726

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Service Manual

ORDER NO.
ARZ1956

MULTI-PLAY COMPACT DISC PLAYER

PD-M630

CIRCUIT DIAGRAMS &
PATTERN LAYOUTS
WITH MICROFICHE

(MICROFICHE PORTION LOCATED INSIDE BACK COVER)

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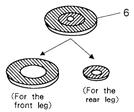
NOTES :
- Parts without part number cannot be supplied.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

Parts List

Mark	No.	Part No.	Description
⚠	1	CM-22C	Strain relief
	2	PDD1058	Flexible cable
⚠	3	PDG1002	AC power cord
⚠	4	PTT1143	Power transformer (AC120V)
	5	PYY1131	Bonnet
	6	PNM1070	Stopper *
	7	VNK1095	Insulator
	8	AMR1160	LED lens
	9	PAC1370	Headphone knob
	10	PAC1440	Select button
	11	PAC1453	Power button
	12	PAC1454	Disc button
	13	PAC1455	Function button
	14	PAC1456	Mode button
	15	PAC1457	Memory button
	16	PAM1370	Door name plate
	17	PAM1371	Program name plate
	18	PAM1437	Display window
	19	PAM1373	Display screen
	20	PBH1022	Door spring
	21	PNW1532	Door
	22	BBZ30P080FCC	Screw
	23	BBZ30P120FZK	Screw
	24	BBZ40P060FMC	Screw
	25	FBT40P080FZK	Screw
	26	IBZ30P060FCC	Screw
	27	IBZ30P100FCC	Screw
	28	IBZ30P180FMC	Screw
◉	29	PWZ1843	Main board assembly
◉	30	PWZ1854	Function board assembly
⚠	31	PEM1003	Lithium battery (BT351)
	32	PEA1051	Function panel assembly
	33	IPZ30P060FMC	Screw
	34	IBZ30P150FMC	Screw
	101		PCB mold
	102		Under base
	103		Rear base
	104		Angle
	105		Center angle
	106		PCB spacer
	107		Multi mechanism assembly
	108		Name plate
	109		Function panel
	110		Power switch board assembly
	111		Transformer board assembly
	112		Headphone board assembly
	113		Earth plate

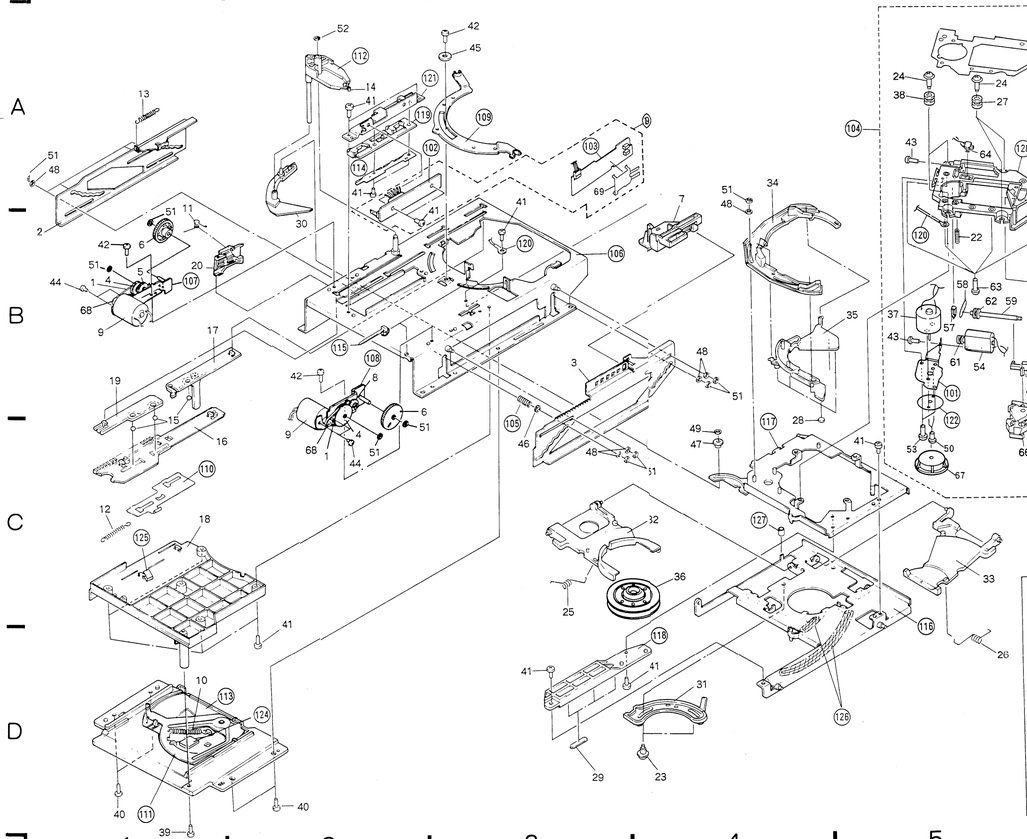
* The stopper consist of the big ring part and the small ring part.
If you stick the stopper to the leg, stick the big ring part to the front leg, and the small ring part to the rear leg.



3.2 MECHANISM SECTION

Parts List of Mechanism Section

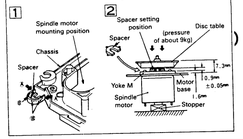
Mark	No.	Part No.	Description
	1	PEB1138	Belt
	2	PNB1219	Stair (L)
	3	PNB1220	Stair (R)
	4	PNW1644	Gear pulley
	5	PNW1645	Gear
	6	PNW1097	Gear
	7	PNW1640	Select SW base
	8	PNW1122	Gear
	9	PXM1011	Motor (LOADING, DISC SELECT)
	10	PBH-465	Eject spring
	11	PBH1014	Lock spring
	12	PBH1088	SM spring
	13	PBH1018	Stair spring
	14	PBK1009	Drive spring
	15	PBP-001	Steel ball ϕ4
	16	PNW1099	Rack
	17	PNW1641	Operation plate
	18	PNW1639	Top guide
	19	PNW1253	Drive plate
	20	PNW1395	Lock lever
	21		• • • • •
	22	PBH1009	Earth spring
	23	PBA-125	Screw
	24	PBA1002	Screw
	25	PBH1016	Clamper spring (T)
	26	PBH1017	Clamper spring (B)
	27	PEB1014	Float rubber
	28	PED1001	Cushion (A)
	29	PED1002	Cushion (B)
	30	PXA1299	Rotary lever unit
	31	PNW1106	Clamper cam
	32	PNW1107	Clamper holder (T)
	33	PNW1108	Clamper holder (B)
	34	PNW1110	Pressure cam
	35	PNW1111	Upper tray
	36	PNW1448	Clamper
	37	PEA1028	D. C. motor assembly (SPINDLE) (with oil)
	38	PEB1132	Float rubber
	39	BPZ30P100FMC	Screw
	40	IBZ30P060FCC	Screw
	41	BBZ30P060FMC	Screw
	42	PCZ30P040FMC	Screw
	43	PMZ20P030FMC	Screw
	44	PMZ30P030FMC	Screw
	45	WA30F120M100	Washer
	46	WA32D060D050	Washer
	47	PLA1023	Roller
	48	WA31D054D050	Washer
	49	WT12D032D025	Washer
	50	JFZ20P040FMC	Screw
	51	WT26D047D025	washer
	52	WT31D054D025	Washer
	53	BPZ20P080FZK	Screw
	54	PXM1013	D. C. motor (CARRIAGE)
	55	PNW1605	Half nut
	56	PBH1084	Drive spring
	57	PBK1057	Plate spring
	58	PEB1072	Belt
	59	PLA1003	Drive screw
	60	PLA1071	Guide bar
	61	PNW1634	Motor pulley
	62	PNW1086	Pulley
	63	PBZ30P080FMC	Screw
	64	PSH1003	Slide switch (INSIDE)
	65		• • • • •
	66	PEA1030	Pickup assembly
	67	PEA1035	Disc table assembly
	68	PNW1643	Motor pulley
	69	PNM1096	Cushion
	101		Motor base
	102		Switch board assembly
	103		Select board assembly
	104		Servo mechanism assembly
	105		Pressure spring
	106		Main chassis
	107		Gear angle (L)
	108		Gear angle (R)
	109		Synchronized lever
	110		SM select
	111		Eject lever
	112		Drive lever
	113		Bottom guide
	114		Actuater spring
	115		Binder
	116		Sub chassis
	117		Upper chassis
	118		Upper guide
	119		Actuater
	120		Earth lead unit
	121		SW angle
	122		Yoke M
	123		Mechanism base
	124		Cushion
	125		Cushion rubber 2.5
	126		Axis-sliding sheet
	127		Rubber tube
	128		Mechanism chassis
	129		Mechanism board assembly



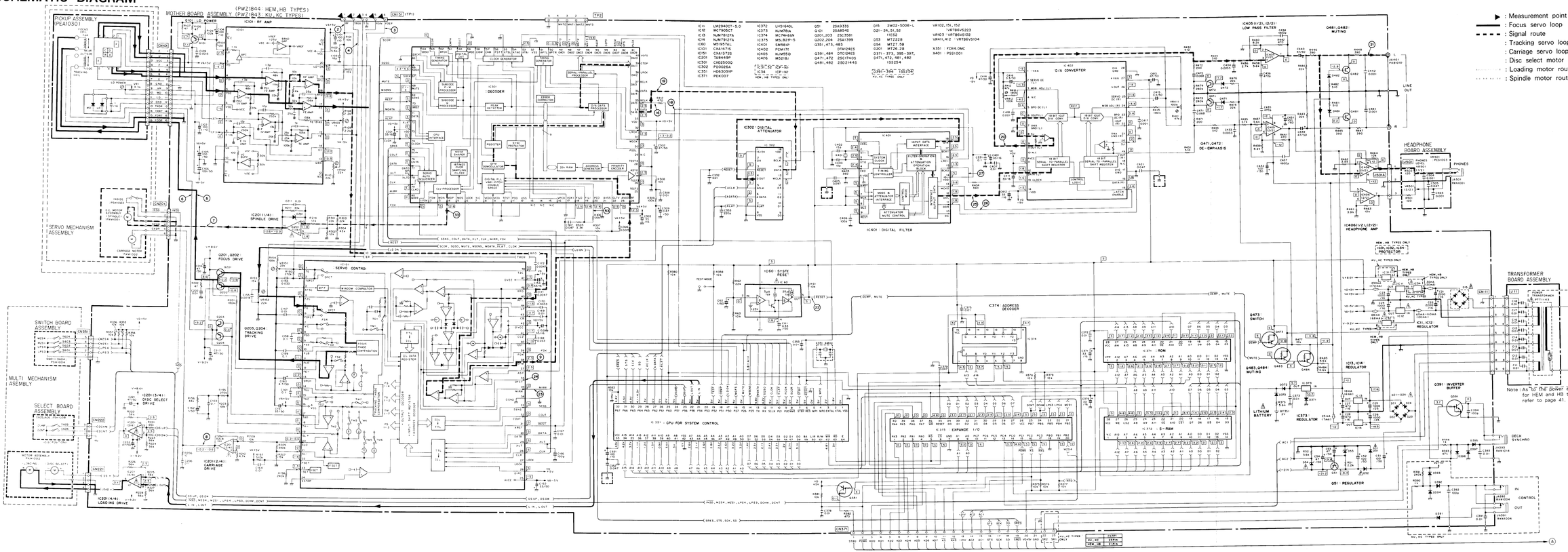
• How to install the disc table

1 Use nippers or other tool to cut the two sections marked Ⓐ and the three sections marked Ⓑ in figure 1. Then remove the spacer.

2 While supporting the spindle motor shaft with the stopper, put spacer on top of yoke M, and stick the disc table on top (takes about 9kg pressure). Take off the spacer.



4. SCHEMATIC DIAGRAM



Note : As to the power supply section for HEM and HB types, refer to page 41.

1. RESISTORS :
Indicated in Ω, 1/4W, 1/6W and 1/8W, ±5% tolerance unless otherwise noted k ; kΩ, M ; MΩ, (F) : ±1%, (G) : ±2%, (K) : ±10%, (M) : ±20% tolerance.

2. CAPACITORS :
Indicated in capacity (μF) / voltage (V) unless otherwise noted p ; pF. Indication without voltage is 50V except electrolytic capacitor.

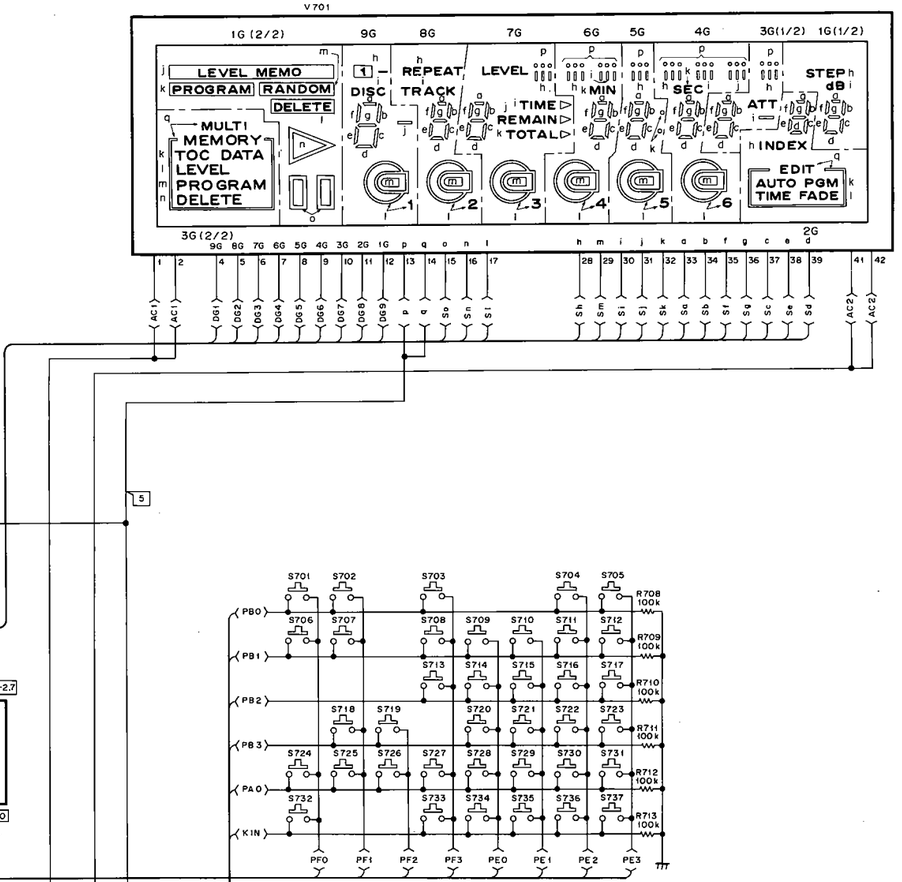
3. VOLTAGE, CURRENT :
▭ ; DC voltage (V) at play state.
⇦mA ; DC current at play state.
Value in ( ) is DC current at stop state.

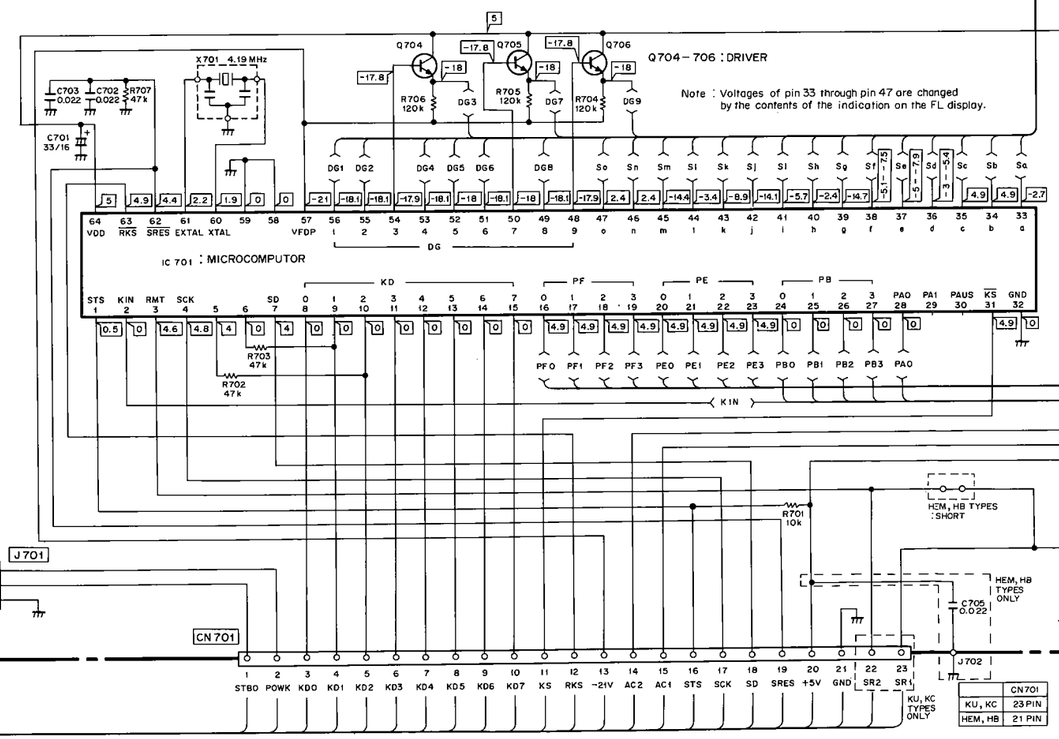
4. OTHERS :
➡ : Signal route.
⊘ : Adjusting point.
The △mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
※ marked capacitors and resistors have parts numbers.

This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

5. SWITCHES : (The underlined indicates the switch position)
OUTSIDE OF P.C.BOARDS ASSEMBLY
INSIDE SWITCH
POWER SWITCH BOARD ASSEMBLY
S738 : POWER ON — OFF
SWITCH BOARD ASSEMBLY
S601 : LPS3] LOADING POSITION
S602 : LPS4]
S603 : MZS1] MAGAZINE
S604 : MZS4]
SELECT BOARD ASSEMBLY
S605 : DCHM] DISC POSITION
S606 : DCNT]
FUNCTION BOARD ASSEMBLY
S701 : TIME
S702 : STORE
S703 : DELETE
S704 : PGM
S705 : 1 DISC NUMBER
S706 : REPEAT
S707 : ERASE
S708 : +10]
S709 : 3]
S710 : 2] TRACK NUMBER
S711 : 1]
S712 : 2 DISC NUMBER
S713 : ≧20]
S714 : 6] TRACK NUMBER
S715 : 5]
S716 : 4]
S717 : 3 DISC NUMBER
S718 : TIME FADE
S719 : 4 DISC NUMBER
S720 : 9]
S721 : 8] TRACK NUMBER
S722 : 7]
S723 : AUTO PGM
S724 : EJECT (▲)
S725 : STOP (■)
S726 : PAUSE (❚❚)
S727 : 10 TRACK NUMBER
S728 : PLAY (▶)
S729 : ◀◀] TRACK SEARCH
S730 : ▶▶]
S731 : 6 DISC NUMBER
S732 : ◜] AUTO FADER
S733 : ◝]
S734 : RANDOM PLAY
S735 : ◀◀] MANUAL SEARCH
S736 : ▶▶]
S737 : 5 DISC NUMBER

FUNCTION BOARD ASSEMBLY (PWZ1854 : KU, KC TYPES) (PWZ1853 : HEM, HB TYPES)





IC 701 PDG036
Q704 - 706 2SC1740S
S701 - 737 : PSG1006
V701 : PEL1040
X701 : VSS1014

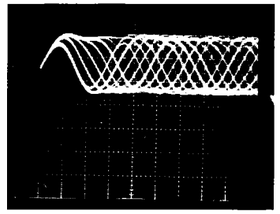
Wave Forms

Note: The encircled numbers denote measuring points in the schematic diagram.

*1 50T-JUMP: After switching to the pause mode, press the manual search key.
*2 FOCUS-IN: Press the key without loading a disc.

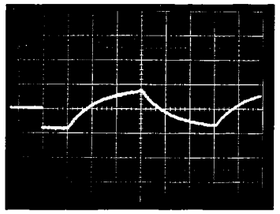
*3 POWER ON : Plug AC cord into AC wall socket.
*4 POWER OFF: Unplug AC cord from AC wall socket.

(2) TP1-Pin 1: PLAY MODE
(RF)
500mV/div 500nsec/div



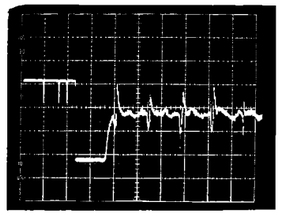
– GND

(5) Q201 Emitter: FOCUS-IN (*2) MODE
(FODR)
1V/div 200msec/div



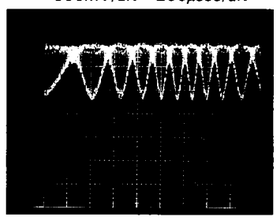
– GND

(7) IC201-Pin11 : TRACK SEARCH MODE
(SPDR)
2V/div 50msec/div



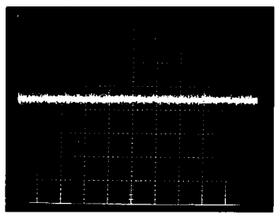
– GND

(2) TP1-Pin 1: TRACK SEARCH MODE
(RF)
500mV/div 200μsec/div



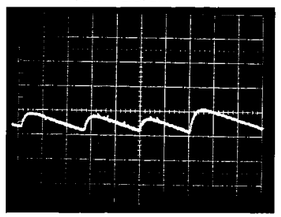
– GND

(5) Q201 Emitter: PLAY MODE
(FODR)
1V/div 1msec/div



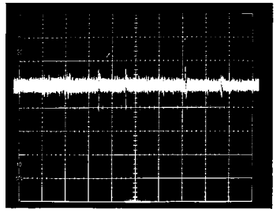
– GND

(8) IC201-Pin13 : PLAY MODE
(CADR)
1V/div 2S/div



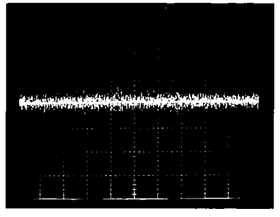
– GND

(3) TP1-Pin 6: PLAY MODE
(FOER)
100mV/div 10msec/div



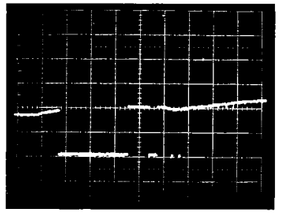
– GND

(6) Q203 Emitter: PLAY MODE
(TRDR)
500mV/div 1msec/div



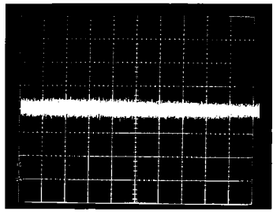
– GND

(8) IC201-Pin13 : TRACK SEARCH MODE
(CADR)
2V/div 200msec/div



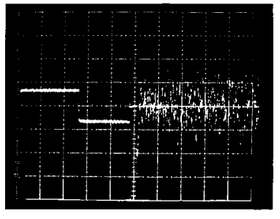
– GND

(4) TP1-Pin 2: PLAY MODE
(TRER)
1V/div 10msec/div



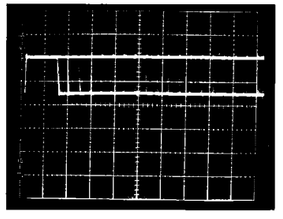
– GND

(6) Q203 Emitter: 50T-JUMP (*1) MODE
(TRDR)
500mV/div 1msec/div



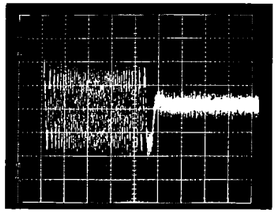
– GND

(9) IC151-Pin 38: PLAY MODE
(EFM)
2V/div 500nsec/div



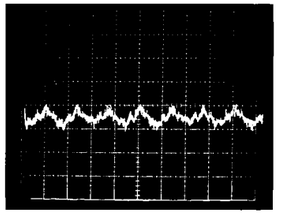
– GND

(4) TP1-Pin 2: 50T-JUMP (*1) MODE
(TRER)
1V/div 1msec/div



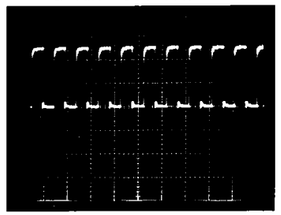
– GND

(7) IC201-Pin11 : PLAY MODE
(SPDR)
1V/div 50msec/div



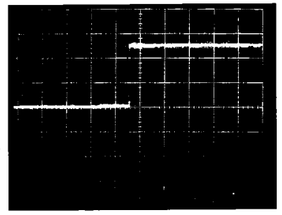
– GND

(16) IC301-Pin 35: PLAY MODE (1kHz)
(BCLK)
2V/div 500nsec/div



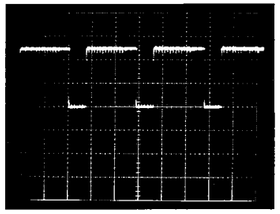
– GND

(22) IC60-Pin 5: POWER ON (*3)
(RST)
2V/div 100msec/div



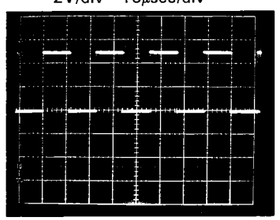
– GND

(26) IC401-Pin 13: PLAY MODE (1kHz)
(DIG.FIL.WDCK)
2V/div 1μsec/div



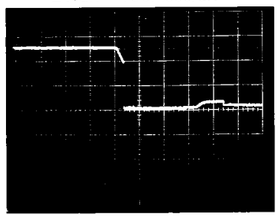
– GND

(18) IC301-Pin 32: PLAY MODE (1kHz)
(LRCK)
2V/div 10μsec/div



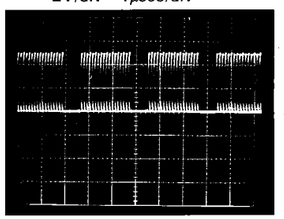
– GND

(22) IC60-Pin 5: POWER OFF (*4)
(RST)
2V/div 100msec/div



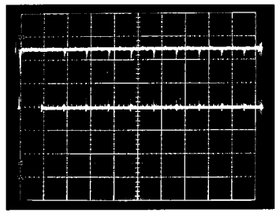
– GND

(27) IC401-Pin 15: PLAY MODE (1kHz)
(DIG.FIL.BCLK)
2V/div 1μsec/div



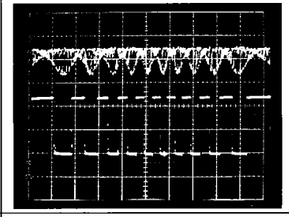
– GND

(19) IC301-Pin 34: PLAY MODE (1kHz)
(DATA)
2V/div 500nsec/div



– GND

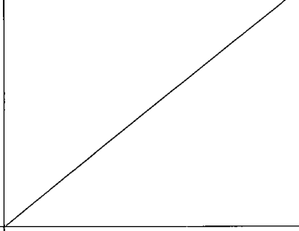
(23) : TRACK SEARCH MODE
Upper: TP1-Pin 1 (RF) 1V/div
Lower: IC151-Pin 35 (MIRR)
2V/div 200μsec/div



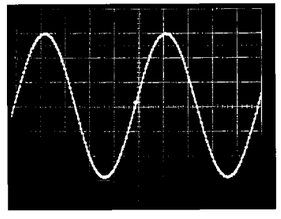
– GND

– GND

(28)

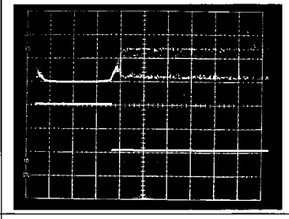


(20) IC402-Pin 9: PLAY MODE (1kHz)
(D/A OUT)
1V/div 200μsec/div



– GND

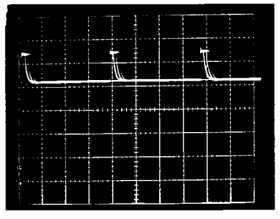
(24) : PLAY MODE
Upper: TP1-Pin 1 (RF) 1V/div
Lower: IC151-Pin 36 (DFCT)
5V/div 200μsec/div



– GND

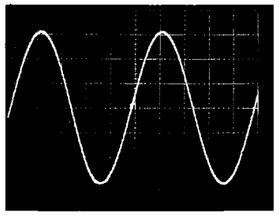
– GND

(33) IC301-Pin 4: PLAY MODE
(MDP)
2V/div 2μsec/div



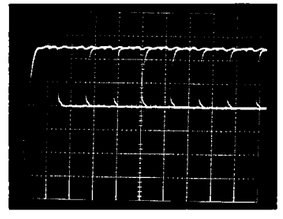
– GND

(21) PIN-OUTPUT: PLAY MODE (1kHz)
1V/div 200μsec/div



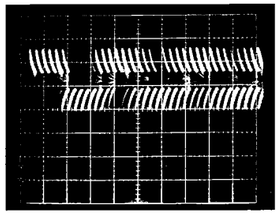
– GND

(25) IC401-Pin 12: PLAY MODE (1kHz)
(DIG.FIL.DATA)
2V/div 100nsec/div



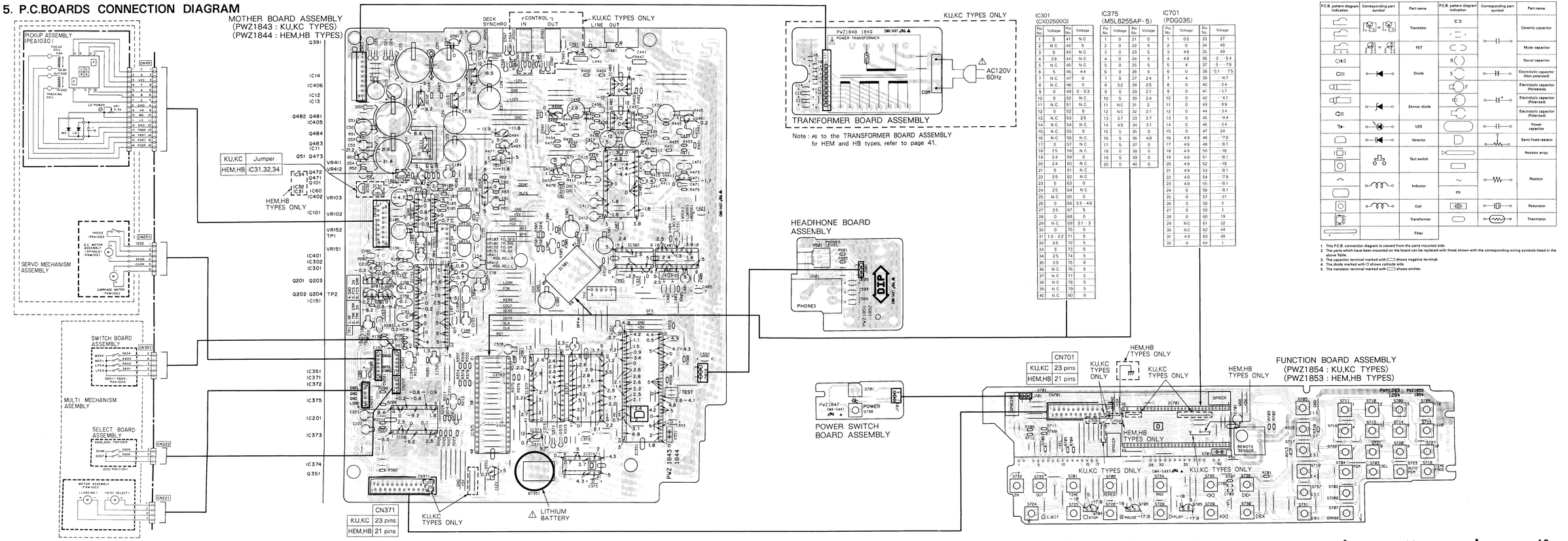
– GND

(53) IC301-Pin 20: PLAY MODE
(PCO)
2V/div 10μsec/div



– GND

5. P.C.BOARDS CONNECTION DIAGRAM



IC301 (CXD2500Q)

Pin No.	Voltage	Pin No.	Voltage
1	5	41	N.C.
2	N.C.	42	5
3	5	43	N.C.
4	2.6	44	N.C.
5	N.C.	45	N.C.
6	5	46	4.4
7	N.C.	47	0
8	N.C.	48	0
9	0	49	0 - 0.3
10	0	50	N.C.
11	N.C.	51	N.C.
12	0	52	0
13	N.C.	53	2.5
14	N.C.	54	N.C.
15	N.C.	55	0
16	N.C.	56	N.C.
17	0	57	N.C.
18	2.5	58	N.C.
19	2.4	59	0
20	2.4	60	N.C.
21	0	61	N.C.
22	2.5	62	N.C.
23	5	63	0
24	2.5	64	N.C.
25	0	65	0
26	0	66	3.3 - 4.6
27	2.5	67	5
28	0	68	0
29	N.C.	69	2.1 - 3
30	0	70	5
31	1.3 - 2.2	71	5
32	2.5	72	5
33	5	73	5
34	2.5	74	5
35	2.5	75	0
36	N.C.	76	5
37	N.C.	77	5
38	N.C.	78	5
39	N.C.	79	5
40	N.C.	80	0

IC375 (M5L8255AP-5)

Pin No.	Voltage	Pin No.	Voltage
1	0	21	0
2	0	22	5
3	0	23	5
4	0	24	5
5	0	25	5
6	0	26	5
7	0	27	2.4
8	3.2	28	2.5
9	0	29	2.1
10	5	30	2.4
11	N.C.	31	2
12	N.C.	32	2.1
13	3.7	33	2.7
14	4.9	34	3.1
15	5	35	5
16	5	36	4.8
17	5	37	0
18	0	38	0
19	5	39	0
20	0	40	0

IC701 (PDG036)

Pin No.	Voltage	Pin No.	Voltage
1	0.5	33	27
2	0	34	4.9
3	4.6	35	4.9
4	4.8	36	3 - 5.4
5	4	37	5 - 7.9
6	0	38	5.1 - 7.5
7	4	39	4.7
8	0	40	2.4
9	0	41	5.7
10	0	42	4.1
11	0	43	8.9
12	0	44	3.4
13	0	45	4.4
14	0	46	2.4
15	0	47	24
16	4.9	48	17.9
17	4.9	49	18.1
18	4.9	50	18
19	4.9	51	18.1
20	4.9	52	18
21	4.9	53	18.1
22	4.9	54	17.9
23	4.9	55	18.1
24	0	56	18.1
25	0	57	21
26	0	58	3
27	0	59	3
28	0	60	19
29	N.C.	61	22
30	N.C.	62	44
31	4.9	63	49
32	0	64	5

P.C.B. pattern diagram indication	Corresponding part symbol	Part name
		Transistor
	or	FET
		Diode
		Zenner diode
		LED
		Varactor
		Tact switch
		Inductor
		Coil
		Transformer
		Filter

P.C.B. pattern diagram indication	Corresponding part symbol	Part name
		Ceramic capacitor
		Mylar capacitor
		Shunt capacitor
		Electrolytic capacitor (Non-polarized)
		Electrolytic capacitor (Noiseless)
		Electrolytic capacitor (Polarized)
		Power capacitor
		Semi-fixed resistor
		Resistor array
		Resistor
		Resonator
		Thermistor

1. This P.C.B. connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the above Table.
3. The capacitor terminal marked with ▭ shows negative terminal.
4. The diode marked with ⊖ shows cathode side.
5. The transistor terminal marked with ▭ shows emitter.