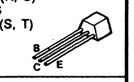


CDX-870
CDX-670

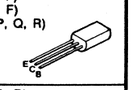


PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICS.

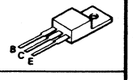
2SA933S(Q, R)
2SC1740S(R, S)
DTA124ES
2SD1915F(S, T)



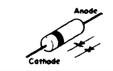
2SD400(E, F)
2SB1013(S, T, U)
2SB560(E, F)
2SD438(E, F)
2SC2061(P, Q, R)



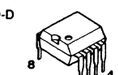
2SB1416(Q, R)



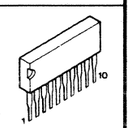
1SS133
1SR139-100T32
MTZJ5.1B
MTZJ6.2C
MTZJ22.0A



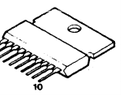
BA15218
X24C01P
NJM5532D-D
MC1458N
BA10358
μPC358C
LM358N
NJM2068D-D



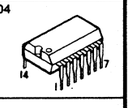
LB1641



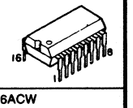
LA6524



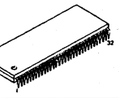
PC74HCU04



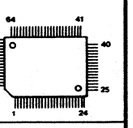
M5290P



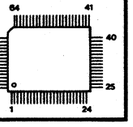
μPD75P216ACW

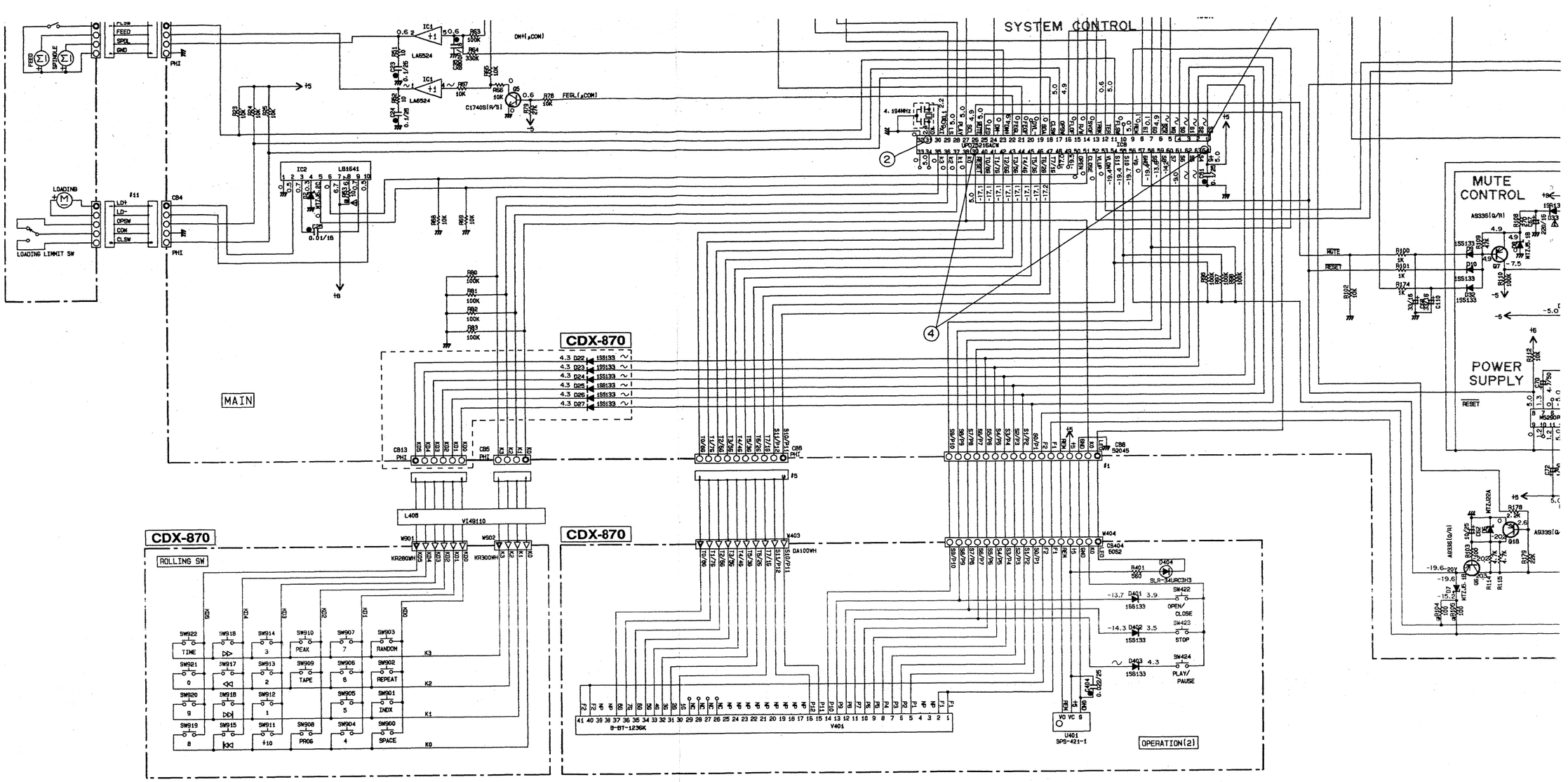


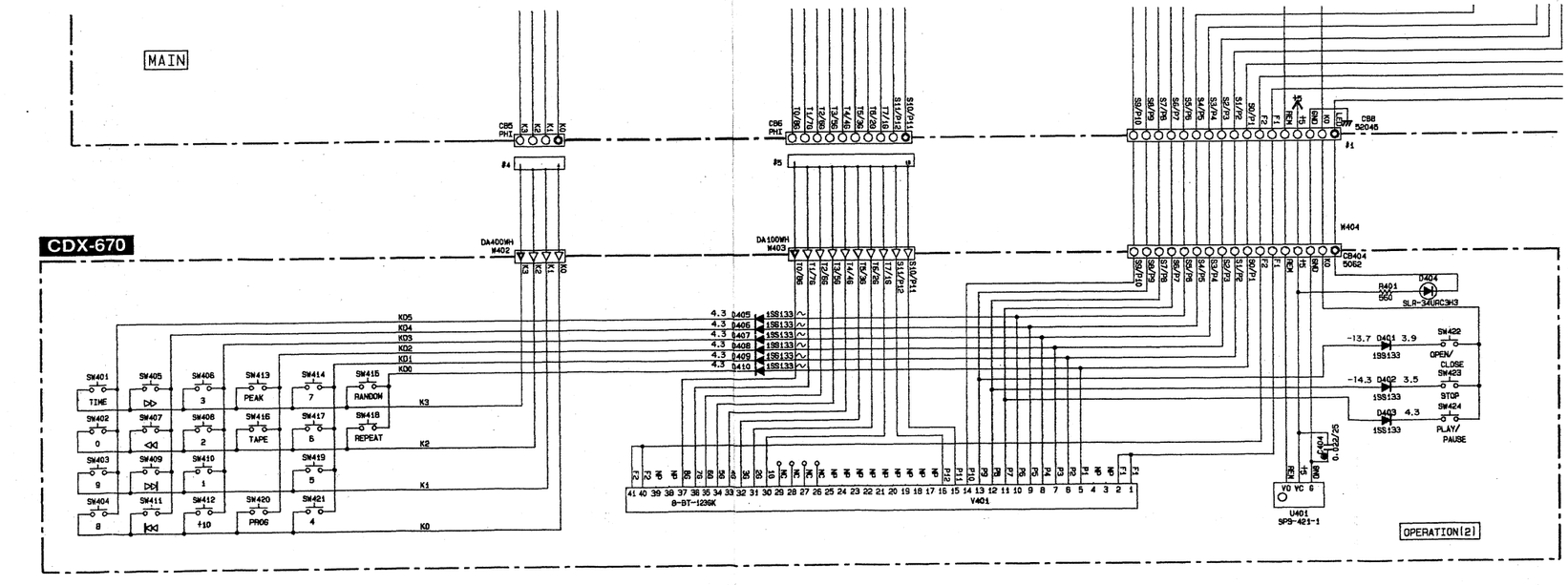
YDC103



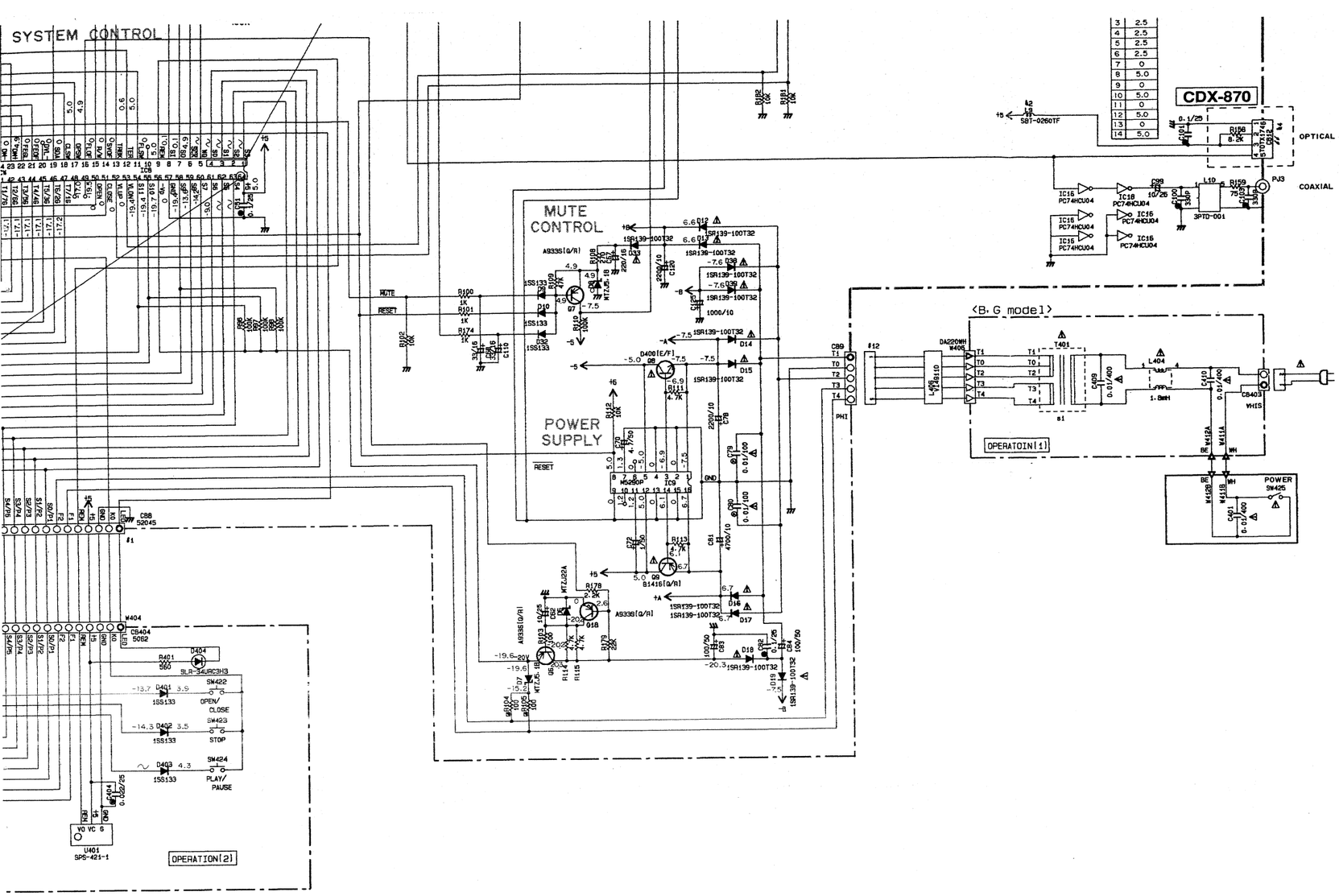
LA9211M

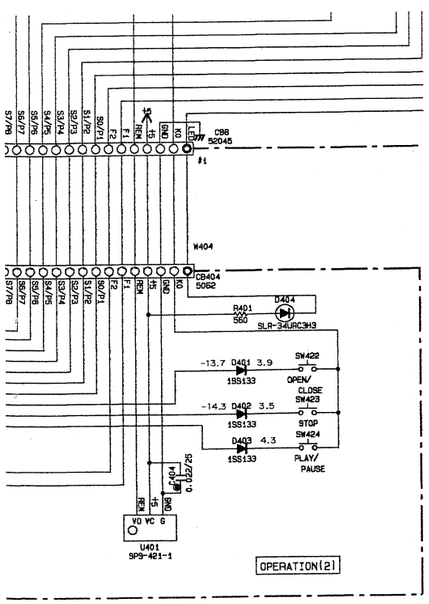


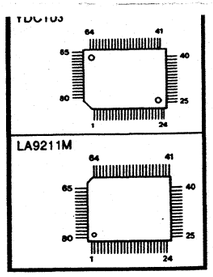




NOTICE
(J)····· Japanes
(U)····· U.S.A
(C)····· Canadi
(A)····· Austral
(G)····· Europe
(B)····· Britis
(R)····· General
(P)····· RP mod







	B	G
s1	XL868	XL869
s2		

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

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	‖

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	

Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
▲1	IC3	BA10358 UPC358C LM358N
▲2	L2-4.9-11-15 401-403	2SB-0860TF 2SB-0450T
▲3	Q14.15	2SD438(E/P) 2SC2001(P/Q/R)
▲4	CB12	TOTX174 TOTX176
▲5	IC4	MC1459N BA15218
▲6		

3	2.5
4	2.5
5	2.5
6	2.5
7	0
8	5.0
9	0
10	5.0
11	0
12	5.0
13	0
14	5.0

** All voltage 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.*

PARTS LIST

■ ELECTRICAL PARTS

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

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

ABBREVIATIONS IN THIS LIST ARE AS FOLLOWS :

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

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

CDX-870 MAIN P.C.B.

Schm Ref.	PART NO.	Description		
*	VP68200	P.C.B.	MAIN(EG)	
CB1	VD005100	CN.BS.PIN	PH i-TYPE	8P TE
CB2	VK506300	CN.BS.PIN	PH	8P TE
CB3	VD004700	CN.BS.PIN	PH i-TYPE	4P TE
CB4	VD004800	CN.BS.PIN	PH i-TYPE	5P TE
CB5	VD004700	CN.BS.PIN	PH i-TYPE	4P TE
CB6	VD005300	CN.BS.PIN	PH i-TYPE	10P TE
CB8	VM973500	CN.BS.PIN	52045	17P TE
CB9	VD004800	CN.BS.PIN	PH i-TYPE	5P TE
CB10	VK184500	CN.BS.PIN	DR	7P TE
CB11	VD004600	CN.BS.PIN	PH i-TYPE	3P TE
CB12	VG067200	L.EMIT	TOTX174	
CB13	VD004900	CN.BS.PIN	PH i-TYPE	6P TE
C1	VF467300	C.CE.TUBLR	0.01uF	16V
C2	VF467300	C.CE.TUBLR	0.01uF	16V
C4	VG278600	C.CE.TUBLR	330pF	50V
C5	VG278600	C.CE.TUBLR	330pF	50V
C6	UA654180	C.MYLAR	0.018uF	50V
C7	UM397330	C.EL	33uF	16V
C8	VJ839100	C.EL	1uF	50V
C9	VD930900	C.CE.SMI	0.1uF	25V
C10	VD930900	C.CE.SMI	0.1uF	25V
C11	VF760000	C.EL	100uF	10V
C12	VG277500	C.CE.TUBLR	56pF	50V
C13	VF467300	C.CE.TUBLR	0.01uF	16V
C14	VF467300	C.CE.TUBLR	0.01uF	16V
C15	VF466900	C.CE.TUBLR	470pF	50V
C16	UA653680	C.MYLAR	6800pF	50V
C17	VF467300	C.CE.TUBLR	0.01uF	16V
C18	UA655220	C.MYLAR	0.22uF	50V
C19	UA654390	C.MYLAR	0.039uF	50V
C20	UA655330	C.MYLAR	0.33uF	50V
C21	UT452220	C.PP	220pF	100V
C22	UA654470	C.MYLAR	0.047uF	50V
C23	VD930900	C.CE.SMI	0.1uF	25V
C24	VD930900	C.CE.SMI	0.1uF	25V
C25	VF467300	C.CE.TUBLR	0.01uF	16V
C26	VF760000	C.EL	100uF	10V
C27	VE040000	C.EL	10uF	25V
C28	UA653100	C.MYLAR	1000pF	50V
C29	UA652100	C.MYLAR	100pF	50V
C30	VF760000	C.EL	100uF	10V
C31	UA655180	C.MYLAR	0.18uF	50V
C32	UM397330	C.EL	33uF	16V
C33	VG279500	C.CE.TUBLR	2700pF	16V
C34	VG722100	C.EL	1uF	50V
C35	VG279900	C.CE.TUBLR	6800pF	16V
C36	UA655100	C.MYLAR	0.1uF	50V
C37	UA653470	C.MYLAR	4700pF	50V
C38	VD930900	C.CE.SMI	0.1uF	25V
C39	UA654330	C.MYLAR	0.033uF	50V
C40	UA654330	C.MYLAR	0.033uF	50V
C41	VJ839000	C.EL	0.47uF	50V

* New Parts

Schm Ref.	PART NO.	Description		
C42	VD930900	C.CE.SMI	0.1uF	25V
C44	UA654470	C.MYLAR	0.047uF	50V
C45	UA654470	C.MYLAR	0.047uF	50V
C46	VG276600	C.CE.TUBLR	22pF	50V
C47	UA653220	C.MYLAR	2200pF	50V
C48	UM417100	C.EL	10uF	50V
C49	VF760000	C.EL	100uF	10V
C51	VD930900	C.CE.SMI	0.1uF	25V
C52	VF760000	C.EL	100uF	10V
C53	VD930900	C.CE.SMI	0.1uF	25V
C54	UA655100	C.MYLAR	0.1uF	50V
C55	VD930900	C.CE.SMI	0.1uF	25V
C56	Vi862200	C.POLY	0.1uF	100V
C57	VG288000	C.EL	1000uF	16V
C58	VA761400	C.CE	47pF	50V
C59	VA761400	C.CE	47pF	50V
C60	Vi862200	C.POLY	0.1uF	100V
C61	VG288000	C.EL	1000uF	16V
C62	UM417100	C.EL	10uF	50V
C67	UJ648220	C.EL	220uF	25V
C68	UM397330	C.EL	33uF	16V
* C69	VP809500	C.EL	100uF	10V
C70	UM416470	C.EL	4.7uF	50V
* C71	VP809500	C.EL	100uF	10V
C72	VJ839100	C.EL	1uF	50V
* C73	VP847100	C.PP	2200pF	100V
* C74	VP847100	C.PP	2200pF	100V
C75	UM417100	C.EL	10uF	50V
C76	UM417100	C.EL	10uF	50V
C77	VF467300	C.CE.TUBLR	0.01uF	16V
* C78	VQ083700	C.EL	2200uF	10V
C79	VF279800	C.PP	0.01uF	100V ⚠
C80	VF279800	C.PP	0.01uF	100V ⚠
* C81	VQ083800	C.EL	4700uF	10V
C82	VD930900	C.CE.SMI	0.1uF	25V
C83	UJ668100	C.EL	100uF	50V
C84	UJ668100	C.EL	100uF	50V
C85	Vi716400	C.MYLAR	5600pF	50V
C86	Vi715900	C.MYLAR	2200pF	50V
C87	Vi715900	C.MYLAR	2200pF	50V
C88	Vi716400	C.MYLAR	5600pF	50V
C89	UJ648220	C.EL	220uF	25V
C90	VG277700	C.CE.TUBLR	68pF	50V
C91	VG277700	C.CE.TUBLR	68pF	50V
C92	UJ648220	C.EL	220uF	25V
* C93	VP809500	C.EL	100uF	10V
C94	Vi536300	C.EL	10uF	50V
C95	Vi536300	C.EL	10uF	50V
* C96	VP809500	C.EL	100uF	10V
* C97	VP847100	C.PP	2200pF	100V
* C98	VP847100	C.PP	2200pF	100V
C99	UM417100	C.EL	10uF	50V
C100	VG278600	C.CE.TUBLR	330pF	50V

* New Parts

CDX-870 MAIN P.C.B.

Schm Ref.	PART NO.	Description		
C101	VD930900	C.CE.SMI	0.1uF	25V
C103	VG278600	C.CE.TUBLR	330pF	50V
C110	UM397330	C.EL	33uF	16V
C111	UA654100	C.MYLAR	0.01uF	50V
C112	UA654100	C.MYLAR	0.01uF	50V
C113	UA654100	C.MYLAR	0.01uF	50V
C114	UA654100	C.MYLAR	0.01uF	50V
C115	VF760000	C.EL	100uF	10V
C116	FU451100	C.MICA	10pF	500V
C117	FU451100	C.MICA	10pF	500V
C118	FU451100	C.MICA	10pF	500V
C119	FU451100	C.MICA	10pF	500V
C120	UJ729220	C.EL	2200uF	10V
C121	VF760000	C.EL	100uF	10V
C122	VF760000	C.EL	100uF	10V
C125	VF637900	C.EL	1000uF	10V
C126	VD930900	C.CE.SMI	0.1uF	25V
D1	iF004600	DIODE	1SS133	
D2	VG438100	DIODE.ZENR	MTZJ6.2C	6.2V
D3	iF004600	DIODE	1SS133	
D4	iF004600	DIODE	1SS133	
D5	iF004600	DIODE	1SS133	
D6	VG442000	DIODE.ZENR	MTZJ22A	22V
D7	VG437400	DIODE.ZENR	MTZJ5.1B	5.1V
D8	VG437400	DIODE.ZENR	MTZJ5.1B	5.1V
D9	iF004600	DIODE	1SS133	
D10	iF004600	DIODE	1SS133	
D11	VG438100	DIODE.ZENR	MTZJ6.2C	6.2V
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	VH770800	DIODE	1SR139-100 T-32	⚠
D20	iF004600	DIODE	1SS133	
D21	iF004600	DIODE	1SS133	
D22	iF004600	DIODE	1SS133	
D23	iF004600	DIODE	1SS133	
D24	iF004600	DIODE	1SS133	
D25	iF004600	DIODE	1SS133	
D26	iF004600	DIODE	1SS133	
D27	iF004600	DIODE	1SS133	
D28	iF004600	DIODE	1SS133	
D29	iF004600	DIODE	1SS133	
D30	iF004600	DIODE	1SS133	
D31	iF004600	DIODE	1SS133	
D32	iF004600	DIODE	1SS133	
D33	VH770800	DIODE	1SR139-100 T-32	⚠
D34	iF004600	DIODE	1SS133	
D35	iF004600	DIODE	1SS133	
D36	iF004600	DIODE	1SS133	

* New Parts

Schm Ref.	PART NO.	Description		
D37	iF004600	DIODE	1SS133	
D38	VH770800	DIODE	1SR139-100 T-32	⚠
D39	VH770800	DIODE	1SR139-100 T-32	⚠
IC1	XJ740B00	IC	LA6524	
IC2	XF494A00	IC	LB1641	
IC3	XG937A00	IC	BA10358	
IC4	iG028400	IC	NJM4558DY<RC4558DV	
* IC5	XM037A00	IC	LA9211M	
* IC6	XL834A00	IC	YDC103	
IC7	Xi668A00	IC	X24C01P	
* IC8	XM003B00	IC	uPD75216ACW	
IC9	XD201A00	IC	M5290P	
IC10	XA673A00	IC	NJM5532D-D	
IC11	XA673A00	IC	NJM5532D-D	
IC12	Xi249A00	IC	BA15218	
IC13	XA987001	IC	NJM2068D-D	
IC14	XA987001	IC	NJM2068D-D	
IC15	XF494A00	IC	LB1641	
IC16	Xi677A00	IC	PC74HCU04	
L1	VG668100	COIL	10uH	
L2	VF968800	COIL	60uH	
L3	VF968800	COIL	60uH	
L4	VF968800	COIL	60uH	
L5	VB056900	COIL	220uH	
L6	VB056900	COIL	220uH	
L7	VB056900	COIL	220uH	
L8	VB056900	COIL	220uH	
L9	VF968800	COIL	60uH	
L10	Vi530800	TRANS.PULS	3PTD-001	
L11	VF968800	COIL	60uH	
L15	VF968800	COIL	60uH	
L17	VE795500	FER.BEAD	B-01-RTF	
L18	VE795500	FER.BEAD	B-01-RTF	
L20	VE795500	FER.BEAD	B-01-RTF	
PJ1	VF645900	JACK.PIN	2P	
PJ2	VF645900	JACK.PIN	2P	
PJ3	VK525600	JACK.PIN	1P	
Q1	iC174020	TR	2SC1740S R,S	
Q2	Vi915200	TR	2SB1013	
Q3	iC174020	TR	2SC1740S R,S	
Q4	VH257100	TR.DGT	DTA124ES	
Q5	iC174020	TR	2SC1740S R,S	
Q6	iA093320	TR	2SA933S Q,R	
Q7	iA093320	TR	2SA933S Q,R	
Q8	iD040040	TR	2SD400	⚠
Q9	VH481100	TR	2SB1416TA Q,R	⚠
Q10	VK432900	TR	2SD1915F S,T	
Q11	VK432900	TR	2SD1915F S,T	
Q12	VK432900	TR	2SD1915F S,T	
Q13	VK432900	TR	2SD1915F S,T	
Q14	iD043820	TR	2SD438 E,F	
Q15	iB056020	TR	2SB560 E,F	
Q16	iD043820	TR	2SD438 E,F	

* New Parts

CDX-870 MAIN, OPERATION & ROLLING SW P.C.B.

Schm Ref.	PART NO.	Description		
Q17	iB056020	TR	2SB560 E,F	
Q18	iA093320	TR	2SA933S Q,R	
R18	VH293400	R.FUS	2.2Ω 1/6W	⚠
R22	VH293400	R.FUS	2.2Ω 1/6W	⚠
R32	HV454220	R.CAR.FP	22Ω 1/4W	⚠
R53	HV454100	R.CAR.FP	10Ω 1/4W	⚠
R104	HV455100	R.CAR.FP	100Ω 1/4W	
R105	HV455100	R.CAR.FP	100Ω 1/4W	
R136	HV454220	R.CAR.FP	22Ω 1/4W	⚠
R143	HV454220	R.CAR.FP	22Ω 1/4W	⚠
R144	HV454100	R.CAR.FP	10Ω 1/4W	⚠
R145	HU575330	R.MTL.FLM	330Ω 1/4W	
R147	HU578100	R.MTL.FLM	100KΩ 1/4W	
R150	HU578100	R.MTL.FLM	100KΩ 1/4W	
R151	HU575330	R.MTL.FLM	330Ω 1/4W	
VR1	VJ694200	VR.TRIM	B100KΩ	
VR2	VJ694000	VR.TRIM	B47KΩ	
VR3	VJ693600	VR.TRIM	B10KΩ	
VR4	VJ693500	VR.TRIM	B6.8KΩ	
VR5	VJ694000	VR.TRIM	B47KΩ	
VR6	VJ693300	VR.TRIM	B3.3KΩ	
XL1	VJ677200	RSNR.CE	4.19MHz	
XL2	VJ719800	RSNR.CRYS	16.9344MHz	
	VB966900	CN	IMSA-6024	
*	VP686500	P.C.B.	OPERATION(B)	
*	VP686600	P.C.B.	OPERATION(G)	
CB403	VG879900	CN.BS.PIN	VH 2P TE	
CB404	VM973400	CN	5062 17P TE	
C401	VE179200	C.CE.SAFTY	0.01uF 400V	⚠
C402	VJ599100	C.CE.TUBLR	0.1uF 50V	
C404	VG280100	C.CE.TUBLR	0.022uF 25V	
C405	VJ599100	C.CE.TUBLR	0.1uF 50V	
C406	VJ599100	C.CE.TUBLR	0.1uF 50V	
C407	VJ599100	C.CE.TUBLR	0.1uF 50V	
C408	VG280100	C.CE.TUBLR	0.022uF 25V	
C409	VE179200	C.CE.SAFTY	0.01uF 400V	⚠
C410	VE179200	C.CE.SAFTY	0.01uF 400V	⚠
C411	VJ599100	C.CE.TUBLR	0.1uF 50V	
D401	iF004600	DIODE	1SS133	
D402	iF004600	DIODE	1SS133	
D403	iF004600	DIODE	1SS133	
D404	iF008730	LED	SLR-34URC3H3 (re)	
JK401	VA316300	JACK.PHONE		
L401	VF968800	COIL	60uH	
L402	VF968800	COIL	60uH	
L403	VF968800	COIL	60uH	
L404	VE800700	FLTR	1.8mH ELF18D290V	⚠
L405	Vi491100	FER.CORE	BP53RB19012080M	
L406	Vi491100	FER.CORE	BP53RB19012080M	
L407	VE795500	FER.BEAD	B-01-RTF	

* New Parts

Schm Ref.	PART NO.	Description		
SW422	VG392900	SW.TACT	SKHVAA	
SW423	VG392900	SW.TACT	SKHVAA	
SW424	VG392900	SW.TACT	SKHVAA	
SW425	Vi319200	SW.PUSH	SDDLD1	⚠
* T401	XL868A00	TRANS.PWR	(B)	⚠
* T401	XL869A00	TRANS.PWR	(G)	⚠
U401	VK498900	L.DTCT	S-100	
V401	VM663400	FL.DSPLY	8-BT-123GK	
VR401	VK084000	VR.MTR	B20KΩx2	
W404	VM973600	CN.FLAT	17P 250mm	
	VB966900	CN	IMSA-6024	
	CB644670	COVER.CAP		
	VN519000	SHEET	FL	
	VM440900	SPACER	FL	
	VM865100	GND.MTL		
	VN099700	P.C.B.	ROLLING SW	
SW900	VG392900	SW.TACT	SKHVAA	
SW901	VG392900	SW.TACT	SKHVAA	
SW902	VG392900	SW.TACT	SKHVAA	
SW903	VG392900	SW.TACT	SKHVAA	
SW904	VG392900	SW.TACT	SKHVAA	
SW905	VG392900	SW.TACT	SKHVAA	
SW906	VG392900	SW.TACT	SKHVAA	
SW907	VG392900	SW.TACT	SKHVAA	
SW908	VG392900	SW.TACT	SKHVAA	
SW909	VG392900	SW.TACT	SKHVAA	
SW910	VG392900	SW.TACT	SKHVAA	
SW911	VG392900	SW.TACT	SKHVAA	
SW912	VG392900	SW.TACT	SKHVAA	
SW913	VG392900	SW.TACT	SKHVAA	
SW914	VG392900	SW.TACT	SKHVAA	
SW915	VG392900	SW.TACT	SKHVAA	
SW916	VG392900	SW.TACT	SKHVAA	
SW917	VG392900	SW.TACT	SKHVAA	
SW918	VG392900	SW.TACT	SKHVAA	
SW919	VG392900	SW.TACT	SKHVAA	
SW920	VG392900	SW.TACT	SKHVAA	
SW921	VG392900	SW.TACT	SKHVAA	
SW922	VG392900	SW.TACT	SKHVAA	

* New Parts

CDX-670 MAIN P.C.B.

Schm Ref.	PART NO.	Description		
*	VP685500	P.C.B.	MAIN	
CB1	VD005100	CN.BS.PIN	PH i-TYPE 8P TE	
CB2	VK506300	CN.BS.PIN	PH 8P TE	
CB3	VD004700	CN.BS.PIN	PH i-TYPE 4P TE	
CB4	VD004800	CN.BS.PIN	PH i-TYPE 5P TE	
CB5	VD004700	CN.BS.PIN	PH i-TYPE 4P TE	
CB6	VD005300	CN.BS.PIN	PH i-TYPE 10P TE	
CB8	VM973500	CN.BS.PIN	52045 17P TE	
CB9	VD004800	CN.BS.PIN	PH i-TYPE 5P TE	
CB10	VK184500	CN.BS.PIN	DR 7P TE	
CB11	VD004600	CN.BS.PIN	PH i-TYPE 3P TE	
C1	VF467300	C.CE.TUBLR	0.01uF 16V	
C2	VF467300	C.CE.TUBLR	0.01uF 16V	
C4	VG278600	C.CE.TUBLR	330pF 50V	
C5	VG278600	C.CE.TUBLR	330pF 50V	
C6	UA654180	C.MYLAR	0.018uF 50V	
C7	UM397330	C.EL	33uF 16V	
C8	VJ839100	C.EL	1uF 50V	
C9	VD930900	C.CE.SMI	0.1uF 25V	
C10	VD930900	C.CE.SMI	0.1uF 25V	
C11	VF760000	C.EL	100uF 10V	
C12	VG277500	C.CE.TUBLR	56pF 50V	
C13	VF467300	C.CE.TUBLR	0.01uF 16V	
C14	VF467300	C.CE.TUBLR	0.01uF 16V	
C15	VF466900	C.CE.TUBLR	470pF 50V	
C16	UA653680	C.MYLAR	6800pF 50V	
C17	VF467300	C.CE.TUBLR	0.01uF 16V	
C18	UA655220	C.MYLAR	0.22uF 50V	
C19	UA654390	C.MYLAR	0.039uF 50V	
C20	UA655330	C.MYLAR	0.33uF 50V	
C21	UT452220	C.PP	220pF 100V	
C22	UA654470	C.MYLAR	0.047uF 50V	
C23	VD930900	C.CE.SMI	0.1uF 25V	
C24	VD930900	C.CE.SMI	0.1uF 25V	
C25	VF467300	C.CE.TUBLR	0.01uF 16V	
C26	VF760000	C.EL	100uF 10V	
C27	VE040000	C.EL	10uF 25V	
C28	UA653100	C.MYLAR	1000pF 50V	
C29	UA652100	C.MYLAR	100pF 50V	
C30	VF760000	C.EL	100uF 10V	
C31	UA655180	C.MYLAR	0.18uF 50V	
C32	UM397330	C.EL	33uF 16V	
C33	VG279500	C.CE.TUBLR	2700pF 16V	
C34	VG722100	C.EL	1uF 50V	
C35	VG279900	C.CE.TUBLR	6800pF 16V	
C36	UA655100	C.MYLAR	0.1uF 50V	
C37	UA653470	C.MYLAR	4700pF 50V	
C38	VD930900	C.CE.SMI	0.1uF 25V	
C39	UA654330	C.MYLAR	0.033uF 50V	
C40	UA654330	C.MYLAR	0.033uF 50V	
C41	VJ839000	C.EL	0.47uF 50V	
C42	VD930900	C.CE.SMI	0.1uF 25V	
C44	UA654470	C.MYLAR	0.047uF 50V	

* New Parts

Schm Ref.	PART NO.	Description		
C45	UA654470	C.MYLAR	0.047uF	50V
C46	VG276600	C.CE.TUBLR	22pF	50V
C47	UA653220	C.MYLAR	2200pF	50V
C48	UM417100	C.EL	10uF	50V
C49	VF760000	C.EL	100uF	10V
C51	VD930900	C.CE.SMI	0.1uF	25V
C52	VF760000	C.EL	100uF	10V
C53	VD930900	C.CE.SMI	0.1uF	25V
C54	UA655100	C.MYLAR	0.1uF	50V
C55	VD930900	C.CE.SMI	0.1uF	25V
C56	Vi862200	C.POLY	0.1uF	100V
C57	VG288000	C.EL	1000uF	16V
C58	VA761400	C.CE	47pF	50V
C59	VA761400	C.CE	47pF	50V
C60	Vi862200	C.POLY	0.1uF	100V
C61	VG288000	C.EL	1000uF	16V
C62	UM417100	C.EL	10uF	50V
C67	UJ648220	C.EL	220uF	25V
C68	UM397330	C.EL	33uF	16V
* C69	VP809500	C.EL	100uF	10V
C70	UM416470	C.EL	4.7uF	50V
* C71	VP809500	C.EL	100uF	10V
C72	VJ839100	C.EL	1uF	50V
* C73	VP847100	C.PP	2200pF	100V
* C74	VP847100	C.PP	2200pF	100V
C75	UM417100	C.EL	10uF	50V
C76	UM417100	C.EL	10uF	50V
C77	VF467300	C.CE.TUBLR	0.01uF	16V
C78	VQ083700	C.EL	2200uF	10V
C79	VF279800	C.PP	0.01uF	100V
C80	VF279800	C.PP	0.01uF	100V
C81	VQ083800	C.EL	4700uF	10V
C82	VD930900	C.CE.SMI	0.1uF	25V
C83	UJ668100	C.EL	100uF	50V
C84	UJ668100	C.EL	100uF	50V
C85	Vi716400	C.MYLAR	5600pF	50V
C86	Vi715900	C.MYLAR	2200pF	50V
C87	Vi715900	C.MYLAR	2200pF	50V
C88	Vi716400	C.MYLAR	5600pF	50V
C89	UJ648220	C.EL	220uF	25V
C90	VG277700	C.CE.TUBLR	68pF	50V
C91	VG277700	C.CE.TUBLR	68pF	50V
C92	UJ648220	C.EL	220uF	25V
* C93	VP809500	C.EL	100uF	10V
C94	Vi536300	C.EL	10uF	50V
C95	Vi536300	C.EL	10uF	50V
* C96	VP809500	C.EL	100uF	10V
* C97	VP847100	C.PP	2200pF	100V
* C98	VP847100	C.PP	2200pF	100V
C99	UM417100	C.EL	10uF	50V
C100	VG278600	C.CE.TUBLR	330pF	50V
C101	VD930900	C.CE.SMI	0.1uF	25V
C103	VG278600	C.CE.TUBLR	330pF	50V

* New Parts

CDX-670 MAIN P.C.B.

Schm Ref.	PART NO.	Description		
C110	UM397330	C.EL	33uF	16V
C111	UA654100	C.MYLAR	0.01uF	50V
C112	UA654100	C.MYLAR	0.01uF	50V
C113	UA654100	C.MYLAR	0.01uF	50V
C114	UA654100	C.MYLAR	0.01uF	50V
C115	VF760000	C.EL	100uF	10V
C116	FU451100	C.MICA	10pF	500V
C117	FU451100	C.MICA	10pF	500V
C118	FU451100	C.MICA	10pF	500V
C119	FU451100	C.MICA	10pF	500V
C120	UJ729220	C.EL	2200uF	10V
C121	VF760000	C.EL	100uF	10V
C122	VF760000	C.EL	100uF	10V
C125	VF637900	C.EL	1000uF	10V
C126	VD930900	C.CE.SMI	0.1uF	25V
D1	iF004600	DIODE	1SS133	
D2	VG438100	DIODE.ZENR	MTZJ6.2C	6.2V
D3	iF004600	DIODE	1SS133	
D4	iF004600	DIODE	1SS133	
D5	iF004600	DIODE	1SS133	
D6	VG442000	DIODE.ZENR	MTZJ22A	22V
D7	VG437400	DIODE.ZENR	MTZJ5.1B	5.1V
D8	VG437400	DIODE.ZENR	MTZJ5.1B	5.1V
D9	iF004600	DIODE	1SS133	
D10	iF004600	DIODE	1SS133	
D11	VG438100	DIODE.ZENR	MTZJ6.2C	6.2V
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	VH770800	DIODE	1SR139-100 T-32	⚠
D20	iF004600	DIODE	1SS133	
D21	iF004600	DIODE	1SS133	
D28	iF004600	DIODE	1SS133	
D29	iF004600	DIODE	1SS133	
D30	iF004600	DIODE	1SS133	
D31	iF004600	DIODE	1SS133	
D32	iF004600	DIODE	1SS133	
D33	VH770800	DIODE	1SR139-100 T-32	⚠
D34	iF004600	DIODE	1SS133	
D35	iF004600	DIODE	1SS133	
D36	iF004600	DIODE	1SS133	
D37	iF004600	DIODE	1SS133	
D38	VH770800	DIODE	1SR139-100 T-32	⚠
D39	VH770800	DIODE	1SR139-100 T-32	⚠
IC1	XJ740B00	IC	LA6524	
IC2	XF494A00	IC	LB1641	
IC3	XG937A00	IC	BA10358	
IC4	iG028400	IC	NJM4558DY	
* IC5	XM037A00	IC	LA9211M	

* New Parts

Schm Ref.	PART NO.	Description		
IC6	XL834A00	IC	YDC103	
IC7	Xi668A00	IC	X24C01P	
IC8	XM003B00	IC	uPD75216ACW	
IC9	XD201A00	IC	M5290P	
IC10	XA987001	IC	NJM2068D-D	
IC11	XA987001	IC	NJM2068D-D	
IC12	Xi249A00	IC	BA15218	
IC13	XA987001	IC	NJM2068D-D	
IC14	XA987001	IC	NJM2068D-D	
IC15	XF494A00	IC	LB1641	
IC16	Xi677A00	IC	PC74HCU04	
L1	VG668100	COIL	10uH	
L2	VF968800	COIL	60uH	
L3	VF968800	COIL	60uH	
L4	VF968800	COIL	60uH	
L5	VB056900	COIL	220uH	
L6	VB056900	COIL	220uH	
L7	VB056900	COIL	220uH	
L8	VB056900	COIL	220uH	
L9	VF968800	COIL	60uH	
L10	Vi530800	TRANS.PULS	3PTD-001	
L11	VF968800	COIL	60uH	
L15	VF968800	COIL	60uH	
L17	VE795500	FER.BEAD	B-01-RTF	
L18	VE795500	FER.BEAD	B-01-RTF	
L20	VE795500	FER.BEAD	B-01-RTF	
PJ1	VF645900	JACK.PIN	2P	
PJ2	VJ898400	JACK.PIN	2P	
PJ3	VG020100	JACK.PIN	1P	
Q1	iC174020	TR	2SC1740S R,S	
Q2	Vi915200	TR	2SB1013	
Q3	iC174020	TR	2SC1740S R,S	
Q4	VH257100	TR.DGT	DTA124ES	
Q5	iC174020	TR	2SC1740S R,S	
Q6	iA093320	TR	2SA933S Q,R	
Q7	iA093320	TR	2SA933S Q,R	
Q8	iD040040	TR	2SD400	⚠
Q9	VH481100	TR	2SB1416TA Q,R	⚠
Q10	VK432900	TR	2SD1915F S,T	
Q11	VK432900	TR	2SD1915F S,T	
Q12	VK432900	TR	2SD1915F S,T	
Q13	VK432900	TR	2SD1915F S,T	
Q14	iD043820	TR	2SD438 E,F	
Q15	iB056020	TR	2SB560 E,F	
Q16	iD043820	TR	2SD438 E,F	
Q17	iB056020	TR	2SB560 E,F	
Q18	iA093320	TR	2SA933S Q,R	
R18	VH293400	R.FUS	2.2Ω 1/6W	⚠
R22	VH293400	R.FUS	2.2Ω 1/6W	⚠
R32	HV454220	R.CAR.FP	22Ω 1/4W	⚠
R53	HV454100	R.CAR.FP	10Ω 1/4W	⚠
R104	HV455100	R.CAR.FP	100Ω 1/4W	
R105	HV455100	R.CAR.FP	100Ω 1/4W	

* New Parts

CDX-870 MAIN & OPERATION P.C.B.

Schm Ref.	PART NO.	Description		
R136	HV454220	R.CAR.FP	22Ω 1/4W	⚠
R143	HV454220	R.CAR.FP	22Ω 1/4W	⚠
R144	HV454100	R.CAR.FP	10Ω 1/4W	⚠
R145	HU575330	R.MTL.FLM	330Ω 1/4W	
R147	HU578100	R.MTL.FLM	100KΩ 1/4W	
R150	HU578100	R.MTL.FLM	100KΩ 1/4W	
R151	HU575330	R.MTL.FLM	330Ω 1/4W	
VR1	VJ694200	VR.TRIM	B100KΩ	
VR2	VJ694000	VR.TRIM	B47KΩ	
VR3	VJ693600	VR.TRIM	B10KΩ	
VR4	VJ693500	VR.TRIM	B6.8KΩ	
VR5	VJ694000	VR.TRIM	B47KΩ	
VR6	VJ693300	VR.TRIM	B3.3KΩ	
XL1	VJ677200	RSNR.CE	4.19MHz	
XL2	VJ719800	RSNR.CRYS	16.9344MHz	
	VB966900	CN	IMSA-6024	
*	VP686300	P.C.B.	OPERATION(B)	
*	VP686400	P.C.B.	OPERATION(G)	
CB403	VG879900	CN.BS.PIN	VH 2P TE	
CB404	VM973400	CN	5062 17P TE	
C401	VE179200	C.CE.SAFTY	0.01uF 400V	⚠
C402	VJ599100	C.CE.TUBLR	0.1uF 50V	
C404	VG280100	C.CE.TUBLR	0.022uF 25V	
C405	VJ599100	C.CE.TUBLR	0.1uF 50V	
C406	VJ599100	C.CE.TUBLR	0.1uF 50V	
C407	VJ599100	C.CE.TUBLR	0.1uF 50V	
C408	VG280100	C.CE.TUBLR	0.022uF 25V	
C409	VE179200	C.CE.SAFTY	0.01uF 400V	⚠
C410	VE179200	C.CE.SAFTY	0.01uF 400V	⚠
C411	VJ599100	C.CE.TUBLR	0.1uF 50V	
D401	iF004600	DIODE	1SS133	
D402	iF004600	DIODE	1SS133	
D403	iF004600	DIODE	1SS133	
D404	iF008730	LED	SLR-34URC3H3 (re)	
D405	iF004600	DIODE	1SS133	
D406	iF004600	DIODE	1SS133	
D407	iF004600	DIODE	1SS133	
D408	iF004600	DIODE	1SS133	
D409	iF004600	DIODE	1SS133	
D410	iF004600	DIODE	1SS133	
JK401	VA316300	JACK.PHONE		
L401	VF968800	COIL	60uH	
L402	VF968800	COIL	60uH	
L403	VF968800	COIL	60uH	
L404	VE800700	FLTR	1.8mH ELF18D290V	⚠
L405	Vi491100	FER.CORE	BP53RB19012080M	
L406	Vi491100	FER.CORE	BP53RB19012080M	
L407	VE795500	FER.BEAD	B-01-RTF	
SW401	VG392900	SW.TACT	SKHVAA	
SW402	VG392900	SW.TACT	SKHVAA	

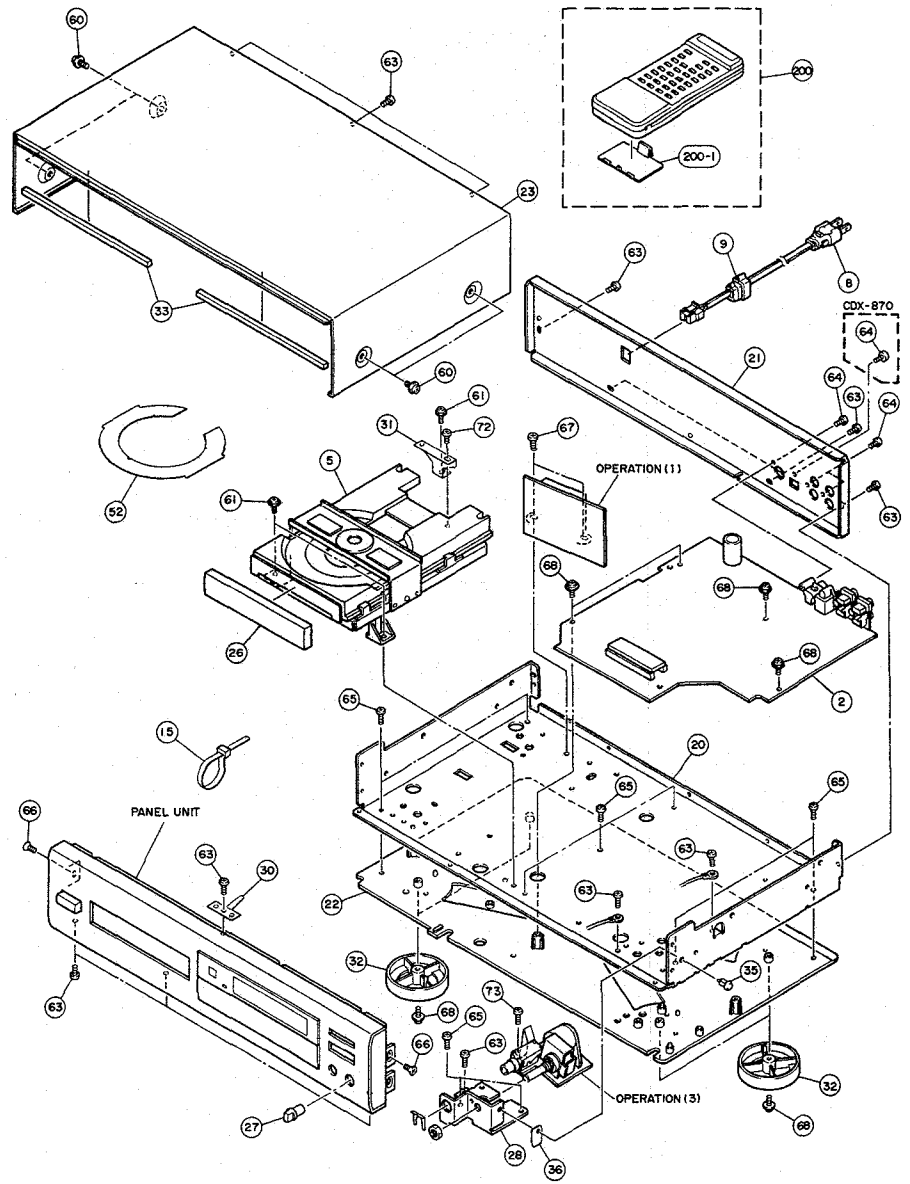
* New Parts

Schm Ref.	PART NO.	Description		
SW403	VG392900	SW.TACT	SKHVAA	
SW404	VG392900	SW.TACT	SKHVAA	
SW405	VG392900	SW.TACT	SKHVAA	
SW406	VG392900	SW.TACT	SKHVAA	
SW407	VG392900	SW.TACT	SKHVAA	
SW408	VG392900	SW.TACT	SKHVAA	
SW409	VG392900	SW.TACT	SKHVAA	
SW410	VG392900	SW.TACT	SKHVAA	
SW411	VG392900	SW.TACT	SKHVAA	
SW412	VG392900	SW.TACT	SKHVAA	
SW413	VG392900	SW.TACT	SKHVAA	
SW414	VG392900	SW.TACT	SKHVAA	
SW415	VG392900	SW.TACT	SKHVAA	
SW416	VG392900	SW.TACT	SKHVAA	
SW417	VG392900	SW.TACT	SKHVAA	
SW418	VG392900	SW.TACT	SKHVAA	
SW419	VG392900	SW.TACT	SKHVAA	
SW420	VG392900	SW.TACT	SKHVAA	
SW421	VG392900	SW.TACT	SKHVAA	
SW422	VG392900	SW.TACT	SKHVAA	
SW423	VG392900	SW.TACT	SKHVAA	
SW424	VG392900	SW.TACT	SKHVAA	
SW425	Vi319200	SW.PUSH	SDDLD1	⚠
* T401	XL868A00	TRANS.PWR	(B)	⚠
* T401	XL869A00	TRANS.PWR	(G)	⚠
U401	VK498900	L.DTCT	S-100	
V401	VM663400	FL.DSPLY	8-BT-123GK	
VR401	VK084000	VR.MTR	B20KΩx2	
W404	VM973600	CN.FLAT	17P 250mm	
	VB966900	CN	IMSA-6024	
	CB644670	COVER.CAP		
	VM407900	SHEET	FL	
	VM440900	SPACER	FL	
	VM865100	GND.MTL		

* New Parts

CDX-870 CDX-670

■ CDX-870/670 EXPLODED VIEW



CDX-870 CDX-670

■ CDX-870/670 MECHANICAL PARTS

	Ref. No.	PART NO.	Description			Remarks	Markets	
*	2	VP685600	P.C.B. ASSy, MAIN			CDX-670		
*	2	VP686200	P.C.B. ASSy, MAIN			CDX-870		
*	5	VM895800	PU MECHA. UNIT	KSL-2102AAM				
	8	VN034000	POWER CORD ASSy				(B)	⚠
	8	VN034100	POWER CORD ASSy				(G)	⚠
	9	VD375900	CORD STOPPER					
	15	VK341000	BINDING TIE	8904A3106				
	20	VM842800	CHASSIS					
*	21	VP763500	REAR PANEL			CDX-870	(B)	
*	21	VP763600	REAR PANEL			CDX-870	(G)	
*	21	VP763700	REAR PANEL			CDX-670	(B)	
*	21	VP763800	REAR PANEL			CDX-670	(G)	
	22	VL732800	CHASSIS, ART BASE					
	23	VM842900	TOP COVER			BL		
	23	VM843000	TOP COVER			TI		
	26	VJ880500	LID			BL		
	26	VJ880600	LID			TI		
	27	VL709200	KNOB			BL OUTPUT LEVEL		
*	27	VP665600	KNOB			TI OUTPUT LEVEL		
	28	VL735000	PLATE, HP					
	30	VN806000	GROUND PLATE					
	31	Vi246500	GROUND PLATE					
	32	VK016800	LEG					
	33	VM525000	CUSHION					
	35	EN340030	BONDING HEAD B-TITE SCREW	3x6	FCRM3-BL			
	36	VN518900	SPACER					
	52	VP816300	TRAY MAT					
	60	EK365090	BW HEAD SCREW	4x8	ZMC2-BL	BL		
	60	EX601150	BW HEAD S-TITE SCREW	4x8-10	FNM3-BL	TI		
	61	VK527900	BW HEAD S-TITE SCREW	3x8-8	ZMC2-Y			
	63	EN301010	BIND HEAD BONDING TAP. SCREW	3x8	FCRM3-BL			
	64	EN335030	BIND HEAD BONDING TAP. SCREW	3x10	FCRM3-BL			
	65	EP600730	BIND HEAD P-TITE SCREW	3x8	FCRM3-BL			
	66	EO030066	FLAT HEAD SCREW	3x6	ZMC2-Y			
	67	EK396010	BIND HEAD S-TITE SCREW	4x8	FCRM3-BL			
	68	EX601280	BW HEAD P-TITE SCREW	3x8-8	FCRM3-BL			
	72	EX000430	BIND HEAD S-TITE SCREW	3x6	ZMC2-Y			
	73	Ei330086	BIND HEAD B-TITE SCREW	3x8	FCRM3-BL			
			ACCESSORIES					
	200	VL964200	REMOTE CONTROL TRANSMITTER	SBAH20347A				
	200-1	CX616900	LID	54x34	N3ALPS			
		VC167600	PIN-PLUG CORD	2P	0.8m			
			BATTERY, MANGANESE	SUM-3,AA,R06				

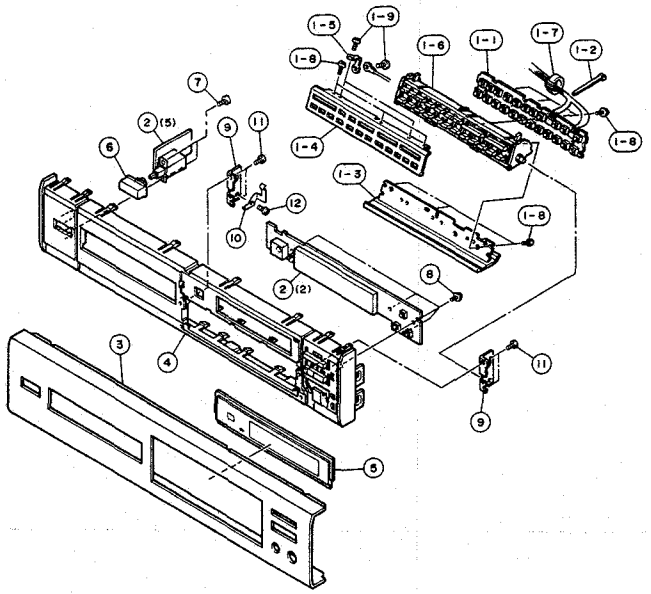
* New Parts

CDX-870/670

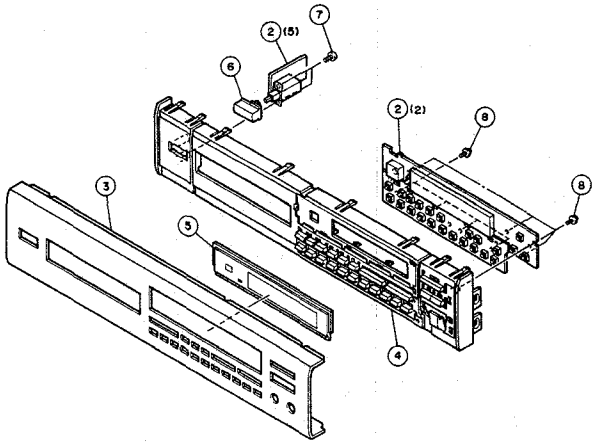
CDX-870 CDX-670

■ EXPLODED VIEW (Panel Unit)

CDX-870



CDX-670



■ MECHANICAL PARTS (Panel Unit)

CDX-870

	Ref. No.	PART NO.	Description		Remarks	Markets
	1-1	VN099700	P.C.B. ASSy, ROLLING SW			
	1-2	VK341000	BINDING TIE	8904A3106		
	1-3	VL707600	ROLLING PANEL T		BL	
	1-3	VL707700	ROLLING PANEL T		TI	
*	1-4	VP544900	ROLLING PANEL L		BL	
*	1-4	VP545000	ROLLING PANEL L		TI	
	1-5	VL706400	GROUND PLATE			
	1-6	VL708600	BUTTON, ROLLING		BL	
*	1-6	VP815300	BUTTON, ROLLING		TI	
	1-7	Vi491100	FERRITE CORE	BP53RB19012080M		
	1-8	VD294600	BIND HEAD P-TITE SCREW	2x6 FCRM3-BL		
	1-9	Ei326066	BIND HEAD TAPPING SCREW	2.6x6 ZMC2-BL		
*	2	VP686500	P.C.B. ASSy, OPERATION			(B)
*	2	VP686600	P.C.B. ASSy, OPERATION			(G)
*	3	VP533900	FRONT PANEL		BL	
*	3	VP534000	FRONT PANEL		TI	
	4	VL732600	SUB PANEL		BL	
*	4	VP534600	SUB PANEL		TI	
	5	VL734800	WINDOW PANEL			
	6	VH841900	BUTTON	10x25	BL POWER	
	6	VP663400	BUTTON	10x25	TI POWER	
	7	EP600730	BIND HEAD P-TITE SCREW	3x8 FCRM3-BL		
	8	VF446600	BW HEAD S-TITE SCREW	2x6-6 FCRM3-BL		
	9	VL810600	HOLDER, DUMPER			
	10	VL810800	SPRING	P		
	11	EP630290	BIND HEAD P-TITE SCREW	3x6 FCRM3-BL		
	12	Ei030046	BIND HEAD TAPPING SCREW	3x4 ZMC2-Y		

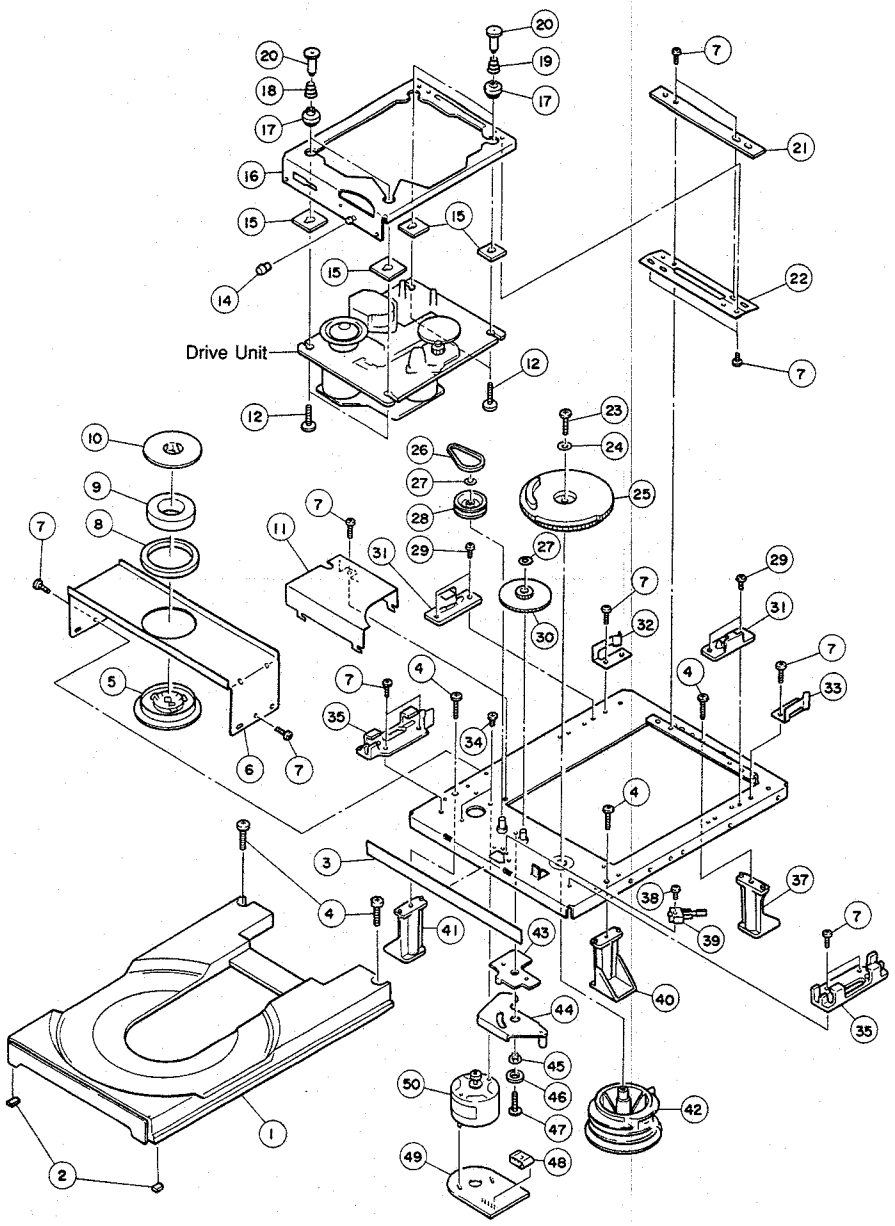
* New Parts

CDX-670

	Ref. No.	PART NO.	Description		Remarks	Markets
*	2	VP686300	P.C.B. ASSy, OPERATION			(B)
*	2	VP686400	P.C.B. ASSy, OPERATION			(G)
*	3	VP534100	FRONT PANEL		BL	
*	3	VP534200	FRONT PANEL		TI	
	4	VL732600	SUB PANEL		BL	
*	4	VP534600	SUB PANEL		TI	
	5	VL734600	WINDOW PANEL			
	6	VH841900	BUTTON	10x25	BL POWER	
*	6	VP663400	BUTTON	10x25	TI POWER	
	7	EP600730	BIND HEAD P-TITE SCREW	3x8 FCRM3-BL		
	8	VF446600	BW HEAD S-TITE SCREW	2x6-6 FCRM3-BL		

* New Parts

■ EXPLODED VIEW (PU Mecha. Unit)



■ MECHANICAL PARTS (PU Mecha. Unit)

	Ref. No.	PART NO.	Description		Remarks	Markets
*		VM895800	PU MECHA. UNIT	KSL-2102AAM		
*	1	CX672780	TRAY		264215602	
	2	CX610920	DAMPER		264212501	
	3	CX610930	FRONT TAPE		264215703	
	4	Ei130106	BIND HEAD TAPPING SCREW	3x10	768554719	
*	5	CX672790	PULLEY, CHUCKING		264218102	
	6	AX607390	CHUCK CHASSIS		264216501	
	7	ED026066	BINDING HEAD SCREW	2.6x6 ZMC2-Y	768586201	
*	8	CX672800	YOKE DAMPER		264243901	
*	9	NX610570	MAGNET ASS'y		145249321	
*	10	CX672810	CHUCKING YOKE		264217501	
	11	AX607400	GEAR COVER		264214902	
	12	AX607380	SPECIAL SCREW	2x8-8	264214201	
*	14	CX672820	ROLLER		264216902	
	15	BX601570	PLATE	SP	264215901	
*	16	NX610580	SUB CHASSIS ASS'y		X26421052	
	17	CX610770	INSULATOR		264215801	
*	18	AX616440	SPRING A		264213902	
*	19	AX616450	SPRING B		264213702	
*	20	AX616460	SHAFT		264216002	
*	21	AX607330	HINGE HOLDER		264217001	
	22	AX616470	HINGE		264216401	
	23	EJ026106	PAN HEAD TAPPING SCREW	2.6x10 ZMC2-Y	768553519	
*	24	AX616480	WASHER		481255401	
*	25	CX672830	DRIVE GEAR		264215403	
*	26	CX672840	BELT, LOADING MOTOR		365338701	
	27	CX610820	WASHER		355870821	
	28	CX610850	LOADING PULLEY		491373101	
	29	EJ020046	PAN HEAD TAP-TITE SCREW	2x4	768578101	
	30	CX610830	GEAR		264214801	
*	31	CX672850	TRAY HOLDER	R	264216203	
*	32	CX672860	TRAY GUIDE L		264214702	
*	33	CX672870	TRAY GUIDE R		264214602	
	34	ED026036	BIND HEAD SCREW	2.6x3	762177500	
	35	CX610860	TRAY HOLDER	F	264216101	
*	36	NX610590	MAIN CHASSIS ASS'y		X26421062	
	37	AX607430	BOSS		264251201	
	38	ED020046	BIND HEAD SCREW	2x4	768585101	
	39	KX602360	LEAF SWITCH		157205211	
	40	AX607420	BOSS		264251001	
	41	AX607440	BOSS		264251101	
	42	CX610810	CAM, CONTROL		264215301	
	43	AX607450	LINK PLATE		264217301	
	44	NX605730	STOPPER LINK ASS'y		X26421091	
	45	CX610900	BOSS		264213302	
	46	CX610910	SPACER		264217201	
	47	EK036010	BW HEAD TAPPING SCREW	2.6x8 ZMC2-Y	768290231	
	48	LX601830	CONNECTOR PIN	5P	156472111	
	49	LX603460	MOTOR CIRCUIT BOARD		162479321	
	50	JX600540	MOTOR ASS'y		X26413361	

* New Parts