

**Service  
Manual**

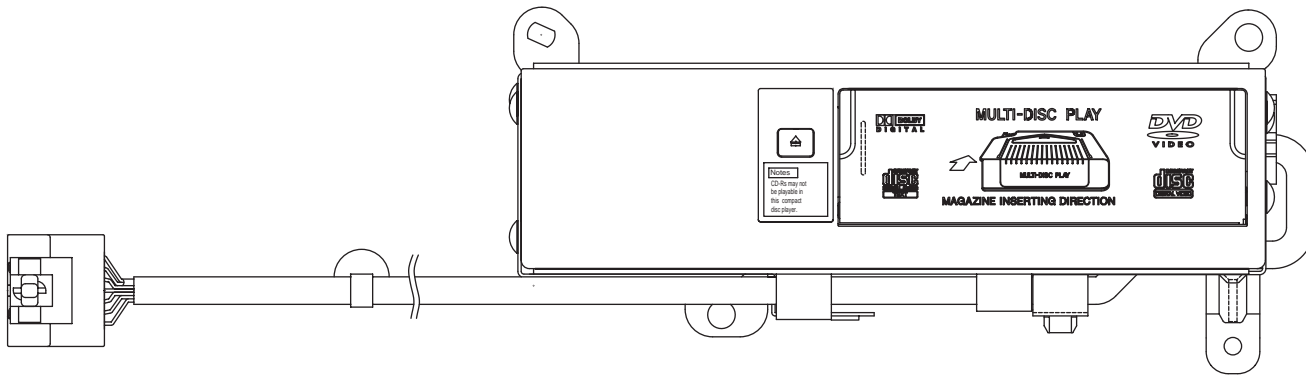
**TOYOTA**

ORDER NO.  
**CRT3452**

 **LEXUS LX470**

**LAND CRUISER 100  
AUDIO SYSTEM  
DVD/CD COMPATIBLE  
CHANGER**

VEHICLE	DESTINATION	PRODUCED AFTER	OEM PARTS No.	ID No.	PIONEER MODEL No.
LEXUS LX470, LAND CRUISER 100	U.S.A., CANADA, GUAM, PUERTO RICO, BRAZIL	May 2005	86270-60114	••••	XDV-M8357ZT/UC, XDV-M8357ZT-91/UC



This service manual should be used together with the following manual(s):

Model No.	Order No.	Mech. Module	Remarks
CX-692	CRT2533	MM-1	DVD/CD Mech. Unit : Circuit Description, Mech. Description, Disassembly

C  
XDV-M8357ZT/UC and XDV-M8357ZT-91/UC have adopted AVC-LAN.

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For details, refer to "Important Check Points for Good Servicing".

The supplementary models are identical with the original ones except for the following items.

\* : Non spare part

Description	XDV-M8357ZT-91/UC
Polyethylene Bag	CEG1181(Unit)
* Air Cap	CEG1288(Connector)
Carton	CHG4170
Contain Box(x1/2)	CHL5166
Protector	CHP2341(TOP)
Protector	CHP2342(BOTTOM)

# SAFETY INFORMATION

## CAUTION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

## WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.  
Health & Safety Code Section 25249.6 - Proposition 65

### ● **DVD Player Service Precautions**

1. You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.
2. Never adjust the LD VR in the pickup unit to protect the pickup from electrical damages.
3. For pickup unit(CGY2020) handling, please refer to "Disassembly".  
During replacement, handling precautions shall be taken to prevent an electrostatic discharge(set the short switch of the pickup unit to the SHORT side).
4. During disassembly, be sure to turn the power off since an internal IC might be destroyed when a connector is plugged or unplugged.
5. Please adjusting the skew after changing the pickup unit.



is a trademark of DVD Format/Logo Licensing Corporation.

## [Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol. Please be sure to confirm and follow these procedures.

### 1. Product safety



Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

- ① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

- ② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification (addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

- ③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris. Soldering should be finished with the proper quantity. (Refer to the example)

- ④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

- ⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

- ⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs. In addition, be sure that there are no pinched wires, etc.

- ⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

- ⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages. If you find a damaged power cord, please exchange it with a suitable one.

- ⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

- ⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries. Please pay attention to your surroundings and repair safely.

### 2. Adjustments



To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification. Adjustments should be performed in accordance with the procedures/instructions described in this manual.

### 3. Lubricants, Glues, and Replacement parts



Use grease and adhesives that are equal to the specified substance. Make sure the proper amount is applied.

### 4. Cleaning



For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

### 5. Shipping mode and Shipping screws



To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

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# 1. SPECIFICATIONS

**A General**  
System ..... DVD-Video, Video CD,  
Compact disc audio system  
Usable discs .... DVD-Video, Video CD, Compact disc  
Signal format  
1.Linear PCM  
..... Sampling frequency: 44.1/48/96 kHz  
Number of quantization bits: 16/20/24; linear  
2.Dolby digital  
3.MPEG  
Power source ..... 13.2 V DC (10.5 – 16.1 V allowable)  
Grounding system ..... Negative type  
Rated current ..... 1.0 A or less(DVD regenerate)  
Region Number

**B**  
..... 1  
Backup current .....5mA or less

## Audio

Frequency response .....  $\pm 1.5\text{dB}$ (20Hz,20kHz)  
Signal-to-noise ratio  
..... 80dB or more  
Residual distortion ..... 0.1% or less  
Output Level ..... 1000 mV (1 kHz, 0 dB)  
Number of channels ..... 2 (stereo)  
Max. output power supply ..... $2V_{\text{rms}}\pm 2\text{dB}$   
Separation.....65dB or more  
The difference between right output and left output  
.....1.5dB or less

**Player**  
Weight ..... 2660 g

**Video**  
Output level ..... 1000 mVp-p $\pm 0.2$  V/75  $\Omega$

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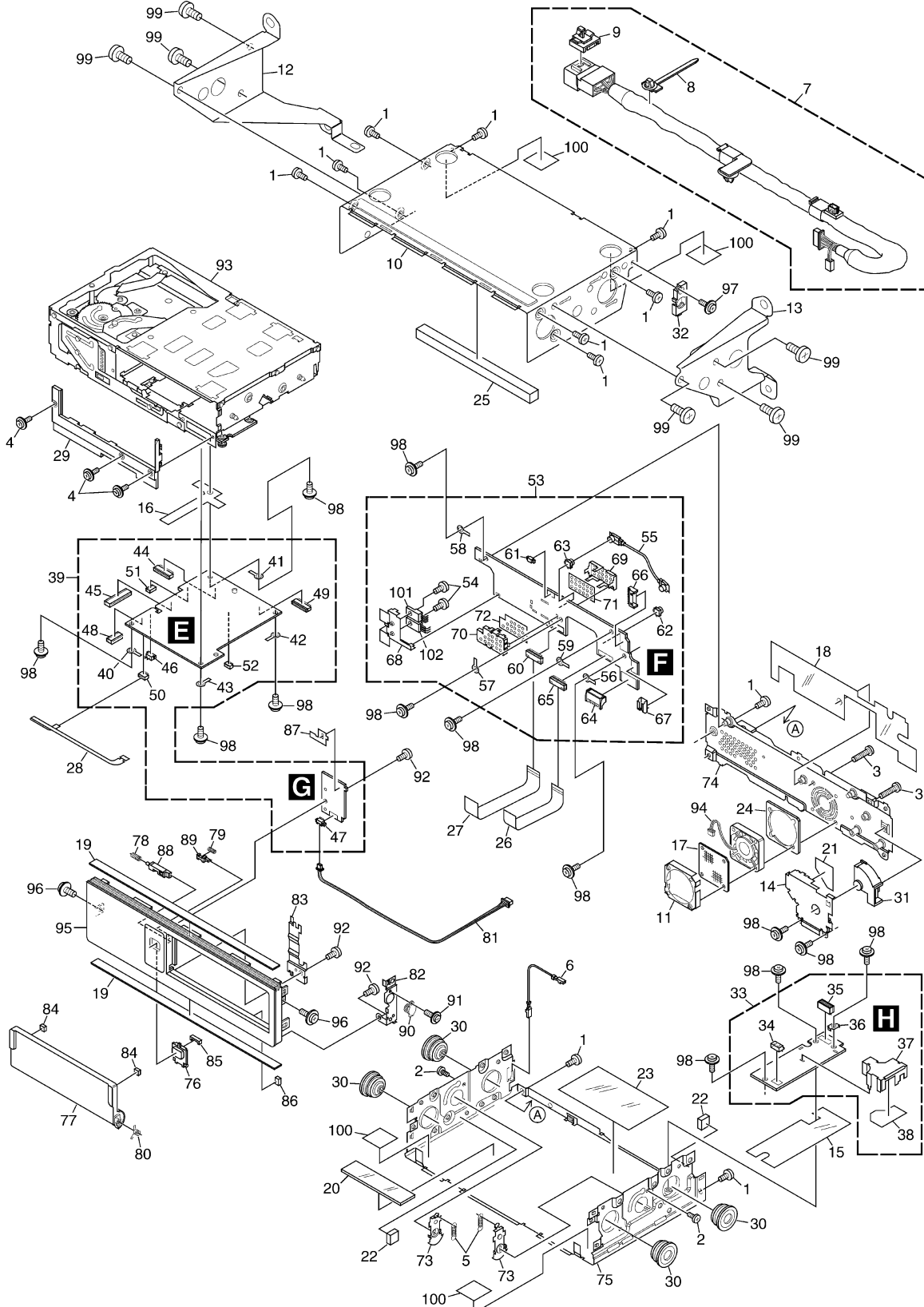
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# 2. EXPLODED VIEWS AND PARTS LIST

NOTES : • Parts marked by " \* " are generally unavailable because they are not in our Master Spare Parts List.

- The  $\triangle$  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.
- Screw adjacent to  $\nabla$  mark on the product are used for disassembly.
- For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)

## 2.1 EXTERIOR



## EXTERIOR SECTION PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>	<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	Screw	BSZ30P055FTC	55	Cord	CDE6446
2	Screw(M2x4)	CBA1676			
3	Screw(M3x12)	CBA1819	56	Terminal(CN3810)	CKF1064
4	Screw(M2x3.5)	CBA1966	57	Terminal(CN3811)	CKF1064
5	Spring	CBH2335	58	Terminal(CN3812)	CKF1064
			59	Terminal(CN3813)	CKF1064
6	Connector	CDE6302	60	Connector(CN3951)	CKS1953
7	Cord Assy	CDE6983			
8	Clamper	CNV7278	61	Connector(CN3891)	CKS2191
9	Clamper	CNV7279	62	Connector(CN3301)	CKS2619
10	Upper Case	CNB2496	63	Connector(CN3302)	CKS2619
			64	Plug(CN3802)	CKS3535
11	Holder	CNC8612	65	Connector(CN3961)	CKS3749
12	Bracket	CNC8831			
13	Bracket	CNC8832	66	Connector(CN3801)	CKS4320
14	Shield	CNC9089	67	Connector(CN3803)	CKS4356
15	Insulator	CNM6337	68	Holder	CNC8400
			69	Shield	CNC8899
16	Insulator	CNM6405	70	Shield	CNC8900
17	Filter	CNM6600			
18	Insulator	CNM6735	71	Insulator	CNM6834
19	Cushion	CNM6743	72	Insulator	CNM6835
* 20	Insulator	CNM6906	73	Arm Unit	CXA8606
			74	Rear Frame Unit	CXB6364
21	Insulator	CNM6985	75	Lower Case Unit	CXB6365
22	Cushion	CNM7037			
* 23	Insulator	CNM7090	76	Button(EJECT)	CAC6152
24	Cushion	CNM7347	77	Door	CAT2385
25	Cushion	CNM7872	78	Spring	CBH2336
			79	Spring	CBH2337
26	PCB	CNP5534	80	Spring	CBH2363
27	PCB	CNP5535			
28	PCB	CNP5604	81	Connector	CDE6022
29	Panel	CNS8228	82	Holder	CNC8402
30	Damper	CNV5833	83	Holder	CNC8409
			84	Cushion	CNM6407
31	Holder	CNV6181	85	Cushion	CNM6842
32	Holder	CNV8121			
33	MF Unit	CWM6518	86	Cushion	CNM6843
34	Plug(CN2903)	CKS1051	* 87	Insulator	CNM6907
35	Connector(CN2901)	CKS3563	88	Lever	CNV5831
			89	Lever	CNV6104
36	Holder	CNC2218	90	Damper Unit	CXB4206
37	Shield	CNC8898			
38	Insulator	CNM6836	91	Screw	IMS20P035FTB
39	Main Unit	CWX3187	92	Screw	IMS26P040FTC
40	Terminal(CN1603)	CKF1064	93	DVD/CD Mechanism Unit(MM-1)	CXK7020
			94	Fan Motor	CXM1195
41	Terminal(CN1604)	CKF1064	95	Grille	CNS6472
42	Terminal(CN1605)	CKF1064			
43	Terminal(CN1607)	CKF1064	96	Screw	IMS30P060FTB
44	Connector(CN1601)	CKS1953	97	Screw	ISS30P060FTC
45	Connector(CN101)	CKS1964	98	Screw	PMB26P050FTC
			99	Screw	TMZ50P060FTC
46	Connector(CN312)	CKS2191	* 100	Tape	CNM7273
47	Connector(CN2000)	CKS2193			
48	Connector(CN302)	CKS3480	101	IC(IC3821)	BA00AST
49	Connector(CN1600)	CKS3749	102	Transistor(Q3811)	2SB942A
50	Connector(CN310)	CKS3767			
51	Connector(CN301)	CKS4358			
52	Connector(CN1000)	CKS4374			
53	Extension Unit	CWX3198			
54	Screw	BMZ26P050FTC			

# 2.2 DVD/CD MECHANISM UNIT

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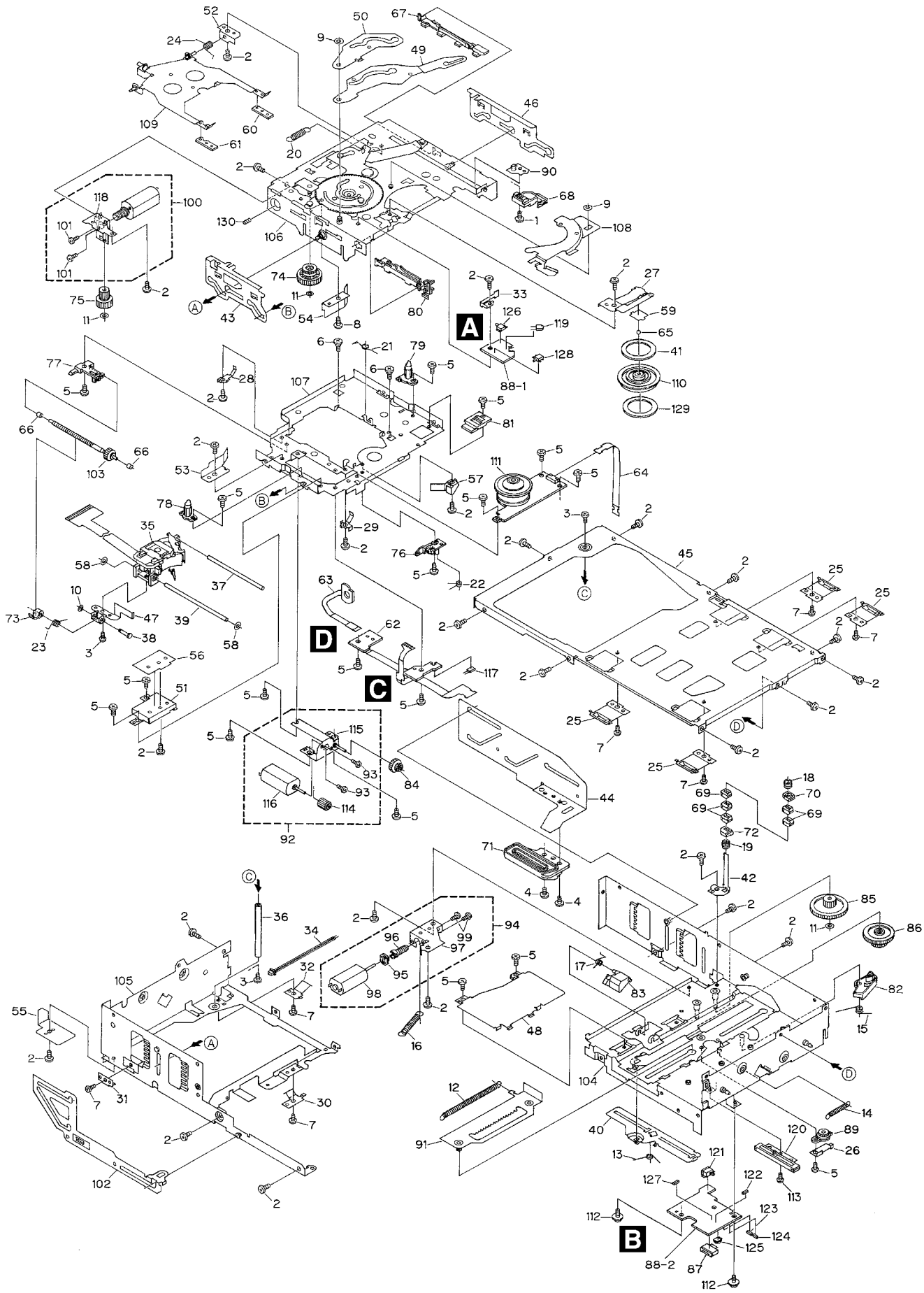
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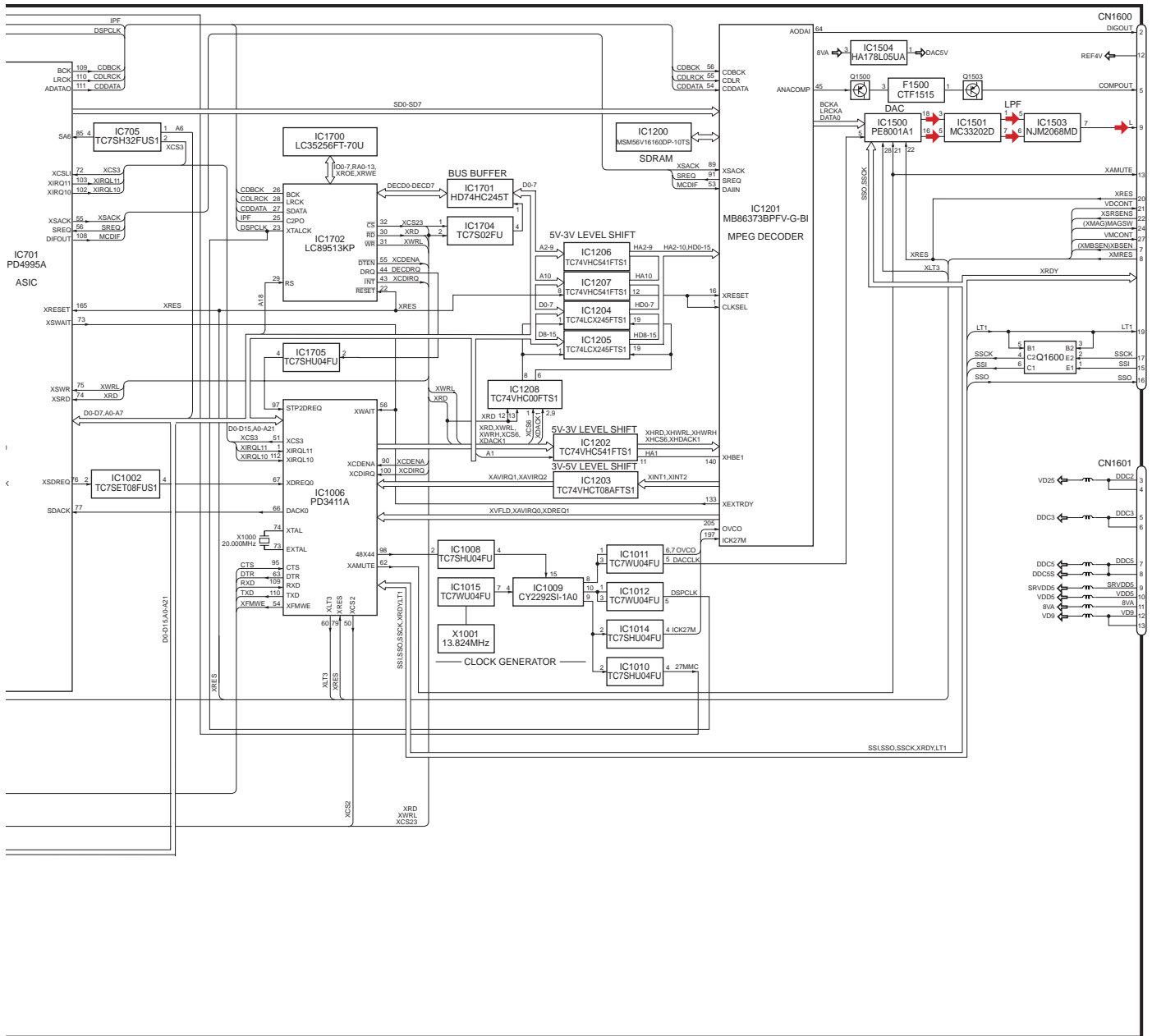


## DVD/CD MECHANISM UNIT SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Screw(M2x4)	CBA1026	66	Bearing	CNR1415
2	Screw(M2x2.5)	CBA1651	67	Rail	CNV4420
3	Screw(M2x2.5)	CBA1041	68	Lever	CNV4422
4	Screw(M2x3.5)	CBA1674	69	Guide	CNV4597
5	Screw(M2x3)	CBA1154	70	Guide	CNV4722
6	Screw(M2x2)	CBA1243	71	Rack	CNV4828
7	Screw(M2x1.4)	CBA1687	72	Guide	CNV5193
8	Screw(M2x2.2)	CBA1965	* 73	Rack	CNV5451
9	Washer	CBF1002	74	Gear	CNV5658
10	Washer	CBF1037	75	Gear	CNV5659
11	Washer	CBF1038	76	Holder	CNV5661
12	Spring	CBH2368	77	Holder	CNV5662
13	Spring	CBH1827	78	Guide	CNV5663
14	Spring	CBH1828	79	Guide	CNV5664
15	Spring	CBH1829	80	Rail	CNV5668
16	Spring	CBH1830	81	Guide	CNV5671
17	Spring	CBH1919	82	Arm	CNV5868
18	Spring	CBH1930	83	Arm	CNV6158
19	Spring	CBH2070	84	Gear	CNV6226
20	Spring	CBH2091	85	Gear	CNV6242
21	Spring	CBH2159	86	Gear	CNV6285
22	Spring	CBH2227	87	Connector(CN301)	CKS3476
23	Spring	CBH2238	88	PCB	CNX3040
24	Spring	CBH2279	89	Damper Unit	CXA7159
25	Spring	CBL1307	90	Plate Unit	CXB2262
26	Spring	CBL1362	91	Lever Unit	CXB2266
27	Spring	CBL1388	92	Motor Unit(Carriage)(M1)	CXC1552
28	Spring	CBL1416	93	Screw	JFZ20P025FNI
29	Spring	CBL1417	94	Motor Unit(ELV)(M4)	CXC1540
30	Spring	CBL1418	* 95	Gear	CNV6239
31	Spring	CBL1419	96	Gear	CNV6240
32	Spring	CBL1420	* 97	Bracket Unit	CXB5838
33	Spring	CBL1422	* 98	Motor	CXM1220
34	Connector	CDE6156	99	Screw	JFZ20P025FNI
35	PU Unit	CGY2020	100	Motor Unit(Tray)(M2)	CXC1541
36	Shaft	CLA2803	101	Screw	JFZ20P025FNI
37	Shaft	CLA3428	102	Lever Unit	CXB3933
38	Shaft	CLA3431	103	Screw Unit(-D)	CXB3934
39	Shaft	CLA3562	104	Magazine Holder Unit	CXC5000
40	Lever	CNC6194	105	Frame Unit	CXB3970
41	Plate	CNC6847	106	Chassis Unit	CXB3972
42	Holder	CNC7448	107	Chassis Unit	CXB3975
43	Lever	CNC7975	108	Lever Unit	CXB3976
44	Lever	CNC8065	109	Arm Unit	CXB4318
45	Frame	CNC8068	110	Clamper	CNV5667
46	Lever	CNC8097	111	Motor(Spindle)(M3)	CXM1282
47	Bracket	CNC8106	112	Screw	IMS26P040FMC
48	Cover	CNC8129	113	Screw	JFZ17P020FNI
49	Arm	CNC8335	* 114	Gear	CNV6225
50	Arm	CNC8336	* 115	Bracket Unit	CXB4003
* 51	Cover	CNC8347	* 116	Motor	CXM1221
52	Holder	CNC8476	117	Photo Transistor(Q851)	PT4800
53	Cover	CNC8921	* 118	Bracket Unit	CXB3971
54	Cover	CNC8922	119	LED(D851)	CN504-2
55	Cover	CNC8923	120	Resistor(VR301)	CCW1021
56	Plate	CNC9010	121	Switch(S301)	CSN1044
57	Cover	CNC9083	122	Capacitor(C301)	CKSRYB104K16
58	Cushion	CNM6301	123	Resistor(R301)	RS1/16S562J
59	Spacer	CNM6334	124	Resistor(R302)	RS1/16S622J
60	Sheet	CNM6385	125	Semi-fixed(VR302)	CCP1338
61	Sheet	CNM6581	126	Switch(S852)	CSN1052
62	PCB	CNP5371	127	Capacitor(C302)	CKSRYB103K50
63	PCB	CNP5380	128	Switch(S851)	CSN1051
64	PCB	CNP5381	129	Sheet	CNM9776
65	Ball	CNR1189	130	Screw	ZMK30H025FZB

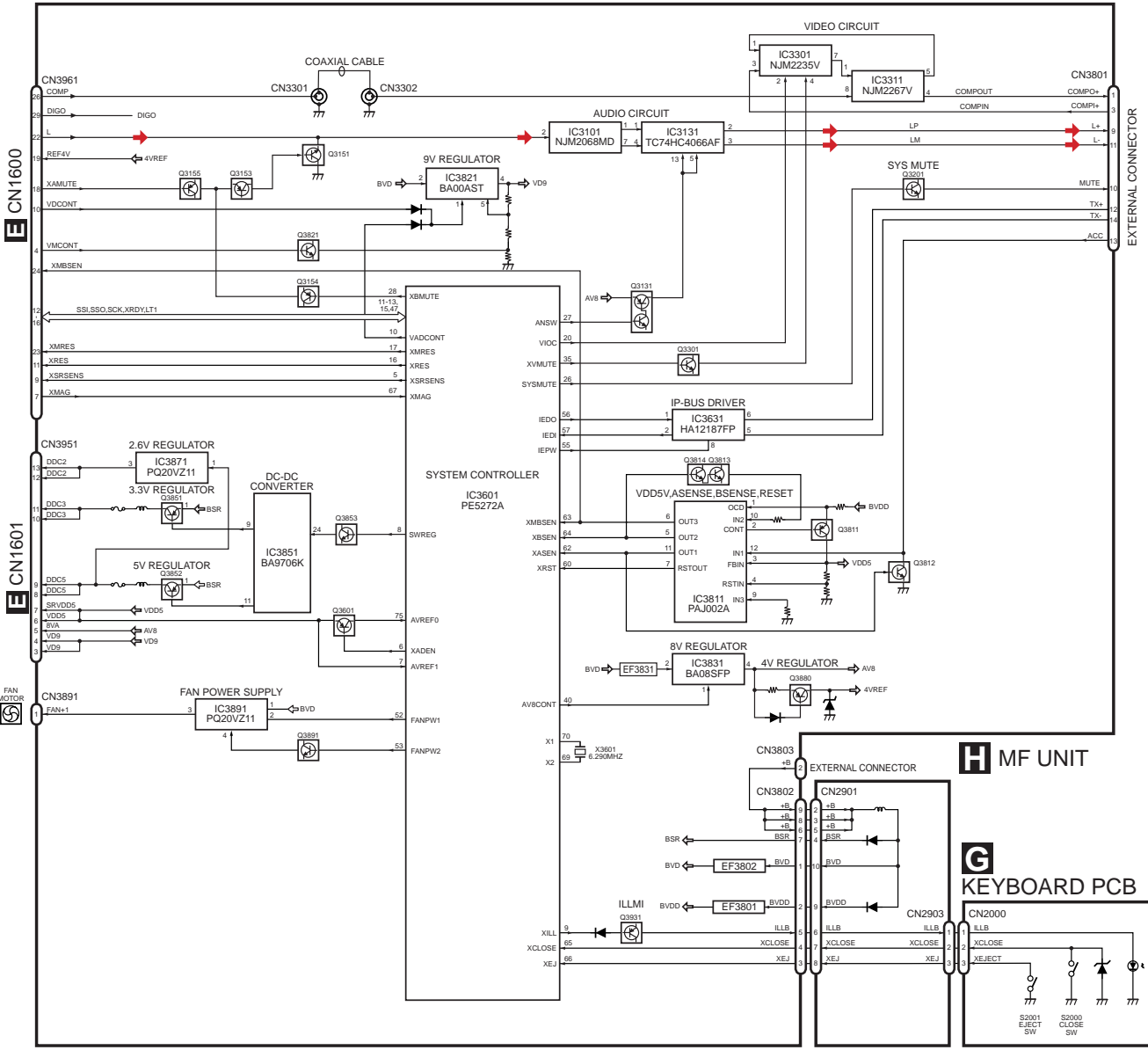


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# F EXTENSION UNIT



# H MF UNIT

# G KEYBOARD PCB

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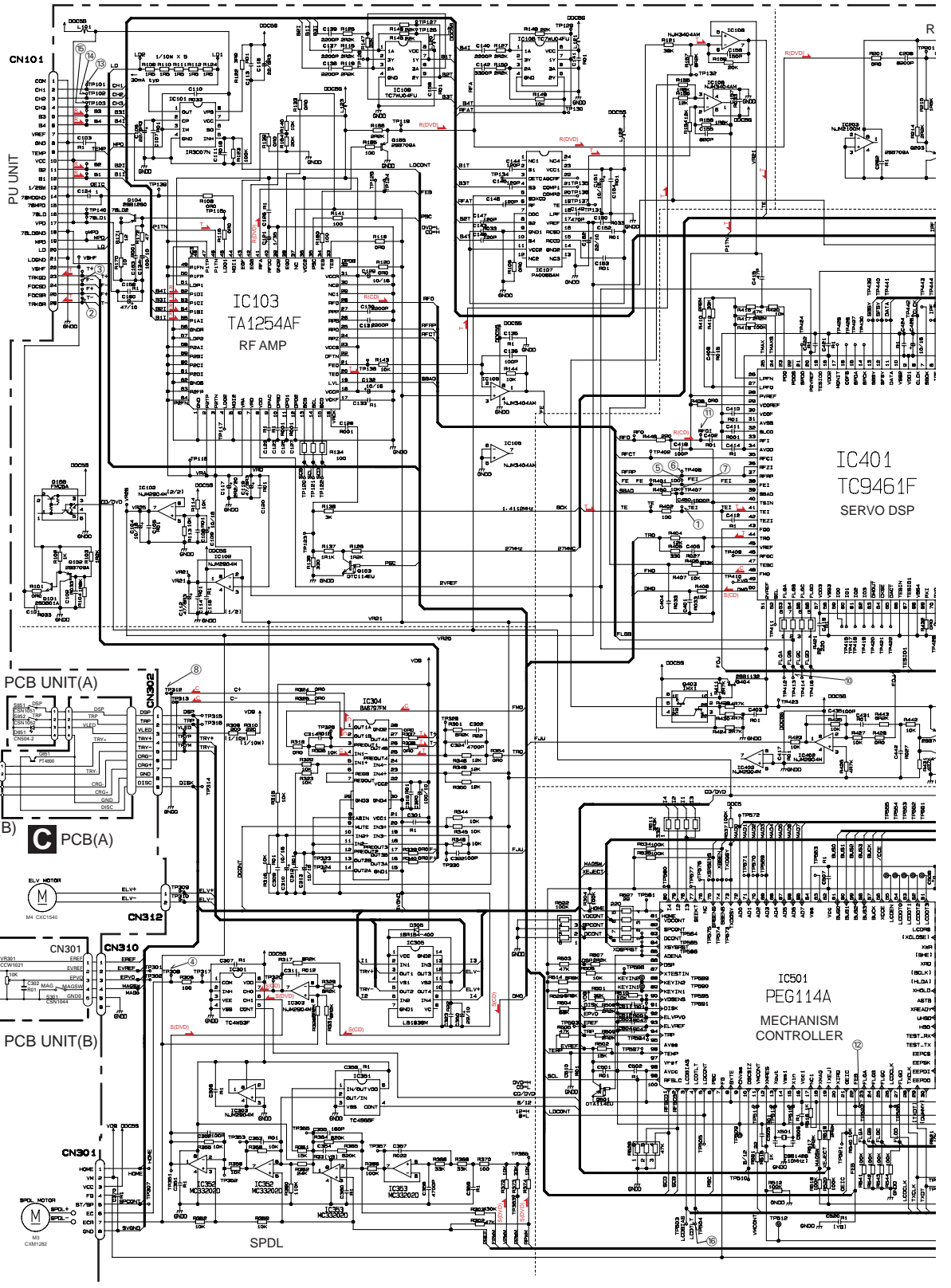
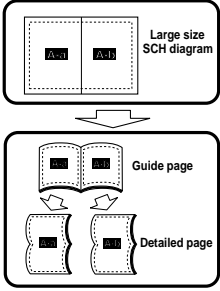
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# 3.2 DVD/CD MECHANISM UNIT, MAIN PCB(SERVO SECTION)(GUIDE PAGE)

Note: When ordering service parts, be sure to refer to "EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".

E-a 1/2

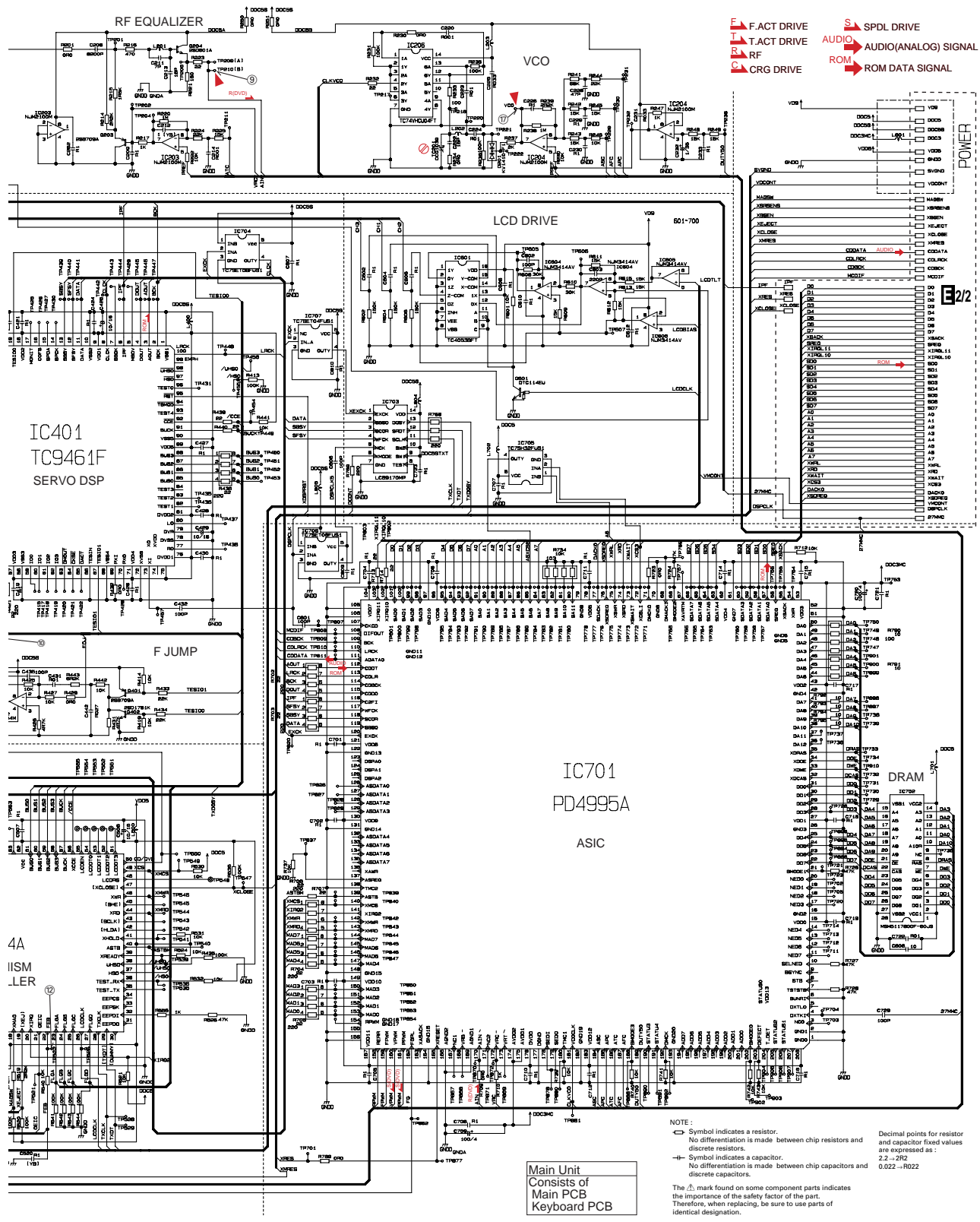


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A B C D E 1/2

# E-b 1/2

## E1/2 MAIN PCB(SERVO SECTION)



Main Unit  
Consists of  
Main PCB  
Keyboard PCB

The power supply is shown with the marked box.

A E-b 1/2

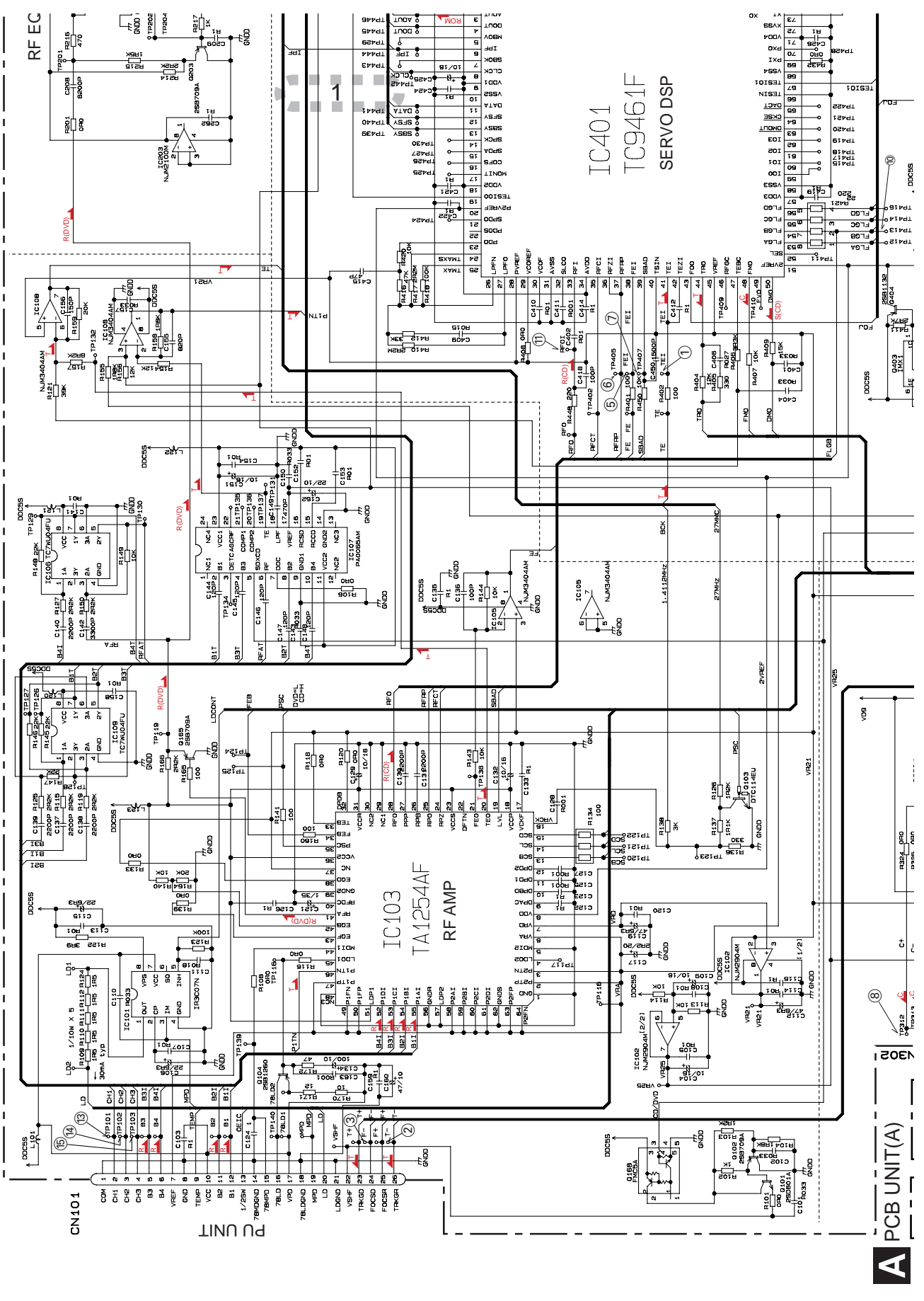
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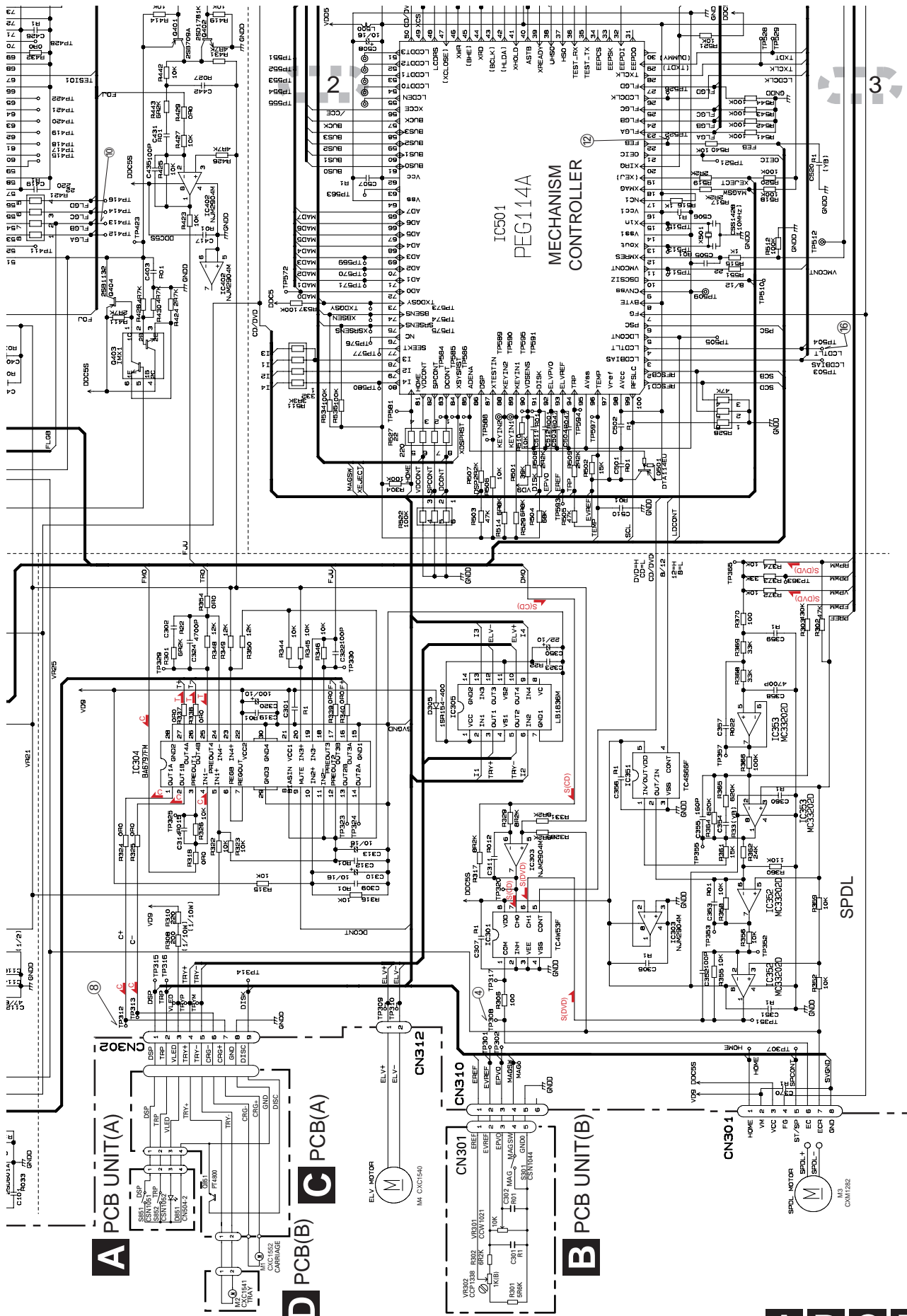
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D E-a E-b

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F E-a 1/2





**A** PCB UNIT(A)

**B** PCB UNIT(B)

**C** PCB(A)

**D** PCB(B)

**E-b 1/2**

E-a E-b

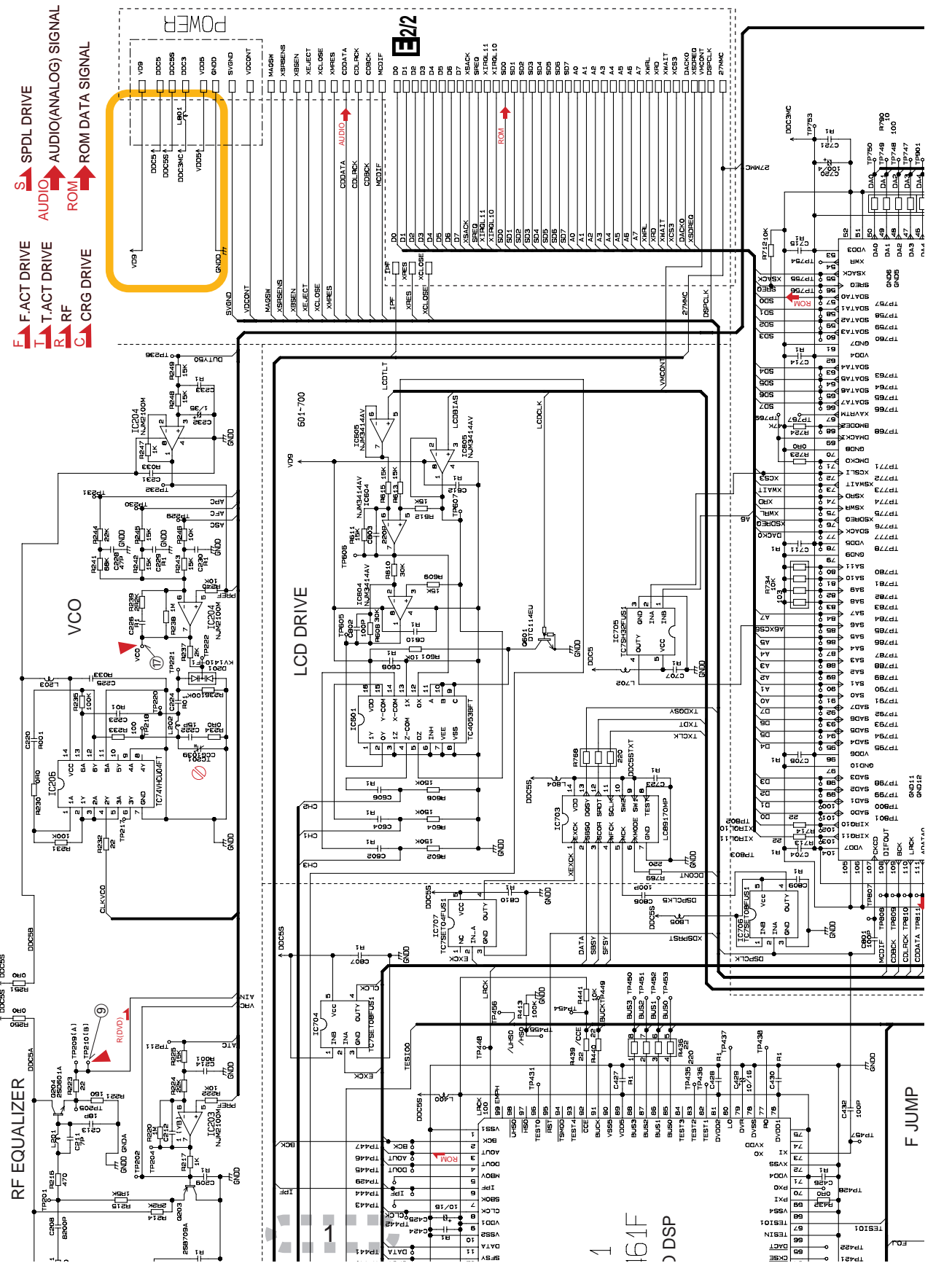
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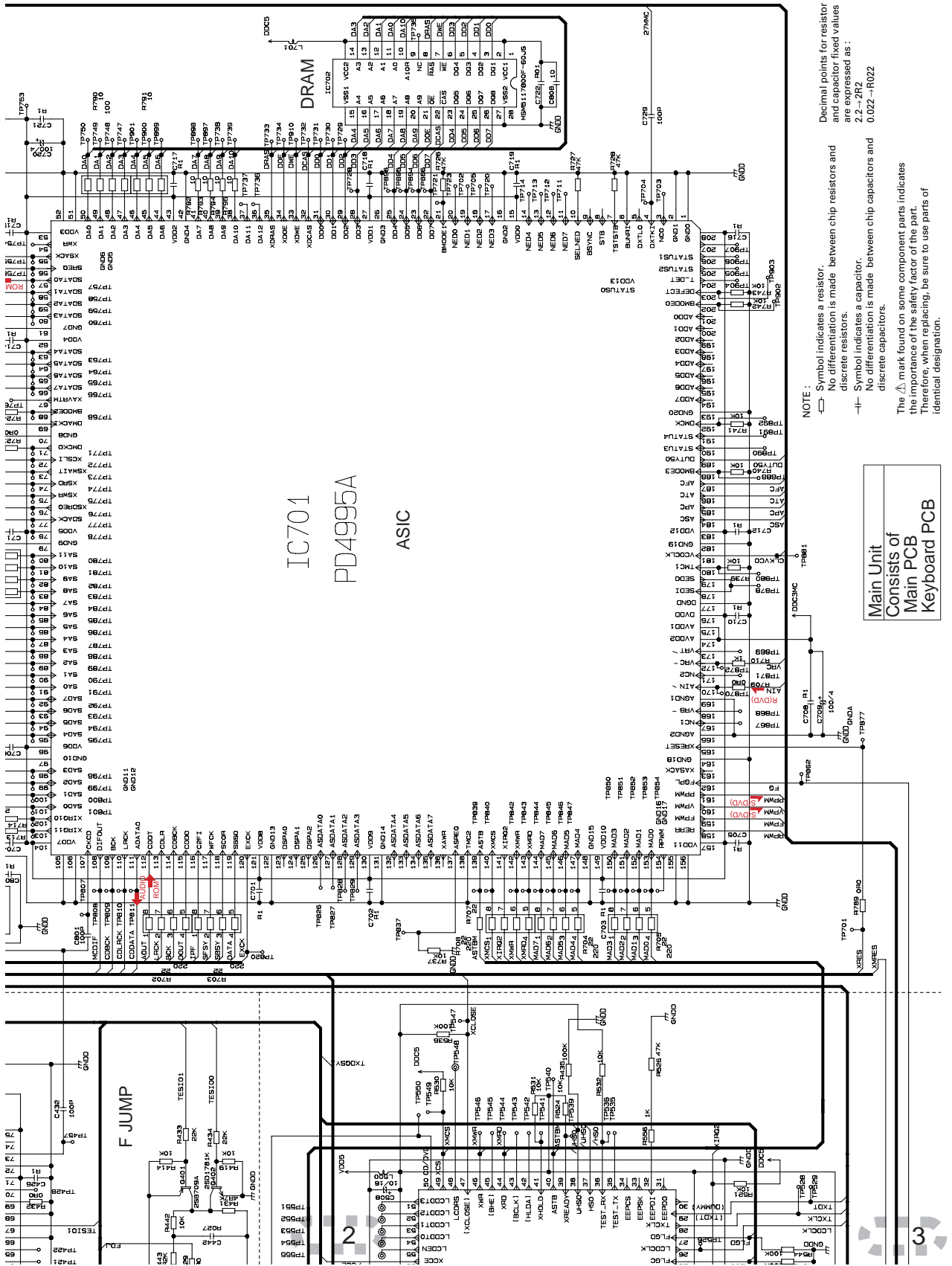
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5 6 7 8 A B C D E-a 1/2 19

# E1/2 MAIN PCB(SERVO SECTION)





**NOTE:**

- Symbol indicates a resistor.
- No differentiation is made between chip resistors and discrete resistors.
- Symbol indicates a capacitor.
- No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as:  
 2.2—2R2  
 0.022—R022

The  $\Delta$  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.

Main Unit  
 Consists of  
 Main PCB  
 Keyboard PCB

: The power supply is shown with the marked box.

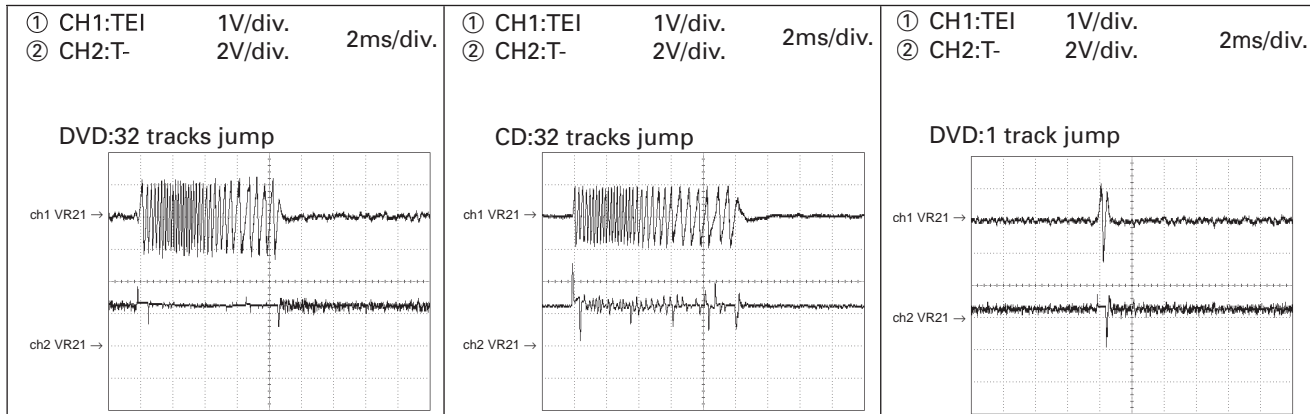
E-a E-b

**E-b** 1/2

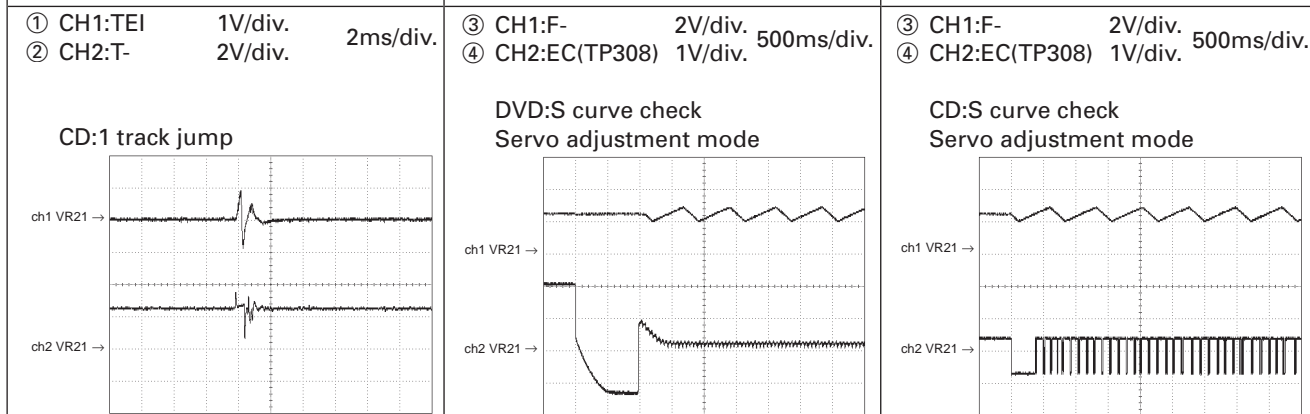
Note:1. The encircled numbers denote measuring points in the circuit diagram.  
2. Reference voltage VR21:2.1V

## Waveforms

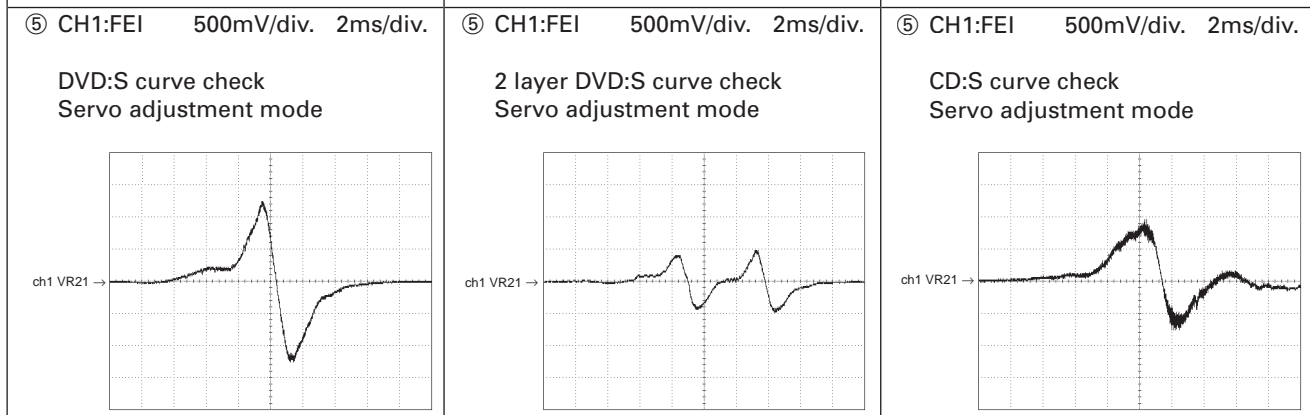
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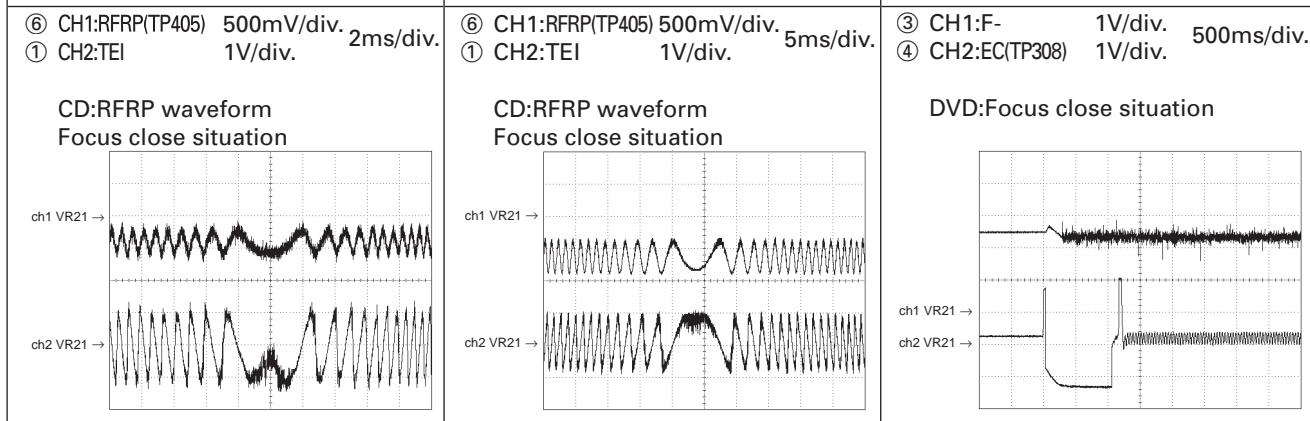
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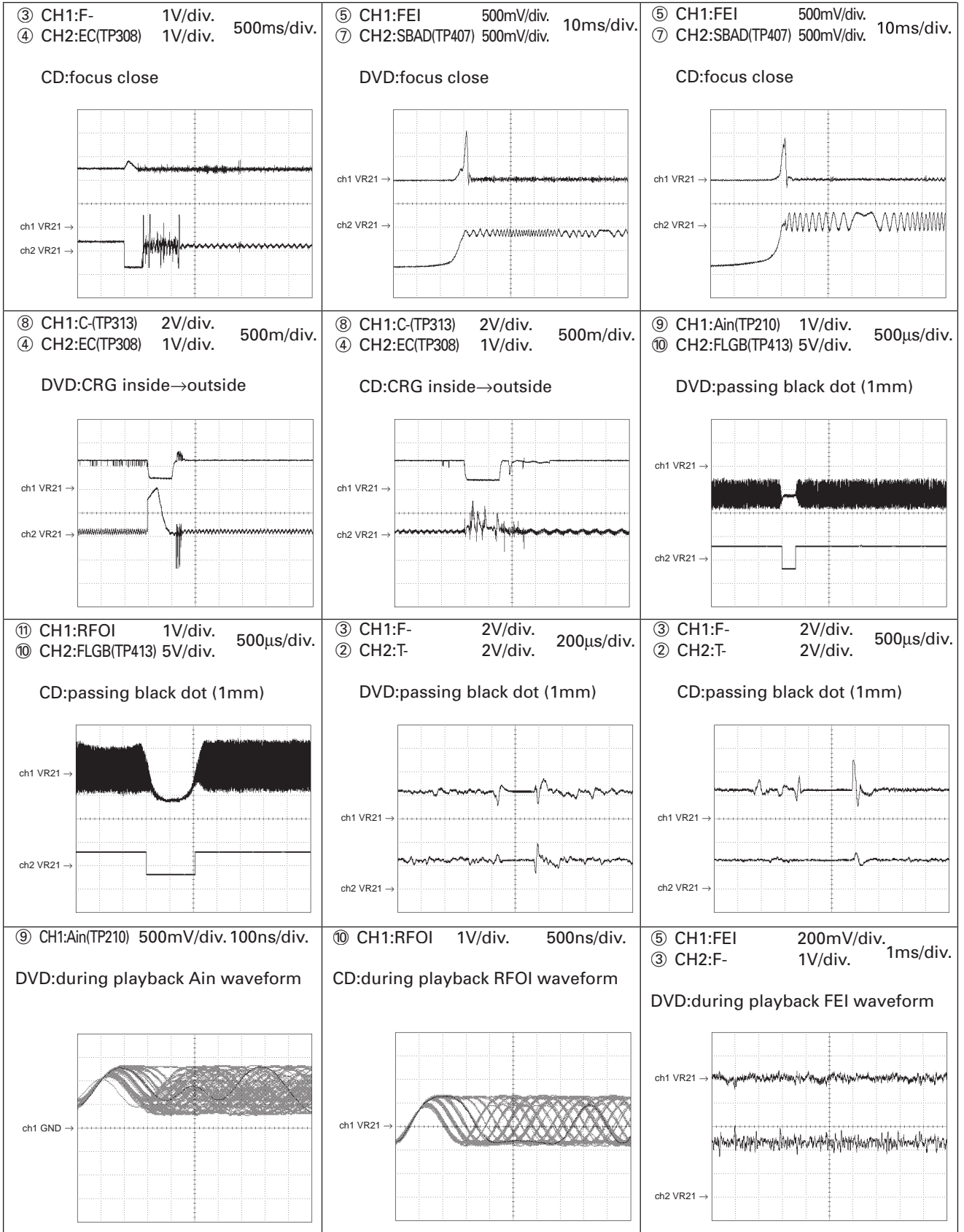


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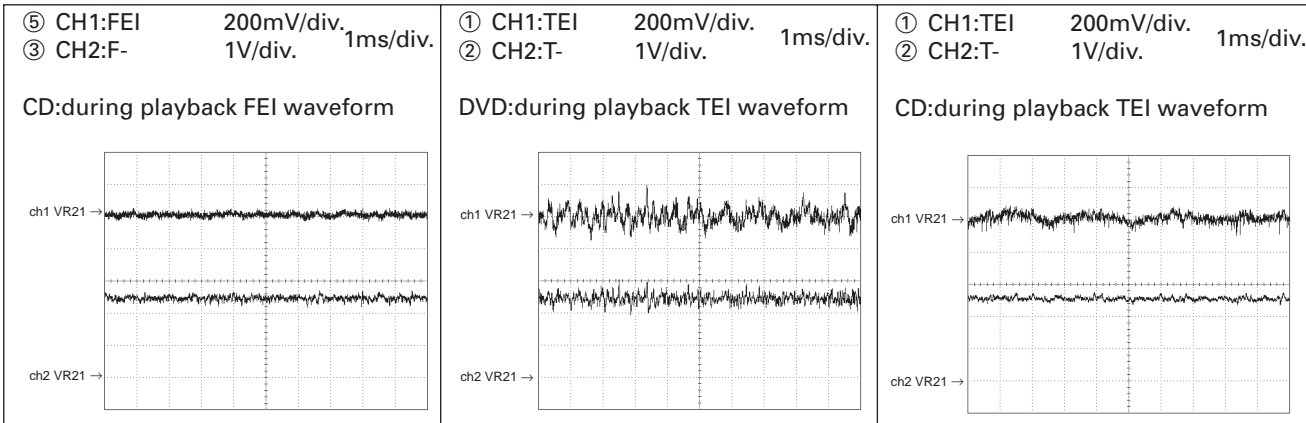
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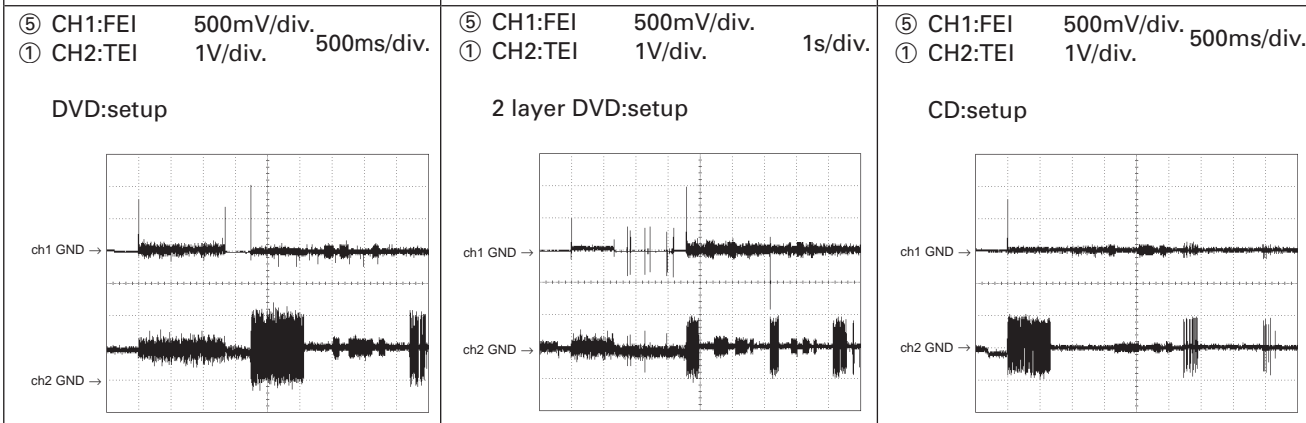


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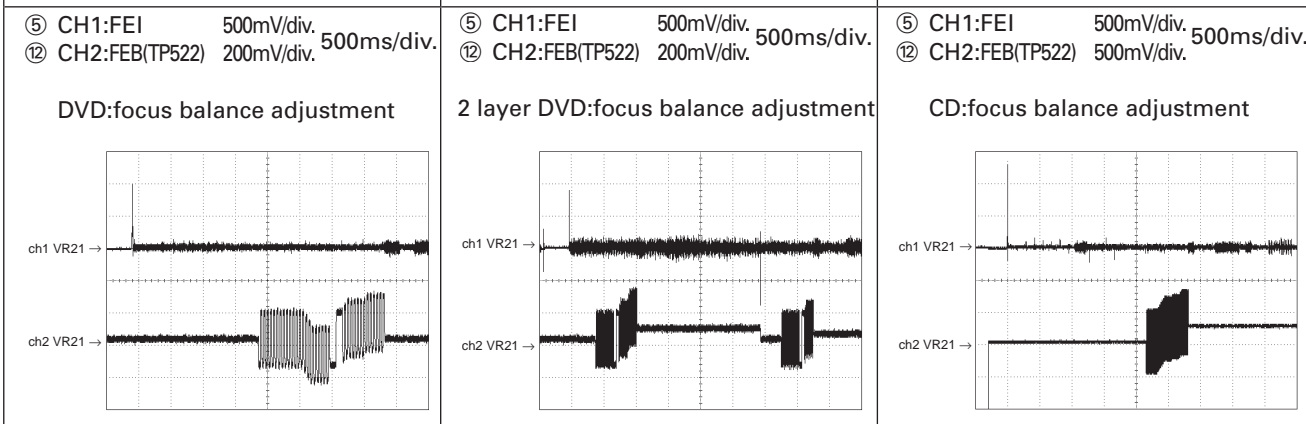
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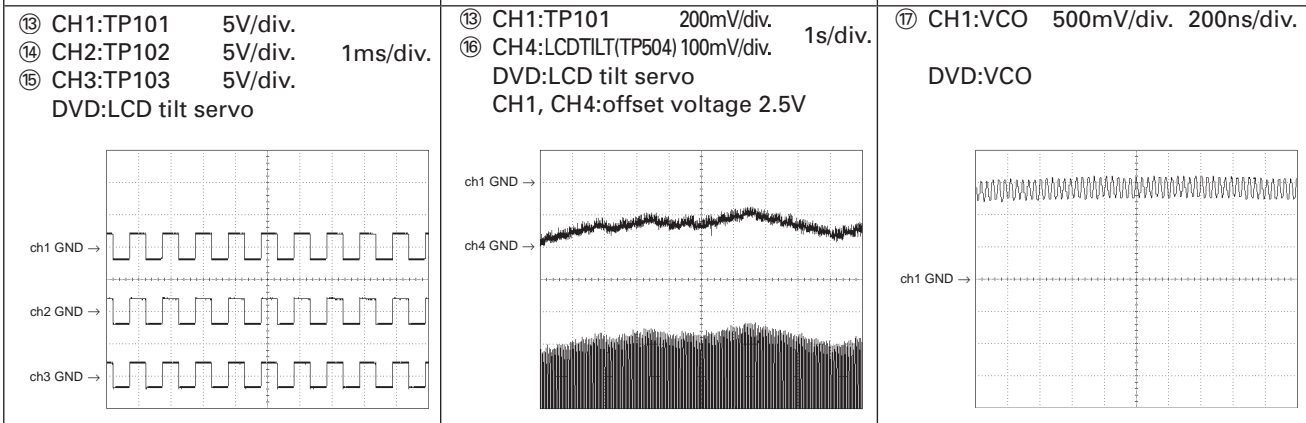
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C



D

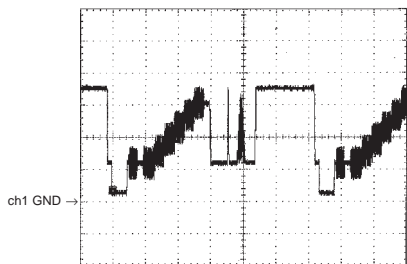


E

F

Ⓜ IC1201 pin 45 200mV/div.  
10μs/div.

Composite signal output

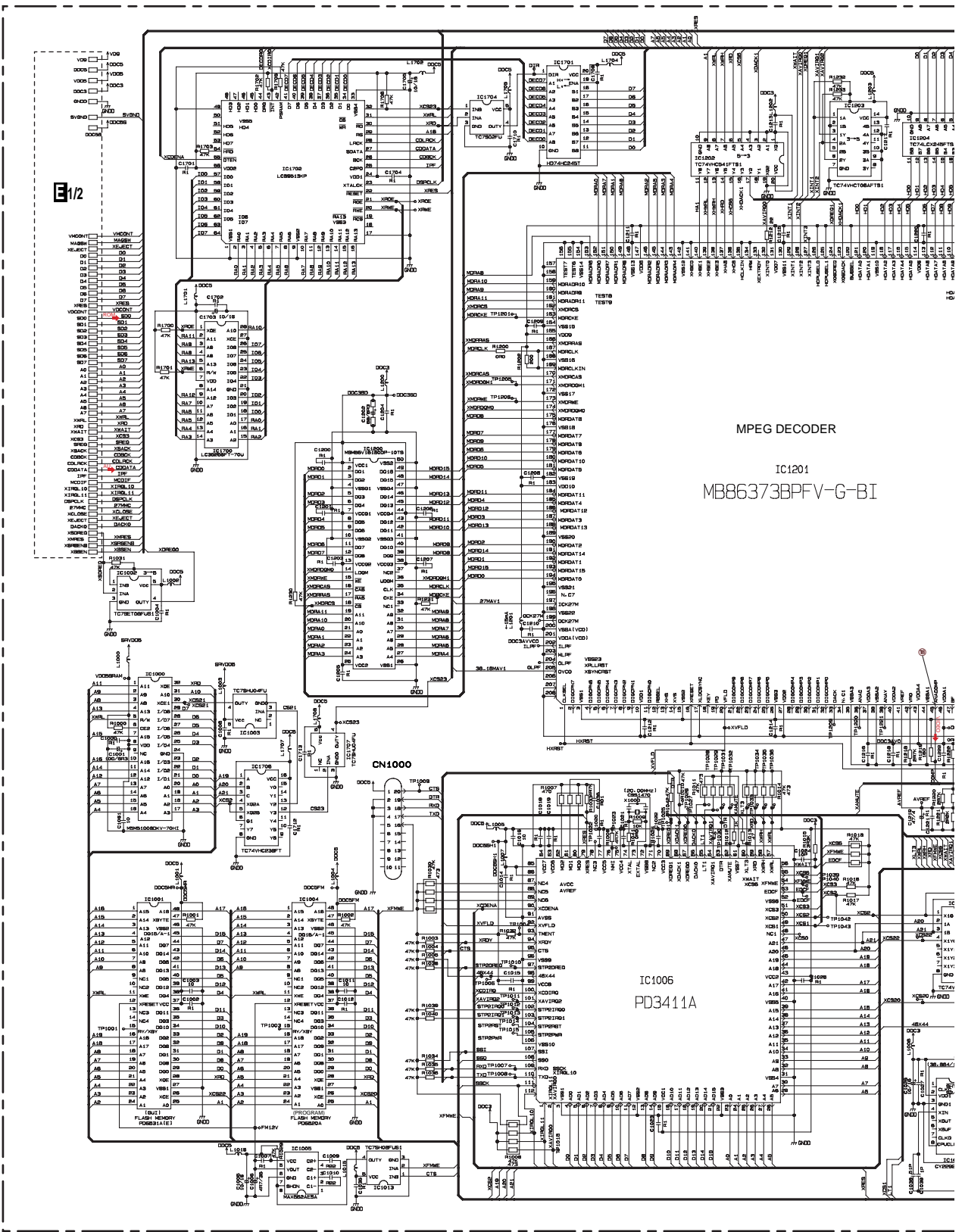


A  
B  
C  
D  
E  
F

# 3.3 MAIN PCB(DECODER SECTION)(GUIDE PAGE)

E-a 2/2

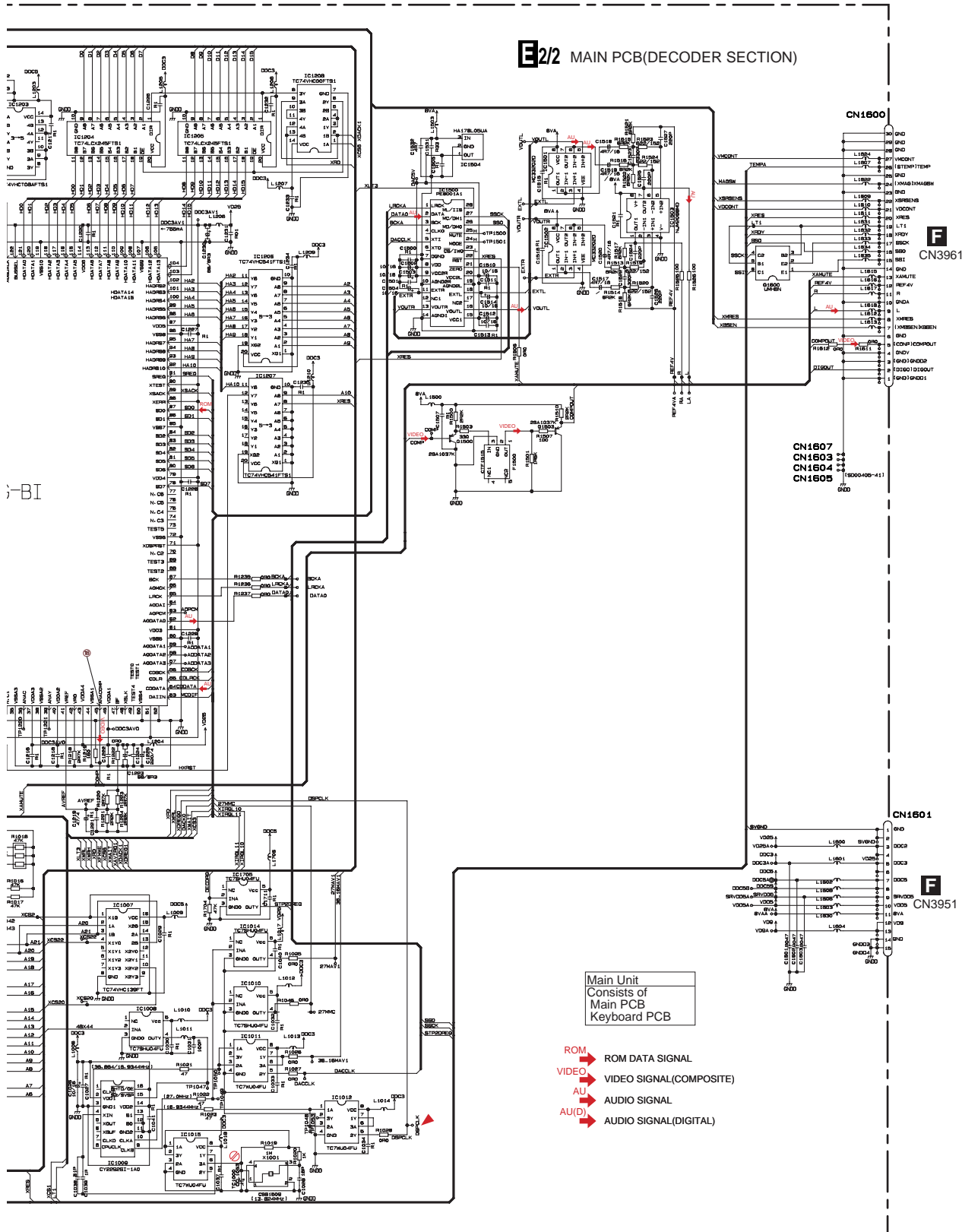
A  
B  
C  
D  
E  
F



E 2/2

# E-b2/2

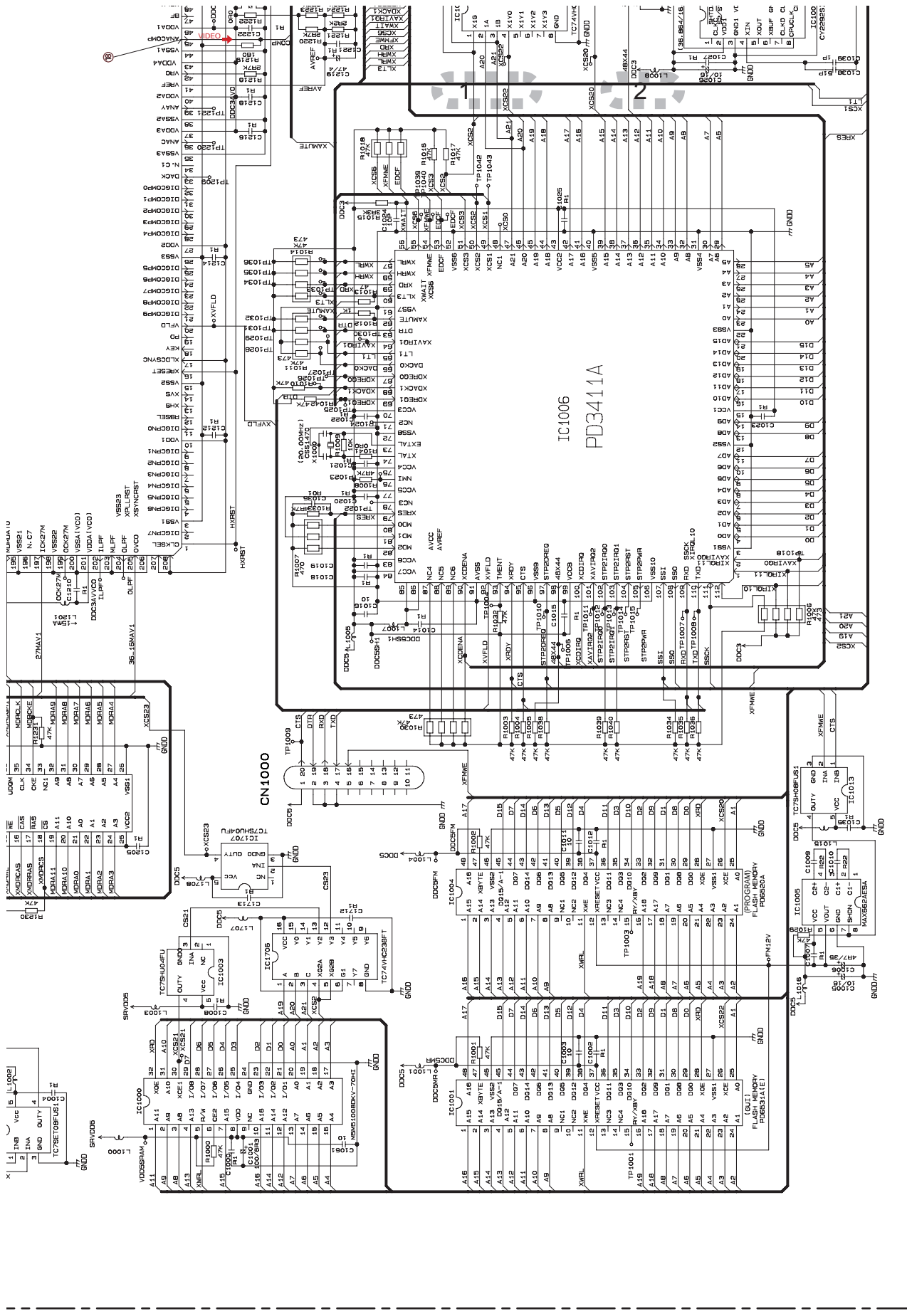
## E/2/2 MAIN PCB(DECODER SECTION)



Main Unit  
Consists of  
Main PCB  
Keyboard PCB

- ROM → ROM DATA SIGNAL
- VIDEO → VIDEO SIGNAL(COMPOSITE)
- AU → AUDIO SIGNAL
- AU(D) → AUDIO SIGNAL(DIGITAL)





E-b 2/2

E-a E-b

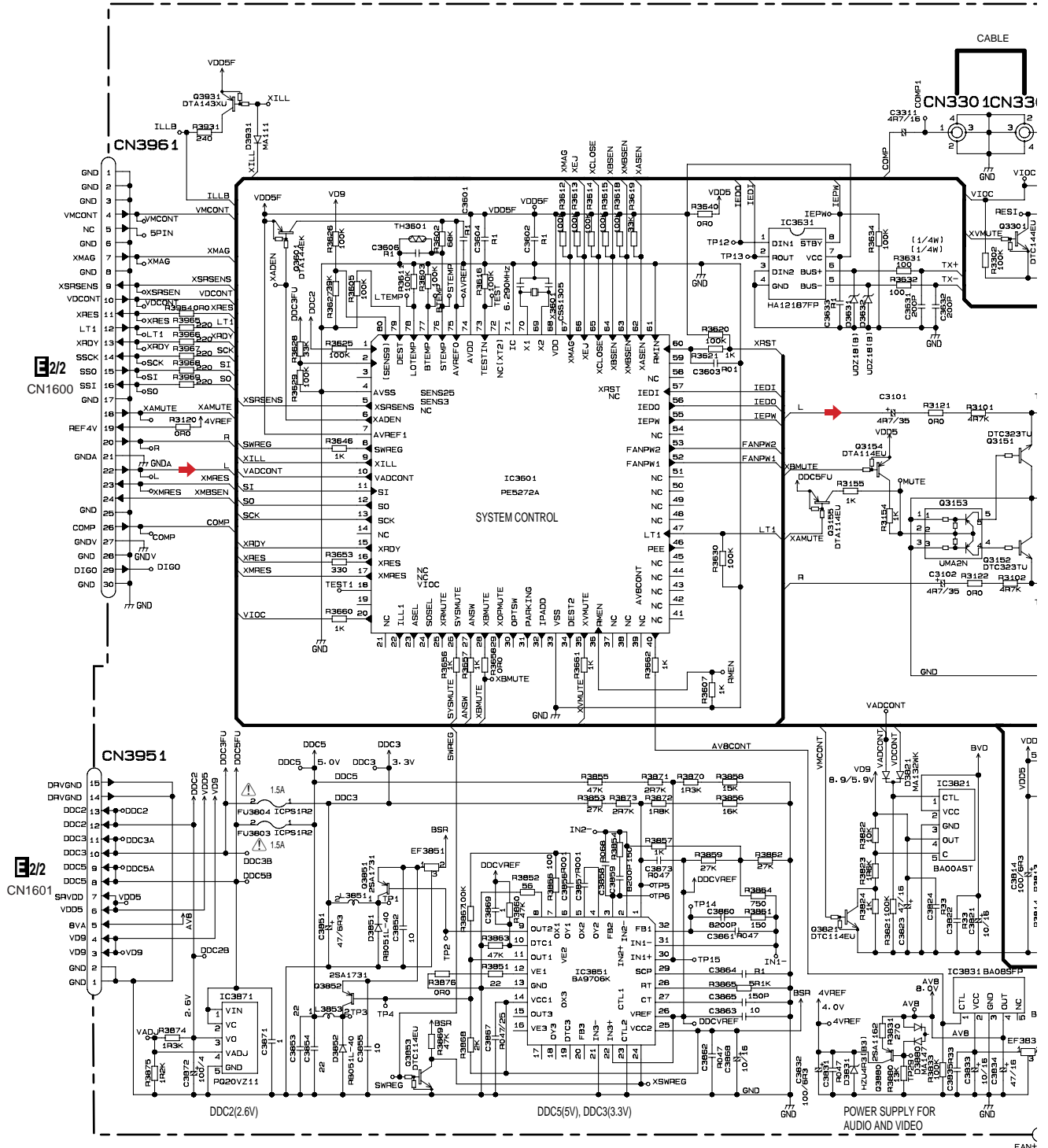
E-a 2/2





# 3.4 EXTENSION UNIT

F-a

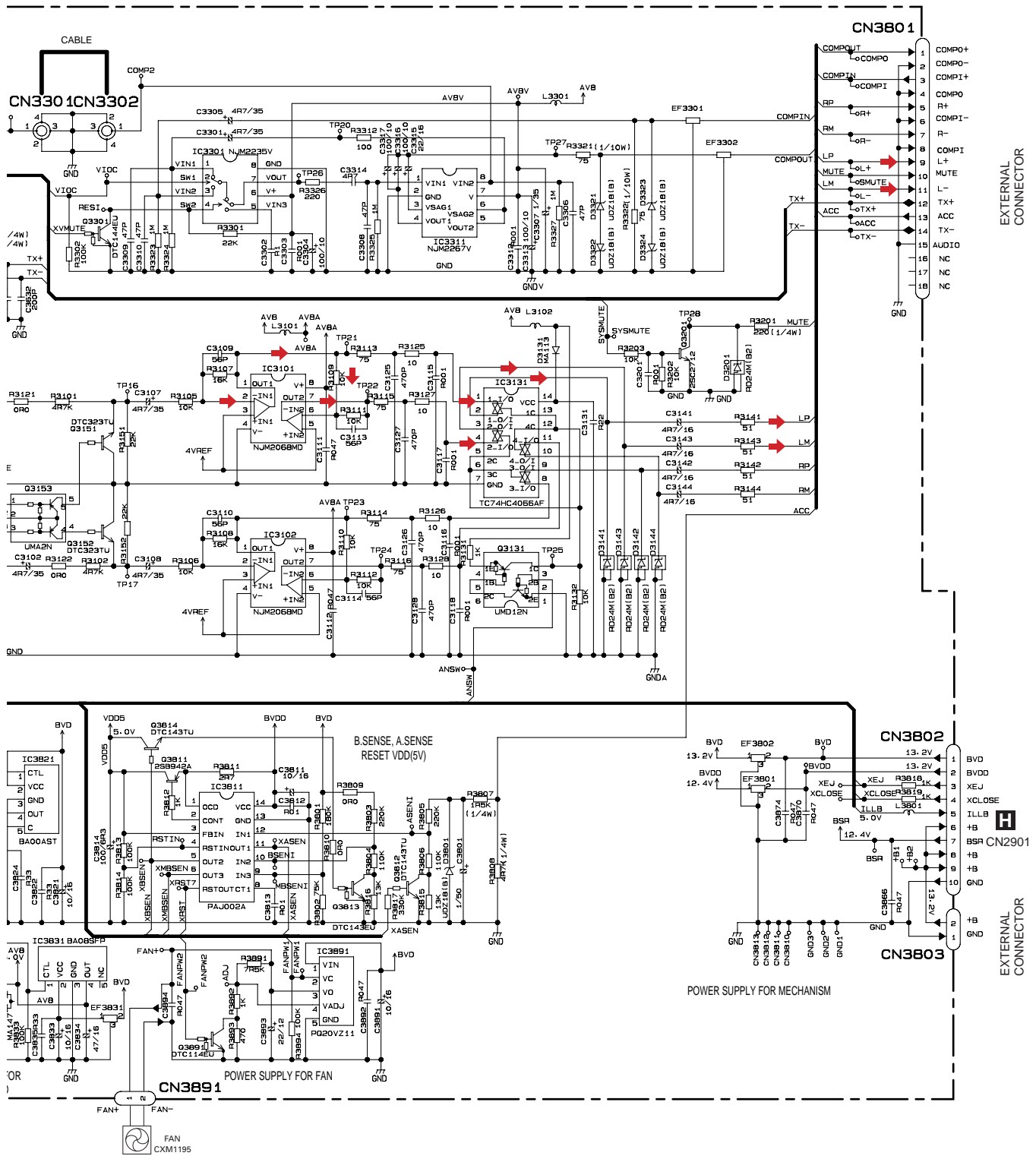


The  $\Delta$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.



# F-b

## F EXTENSION UNIT



A  
B  
C  
D  
E  
F

1

2

3

4

A

B

C

D

E

F

F-b

F-a

F-a

**SYSTEM CONTROL**

IC3601 PE5272A

60	FM IN	NC
59	XASEN	NC
58	XBSEN	NC
57	XCL OSE	NC
56	XFEU	NC
55	XFEU	NC
54	XFEU	NC
53	XFEU	NC
52	XFEU	NC
51	XFEU	NC
50	XFEU	NC
49	XFEU	NC
48	XFEU	NC
47	XFEU	NC
46	XFEU	NC
45	XFEU	NC
44	XFEU	NC
43	XFEU	NC
42	XFEU	NC
41	XFEU	NC
40	XFEU	NC
39	XFEU	NC
38	XFEU	NC
37	XFEU	NC
36	XFEU	NC
35	XFEU	NC
34	XFEU	NC
33	XFEU	NC
32	XFEU	NC
31	XFEU	NC
30	XFEU	NC
29	XFEU	NC
28	XFEU	NC
27	XFEU	NC
26	XFEU	NC
25	XFEU	NC
24	XFEU	NC
23	XFEU	NC
22	XFEU	NC
21	XFEU	NC
20	XFEU	NC
19	XFEU	NC
18	XFEU	NC
17	XFEU	NC
16	XFEU	NC
15	XFEU	NC
14	XFEU	NC
13	XFEU	NC
12	XFEU	NC
11	XFEU	NC
10	XFEU	NC
9	XFEU	NC
8	XFEU	NC
7	XFEU	NC
6	XFEU	NC
5	XFEU	NC
4	XFEU	NC
3	XFEU	NC
2	XFEU	NC
1	XFEU	NC

**CN1600**

1	GND
2	GND
3	GND
4	GND
5	VMCONT
6	NC
7	BPIN
8	GND
9	XMAG
10	VMCONT
11	VMCONT
12	VMCONT
13	VMCONT
14	VMCONT
15	VMCONT
16	VMCONT
17	VMCONT
18	VMCONT
19	VMCONT
20	VMCONT
21	VMCONT
22	VMCONT
23	VMCONT
24	VMCONT
25	VMCONT
26	VMCONT
27	VMCONT
28	VMCONT
29	VMCONT
30	VMCONT

XDV-M8357ZT/UC

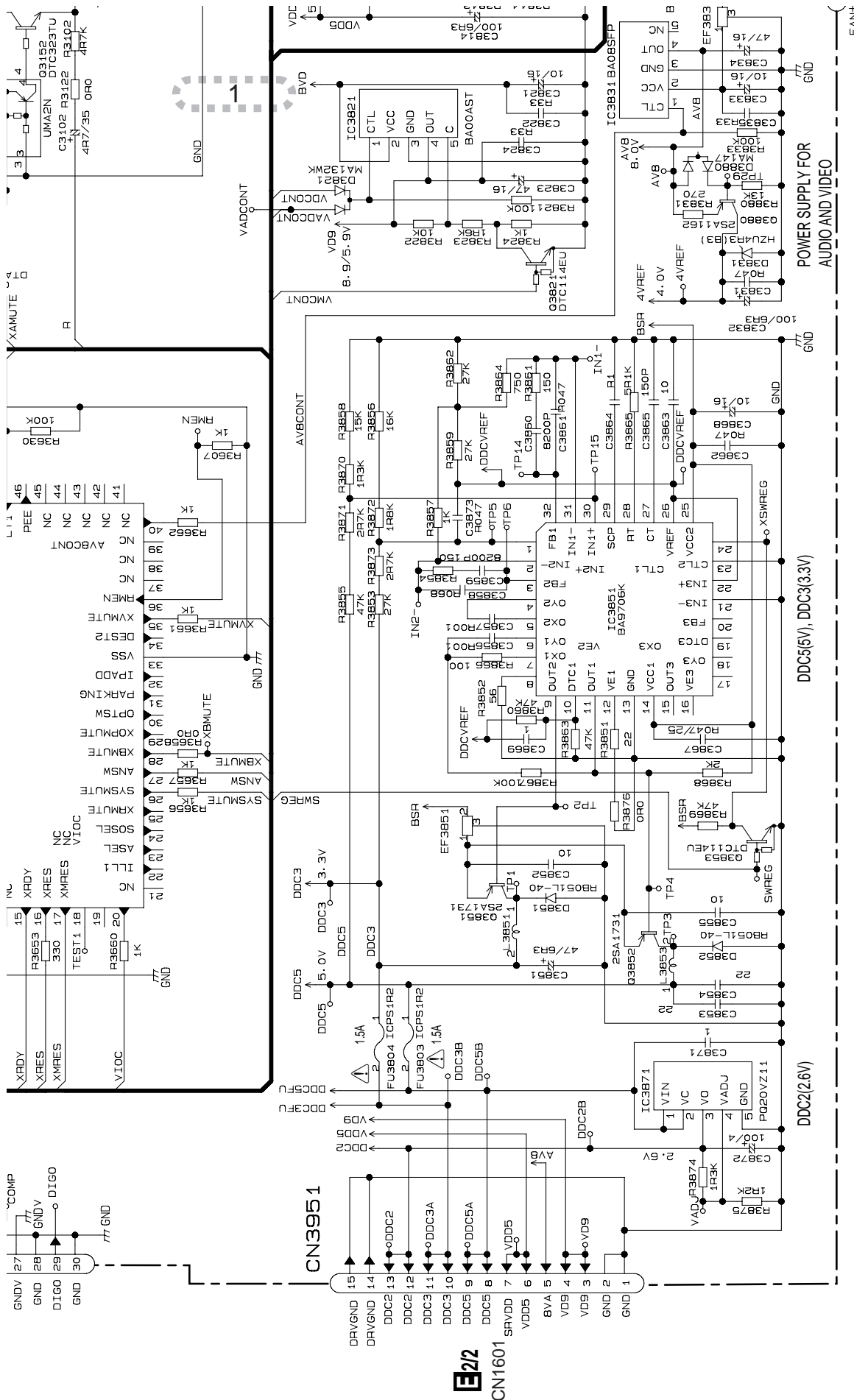
1

2

3

4

34



The  $\triangle$  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.

F-b

F-a F-b

F-a



CN1601

XDV-M8357ZT/UC

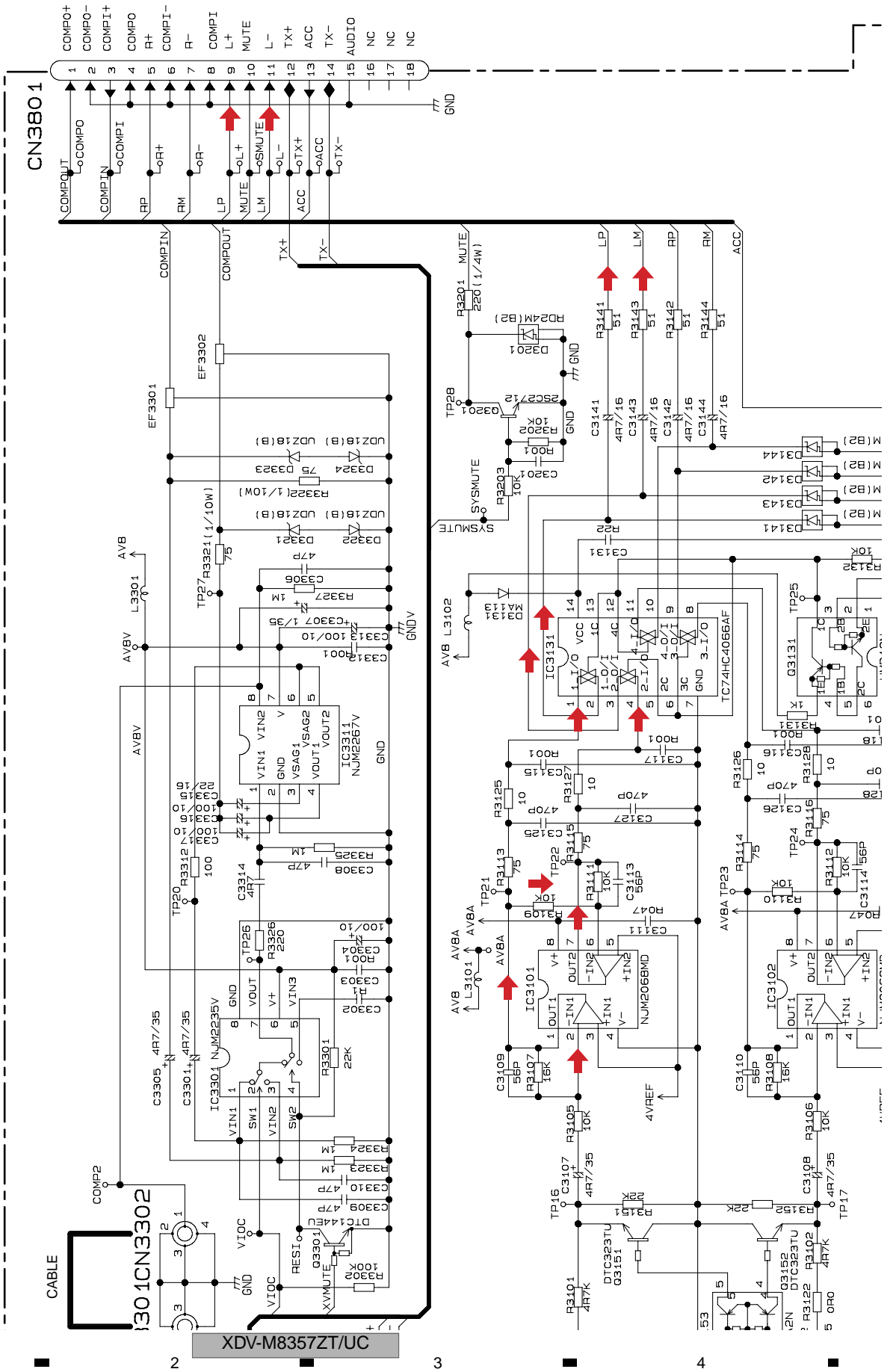
A B C D E F

5 6 7 8

5 6 7 8

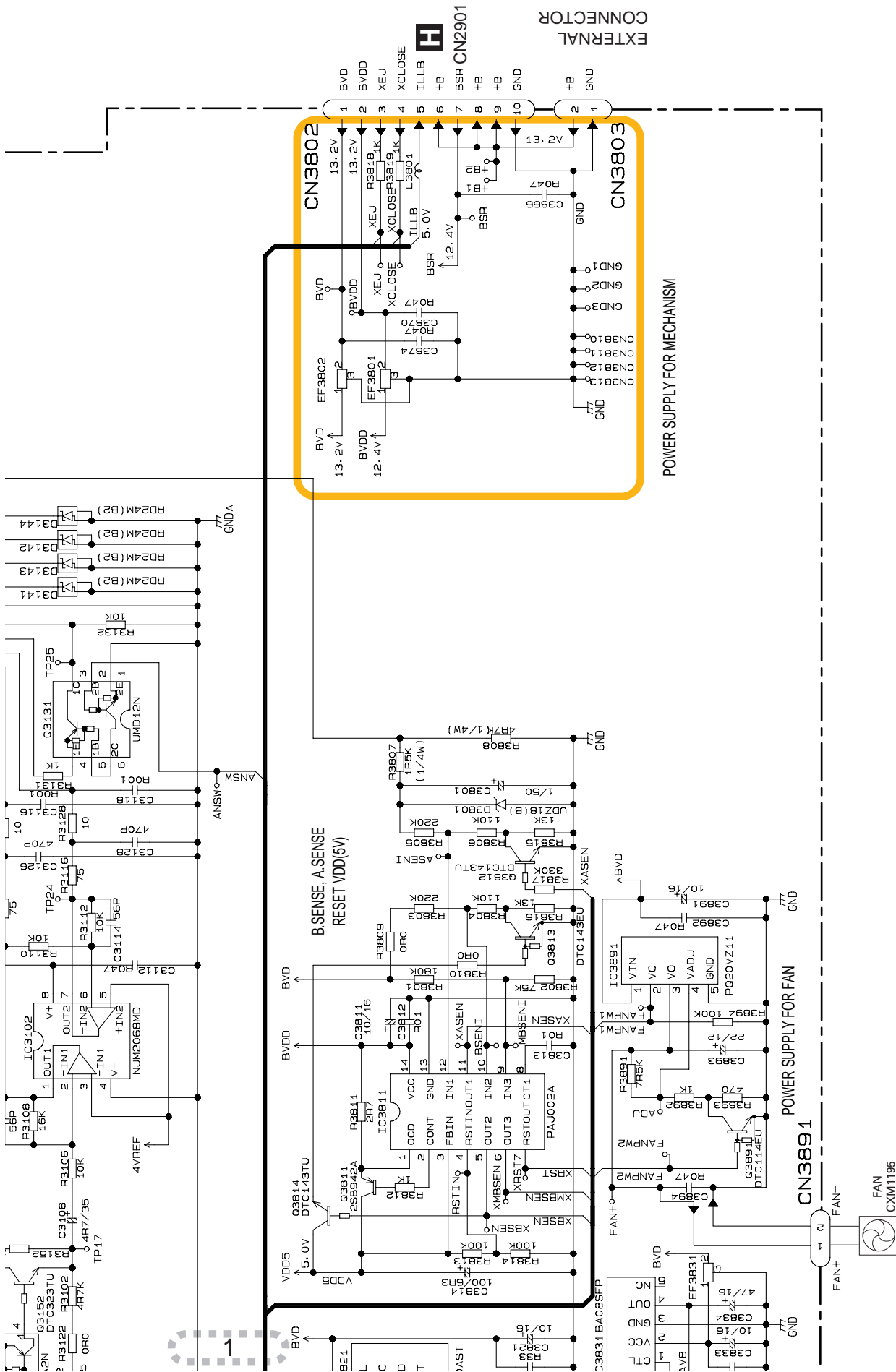
# F EXTENSION UNIT

## EXTERNAL CONNECTOR



F-a F-b

F-b

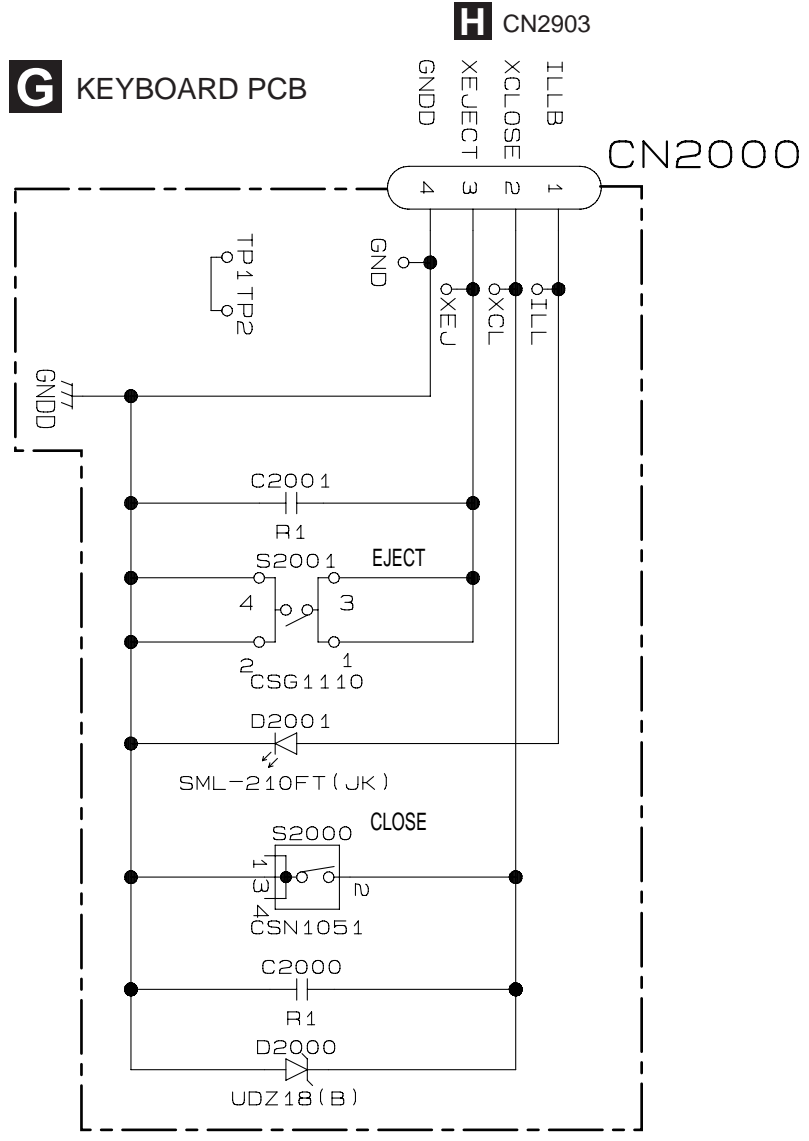


F-a F-b

F-b

# 3.5 KEYBOARD PCB

A  
B  
C  
D  
E  
F

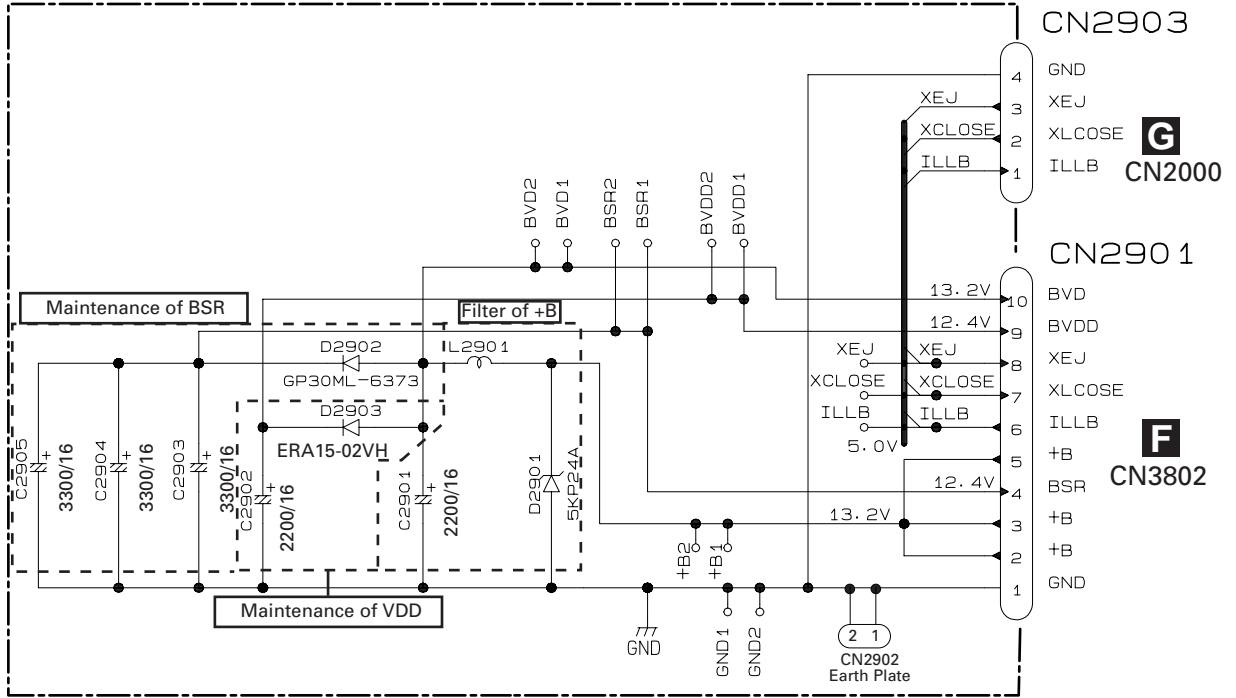


Main Unit
Consists of
Main PCB
Keyboard PCB



# 3.6 MF UNIT

## H MF UNIT

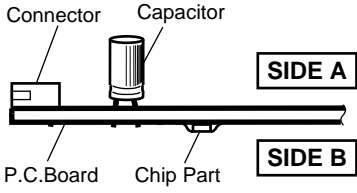


# 4. PCB CONNECTION DIAGRAM

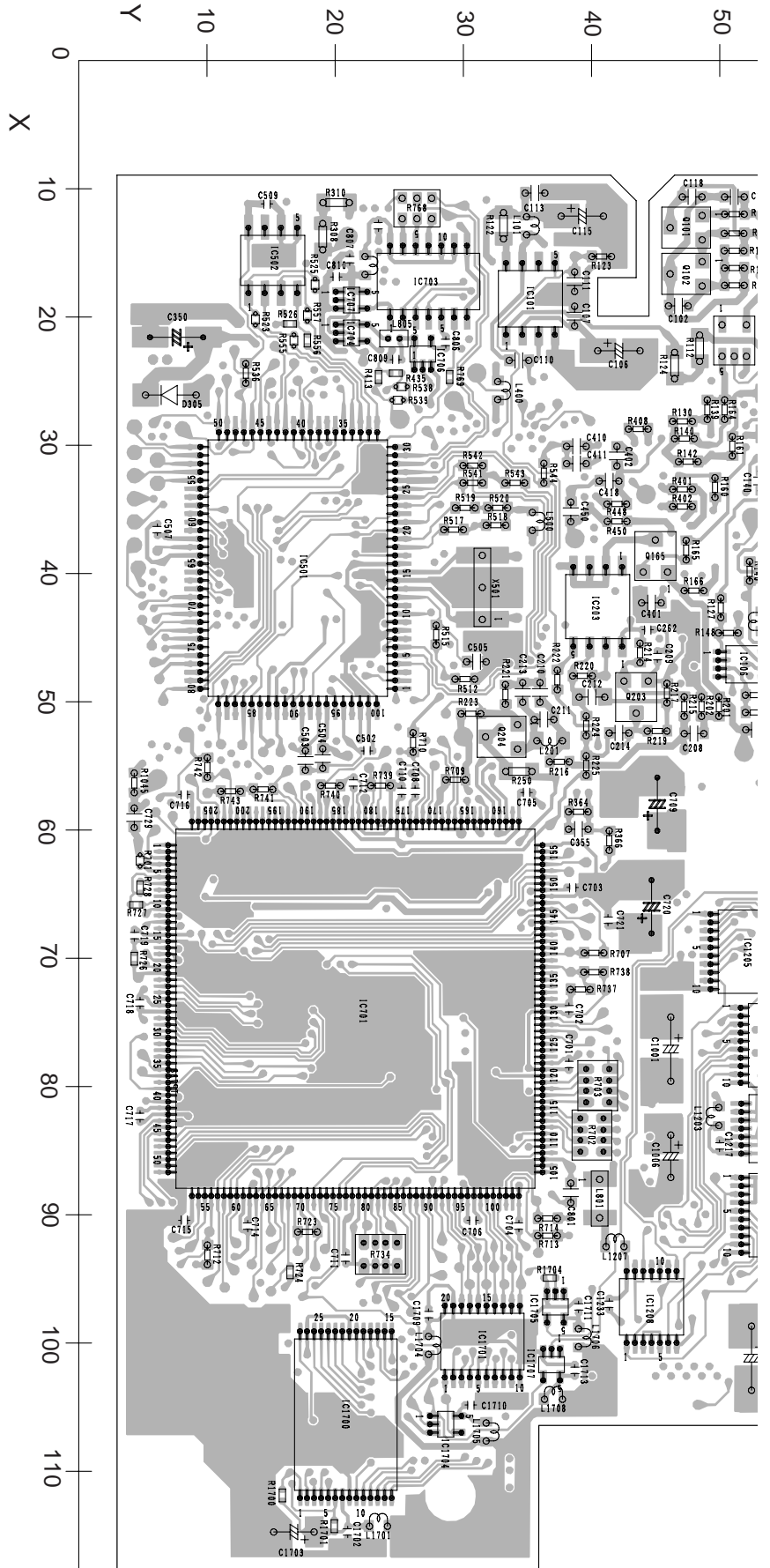
## 4.1 MAIN PCB

### NOTE FOR PCB DIAGRAMS

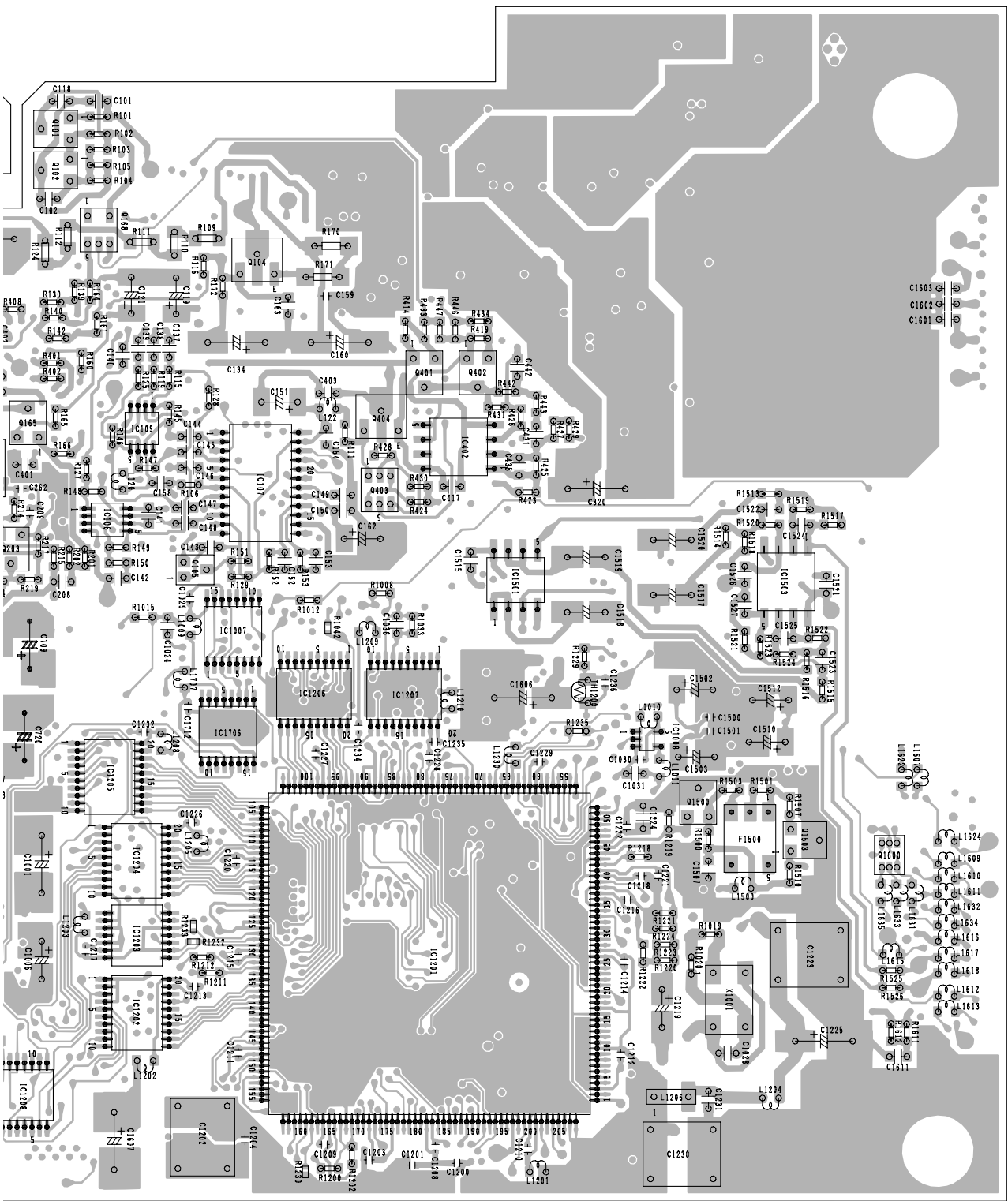
- The parts mounted on this PCB include all necessary parts for several destination. For further information for respective destinations, be sure to check with the schematic diagram.
- Viewpoint of PCB diagrams



### E MAIN PCB



50 60 70 80 90 100 110 120 130

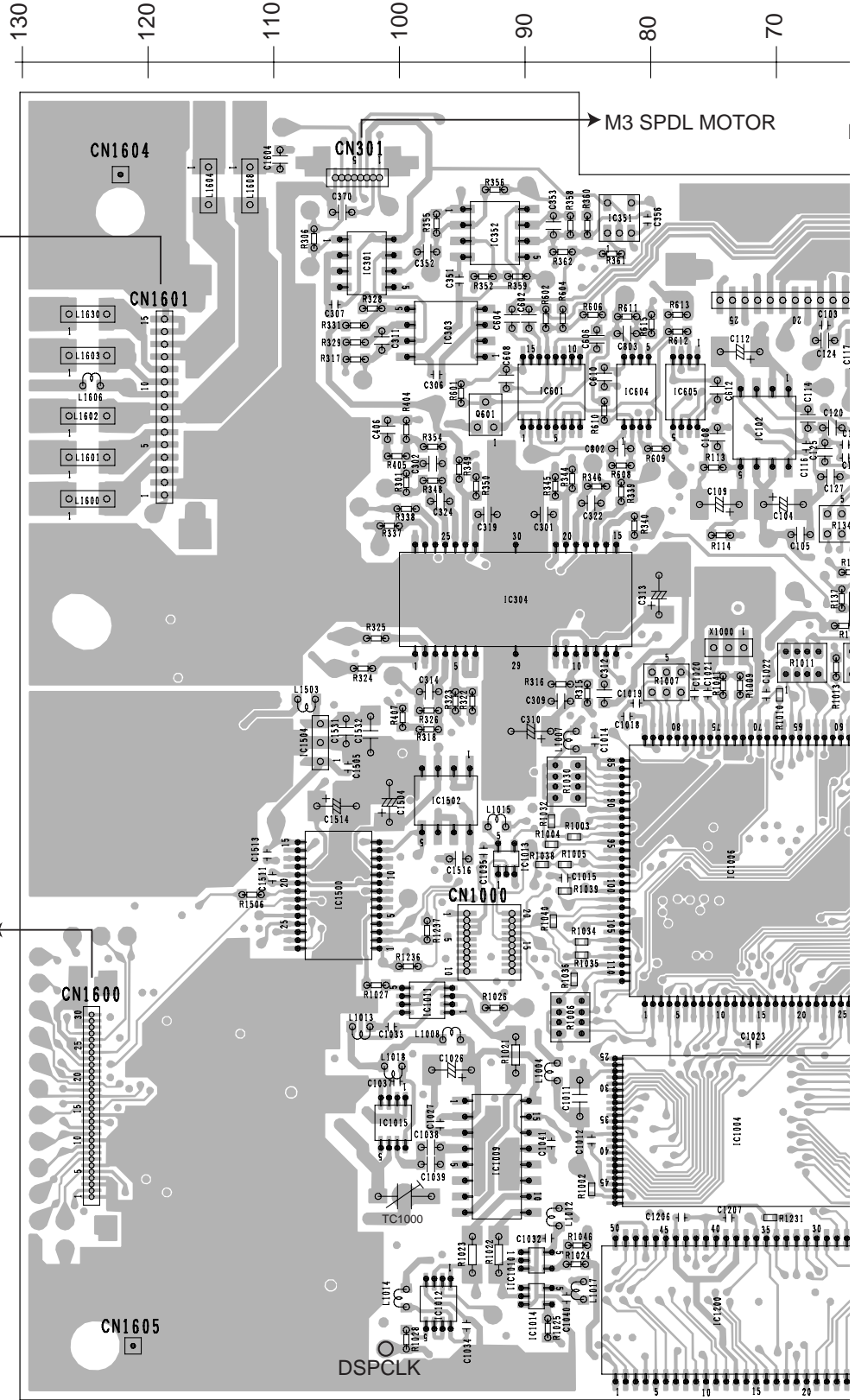


A B C D E F



5 6 7 8

# E MAIN PCB



A  
B  
C  
D  
E  
F

F CN3951

F CN3961

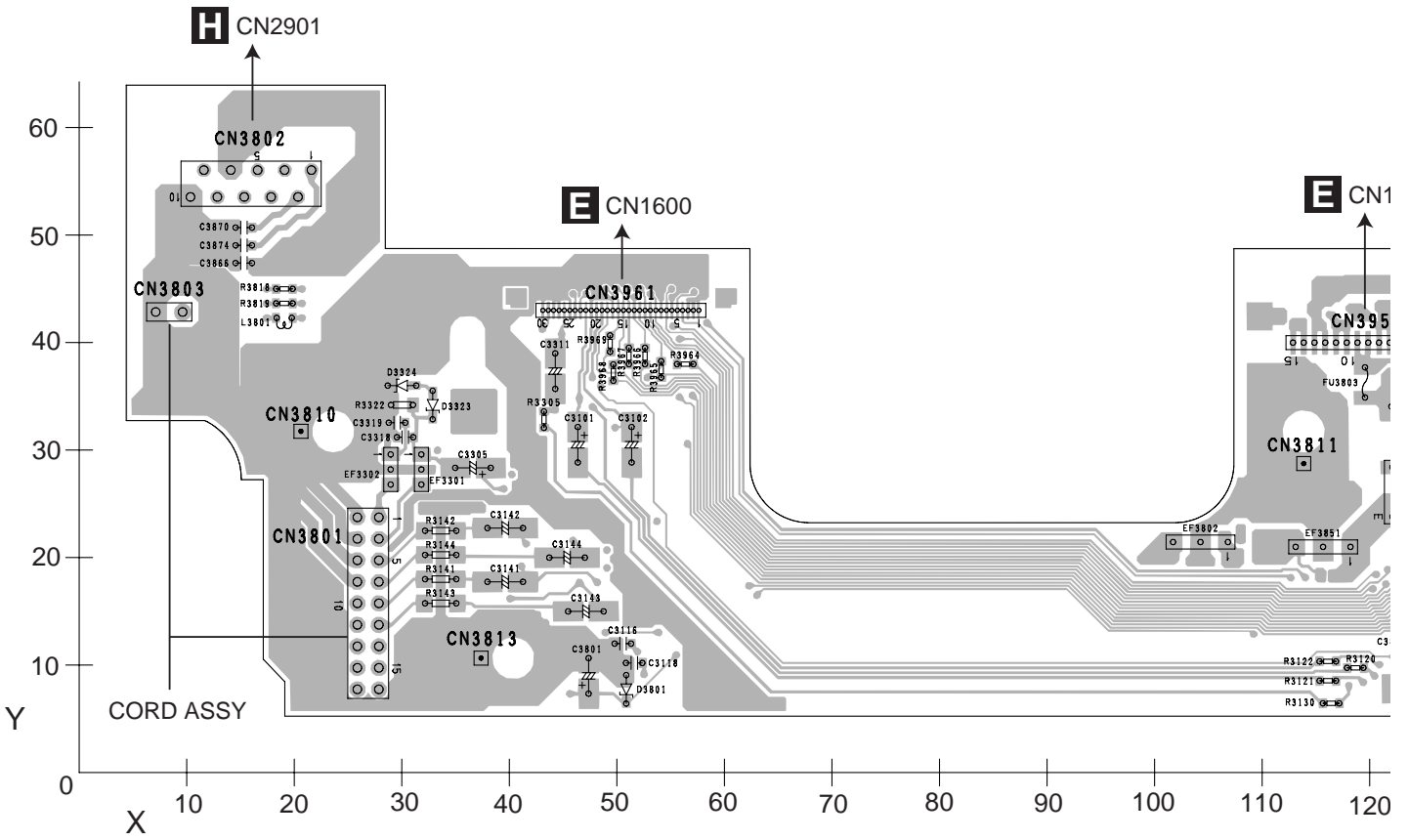
M3 SPDL MOTOR

DSPCLK



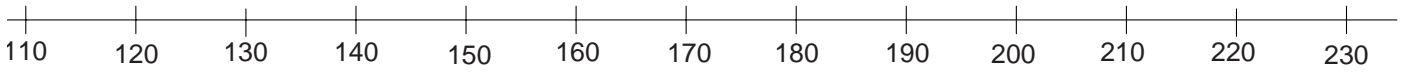
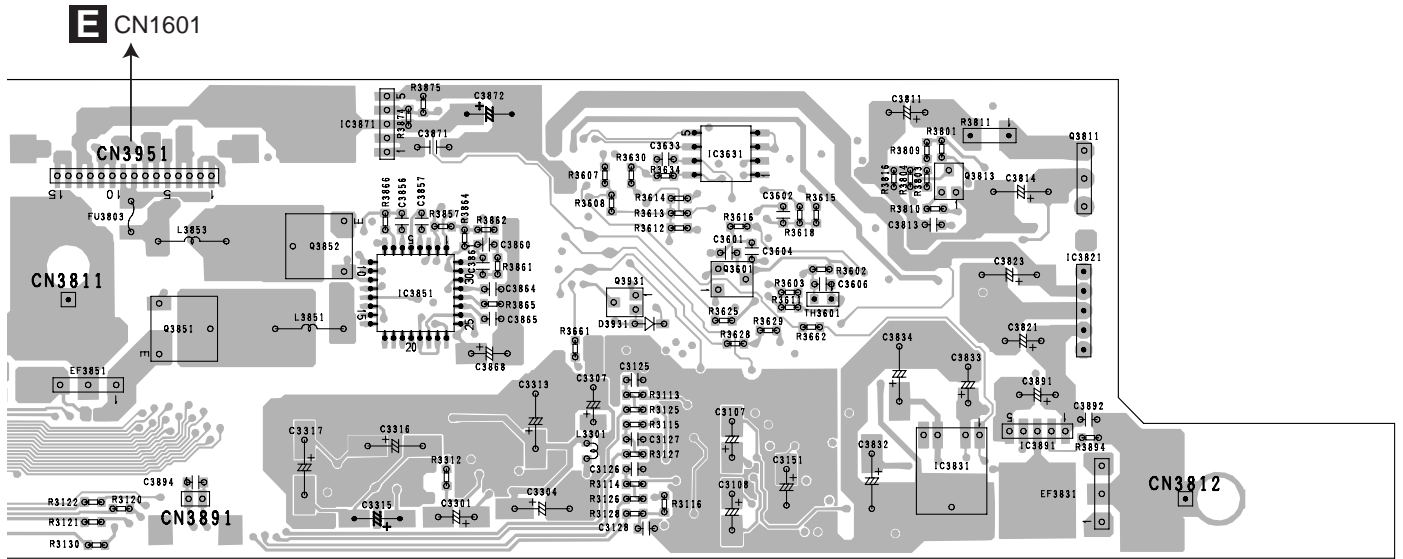
## 4.2 EXTENSION UNIT

### F EXTENSION UNIT



SIDE A

F



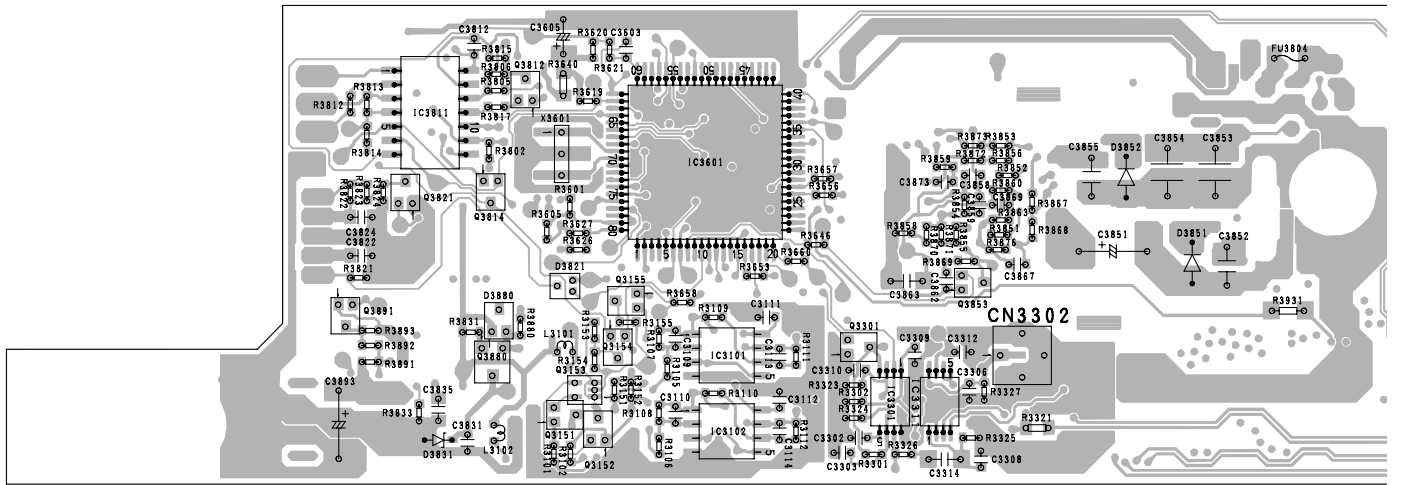
A

B

# F EXTENSION UNIT

C

D

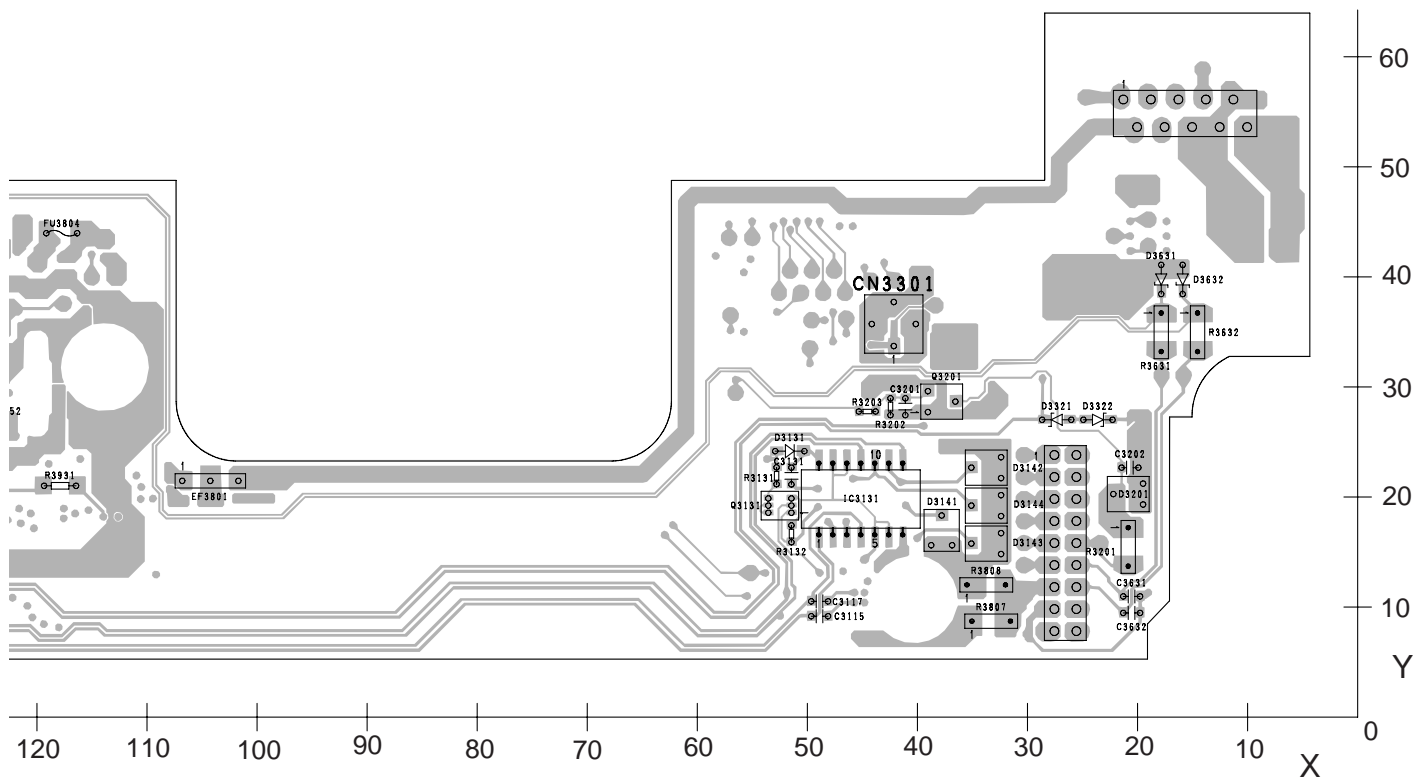


E

F



**SIDE B**



**F**

# 4.3 KEYBOARD PCB

1

2

3

4

A

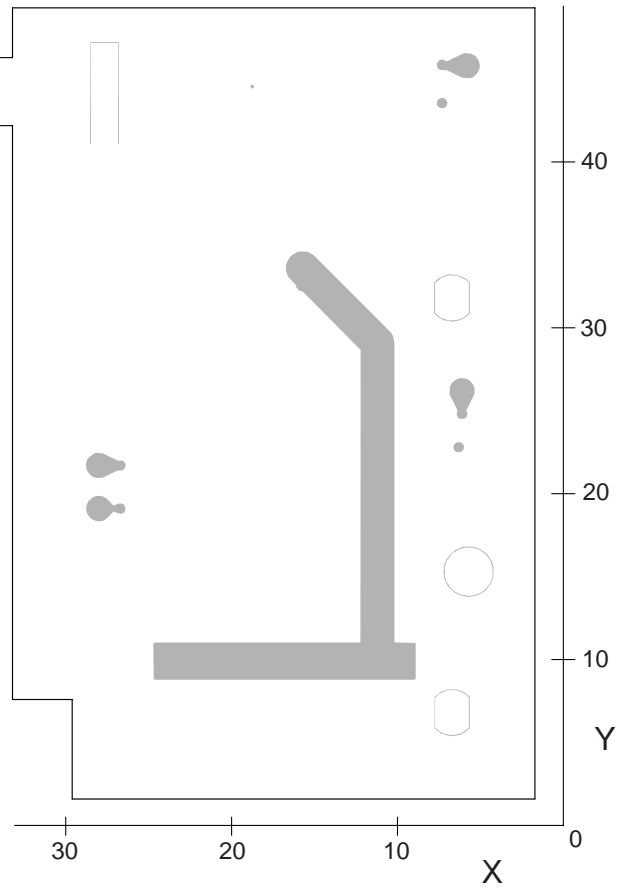
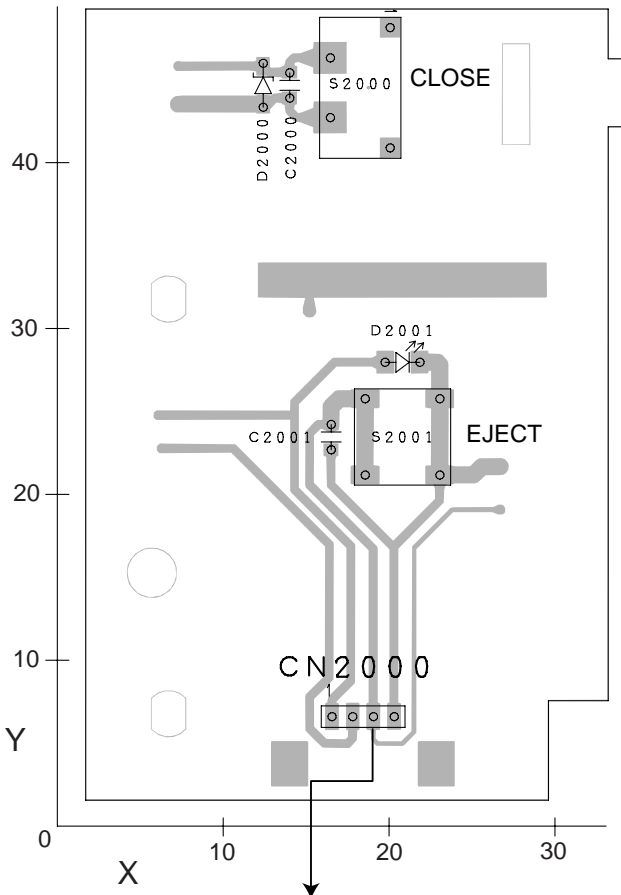
B

**G** KEYBOARD PCB

**SIDE A**

**G** KEYBOARD PCB

**SIDE B**



**H** CN2903

E

F



1

2

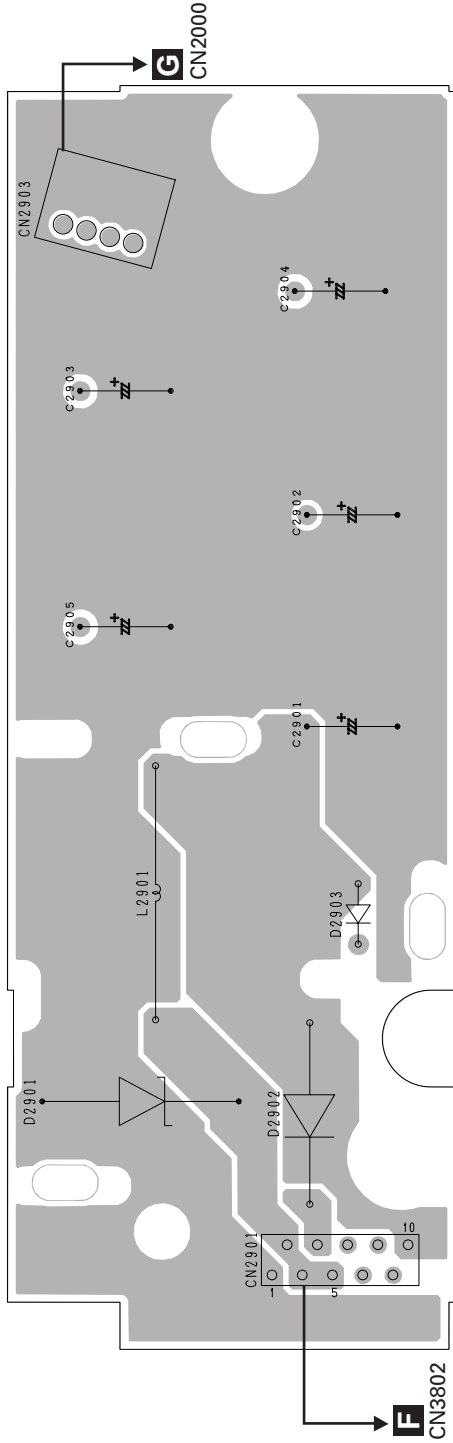
3

4

# 4.4 MF UNIT

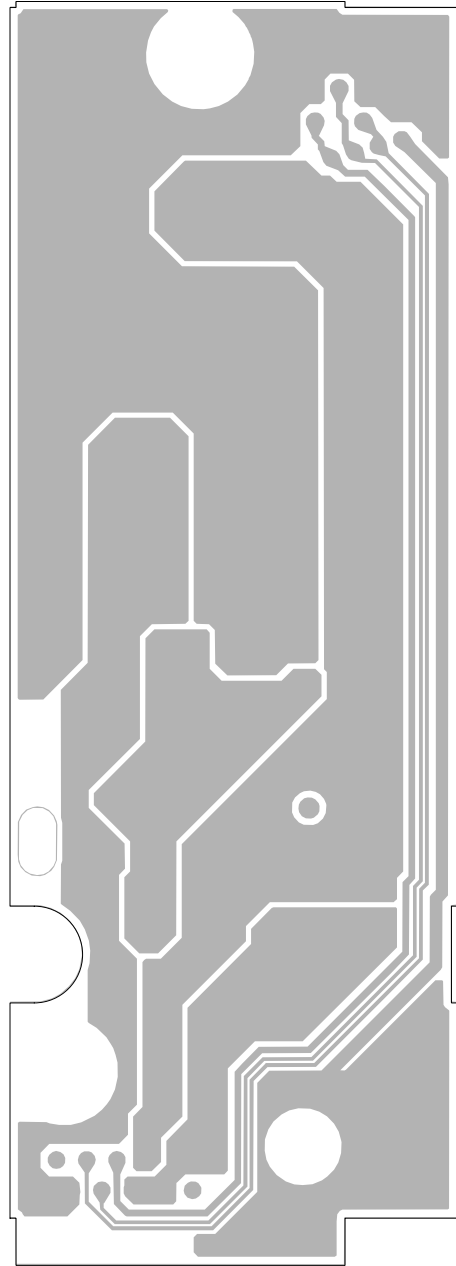
**H** MF UNIT

**SIDE A**



**H** MF UNIT

**SIDE B**



A  
B  
C  
D  
E  
F

1 2 3 4

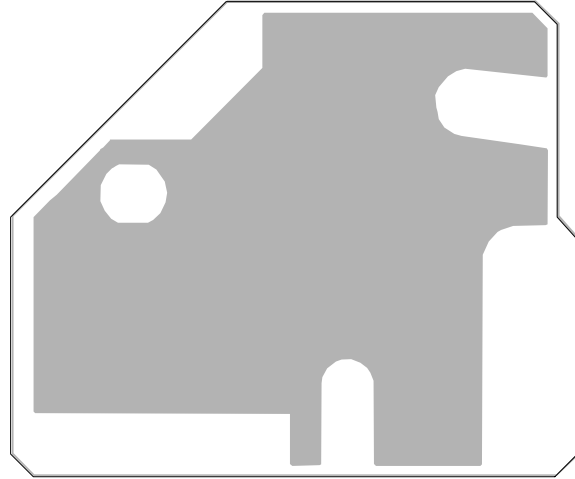
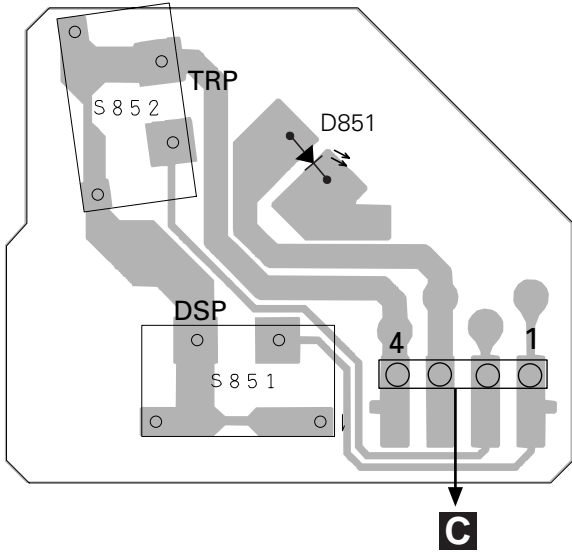
# 4.5 DVD/CD MECHANISM UNIT

**A** PCB UNIT(A)

**SIDE A**

**A** PCB UNIT(A)

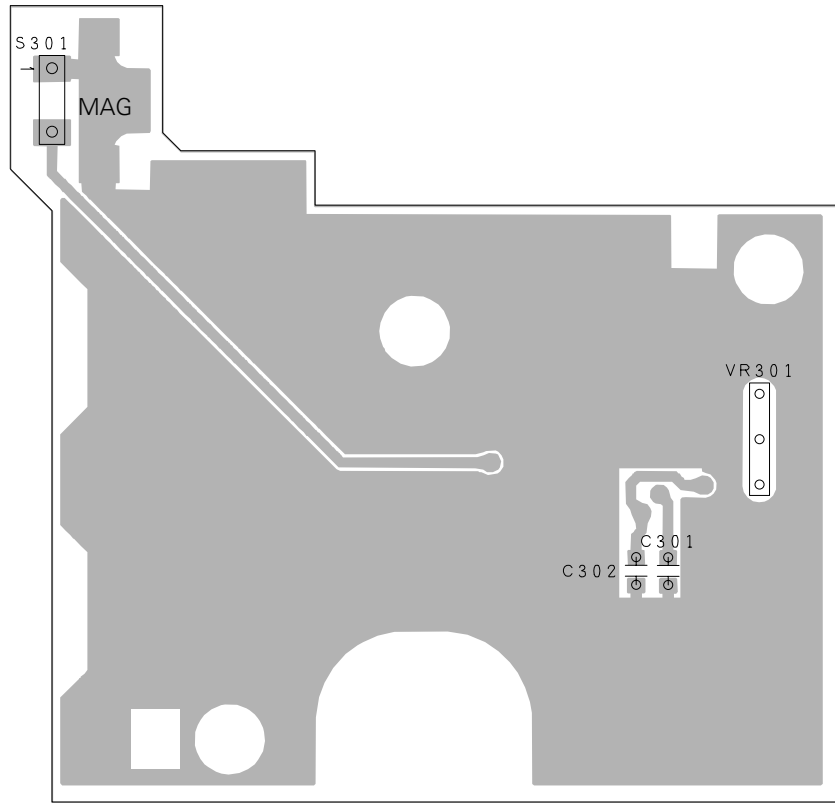
**SIDE B**



**A**

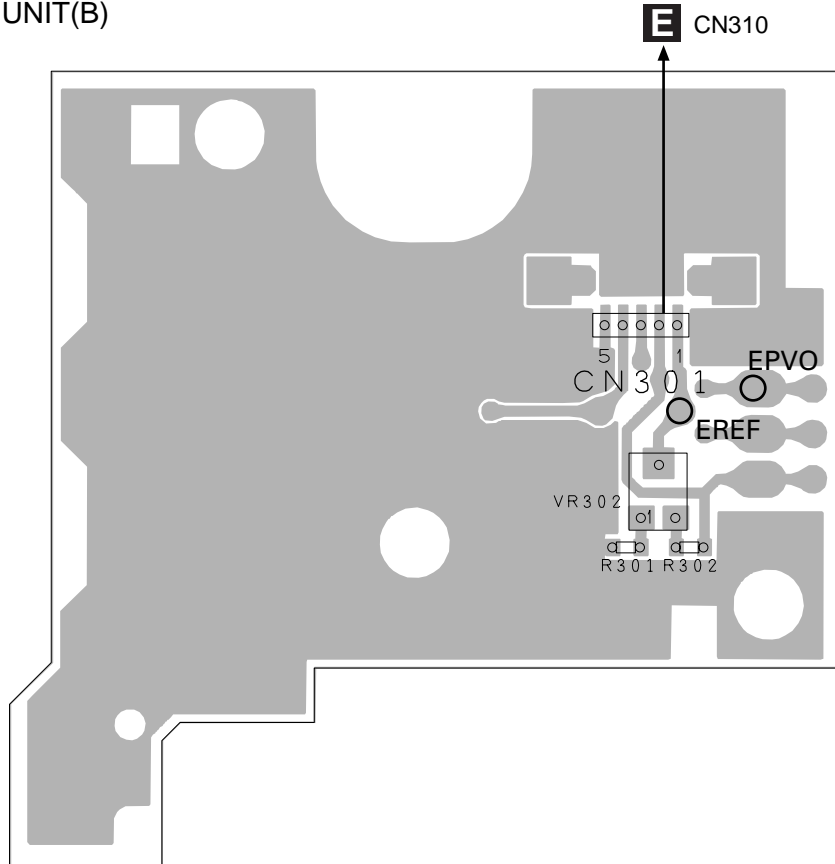
**B** PCB UNIT(B)

**SIDE A**



**B** PCB UNIT(B)

**SIDE B**



A  
B  
C  
D  
E  
F

**B**

**C** PCB(A)

**E** CN302

A

B

C

D

E

F

**A**

1

4

1

9

Q851

M1  
CARRIAGE

**M**

3K

1

2

**D**

**C**

**D** PCB(B)

A

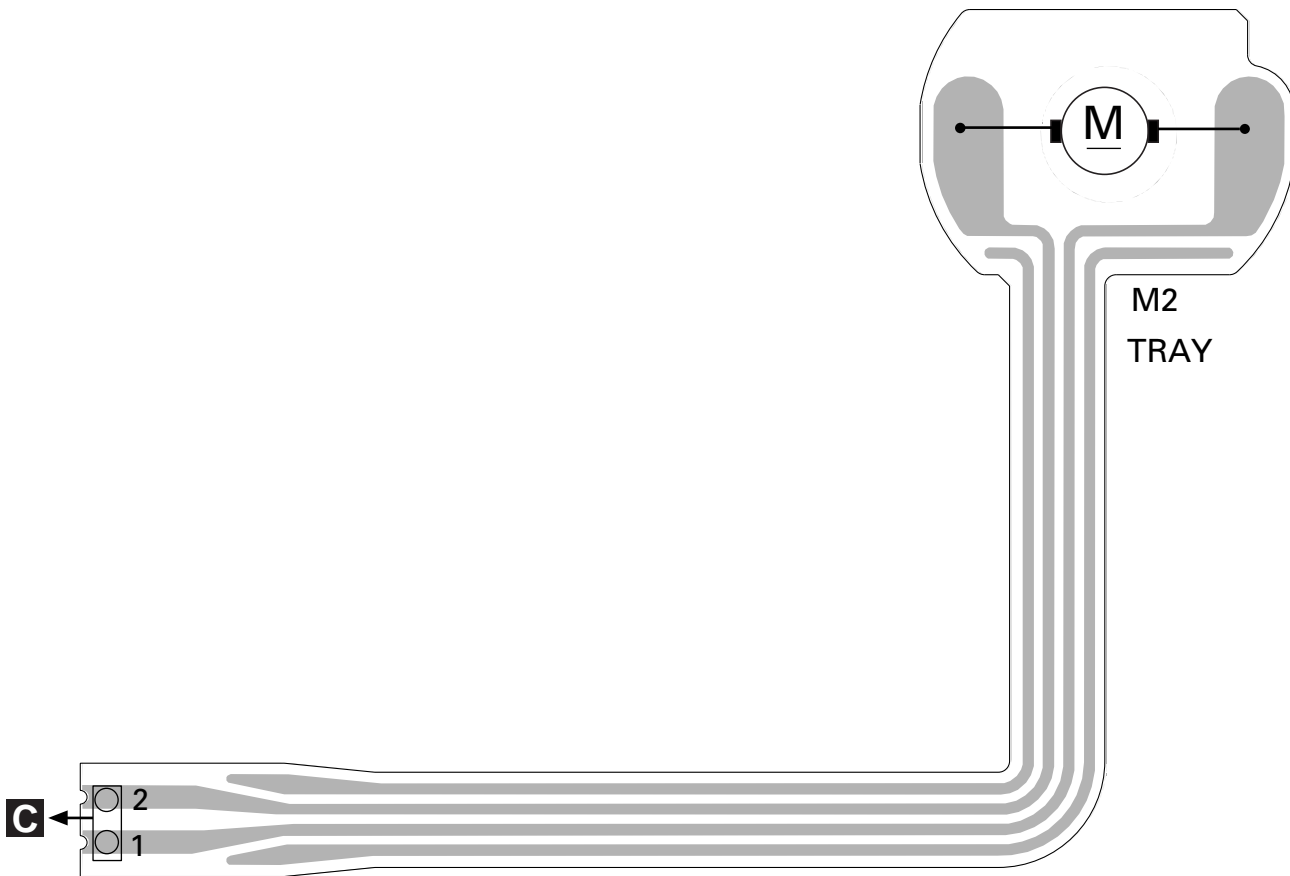
B

C

D

E

F



**D**

# 5. ELECTRICAL PARTS LIST

NOTE:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/○S○○○○J,RS1/○○S○○○○J

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

- The  $\triangle$  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.
- Meaning of the figures and others in the parentheses in the parts list.

Example) IC 301 is on the point (face A, 91 of x-axis, and 111 of y-axis) of the corresponding PC board.

IC 301 (A, 91, 111) IC NJM2068V

Circuit Symbol and No.	Part No.	Circuit Symbol and No.	Part No.
<b>Unit Number:CWX3187</b>		IC 109 (A,39,55) IC	TC7WU04FU
<b>Unit Name:Main Unit</b>		IC 203 (A,43,40) IC	NJM2100M
		IC 204 (B,63,11) IC	NJM2100M
<b>Unit Number:CWX3198</b>		IC 206 (B,62,28) IC	TC74VHCU04FT
<b>Unit Name:Extension Unit</b>		IC 301 (B,16,103) IC	TC4W53F
		IC 303 (B,22,96) IC	NJM2904M
<b>Unit Number:CWM6518</b>		IC 304 (B,43,91) IC	BA6797FM
<b>Unit Name:MF Unit</b>		IC 305 (B,25,18) IC	LB1836M
		IC 351 (B,12,82) IC	TC4S66F
<b>Unit Number:</b>		IC 352 (B,14,92) IC	MC33202D
<b>Unit Name:PCB Unit(A)</b>		IC 353 (B,58,40) IC	MC33202D
		IC 401 (B,34,34) IC	TC9461F
<b>Unit Number:</b>		IC 402 (A,41,82) IC	NJM2904M
<b>Unit Name:PCB Unit(B)</b>		IC 501 (A,40,17) IC	PEG114A
		IC 601 (B,26,88) IC	TC4053BFT
<b>Unit Number:</b>		IC 604 (B,26,81) IC	NJM3414AV
<b>Unit Name:PCB(A)</b>		IC 605 (B,26,77) IC	NJM3414AV
		IC 701 (A,74,22) IC	PD4995A
<b>Unit Number:</b>		IC 702 (B,80,16) IC	MSM5117800F-60JS
<b>Unit Name:PCB(B)</b>		IC 703 (A,17,27) IC	LC89170MP
		IC 704 (A,21,21) IC	TC7SET08FUS1
		IC 705 (B,77,27) 1 chip OR gate	TC7SH32FUS1
		IC 706 (A,23,27) IC	TC7SET08FUS1
<b>Main Unit</b>		IC 707 (A,19,21) IC	TC7SET04FUS1
<b>Consists of</b>		IC 1000 (B,76,50) IC	M5M51008DKV-70HI
<b>Main PCB</b>		IC 1001 (B,95,51) IC	PD6531A
<b>Keyboard PCB</b>		IC 1002 (B,82,30) IC	TC7SET08FUS1
		IC 1003 (B,70,44) IC	TC7SHU04FU
		IC 1004 (B,85,73) IC	PD6520A
		IC 1005 (B,79,34) IC	MAX662AESA
<b>Unit Number:CWX3187</b>		IC 1006 (B,64,72) IC	PD3411A
<b>Unit Name:Main Unit</b>		IC 1007 (A,57,63) IC	TC74VHC139FT
		IC 1008 (A,66,99) IC	TC7SHU04FU
<b>MISCELLANEOUS</b>		IC 1009 (B,87,92) IC	CY2292SI-1A0
IC 101 (A,19,35) IC	IR3C07N	IC 1010 (B,95,89) IC	TC7SHU04FU
IC 102 (B,29,71) IC	NJM2904M	IC 1011 (B,75,98) IC	TC7WU04FU
IC 103 (B,31,56) IC	TA1254AF	IC 1012 (B,99,97) IC	TC7WU04FU
IC 105 (B,46,47) IC	NJM3404AM	IC 1013 (B,63,91) IC	TC7SH08FUS1
IC 106 (A,47,52) IC	TC7WU04FU	IC 1014 (B,98,89) IC	TC7SHU04FU
		IC 1015 (B,84,100) IC	TC7WU04FU
IC 107 (A,44,65) IC	PA0065AM	IC 1200 (B,99,73) IC	MSM56V16160DP-10TS
IC 108 (B,52,50) IC	NJM3404AM		

5			6			7			8		
<u>Circuit Symbol and No.</u>			<u>Part No.</u>			<u>Circuit Symbol and No.</u>			<u>Part No.</u>		
IC 1201	(A,85,80)	IC	MB86373BPFV-G-BI	L 1004	(B,80,87)	Inductor	CTF1473				
IC 1202	(A,90,54)	IC	TC74VHC541FTS1	L 1005	(B,62,55)	Inductor	CTF1473				
IC 1203	(A,83,54)	IC	TC74VHCT08AFTS1	L 1007	(B,54,86)	Inductor	CTF1473				A
IC 1204	(A,77,54)	IC	TC74LCX245FTS1	L 1008	(B,78,96)	Inductor	CTF1473				
IC 1205	(A,69,52)	IC	TC74LCX245FTS1	L 1009	(A,56,59)	Inductor	CTF1473				
IC 1206	(A,62,70)	IC	TC74VHC541FTS1	L 1010	(A,64,99)	Inductor	CTF1473				
IC 1207	(A,62,78)	IC	TC74VHC541FTS1	L 1011	(A,69,100)	Inductor	CTF1470				
IC 1208	(A,97,45)	IC	TC74VHC00FTS1	L 1012	(B,92,87)	Inductor	CTF1473				
IC 1500	(B,66,105)	IC	PE8001A1	L 1013	(B,77,103)	Inductor	CTF1473				
IC 1501	(A,52,87)	IC	MC33202D	L 1014	(B,98,99)	Inductor	CTF1473				
IC 1502	(B,59,96)	IC	MC33202D	L 1015	(B,61,92)	Inductor	CTF1473				
IC 1503	(A,52,111)	IC	NJM2068MD	L 1016	(B,79,39)	Inductor	CTF1473				
IC 1504	(B,54,108)	IC	HA178L05UA	L 1017	(B,98,85)	Inductor	CTF1473				
IC 1700	(A,106,21)	IC	LC35256FT-70U	L 1018	(B,80,100)	Inductor	CTF1473				B
IC 1701	(A,100,31)	IC	HD74HC245T	L 1200	(B,103,60)	Inductor	CTF1453				
IC 1702	(B,99,28)	IC	LC89513KP	L 1201	(A,104,89)	Inductor	CTF1473				
IC 1704	(A,106,29)	IC	TC7S02FU	L 1202	(A,94,55)	Inductor	CTF1473				
IC 1705	(A,97,37)	IC	TC7SHU04FU	L 1203	(A,82,50)	Inductor	CTF1473				
IC 1706	(A,66,62)	IC	TC74VHC238FT	L 1204	(A,97,110)	Inductor	CTF1473				
IC 1707	(A,102,37)	IC	TC7SHU04FU	L 1205	(A,75,60)	Inductor	CTF1473				
Q 101	(A,13,47)	Transistor	2SD601A	L 1206	(A,97,101)	Inductor	CTF1453				
Q 102	(A,17,47)	Transistor	2SB709A	L 1207	(A,92,42)	Inductor	CTF1473				
Q 103	(B,43,63)	Transistor	DTC114EU	L 1208	(A,66,57)	Inductor	CTF1473				
Q 104	(A,24,65)	Transistor	2SB1260	L 1209	(A,57,75)	Inductor	CTF1473				
Q 165	(A,39,45)	Transistor	2SB709A	L 1210	(A,63,82)	Inductor	CTF1473				C
Q 168	(A,22,51)	Transistor	FMC5A	L 1500	(A,79,107)	Inductor	CTF1473				
Q 203	(A,50,43)	Transistor	2SB709A	L 1503	(B,51,107)	Inductor	CTF1473				
Q 204	(A,53,33)	Transistor	2SD601A	L 1600	(B,35,125)	Inductor	CTF1453				
Q 401	(A,34,79)	Transistor	2SB709A	L 1601	(B,31,125)	Inductor	CTF1453				
Q 402	(A,34,84)	Transistor	2SD1781K	L 1602	(B,28,125)	Inductor	CTF1453				
Q 403	(A,44,76)	Transistor	IMX1	L 1603	(B,23,125)	Inductor	CTF1453				
Q 404	(A,38,76)	Transistor	2SB1132	L 1604	(B,10,115)	Inductor	CTF1453				
Q 501	(B,51,20)	Transistor	DTA114EU	L 1606	(B,26,124)	Inductor	CTF1473				
Q 601	(B,28,93)	Transistor	DTC114EU	L 1607	(A,70,122)	Inductor	CTF1470				
Q 1500	(A,72,103)	Transistor	2SA1037K	L 1608	(B,10,112)	Inductor	CTF1453				
Q 1503	(A,75,113)	Transistor	2SA1037K	L 1609	(A,77,125)	Inductor	CTF1470				D
Q 1600	(A,76,120)	Transistor	UMH8N	L 1610	(A,78,125)	Inductor	CTF1470				
D 201	(B,68,20)	Diode	KV1410-F1	L 1611	(A,80,125)	Inductor	CTF1470				
D 305	(A,26,7)	Diode	1SR154-400	L 1612	(A,89,125)	Inductor	CTF1470				
D 2000	(A,12,45)	Diode	UDZ18(B)	L 1613	(A,90,125)	Inductor	CTF1470				
D 2001	(A,21,28)	LED	SML-210FT(JK)	L 1615	(A,85,120)	Inductor	CTF1470				
L 101	(A,13,35)	Inductor	CTF1473	L 1616	(A,84,125)	Inductor	CTF1470				
L 120	(A,44,53)	Inductor	CTF1473	L 1617	(A,85,125)	Inductor	CTF1470				
L 121	(B,47,59)	Inductor	CTF1473	L 1618	(A,87,125)	Inductor	CTF1470				
L 122	(A,37,71)	Inductor	CTF1473	L 1622	(A,70,121)	Inductor	CTF1470				
L 123	(B,44,53)	Inductor	CTF1473	L 1624	(A,75,125)	Inductor	CTF1470				
L 201	(A,53,37)	Inductor	LCTC4R7K2125	L 1630	(B,20,125)	Inductor	CTF1453				E
L 202	(B,73,27)	Chip Coil	LCTAW1R5J2520	L 1631	(A,80,122)	Inductor	CTF1470				
L 203	(B,61,32)	Inductor	CTF1473	L 1632	(A,81,125)	Inductor	CTF1470				
L 400	(A,26,33)	Inductor	CTF1473	L 1633	(A,80,121)	Inductor	CTF1470				
L 500	(A,36,35)	Inductor	CTF1473	L 1634	(A,82,125)	Inductor	CTF1470				
L 701	(B,94,15)	Inductor	CTF1473	L 1635	(A,80,119)	Inductor	CTF1470				
L 702	(B,77,29)	Inductor	CTF1473	L 1701	(A,114,23)	Inductor	CTF1473				
L 801	(A,89,41)	Inductor	CTF1453	L 1702	(B,104,41)	Inductor	CTF1473				
L 804	(A,16,22)	Inductor	CTF1473	L 1704	(A,100,27)	Inductor	CTF1473				
L 805	(A,22,25)	Ferrite Bead	CTF1528	L 1705	(A,107,32)	Inductor	CTF1473				
L 1000	(B,80,60)	Inductor	CTF1473	L 1706	(A,100,39)	Inductor	CTF1473				F
L 1001	(B,82,54)	Inductor	CTF1473	L 1707	(A,61,59)	Inductor	CTF1473				
L 1002	(B,79,31)	Inductor	CTF1473	L 1708	(A,104,37)	Inductor	CTF1473				
L 1003	(B,68,44)	Inductor	CTF1473	TC201	(B,70,31)	Trimmer	CCG1039				

**Circuit Symbol and No.****Part No.****Circuit Symbol and No.****Part No.**

TC1000 (B,90,100) Trimmer Condenser CCL1053  
 X 501 (A,41,31) Radiator 10.00MHz CSS1428

A X 1000 (B,47,74) Radiator 20.00MHz CSS1470  
 X 1001 (A,89,106) Radiator 13.824MHz CSS1509  
 S 2000 (A,20,45) Switch(CLOSE) CSN1051  
 S 2001 (A,21,23) Switch(EJECT) CSG1110  
 F 1500 (A,75,108) Filter CTF1515

R 170 (A,23,71) RS1/8S100J  
 R 171 (A,26,71) RS1/8S120J  
 R 172 (A,27,62) RS1/16S470J  
 R 201 (A,50,50) RS1/16S0R0J  
 R 214 (A,46,44) RS1/16S222J

R 215 (A,50,47) RS1/16S152J  
 R 216 (A,55,37) RS1/16S471J  
 R 217 (A,49,46) RS1/16S102J  
 R 220 (A,48,39) RS1/16S105J  
 R 221 (A,49,33) RS1/16S161J

R 222 (A,48,37) RS1/16S103J  
 R 223 (A,51,31) RS1/16S220J  
 R 224 (A,52,40) RS1/16S223J  
 R 225 (A,55,40) RS1/16S153J  
 R 230 (B,63,24) RS1/8S0R0J

R 231 (B,59,24) RS1/16S104J  
 R 232 (B,57,26) RS1/16S220J  
 R 233 (B,71,27) RS1/16S101J  
 R 234 (B,68,28) RS1/16S0R0J  
 R 235 (B,68,26) RS1/16S104J

R 236 (B,68,23) RS1/16S104J  
 R 237 (B,66,21) RS1/16S202J  
 R 238 (B,63,16) RS1/16S105J  
 R 239 (B,65,18) RS1/16S222J  
 R 240 (B,67,10) RS1/16S103J

R 241 (B,63,17) RS1/16S683J  
 R 242 (B,63,19) RS1/16S153J  
 R 243 (B,63,20) RS1/16S153J  
 R 244 (B,60,17) RS1/16S223J  
 R 245 (B,60,19) RS1/16S153J

R 246 (B,60,20) RS1/16S103J  
 R 247 (B,64,6) RS1/16S102J  
 R 248 (B,60,10) RS1/16S153J  
 R 249 (B,60,13) RS1/16S153J  
 R 250 (A,55,34) RS1/10S0R0J

R 251 (B,63,34) RS1/10S0R0J  
 R 301 (B,33,99) RS1/16S622J  
 R 302 (B,59,34) RS1/16S473J  
 R 303 (B,53,38) RS1/16S434J  
 R 304 (B,47,10) RS1/16S104J

R 306 (B,14,107) RS1/16S101J  
 R 308 (A,14,19) RS1/10S201J  
 R 310 (A,11,20) RS1/10S221J  
 R 315 (B,50,85) RS1/16S103J  
 R 316 (B,49,87) RS1/16S103J

R 317 (B,24,103) RS1/16S822J  
 R 318 (B,53,98) RS1/16S0R0J  
 R 322 (B,51,94) RS1/16S1002D  
 R 323 (B,51,96) RS1/16S1002D  
 R 324 (B,48,103) RS1/16S0R0J

R 325 (B,46,102) RS1/16S0R0J  
 R 326 (B,52,98) RS1/16S1002D  
 R 328 (B,20,102) RS1/16S822J  
 R 329 (B,22,103) RS1/16S822J  
 R 331 (B,21,103) RS1/16S822J

R 337 (B,37,101) RS1/16S0R0J  
 R 338 (B,36,99) RS1/16S0R0J  
 R 339 (B,34,82) RS1/16S0R0J  
 R 340 (B,37,81) RS1/16S0R0J  
 R 344 (B,33,86) RS1/16S1002D

**RESISTORS**

R 101 (A,12,51) RS1/16S0R0J  
 R 102 (A,13,51) RS1/16S102J  
 R 103 (A,15,51) RS1/16S122J  
 R 104 (A,18,51) RS1/16S182J  
 R 106 (A,44,59) RS1/16S0R0J

R 108 (B,26,48) RS1/16S0R0J  
 R 109 (A,23,61) RS1/10S1R5J  
 R 110 (A,23,58) RS1/10S1R5J  
 R 111 (A,23,55) RS1/10S1R5J  
 R 112 (A,22,48) RS1/10S1R5J

R 113 (B,32,75) RS1/16S103J  
 R 114 (B,38,74) RS1/16S103J  
 R 115 (A,35,57) RS1/16S222J  
 R 116 (A,25,60) RS1/16S0R0J  
 R 118 (B,37,50) RS1/16S0R0J

R 119 (A,35,56) RS1/16S222J  
 R 120 (B,39,51) RS1/16S0R0J  
 R 121 (B,52,42) RS1/16S393J  
 R 122 (A,13,33) RS1/10S3R9J  
 R 123 (A,15,41) RS1/16S104J

R 124 (A,24,46) RS1/10S1R5J  
 R 125 (A,35,55) RS1/16S222J  
 R 126 (B,45,65) RS1/16S122J  
 R 127 (A,43,50) RS1/16S222J  
 R 133 (B,31,47) RS1/16S0R0J

R 134 (B,37,65) RA3C101J  
 R 136 (B,41,62) RS1/16S331J  
 R 137 (B,43,65) RS1/16S112J  
 R 138 (B,41,64) RS1/16S302J  
 R 139 (A,27,49) RS1/16S0R0J

R 140 (A,29,47) RS1/16S103J  
 R 141 (B,35,48) RS1/16S101J  
 R 143 (B,44,57) RS1/16S103J  
 R 144 (B,46,53) RS1/16S103J  
 R 145 (A,38,57) RS1/16S223J

R 146 (A,40,52) RS1/16S223J  
 R 147 (A,43,55) RS1/16S223J  
 R 148 (A,45,51) RS1/16S223J  
 R 149 (A,49,53) RS1/16S103J  
 R 150 (A,51,53) RS1/16S222J

R 154 (B,49,53) RS1/16S123J  
 R 155 (B,53,55) RS1/16S182J  
 R 156 (B,54,55) RS1/16S123J  
 R 157 (B,55,45) RS1/16S822J  
 R 158 (B,51,54) RS1/16S182J

R 159 (B,52,43) RS1/16S203J  
 R 160 (A,33,50) RS1/16S101J  
 R 164 (A,27,50) RS1/16S203J  
 R 165 (A,38,47) RS1/16S101J  
 R 166 (A,41,48) RS1/16S222J

5		6		7		8	
<u>Circuit Symbol and No.</u>		<u>Part No.</u>		<u>Circuit Symbol and No.</u>		<u>Part No.</u>	
R 345	(B,34,88)	RS1/16S1002D		R 443	(A,37,89)	RS1/16S622J	
R 346	(B,34,84)	RS1/16S1002D		R 448	(A,35,42)	RS1/16S221J	
R 348	(B,33,97)	RS1/16S1202D		R 450	(A,36,42)	RS1/16S103J	
R 349	(B,32,95)	RS1/16S1202D		R 501	(B,56,16)	RS1/16S3902D	A
R 350	(B,34,94)	RS1/16S1202D		R 502	(B,49,19)	RS1/16S1502D	
R 352	(B,17,93)	RS1/16S103J		R 503	(B,44,17)	RS1/16SS473J	
R 354	(B,31,97)	RS1/16S0R0J		R 504	(B,41,17)	RS1/16S683J	
R 355	(B,13,97)	RS1/16S103J		R 505	(B,51,18)	RS1/16SS473J	
R 356	(B,10,92)	RS1/16S103J		R 506	(B,43,17)	RS1/16S103J	
R 358	(B,13,86)	RS1/16S103J		R 507	(B,46,15)	RS1/16S222J	
R 359	(B,17,91)	RS1/16S103J		R 508	(B,41,18)	RS1/16S222J	
R 360	(B,13,85)	RS1/16S114J		R 509	(B,50,16)	RS1/16S222J	
R 361	(B,15,83)	RS1/16S153J		R 510	(B,54,18)	RS1/16S1002D	
R 362	(B,15,87)	RS1/16S243J		R 511	(B,33,13) 3.3kΩ	CCN1122	
R 364	(A,59,39)	RS1/16S624J		R 512	(A,48,30)	RS1/16S104J	B
R 365	(B,52,41)	RS1/16S624J		R 514	(B,46,17)	RS1/16S682J	
R 366	(A,61,41)	RS1/16S104J		R 515	(A,45,28)	RS1/16S102J	
R 368	(B,63,37)	RS1/16S333J		R 516	(B,38,20)	RS1/16S102J	
R 369	(B,60,36)	RS1/16S333J		R 517	(A,37,29)	RS1/16S222J	
R 370	(B,54,36)	RS1/16S101J		R 518	(A,36,33)	RS1/16S104J	
R 372	(B,55,34)	RS1/16S103J		R 519	(A,35,30)	RS1/16S222J	
R 373	(B,53,34)	RS1/16S333J		R 520	(A,35,33)	RS1/16S104J	
R 374	(B,58,34)	RS1/16S103J		R 521	(B,37,20)	RS1/16S103J	
R 401	(A,33,47)	RS1/16S101J		R 522	(B,42,14)	RA3C104J	
R 402	(A,35,47)	RS1/16S101J		R 524	(B,32,17)	RS1/16S103J	C
R 404	(B,29,99)	RS1/16S1202D		R 526	(A,21,16)	RS1/16SS473J	
R 405	(B,31,100)	RS1/16S3300D		R 527	(B,46,12) 22Ω	CCN1111	
R 406	(B,39,44)	RS1/16S332J		R 528	(B,45,22)	RA3C473J	
R 407	(B,52,100)	RS1/16S1002D		R 529	(B,46,18)	RS1/16S682J	
R 408	(A,29,44)	RS1/16S0R0J		R 530	(B,28,13)	RS1/16S103J	
R 409	(B,40,44)	RS1/16S153J		R 531	(B,31,16)	RS1/16S103J	
R 410	(B,25,44)	RS1/16S225J		R 532	(B,34,17)	RS1/16S103J	
R 411	(A,40,73)	RS1/16S272J		R 534	(B,44,9)	RS1/16S104J	
R 412	(B,25,46)	RS1/16S333J		R 535	(B,46,9)	RS1/16S104J	
R 413	(A,25,23)	RS1/16SS104J		R 536	(A,24,13)	RS1/16S104J	
R 414	(A,31,78)	RS1/16S103J		R 537	(B,52,27)	RS1/16S104J	D
R 416	(B,23,44)	RS1/16SS473J		R 540	(B,35,20)	RS1/16S103J	
R 417	(B,24,42)	RS1/16S225J		R 541	(A,33,31)	RS1/16S104J	
R 418	(B,26,42)	RS1/16S104J		R 542	(A,32,31)	RS1/16S104J	
R 419	(A,31,84)	RS1/16S103J		R 543	(A,33,34)	RS1/16S104J	
R 420	(B,23,41)	RS1/16S103J		R 544	(A,32,36)	RS1/16S104J	
R 421	(B,46,40) 22Ω	CCN1111		R 551	(B,49,27)	RS1/16S220J	
R 423	(A,45,88)	RS1/16S1002D		R 556	(A,22,18)	RS1/16SS102J	
R 424	(A,46,79)	RS1/16S272J		R 601	(B,26,95)	RS1/16S103J	
R 425	(A,42,89)	RS1/16S103J		R 602	(B,20,88)	RS1/16S154J	
R 426	(A,38,88)	RS1/16S472J		R 604	(B,20,87)	RS1/16S154J	
R 427	(A,39,91)	RS1/16S103J		R 606	(B,20,85)	RS1/16S154J	E
R 428	(A,41,76)	RS1/16S472J		R 608	(B,32,82)	RS1/16S303J	
R 429	(A,39,92)	RS1/16S0R0J		R 609	(B,31,79)	RS1/16S153J	
R 430	(A,44,79)	RS1/16S472J		R 610	(B,28,84)	RS1/16S303J	
R 431	(A,37,86)	RS1/16S472J		R 611	(B,20,82)	RS1/16S153J	
R 432	(B,45,31)	RS1/16S0R0J		R 612	(B,21,78)	RS1/16S153J	
R 433	(A,31,79)	RS1/16S223J		R 613	(B,20,78)	RS1/16S153J	
R 434	(A,30,84)	RS1/16S223J		R 615	(B,21,80)	RS1/16S153J	
R 435	(A,24,25)	RS1/16SS104J		R 702	(A,84,40) 22Ω	CCN1111	
R 436	(B,37,13) 22Ω	CCN1111		R 703	(A,80,40) 22Ω	CCN1111	
R 439	(B,31,24)	RS1/16S220J		R 704	(B,41,9) 22Ω	CCN1111	
R 440	(B,32,24)	RS1/16S220J		R 705	(B,51,7) 22Ω	CCN1111	F
R 441	(B,30,24)	RS1/16S103J		R 707	(A,70,40)	RS1/16S220J	
R 442	(A,36,87)	RS1/16S103J		R 708	(B,52,13) 22Ω	CCN1111	

**Circuit Symbol and No.****Part No.****Circuit Symbol and No.****Part No.**

A	R 709	(A,56,29)	RS1/16S0R0J	R 1035	(B,71,85)	RS1/16SS473J
	R 710	(A,53,26)	RS1/16S102J	R 1036	(B,73,86)	RS1/16SS473J
	R 712	(A,93,10)	RS1/16S103J	R 1038	(B,64,89)	RS1/16SS473J
	R 713	(A,92,37)	RS1/16S220J	R 1039	(B,66,87)	RS1/16SS473J
	R 714	(A,90,37)	RS1/16S220J	R 1040	(B,68,88)	RS1/16SS473J
	R 723	(A,91,18)	RS1/16S0R0J	R 1041	(B,50,74)	RS1/16S0R0J
	R 724	(A,94,16)	RS1/16SS473J	R 1042	(A,56,71)	RS1/16SS473J
	R 726	(A,70,4)	RS1/16SS473J	R 1046	(B,94,86)	RS1/16S0R0J
	R 727	(A,66,4)	RS1/16SS473J	R 1200	(A,104,71)	RS1/16S0R0J
	R 728	(A,64,5)	RS1/16SS473J	R 1202	(A,102,73)	RS1/16S201J
	R 734	(A,93,24) 10kΩ	CCN1125	R 1212	(A,85,60)	RS1/16S220J
	R 737	(A,72,39)	RS1/16S103J	R 1218	(A,76,98)	RS1/16S2701D
	R 739	(A,57,24)	RS1/16S103J	R 1219	(A,73,101)	RS1/16S1600D
B	R 740	(A,57,20)	RS1/16S103J	R 1220	(A,85,100)	RS1/16S2701D
	R 741	(A,57,14)	RS1/16S103J	R 1221	(A,81,100)	RS1/16S2201D
	R 742	(A,55,10)	RS1/16S103J	R 1222	(A,85,99)	RS1/16S0R0J
	R 743	(A,57,12)	RS1/16S103J	R 1223	(A,84,100)	RS1/16S2701D
	R 768	(A,12,26)	RA3C221J	R 1224	(A,83,100)	RS1/16S2201D
	R 769	(A,25,29)	RS1/16SS221J	R 1230	(A,104,69)	RS1/16SS473J
	R 789	(B,53,30)	RS1/16S0R0J	R 1231	(B,92,70)	RS1/16SS473J
	R 790	(B,84,25) 10Ω	CCN1133	R 1232	(A,84,59)	RS1/16SS473J
	R 791	(B,87,6)	RA3C100J	R 1233	(A,82,59)	RS1/16SS473J
	R 792	(B,84,7)	RS1/16S100J	R 1235	(A,65,93)	RS1/16S0R0J
	R 793	(B,82,7)	RS1/16S100J	R 1236	(B,72,99)	RS1/16S0R0J
C	R 794	(B,77,8)	RS1/16S100J	R 1237	(B,69,98)	RS1/16S0R0J
	R 795	(B,81,24)	RS1/16S100J	R 1500	(A,75,104)	RS1/16S222J
	R 1000	(B,75,58)	RS1/16SS473J	R 1501	(A,71,109)	RS1/16S152J
	R 1001	(B,83,55)	RS1/16SS473J	R 1503	(A,71,106)	RS1/16S3300D
	R 1002	(B,90,85)	RS1/16SS473J	R 1506	(B,66,112)	RS1/16S0R0J
	R 1003	(B,62,86)	RS1/16SS473J	R 1507	(A,72,111)	RS1/16S101J
	R 1004	(B,62,88)	RS1/16SS473J	R 1510	(A,78,111)	RS1/16S222J
	R 1005	(B,64,87)	RS1/16SS473J	R 1513	(A,45,110)	RS1/16S622J
	R 1006	(B,76,86) 47kΩ	CCN1131	R 1514	(A,49,106)	RS1/16S622J
	R 1007	(B,49,79)	RA3C471J	R 1515	(A,62,114)	RS1/16S622J
	R 1008	(A,53,76)	RS1/16S472J	R 1516	(A,59,113)	RS1/16S622J
D	R 1009	(B,50,73)	RS1/16S103J	R 1517	(A,48,115)	RS1/16S622J
	R 1010	(B,50,70)	RS1/16SS473J	R 1518	(A,49,107)	RS1/16S622J
	R 1011	(B,48,68) 47kΩ	CCN1131	R 1519	(A,46,112)	RS1/16S622J
	R 1012	(A,54,69)	RS1/16S102J	R 1520	(A,48,110)	RS1/16S622J
	R 1013	(B,48,65)	RS1/16S470J	R 1521	(A,58,107)	RS1/16S622J
	R 1014	(B,48,63) 47kΩ	CCN1131	R 1522	(A,57,114)	RS1/16S622J
	R 1015	(A,56,55)	RS1/16S332J	R 1523	(A,58,109)	RS1/16S622J
	R 1016	(B,58,57)	RS1/16SS473J	R 1524	(A,59,111)	RS1/16S622J
	R 1017	(B,59,55)	RS1/16SS473J	R 1525	(A,86,120)	RS1/16S101J
	R 1018	(B,57,55)	RA3C473J	R 1526	(A,88,120)	RS1/16S101J
E	R 1019	(A,83,104)	RS1/16S105J	R 1611	(A,92,121)	RS1/16S0R0J
	R 1020	(A,86,103)	RS1/16S102J	R 1612	(A,92,120)	RS1/16S0R0J
	R 1021	(B,79,91)	RS1/8S470J	R 1700	(A,112,16)	RS1/16SS473J
	R 1022	(B,95,92)	RS1/8S470J	R 1701	(A,114,20)	RS1/16SS473J
	R 1023	(B,95,94)	RS1/8S470J	R 1702	(B,89,31)	RS1/16SS473J
	R 1025	(B,101,88)	RS1/16S0R0J	R 1703	(B,97,39)	RS1/16SS473J
	R 1026	(B,75,92)	RS1/16S0R0J	R 1704	(A,95,37)	RS1/16SS473J
	R 1027	(B,73,102)	RS1/16S0R0J	R 1705	(B,89,29)	RS1/16SS473J
	R 1028	(B,102,99)	RS1/16S0R0J	R 1708	(B,94,17)	RS1/16SS473J
	R 1029	(B,79,38)	RS1/16SS473J			
F	R 1030	(B,57,87) 47kΩ	CCN1131	<b>CAPACITORS</b>		
	R 1031	(B,85,31)	RS1/16SS473J	C 101	(A,11,51)	CKSRYB333K16
	R 1032	(B,60,88)	RS1/16SS473J	C 102	(A,19,47)	CKSRYB333K16
	R 1033	(A,56,78)	RS1/16S472J	C 103	(B,21,66)	CKSSYB104K10
	R 1034	(B,70,85)	RS1/16SS473J	C 104	(B,35,69)	CSZSR100M16

5		6		7		8	
<u>Circuit Symbol and No.</u>		<u>Part No.</u>		<u>Circuit Symbol and No.</u>		<u>Part No.</u>	
C 105	(B,38,68)	CKSR	YB103K50	C 212	(A,50,40)	CKSQ	YB105K16
C 106	(A,23,42)	CEVW	220M6R3	C 213	(A,49,35)	CCSR	CH180J50
C 107	(A,20,39)	CKSR	YB103K50	C 214	(A,52,42)	CKSR	YB102K50
C 108	(B,30,75)	CKSR	YB103K50	C 220	(B,67,26)	CKSR	YB102K50
C 109	(B,35,75)	CSZR	S100M16	C 222	(B,71,28)	CCSR	CH150J50
C 110	(A,23,34)	CKSR	YB333K16	C 223	(B,71,26)	CKSR	YB103K50
C 111	(A,17,39)	CKSR	YB183K25	C 224	(B,71,24)	CKSR	YB103K50
C 112	(B,23,73)	CSZR	S470M6R3	C 225	(B,63,31)	CKSR	YB333K16
C 113	(A,10,36)	CKSR	YB103K50	C 226	(B,66,16)	CKSR	YB104K16
C 114	(B,28,67)	CKSR	YB103K50	C 228	(B,60,16)	CCSR	CH470J50
C 115	(A,12,39)	CEVW	220M6R3	C 229	(B,63,21)	CKSR	YB104K16
C 116	(B,31,68)	CKSS	YB104K10	C 230	(B,60,21)	CKSR	YB104K16
C 117	(B,24,63)	CSZR	S2R2M20	C 231	(B,67,13)	CKSR	YB333K16
C 119	(A,28,58)	CSZR	S470M6R3	C 232	(B,58,6)	CSZR	S1R0M35
C 120	(B,29,66)	CKSR	YB103K50	C 233	(B,58,12)	CKSR	YB104K16
C 121	(A,28,54)	CSZR	S1R0M35	C 262	(A,44,44)	CKSS	YB104K10
C 122	(B,30,64)	CKSS	YB104K10	C 301	(B,36,88)	CKSR	YB104K16
C 123	(B,31,64)	CKSS	YB104K10	C 302	(B,32,97)	CKSR	YB224K10
C 124	(B,22,66)	CKSR	YB105K6R3	C 306	(B,25,97)	CKSS	YB104K10
C 125	(B,31,66)	CKSR	YB102K50	C 307	(B,19,105)	CKSS	YB104K10
C 126	(B,33,48)	CKSS	YB104K10	C 309	(B,51,87)	CKSR	YB103K50
C 127	(B,33,66)	CKSR	YB102K50	C 310	(B,53,90)	CSZR	S100M16
C 128	(B,37,62)	CKSR	YB102K50	C 311	(B,22,101)	CKSR	YB123K25
C 129	(B,41,52)	CSZR	S100M16	C 312	(B,50,84)	CKSR	YB103K50
C 130	(B,41,55)	CKSR	YB222K50	C 313	(B,42,79)	CSZR	S100M16
C 131	(B,41,56)	CKSR	YB222K50	C 314	(B,50,98)	CKSR	YB153K25
C 132	(B,42,59)	CSZR	S100M16	C 319	(B,36,93)	CKSR	YB103K50
C 133	(B,38,61)	CKSS	YB104K10	C 320	(A,44,94)	CEVW	101M10
C 134	(A,32,63)	CEVW	101M10	C 322	(B,35,85)	CCSR	CH101J50
C 135	(B,43,45)	CKSS	YB104K10	C 323	(B,24,13)	CKSQ	YB224K16
C 136	(B,47,55)	CCSR	CH101J50	C 324	(B,35,97)	CKSR	YB472K50
C 137	(A,32,57)	CKSR	YB222K50	C 350	(A,22,8)	CEVW	220M10
C 138	(A,32,56)	CKSR	YB222K50	C 351	(B,17,95)	CKSS	YB104K10
C 139	(A,32,55)	CKSR	YB222K50	C 352	(B,15,98)	CCSR	CH101J50
C 140	(A,33,53)	CKSR	YB222K50	C 353	(B,13,88)	CKSR	YB103K50
C 141	(A,47,55)	CKSR	YB103K50	C 354	(B,51,38)	CKSQ	YB334K16
C 142	(A,52,53)	CKSR	YB332K50	C 355	(A,60,39)	CCSR	CH161J50
C 143	(A,49,61)	CKSR	YB333K16	C 356	(B,13,80)	CKSS	YB104K10
C 144	(A,40,59)	CCSR	CH121J50	C 357	(B,62,39)	CKSR	YB223K25
C 145	(A,41,59)	CCSR	CH121J50	C 358	(B,63,42)	CKSR	YB472K50
C 146	(A,43,59)	CCSR	CH121J50	C 359	(B,57,36)	CKSR	YB104K16
C 147	(A,46,59)	CCSR	CH121J50	C 360	(B,64,39)	CKSS	YB104K10
C 148	(A,47,59)	CCSR	CH121J50	C 370	(B,12,105)	CKSR	YB104K16
C 149	(A,45,72)	CCSR	CH471J50	C 401	(A,42,45)	CKSR	YB333K16
C 150	(A,46,72)	CKSR	YB333K16	C 402	(A,31,42)	CKSR	YB103K50
C 151	(A,37,67)	CSZR	S100M16	C 403	(A,36,71)	CKSR	YB103K50
C 152	(A,51,67)	CKSR	YB103K50	C 404	(B,37,44)	CKSR	YB333K16
C 153	(A,51,70)	CKSR	YB103K50	C 406	(B,29,101)	CKSR	YB273K25
C 154	(A,40,71)	CKSR	YB103K50	C 409	(B,26,46)	CKSR	YB153K25
C 155	(B,51,56)	CCSR	CH821J50	C 410	(A,30,39)	CKSR	YB103K50
C 156	(B,52,45)	CCSR	CH151J50	C 411	(A,31,39)	CKSR	YB102K50
C 157	(B,50,44)	CKSR	YB333K16	C 412	(B,36,45)	CKSR	YB104K16
C 158	(A,44,57)	CKSR	YB103K50	C 414	(B,32,44)	CKSS	YB104K10
C 159	(A,28,71)	CKSS	YB104K10	C 415	(B,22,42)	CCSR	CH470J50
C 160	(A,32,72)	CEVW	470M10	C 417	(A,44,82)	CKSR	YB103K50
C 162	(A,49,74)	CSZR	S220M10	C 418	(A,33,41)	CCSR	CH101J50
C 163	(A,28,68)	CKSR	YB102K50	C 419	(B,43,37)	CKSS	YB104K10
C 208	(A,52,48)	CKSR	YB822K50	C 421	(B,24,36)	CKSS	YB104K10
C 209	(A,46,45)	CKSS	YB104K10	C 422	(B,24,37)	CKSS	YB104K10
C 211	(A,51,36)	CCSR	CH7R0D50	C 424	(B,25,33)	CKSS	YB104K10

**Circuit Symbol and No.****Part No.****Circuit Symbol and No.****Part No.**

	C 425	(B,21,32)	CSZSR100M16	C 1000	(B,76,59)	CKSSYB104K10
A	C 426	(B,44,30)	CKSSYB104K10	C 1001	(A,77,46)	CEVW101M6R3
	C 427	(B,34,24)	CKSSYB104K10	C 1002	(B,83,51)	CKSSYB104K10
	C 428	(B,38,24)	CKSSYB104K10	C 1003	(B,82,48)	CKSYB106K6R3
	C 429	(B,41,24)	CSZSR100M16	C 1004	(B,82,29)	CKSSYB104K10
	C 430	(B,41,26)	CKSSYB104K10	C 1005	(B,84,39)	CSZSR100M16
	C 431	(A,40,89)	CKSRYB103K50	C 1006	(A,85,46)	CEVW4R7M35
	C 432	(B,46,28)	CCSRCH101J50	C 1007	(B,84,36)	CKSSYB104K10
	C 435	(A,42,88)	CCSRCH101J50	C 1008	(B,70,42)	CKSSYB104K10
	C 442	(A,34,88)	CKSRYB273K25	C 1009	(B,75,36)	CKSQYB224K25
	C 450	(A,35,38)	CKSRYB152K50	C 1010	(B,75,33)	CKSQYB224K25
	C 501	(B,55,22)	CKSRYB103K50	C 1011	(B,82,86)	CKSYB106K6R3
B	C 502	(A,54,22)	CKSSYB104K10	C 1012	(B,86,85)	CKSSYB104K10
	C 503	(A,55,18)	CKSRYB473K16	C 1014	(B,54,84)	CKSSYB104K10
	C 504	(A,54,19)	CKSRYB473K16	C 1015	(B,65,87)	CKSSYB104K10
	C 505	(A,47,31)	CKSRYB103K50	C 1016	(B,65,56)	CKSYB106K6R3
	C 506	(B,39,20)	CKSSYB104K10	C 1018	(B,52,82)	CKSSYB104K10
	C 507	(A,37,6)	CKSSYB104K10	C 1019	(B,51,81)	CKSSYB104K10
	C 508	(B,37,7)	CSZSR100M16	C 1020	(B,50,76)	CKSSYB104K10
	C 510	(B,45,19)	CKSRYB103K50	C 1021	(B,50,75)	CKSSYB104K10
	C 511	(B,56,18)	CKSRYB103K50	C 1022	(B,50,71)	CKSSYB104K10
	C 512	(B,42,21)	CKSRYB102K50	C 1023	(B,78,72)	CKSSYB104K10
	C 520	(B,38,18)	CKSRYB104K16	C 1024	(A,56,57)	CCSRCH100D50
C	C 602	(B,20,90)	CKSRYB104K16	C 1025	(B,65,58)	CKSSYB104K10
	C 604	(B,20,91)	CKSRYB104K16	C 1026	(B,80,96)	CSZSR100M16
	C 606	(B,22,84)	CKSRYB104K16	C 1027	(B,85,97)	CKSSYB104K10
		C 608	(B,25,91)	CKSRYB104K16	C 1028	(A,94,106)
	C 610	(B,25,84)	CKSRYB104K16	C 1029	(A,54,59)	CKSSYB104K10
	C 612	(B,26,75)	CKSRYB104K16	C 1030	(A,68,98)	CKSSYB104K10
	C 701	(A,78,38)	CKSSYB104K10	C 1031	(A,69,98)	CCSRCH101J50
	C 702	(A,74,38)	CKSSYB104K10	C 1032	(B,94,88)	CKSSYB104K10
	C 703	(A,64,39)	CKSSYB104K10	C 1033	(B,77,101)	CKSSYB104K10
	C 704	(A,91,34)	CKSSYB104K10	C 1034	(B,101,95)	CKSSYB104K10
	C 705	(A,57,35)	CKSSYB104K10	C 1035	(B,63,93)	CKSSYB104K10
D	C 706	(A,90,31)	CKSSYB104K10	C 1036	(A,56,77)	CKSRYB103K50
	C 707	(B,75,27)	CKSSYB104K10	C 1037	(B,81,100)	CKSSYB104K10
	C 708	(A,57,26)	CKSSYB104K10	C 1038	(B,86,97)	CCSRCH510J50
	C 709	(A,58,45)	CEVW101M4	C 1039	(B,88,97)	CCSRCK1R0C50
	C 710	(A,57,25)	CKSSYB104K10	C 1040	(B,98,87)	CKSSYB104K10
	C 711	(A,93,21)	CKSSYB104K10	C 1041	(B,86,88)	CKSSYB104K10
	C 712	(A,56,21)	CKSSYB104K10	C 1061	(B,79,58)	CKSYB106K6R3
	C 714	(A,91,13)	CKSSYB104K10	C 1200	(A,103,82)	CKSSYB104K10
	C 715	(A,90,8)	CKSSYB104K10	C 1201	(A,103,78)	CKSSYB104K10
	C 716	(A,57,8)	CKSSYB104K10	C 1202	(A,101,60) 68μF/6.3V	CCH1385
	C 717	(A,82,5)	CKSSYB104K10	C 1203	(A,103,75)	CKSSYB104K10
E	C 718	(A,73,5)	CKSSYB104K10	C 1204	(A,101,64)	CKSSYB104K10
		C 719	(A,68,4)	CKSSYB104K10	C 1205	(B,100,61)
	C 720	(A,66,45)	CEVW101M4	C 1206	(B,92,78)	CKSSYB104K10
	C 721	(A,67,41)	CKSSYB104K10	C 1207	(B,92,74)	CKSSYB104K10
	C 722	(B,70,17)	CKSRYB103K50	C 1208	(A,102,80)	CKSSYB104K10
	C 723	(A,13,23)	CKSSYB104K10	C 1209	(A,101,71)	CKSSYB104K10
	C 729	(A,59,4)	CCSRCH101J50	C 1210	(A,102,88)	CKSSYB104K10
	C 801	(A,88,38)	CCSRCH101J50	C 1211	(A,94,63)	CKSSYB104K10
	C 802	(B,31,82)	CCSRCH101J50	C 1212	(A,94,97)	CKSSYB104K10
	C 803	(B,22,82)	CCSRCH221J50	C 1213	(A,88,60)	CKSSYB104K10
	C 806	(A,22,29)	CCSSCH101J50	C 1214	(A,86,97)	CKSSYB104K10
F	C 807	(A,16,21)	CKSSYB104K10	C 1215	(A,85,63)	CKSSYB104K10
	C 808	(B,91,13)	CKSYB106K6R3	C 1216	(A,80,97)	CKSSYB104K10
	C 809	(A,23,25)	CKSSYB104K10	C 1217	(A,85,50)	CKSSYB104K10
	C 810	(A,17,20)	CKSSYB104K10	C 1218	(A,78,98)	CKSSYB104K10

5		6		7		8	
<u>Circuit Symbol and No.</u>		<u>Part No.</u>		<u>Circuit Symbol and No.</u>		<u>Part No.</u>	
C 1219	(A,90,100)	CEVW470M4		<b>F</b> <b>Unit Number:CWX3198</b> <b>Unit Name:Extension Unit</b>			
C 1220	(A,77,63)	CKSSYB104K10					
C 1221	(A,78,100)	CKSSYB104K10					
C 1222	(A,74,97)	CKSSYB104K10					
C 1223	(A,85,113) 68µF/6.3V	CCH1385					
C 1224	(A,73,99)	CKSQYB105K16		<b>MISCELLANEOUS</b>			
C 1225	(A,92,114)	CEVW221M4		IC 3101	(B,169,17) IC	NJM2068MD	
C 1226	(A,73,59)	CKSSYB104K10		IC 3102	(B,169,10) IC	NJM2068MD	
C 1227	(A,67,70)	CKSSYB104K10		IC 3131	(B,45,20) IC	TC74HC4066AF	
C 1228	(A,68,80)	CKSSYB104K10		IC 3301	(B,154,13) IC	NJM2235V	
C 1229	(A,68,90)	CKSSYB104K10		IC 3311	(B,150,13) IC	NJM2267V	
C 1230	(A,102,102) 68µF/6.3V	CCH1385		IC 3601	(B,171,34) IC	PE5272A	
C 1231	(A,98,104)	CKSRYP103K50		IC 3631	(A,174,42) IC	HA12187FP	
C 1232	(A,66,55)	CKSSYB104K10		IC 3811	(B,196,39) IC	PAJ002A	
C 1233	(A,97,41)	CKSSYB104K10		IC 3821	(A,206,28) IC	BA00AST	
C 1234	(A,65,74)	CKSSYB104K10		IC 3831	(A,194,12) IC	BA08SFP	
C 1235	(A,66,80)	CKSSYB104K10		IC 3851	(A,145,29) IC	BA9706K	
C 1500	(A,64,104)	CKSSYB104K10		IC 3871	(A,138,45) IC	PQ20VZ11	
C 1501	(A,65,104)	CKSSYB104K10		IC 3891	(A,202,12) IC	PQ20VZ11	
C 1502	(A,62,103)	CSZSR100M16		Q 3131	(B,53,19) Transistor	UMD12N	
C 1503	(A,68,103)	CSZSR100M16		Q 3151	(B,184,12) Transistor	DTC323TU	
C 1504	(B,59,101)	CSZSR100M16		Q 3152	(B,181,10) Transistor	DTC323TU	
C 1505	(B,56,104)	CKSSYB104K10		Q 3153	(B,182,14) Transistor	UMA2N	
C 1507	(A,78,104)	CKSRYP104K16		Q 3154	(B,179,18) Transistor	DTA114EU	
C 1510	(A,66,109)	CSZSR100M16		Q 3155	(B,178,22) Transistor	DTA114EU	
C 1511	(B,65,110)	CKSSYB104K10		Q 3201	(B,38,29) Transistor	2SC2712	
C 1512	(A,63,110)	CSZSR100M16		Q 3301	(B,157,18) Transistor	DTC144EU	
C 1513	(B,63,111)	CKSSYB104K10		Q 3601	(A,174,31) Transistor	DTA144EK	
C 1514	(B,59,105)	CSZSR100M16		Q 3811	(A,206,40) Transistor	2SB942A	
C 1515	(A,51,84)	CKSRYP104K16		Q 3812	(B,187,41) Transistor	DTC143TU	
C 1516	(B,63,95)	CKSRYP104K16		Q 3813	(A,194,39) Transistor	DTC143EU	
C 1517	(A,54,101)	CEVWNP4R7M16		Q 3814	(B,190,32) Transistor	DTC143TU	
C 1518	(A,55,94)	CEVWNP4R7M16		Q 3821	(B,198,32) Transistor	DTC114EU	
C 1519	(A,50,94)	CEVWNP4R7M16		Q 3851	(A,127,26) Transistor	2SA1731	
C 1520	(A,49,101)	CEVWNP4R7M16		Q 3852	(A,134,34) Transistor	2SA1731	
C 1521	(A,53,114)	CKSRYP104K16		Q 3853	(B,147,24) Transistor	DTC114EU	
C 1522	(A,46,110)	CCSRCH331J50		Q 3880	(B,190,16) Transistor	2SA1162	
C 1523	(A,59,114)	CCSRCH331J50		Q 3891	(B,204,21) Transistor	DTC114EU	
C 1524	(A,48,112)	CCSRCH221J50		Q 3931	(A,164,28) Transistor	DTA143XU	
C 1525	(A,57,111)	CCSRCH221J50		D 3131	(B,52,24) Diode	MA113	
C 1526	(A,52,107)	CCSRCH221J50		D 3141	(B,38,17) Diode	RD24M(B2)	
C 1527	(A,55,107)	CCSRCH221J50		D 3142	(B,34,23) Diode	RD24M(B2)	
C 1531	(B,53,104)	CKSQYB334K16		D 3143	(B,34,16) Diode	RD24M(B2)	
C 1532	(B,53,102)	CKSYB475K10		D 3144	(B,34,19) Diode	RD24M(B2)	
C 1601	(A,30,125)	CKSRYP473K25		D 3201	(B,21,20) Diode	RD24M(B2)	
C 1602	(A,28,125)	CKSRYP473K25		D 3321	(B,27,27) Diode	UDZ18(B)	
C 1603	(A,27,125)	CKSRYP473K25		D 3322	(B,24,27) Diode	UDZ18(B)	
C 1701	(B,100,19)	CKSSYB104K10		D 3323	(A,33,34) Diode	UDZ18(B)	
C 1702	(A,115,21)	CKSSYB104K10		D 3324	(A,30,36) Diode	UDZ18(B)	
C 1703	(A,115,17)	CSZSR100M16		D 3631	(B,18,40) Diode	UDZ18(B)	
C 1704	(B,98,39)	CKSSYB104K10		D 3632	(B,16,40) Diode	UDZ18(B)	
C 1705	(B,100,41)	CSZSR100M16		D 3801	(A,51,8) Diode	UDZ18(B)	
C 1709	(A,98,27)	CKSSYB104K10		D 3821	(B,184,23) Diode	MA132WK	
C 1710	(A,105,31)	CKSSYB104K10		D 3831	(B,195,9) Diode	HZU4R3(B3)	
C 1711	(A,97,39)	CKSSYB104K10		D 3851	(B,127,25) Diode	RB051L-40	
C 1712	(A,63,59)	CKSSYB104K10		D 3852	(B,133,33) Diode	RB051L-40	
C 1713	(A,102,39)	CKSSYB104K10		D 3880	(B,190,20) Diode	MA147	
C 2000	(A,14,45)	CKSRYP104K16		D 3931	(A,167,27) Diode	MA111	
C 2001	(A,17,23)	CKSRYP104K16		L 3101	(B,184,17) Inductor	CTF1473	
				L 3102	(B,190,10) Inductor	CTF1473	

**Circuit Symbol and No.****Part No.****Circuit Symbol and No.****Part No.**

L 3301	(A,161,15)	Inductor	CTF1473
L 3801	(A,19,42)	Inductor	CTF1473
L 3851	(A,136,26)	Coil	CTH1238
L 3853	(A,125,34)	Coil	CTH1238
TH3601	(A,182,29)	Thermistor	CCX1055
X 3601	(B,184,35)	Ceramic Resonator 6.290MHz	CSS1305
△FU3803	(A,120,36)	Fuse 1.5A	ICPS1R2
△FU3804	(B,118,44)	Fuse 1.5A	ICPS1R2
EF3301	(A,32,28)	EMI Filter	CCG1076
EF3302	(A,29,28)	EMI Filter	CCG1076
EF3801	(B,104,21)	EMI Filter	CCG1051
EF3802	(A,104,21)	EMI Filter	CCG1051
EF3831	(A,208,11)	EMI Filter	CCG1051
EF3851	(A,116,21)	EMI Filter	CCG1051

R 3327	(B,146,14)	RS1/16S105J
R 3602	(A,182,31)	RS1/16S683J
R 3603	(A,179,29)	RS1/16S104J
R 3605	(B,185,28)	RS1/16S104J
R 3607	(A,163,40)	RS1/16S102J
R 3611	(A,179,28)	RS1/16S104J
R 3612	(A,169,35)	RS1/16S104J
R 3613	(A,169,37)	RS1/16S104J
R 3614	(A,169,38)	RS1/16S104J
R 3615	(A,182,36)	RS1/16S104J
R 3616	(A,175,35)	RS1/16S104J
R 3618	(A,180,36)	RS1/16S104J
R 3619	(B,182,40)	RS1/16S333J
R 3620	(B,181,45)	RS1/16S104J
R 3621	(B,180,45)	RS1/16S102J
R 3625	(A,173,27)	RS1/16S104J
R 3626	(B,182,27)	RS1/16S104J

**RESISTORS**

R 3101	(B,185,8)	RS1/16S472J
R 3102	(B,183,8)	RS1/16S472J
R 3105	(B,174,16)	RS1/16S103J
R 3106	(B,175,9)	RS1/16S103J
R 3107	(B,175,18)	RS1/16S163J
R 3108	(B,175,12)	RS1/16S163J
R 3109	(B,170,20)	RS1/16S103J
R 3110	(B,170,13)	RS1/16S103J
R 3111	(B,163,17)	RS1/16S103J
R 3112	(B,163,10)	RS1/16S103J
R 3113	(A,165,20)	RS1/16S750J
R 3114	(A,165,12)	RS1/16S750J
R 3115	(A,165,17)	RS1/16S750J
R 3116	(A,168,10)	RS1/16S750J
R 3120	(A,119,10)	RS1/16S0R0J
R 3121	(A,116,9)	RS1/16S0R0J
R 3122	(A,116,10)	RS1/16S0R0J
R 3125	(A,165,19)	RS1/16S100J
R 3126	(A,165,11)	RS1/16S100J
R 3127	(A,165,15)	RS1/16S100J
R 3128	(A,165,9)	RS1/16S100J
R 3131	(B,53,22)	RS1/16S102J
R 3132	(B,51,17)	RS1/16S103J
R 3141	(A,34,18)	RS1/8S510J
R 3142	(A,34,22)	RS1/8S510J
R 3143	(A,34,16)	RS1/8S510J
R 3144	(A,34,20)	RS1/8S510J
R 3151	(B,179,14)	RS1/16S223J
R 3152	(B,178,14)	RS1/16S223J
R 3154	(B,181,16)	RS1/16S102J
R 3155	(B,178,20)	RS1/16S102J
R 3201	(B,21,15)	RS1/4S221J
R 3202	(B,42,28)	RS1/16S103J
R 3203	(B,45,28)	RS1/16S103J
R 3301	(B,156,8)	RS1/16S223J
R 3302	(B,157,13)	RS1/16S104J
R 3312	(A,148,13)	RS1/16S101J
R 3321	(B,141,10)	RS1/10S750J
R 3322	(A,30,34)	RS1/10S750J
R 3323	(B,157,14)	RS1/16S105J
R 3324	(B,157,11)	RS1/16S105J
R 3325	(B,147,9)	RS1/16S105J
R 3326	(B,153,8)	RS1/16S221J

R 3627	(B,182,28)	RS1/16S393J
R 3628	(A,174,25)	RS1/16S333J
R 3629	(A,177,26)	RS1/16S104J
R 3630	(A,165,40)	RS1/16S104J
R 3631	(B,18,35)	RS1/4S101J
R 3632	(B,15,35)	RS1/4S101J
R 3634	(A,168,40)	RS1/16S104J
R 3640	(B,184,42)	RS1/10S0R0J
R 3646	(B,161,27)	RS1/16S102J
R 3653	(B,166,24)	RS1/16S331J
R 3656	(B,160,31)	RS1/16S102J
R 3657	(B,160,33)	RS1/16S102J
R 3658	(B,173,22)	RS1/16S0R0J
R 3660	(B,163,25)	RS1/16S102J
R 3661	(A,160,24)	RS1/16S102J
R 3662	(A,181,26)	RS1/16S102J
R 3801	(A,193,42)	RS1/16S184J
R 3802	(B,191,36)	RS1/16S7502D
R 3803	(A,192,40)	RS1/16S2203D
R 3804	(A,190,40)	RS1/16S1103D
R 3805	(B,190,41)	RS1/16S2203D
R 3806	(B,190,42)	RS1/16S1103D
R 3807	(B,33,9)	RS1/4S152J
R 3808	(B,34,12)	RS1/4S472J
R 3809	(A,192,42)	RS1/16S0R0J
R 3810	(A,193,37)	RS1/16S0R0J
R 3811	(A,198,44)	RS1/4S2R7J
R 3812	(B,203,40)	RS1/16S102J
R 3813	(B,202,40)	RS1/16S104J
R 3814	(B,202,37)	RS1/16S104J
R 3815	(B,190,44)	RS1/16S133J
R 3816	(A,189,40)	RS1/16S133J
R 3817	(B,190,39)	RS1/16S334J
R 3818	(A,19,45)	RS1/16S102J
R 3819	(A,19,44)	RS1/16S102J
R 3821	(B,202,24)	RS1/16S104J
R 3822	(B,203,32)	RS1/16S1002D
R 3823	(B,202,32)	RS1/16S1601D
R 3824	(B,200,32)	RS1/16S1001D
R 3831	(B,192,19)	RS1/16S271J
R 3833	(B,197,12)	RS1/16S104J
R 3851	(B,144,28)	RS1/16S220J
R 3852	(B,143,33)	RS1/16S560J

5		6		7		8	
<u>Circuit Symbol and No.</u>		<u>Part No.</u>		<u>Circuit Symbol and No.</u>		<u>Part No.</u>	
R 3853	(B,144,36)	RS1/16S2702D		C 3143	(A,47,15)	CEVWNP4R7M16	
R 3854	(B,147,31)	RS1/16S151J		C 3144	(A,45,20)	CEVWNP4R7M16	
R 3855	(B,148,28)	RS1/16S4702D		C 3201	(B,41,28)	CKSRYP102K50	A
R 3856	(B,144,35)	RS1/16S1602D		C 3301	(A,149,9)	CEVW4R7M35	
R 3857	(A,148,35)	RS1/16S102J		C 3302	(B,157,9)	CKSRYP104K16	
R 3858	(B,153,28)	RS1/16S1502D		C 3303	(B,158,8)	CKSRYP102K50	
R 3859	(B,149,34)	RS1/16S273J		C 3304	(A,157,10)	CEVW101M10	
R 3860	(B,144,32)	RS1/16S473J		C 3305	(A,37,28)	CEVW4R7M35	
R 3861	(A,153,32)	RS1/16S151J		C 3306	(B,147,14)	CCSRCH470J50	
R 3862	(A,152,35)	RS1/16S273J		C 3307	(A,162,19)	CSZSR1R0M35	
R 3863	(B,144,29)	RS1/16S473J		C 3308	(B,146,7)	CCSRCH470J50	
R 3864	(A,150,34)	RS1/16S751J		C 3309	(B,152,17)	CCSRCH470J50	
R 3865	(A,152,28)	RS1/16S512J		C 3310	(B,157,16)	CCSRCH470J50	
R 3866	(A,143,36)	RS1/16S101J		C 3311	(A,44,37)	CEVWNP4R7M16	B
R 3867	(B,141,31)	RS1/16S104J		C 3312	(B,147,17)	CKSRYP102K50	
R 3868	(B,141,28)	RS1/16S202J		C 3313	(A,156,18)	CEVW101M10	
R 3869	(B,147,25)	RS1/16S473J		C 3314	(B,149,7)	CKSYB475K10	
R 3870	(B,151,28)	RS1/16S132J		C 3315	(A,142,9)	CEVW220M16	
R 3871	(B,149,28)	RS1/16S272J		C 3316	(A,144,15)	CEVW101M10	
R 3872	(B,147,35)	RS1/16S182J		C 3317	(A,135,13)	CEVW101M10	
R 3873	(B,147,36)	RS1/16S272J		C 3601	(A,174,33)	CKSRYP104K16	
R 3874	(A,145,45)	RS1/16S1301D		C 3602	(A,179,36)	CKSRYP104K16	
R 3875	(A,146,46)	RS1/16S1201D		C 3603	(B,178,45)	CKSRYP103K50	
R 3876	(B,144,27)	RS1/16S0R0J		C 3604	(A,176,33)	CKSRYP104K16	
R 3880	(B,188,19)	RS1/16S133J		C 3606	(A,182,30)	CKSRYP104K16	C
R 3891	(B,201,16)	RS1/16S7501D		C 3631	(B,21,11)	CCSRCH201J50	
R 3892	(B,201,18)	RS1/16S1001D		C 3632	(B,21,9)	CCSRCH201J50	
R 3893	(B,201,19)	RS1/16S4700D		C 3633	(A,168,41)	CKSRYP104K16	
R 3894	(A,207,16)	RS1/16S104J		C 3801	(A,47,9)	CEVW1R0M50	
R 3931	(B,118,21)	RS1/8S241J		C 3811	(A,190,46)	CEVW100M16	
R 3964	(A,56,38)	RS1/16S0R0J		C 3812	(B,192,45)	CKSRYP103K50	
R 3965	(A,54,37)	RS1/16S221J		C 3813	(A,192,36)	CKSRYP103K50	
R 3966	(A,53,39)	RS1/16S221J		C 3814	(A,200,39)	CEHVV101M6R3	
R 3967	(A,51,39)	RS1/16S221J		C 3821	(A,201,25)	CEHVV100M16	
R 3968	(A,50,37)	RS1/16S221J		C 3822	(B,202,26)	CKSQYB334K16	
R 3969	(A,49,40)	RS1/16S221J		C 3823	(A,199,31)	CEHVV470M16	D
				C 3824	(B,202,29)	CKSQYB334K16	
				C 3831	(B,192,9)	CKSRYP473K16	
				C 3832	(A,187,12)	CEHVV101M6R3	
				C 3833	(A,196,21)	CEHVV100M16	
				C 3834	(A,189,22)	CEHVV470M16	
				C 3835	(B,195,12)	CKSQYB334K16	
				C 3851	(B,134,26) 47µF/6.3V	CCH1372	
				C 3852	(B,123,25) 10µF	CCG1138	
C 3101	(A,46,30)	CEVW4R7M35		C 3853	(B,125,34) 22µF	CCG1139	
C 3102	(A,51,30)	CEVW4R7M35		C 3854	(B,129,34) 22µF	CCG1139	
C 3107	(A,174,16)	CEVW4R7M35		C 3855	(B,136,33) 10µF	CCG1138	E
C 3108	(A,174,9)	CEVW4R7M35		C 3856	(A,144,36)	CKSRYP102K50	
C 3109	(B,174,18)	CCSRCH560J50		C 3857	(A,146,36)	CKSRYP102K50	
C 3110	(B,174,12)	CCSRCH560J50		C 3858	(B,147,33)	CKSRYP683K16	
C 3111	(B,165,20)	CKSRYP473K16		C 3859	(B,146,31)	CKSRYP822K50	
C 3112	(B,164,13)	CKSRYP473K16		C 3860	(A,152,34)	CKSRYP822K50	
C 3113	(B,164,17)	CCSRCH560J50		C 3861	(A,152,32)	CKSRYP473K16	
C 3114	(B,164,10)	CCSRCH560J50		C 3862	(B,149,24)	CKSRYP473K25	
C 3115	(B,49,9)	CCSRCH102J25		C 3863	(B,153,24)	CKSYB106K6R3	
C 3116	(A,51,12)	CCSRCH102J25		C 3864	(A,152,30)	CKSRYP104K16	
C 3117	(B,49,10)	CCSRCH102J25		C 3865	(A,152,27)	CCSRCH151J50	
C 3118	(A,52,10)	CCSRCH102J25		C 3866	(A,15,47)	CKSRYP473K25	F
C 3125	(A,165,21)	CCSRCH471J50		C 3867	(B,143,25)	CKSRYP473K25	
C 3126	(A,165,13)	CCSRCH471J50		C 3868	(A,152,24)	CEHVV100M16	
C 3127	(A,165,16)	CCSRCH471J50					
C 3128	(A,166,8)	CCSRCH471J50					
C 3131	(B,51,22)	CKSRYP224K16					
C 3141	(A,40,18)	CEVWNP4R7M16					
C 3142	(A,40,23)	CEVWNP4R7M16					

**CAPACITORS**

**Circuit Symbol and No.****Part No.****Circuit Symbol and No.****Part No.**

C 3869	(B,144,31)	CKSRYB105K6R3
C 3870	(A,15,51)	CKSRYB473K25
C 3871	(A,147,43)	CKSYB105K16
C 3872	(A,152,46) 100µF/4V	CCH1400
C 3873	(B,149,33)	CKSRYB473K16
C 3874	(A,15,49)	CKSRYB473K25
C 3891	(A,202,20)	CEHVW100M16
C 3892	(A,207,18)	CKSRYB473K25
C 3893	(B,204,11) 22µF/12V	CCH1359
C 3894	(A,125,12)	CKSRYB473K16

M 2 Motor Unit(TRAY)

CXC1541

**Miscellaneous Parts List**

	Fan Motor	CXM1195
	PU Unit	CGY2020
M 1	Motor Unit(Carriage)	CXC1552
M 3	Motor(Spindle)	CXM1282
M 4	Motor Unit(ELV)	CXC1540

**H****Unit Number:CWM6518****Unit Name:MF Unit****MISCELLANEOUS**

D 2901	Diode	5KP24A
D 2902	Diode	GP30ML-6373
D 2903	Diode	ERA15-02VH
L 2901	Coil	CTH1113

**CAPACITORS**

C 2901	2200µF/16V	CCH1383
C 2902	2200µF/16V	CCH1383
C 2903	3300µF/16V	CCH1384
C 2904	3300µF/16V	CCH1384
C 2905	3300µF/16V	CCH1384

**A****Unit Number:****Unit Name:PCB Unit(A)**

D 851	LED	CN504-2
S 851	Switch(DSP)	CSN1051
S 852	Spring Switch(TRP)	CSN1052

**B****Unit Number:****Unit Name:PCB Unit(B)**

S 301	Spring Switch(MAG)	CSN1044
VR301	Volume 10kΩ	CCW1021
VR302	Semi-fixed 1kΩ(B)	CCP1338
R 301		RS1/16S562J
R 302		RS1/16S622J

C 301		CKSRYB104K16
C 302		CKSRYB103K50

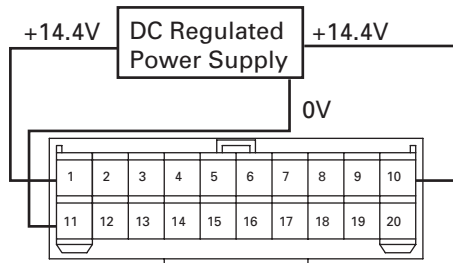
**C****Unit Number:****Unit Name:PCB(A)**

Q 851	Photo-transistor	PT4800
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**D****Unit Number:****Unit Name:PCB(B)**

# 6. ADJUSTMENT

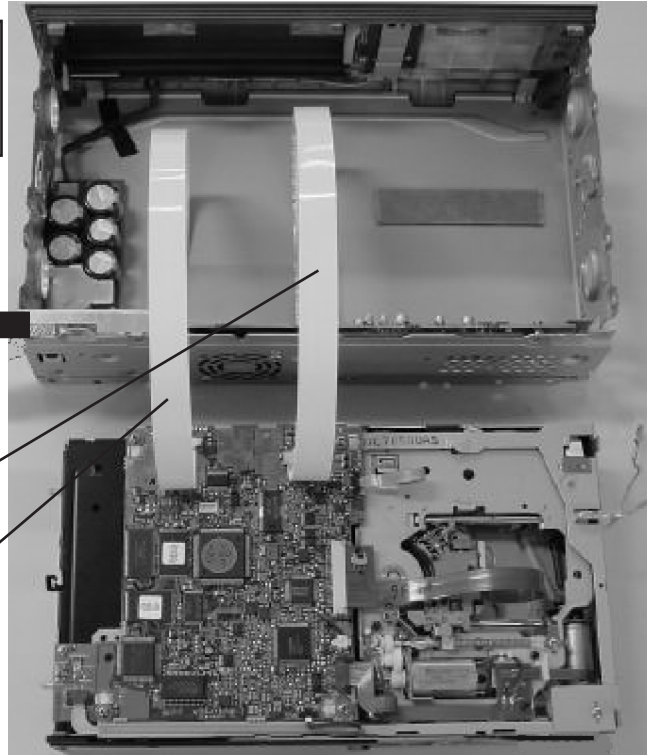
## 6.1 JIG CONNECTION DIAGRAM



- 1. +B
- 2. NTSO
- 3. SG
- 4. SGND
- 5. CDL+
- 6. CDR+
- 7. NC
- 8. TXM+
- 9. NC
- 10. ACC
- 11. GND
- 12. NC
- 13. NC
- 14. NC
- 15. CDL-
- 16. CDR-
- 17. SGND
- 18. TXM-
- 19. NC
- 20. MUTE

15P EXTENSION CABLE  
GGD1177

30P EXTENSION CABLE  
GGD1171



This photo is XDV-M8006ZT.

On your service benches, the mechanism should be placed with the magazine-slot side up unlike that shown in the photo.

Head Unit of TOYOTA  
KEX-M9137ZT-02/UC, KEX-M9737ZT-02/UC

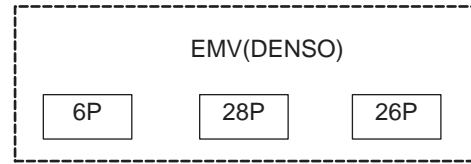
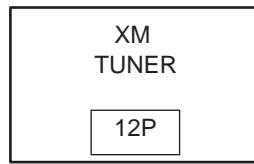
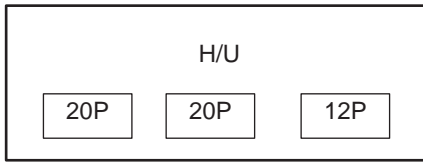
### ● Connection Diagram EMV SYSTEM MODEL(/UC)

A

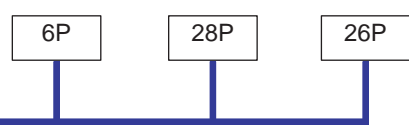
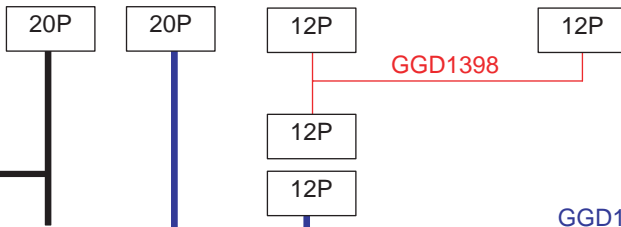
KEX-M9137ZT-02/UC(Pioneer AMP)

KEX-M9737ZT-02/UC(Mraklevinson AMP)

GEX-M8087XMZT/XU/UC



B



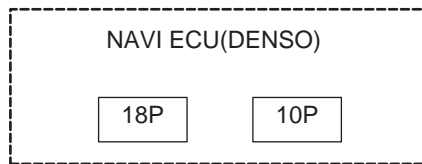
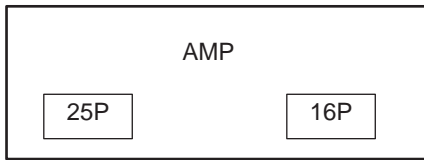
GGD1348

Bullet connector (To DC Regulated Power Supply)

Bullet connector (To DC Regulated Power Supply)

C

GM-9027ZT-02/E Marklevinson AMP

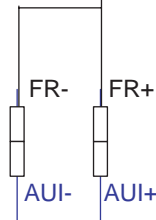


GGD1240

Bullet connector SP Line

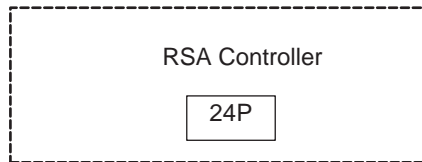
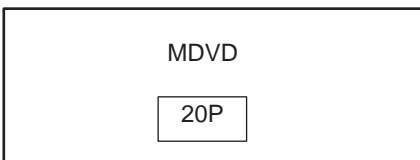
GGD1169

D



E

XDV-M8357ZT/UC



\*MCD



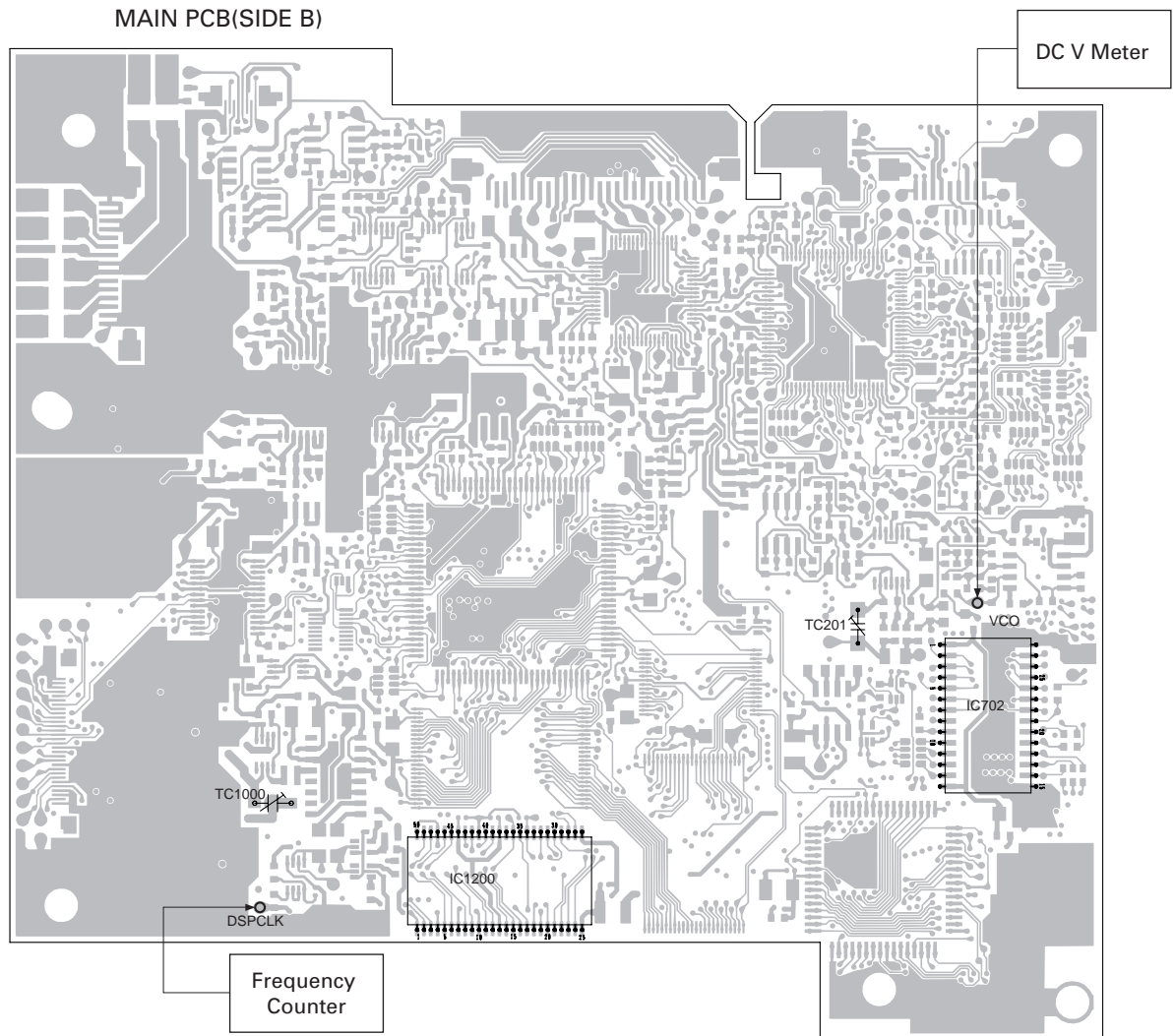
F

\*Please don't connect the MCD and MDVD at the same time  
 \*MCD or MDVD does not operate if RSA controller is not connected.

## 6.2 MAIN UNIT ADJUSTMENT



### ● Connection Diagram



Setting state : Normal Mode, Without magazine

Item	Adjustment point	Adjustment Method	Symptoms at incomplete adjustment
16MHz Master Clock	TC1000	Frequency Counter : $16.934400\text{MHz} \pm 80\text{Hz}$	An image turns from a colored one to a monochromatic one.
VCO Offset	TC201	DC V Meter : $1.4\text{V} \pm 0.2\text{V}$	Too much misalignment will result in no playback.

## 6.3 SKEW ADJUSTMENT



### ● If skew adjustment is necessary:

- 1) Replace the pickup unit by a new one.
- 2) Replace the spindle motor by a new one.
- 3) Replace the CRG chassis by a new one.
- 4) Replace the main shaft of the pickup unit by a new one.
- 5) Replace the sub shaft of the pickup unit by a new one.

\* No skew adjustment is necessary for replacement of the CRG motor and the like.

### ● Procedures (Fig.1)

- 1) Remove the adhesive of the pickup unit with a pair of tweezers (above 2) to 5) only).  
\* Take care at this time that no fragments of the adhesive will be scattered, and that no unnatural force will apply to the actuator.
- 2) Monitor the test point of the TP210 (RF waveform monitor) on the basis of GND in the product state with an oscilloscope.
- 3) Clamp adjusting disc (GGV1018).

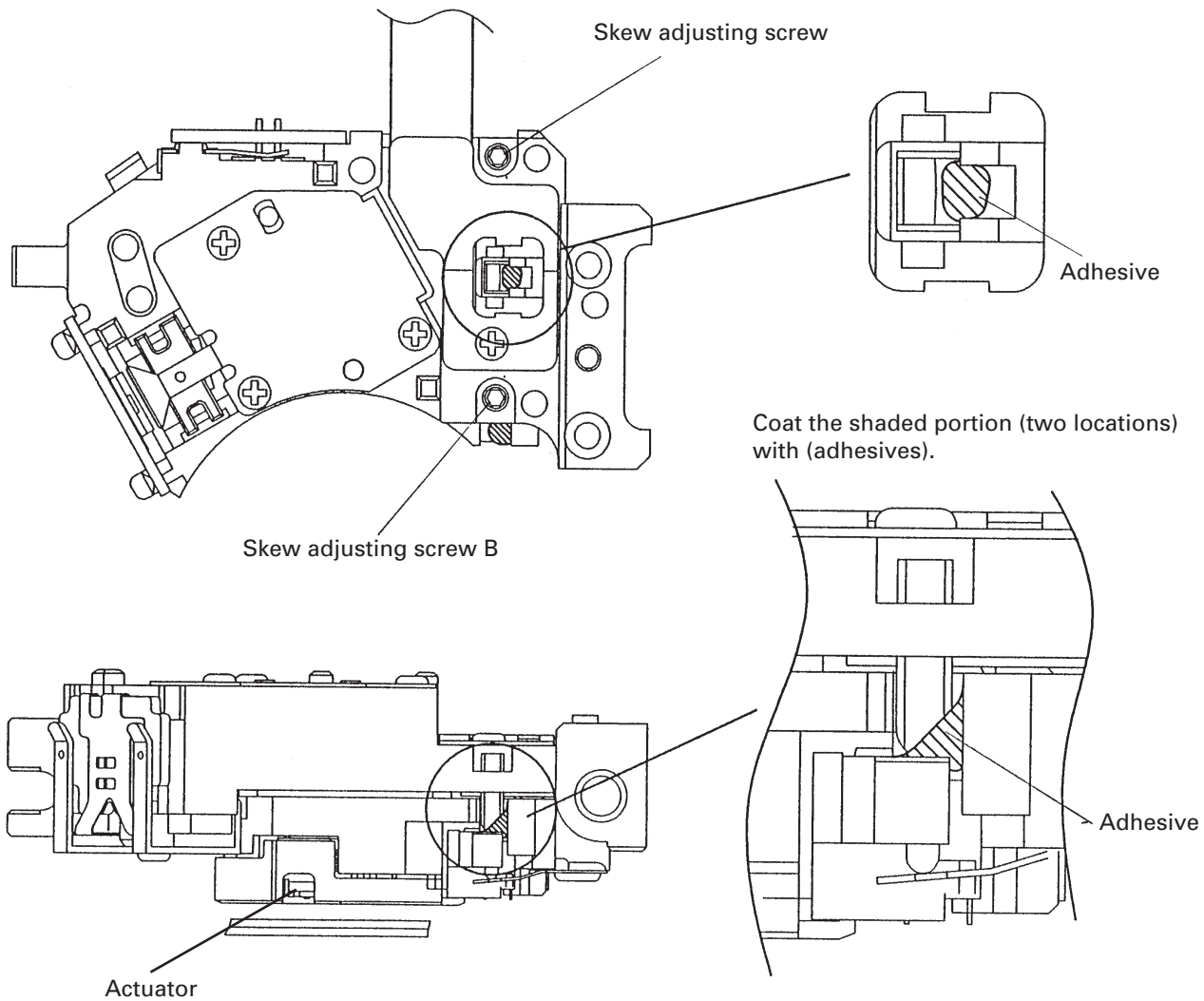


Fig.1

- 4) Turn on the power in the test mode (F. Offset adjustment is found) and move the pickup to the vicinity of the center of the disc.
- 5) Turn on the DVD LD and perform Focus Close.
- 6) Automatically adjust Tracking Balance and perform Tracking Close.
- 7) Observing RF waveform levels of an oscilloscope, slightly turn skew adjusting screw A and adjust the oscilloscope so that the levels can be maximized. Repeat this operation three times and fix the levels where they are maximized.
- 8) Mix agents A and B of adhesive 601 at a ratio of 1 to 1 and coat a specified part with both agents of the adhesive. The adhesive is cured about 15 minutes. The coating position is shown in Fig.1.

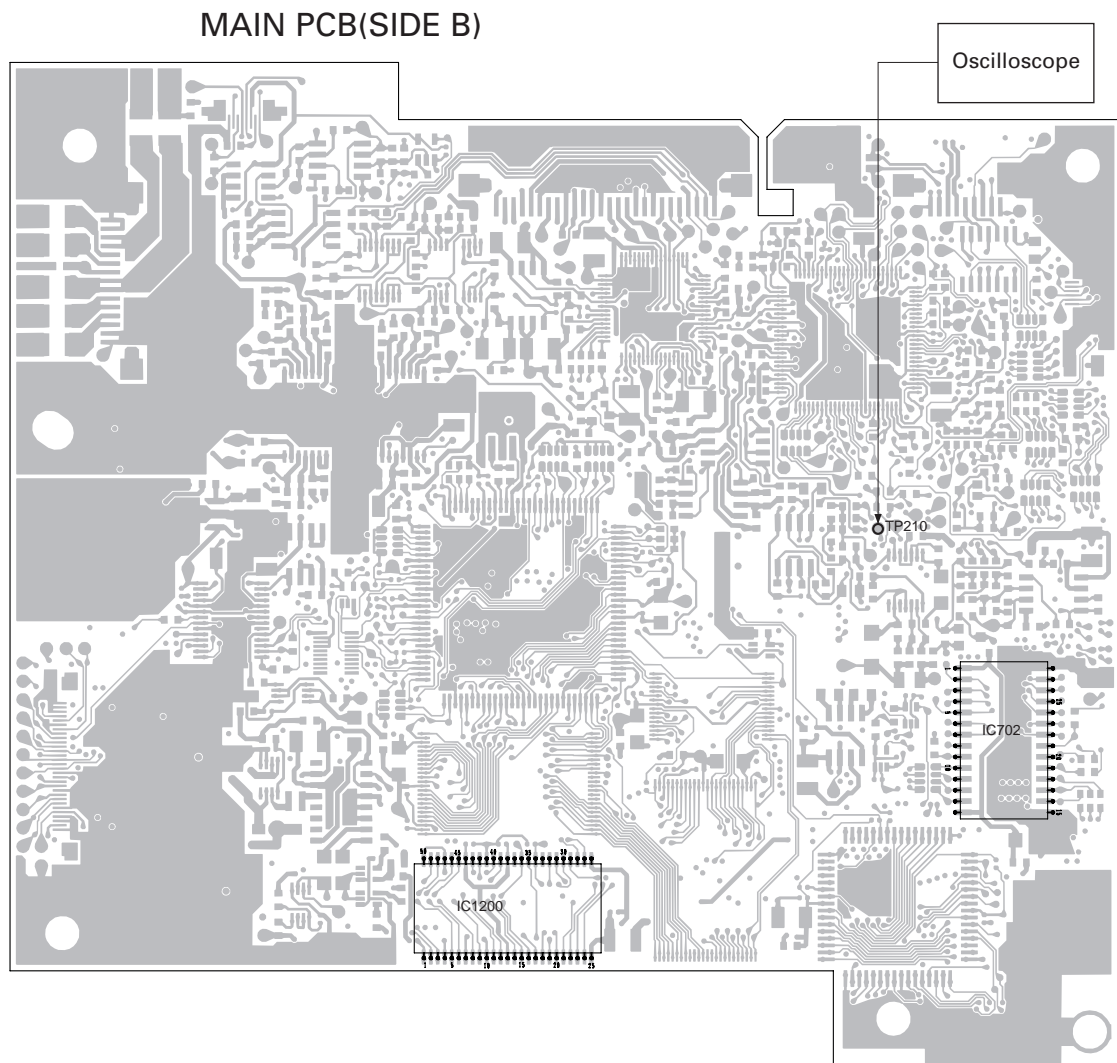
Note) Do not apply the adhesive to the pickup section and the mechanical unit section other than the specified part. Because heat is generated, do not mix a great number of adhesives at a time. Use the same number of adhesives as the original one. Do not apply vibration until the adhesive is fixed.

- 9) Apply the screw lock to the head of the skew screw and secure it.

### ● Symptoms at incomplete adjustment

- 1) Deterioration of error rates
- 2) Large RF jitters: Waveforms are distorted.
- 3) Unstable tracking servo: There are such effects as leading-in and unstable servo.

### ● Connection Diagram



## 6.4 ELEVATION ADJUSTMENT



● This adjustment shall be performed when an error code 84 is displayed for an elevation error.

### • Precautions

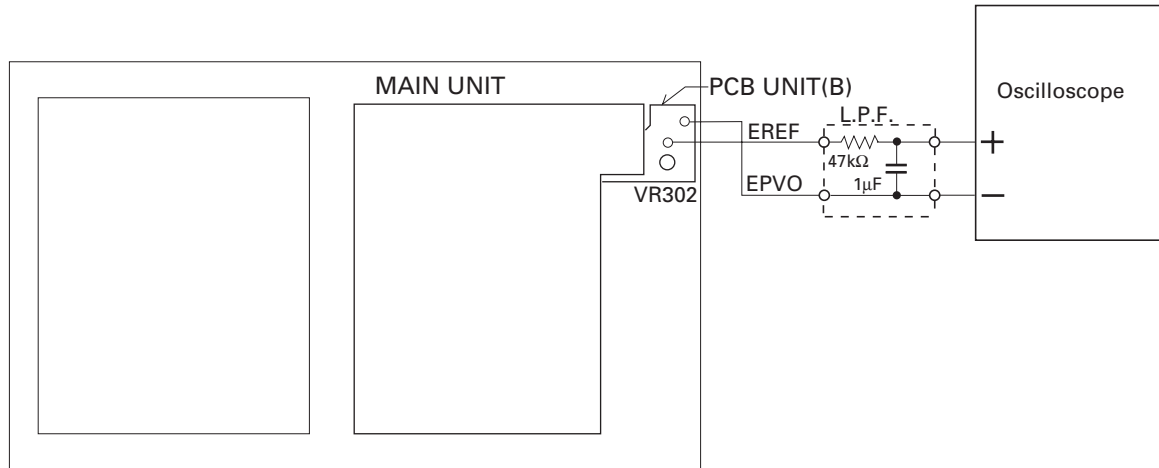
This mechanism unit uses a slide variable resistor to detect the height of the stage. To absorb misalignment of the stage height due to unevenness of the DVD/CD mechanism unit and main unit, the adjustment for each mechanism unit needs to be performed using semi-fixed resistors. Because adjustment is performed on the production line, readjustment is not necessary usually. However, if an elevation error occurs or when the slide variable resistor, spindle motor and CRG chassis are replaced, elevation needs to be adjusted in the following procedures:

### • Purpose

Adjust and check that the operation of elevation is normal.

### • Adjustment method

- Measuring apparatus Oscilloscope, L.P.F. (one piece)
- Measuring point EREF or EPVO
- Setting state Without magazine, test mode  
Place the DVD/CD mechanism unit facedown (place the DVD/CD mechanism unit so that the main unit may be set to the upper side).



### • Check procedures

For the flowchart of the test mode.

1. Enter the test mode and select a multiple DVD/CD player.
2. Set the mechanism unit test mode.

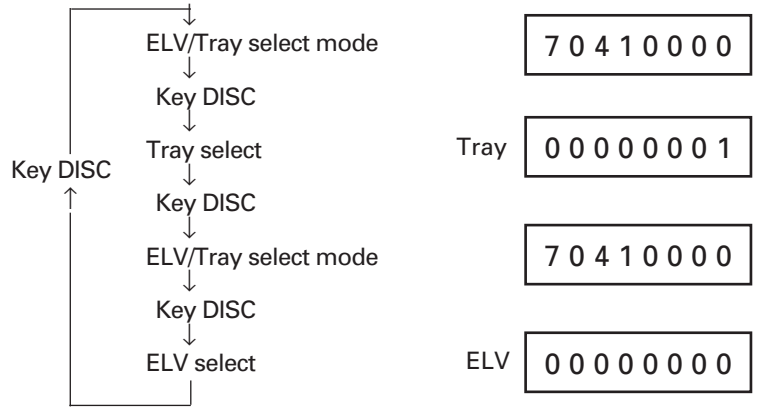
Display on head unit

0 0 8 0 0 0 0 0

2 0 4 0 0 0 0 0

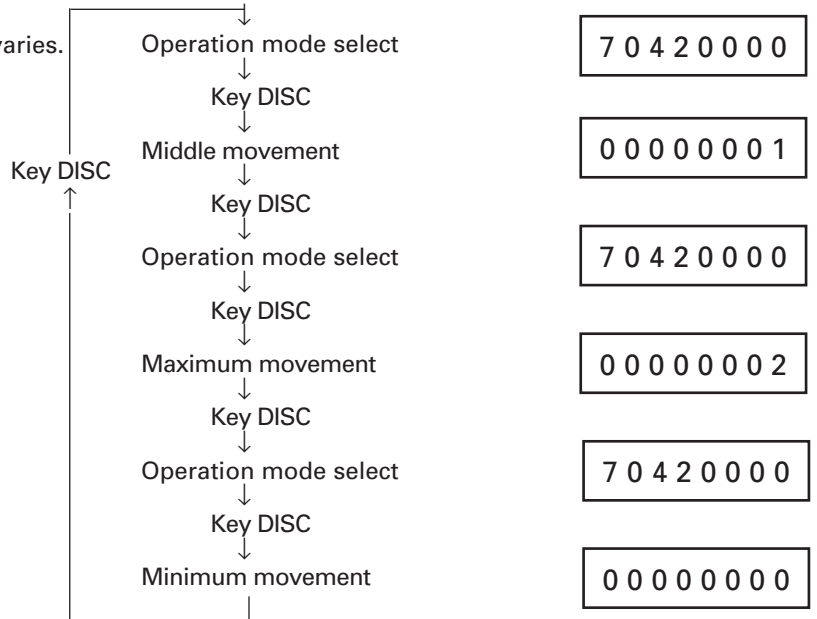
3. Move to the ELV/tray selection mode and press DISC key to select the ELV mode.

Display on head unit



4. Move to the operation mode selection.

5. When the DISC key is pressed, travel varies.  
Note: If travel is set to Major, the stage mechanical unit continues moving as long as the DISC key is pressed. If travel is set to Intermediate and Minor, the stage mechanical unit moves whenever the DISC key is pressed once.



6. Move to the motor forward revolution mode or motor reverse revolution mode and align the magazine slot to graduations on the fourth disc (Fig. 2).

Forward revolution	7 0 4 3 0 0 0 0
Reverse revolution	7 0 4 4 0 0 0 0

7. Adjustment  
Adjust the potential difference between EREF and EPVO of PCB (B) to 380 ± 20 mV with VR302.

	7 0 4 5 0 0 0 0
--	-----------------

8. Termination of adjustment  
Move to the mechanism-unit test termination mode and terminate the mechanism-unit test mode.

9. Operation check

Terminate the test mode.

Place the mechanism unit horizontally (set the main unit to the drop side). At this time, take care of short-circuiting of the PCB.

10. Check the height of the stage.

Press the DISC  $\pm$  key to select DISC 4.

Check that the stopper bend of the clamping lever is fitted in the groove of the frame stopper section. (Fig. 3 to 5)

• Precautions

- The stopper bend to be clamped finally is clamped under the groove.

Check the stopper bend at the position where it is fitted in the groove.

- Adjustment is completed if the stopper bend enters the center and is clamped under the groove. Go to 14).

- If the stopper bend is dislocated, check misalignment. Go to 11).

11. If the mechanism unit is dislocated:

Place the mechanism unit facedown.

When the mechanism unit is dislocated to the direction of the first disc, turn VR302 counterclockwise. (Fig. 3)

Drop the voltage of EREF by 20 mV which was adjusted in 7. to descend the stage to the direction of the sixth disc by 0.1 mm.

When the mechanism unit is dislocated to the direction of the sixth disc, turn VR302 clockwise. (Fig. 5)

Raise the voltage of EREF by 20 mV which was adjusted in 7. to ascend the stage to the direction of the first disc by 0.1 mm.

12. Place the mechanism unit horizontally and recheck from 10.

13. After adjustment has been completed,

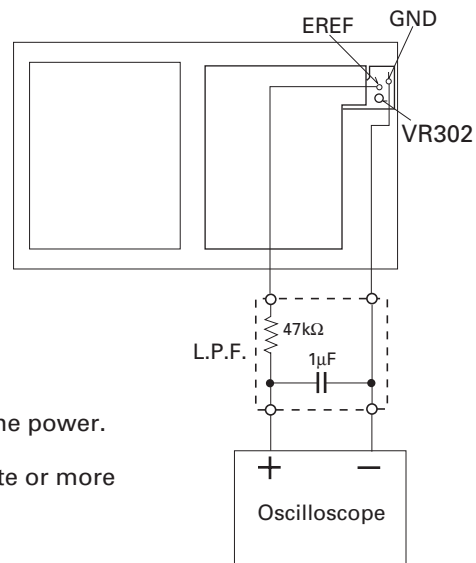
14. Press the EJECT switch.

15. After the operation of the mechanism unit has stopped, turn off the power.

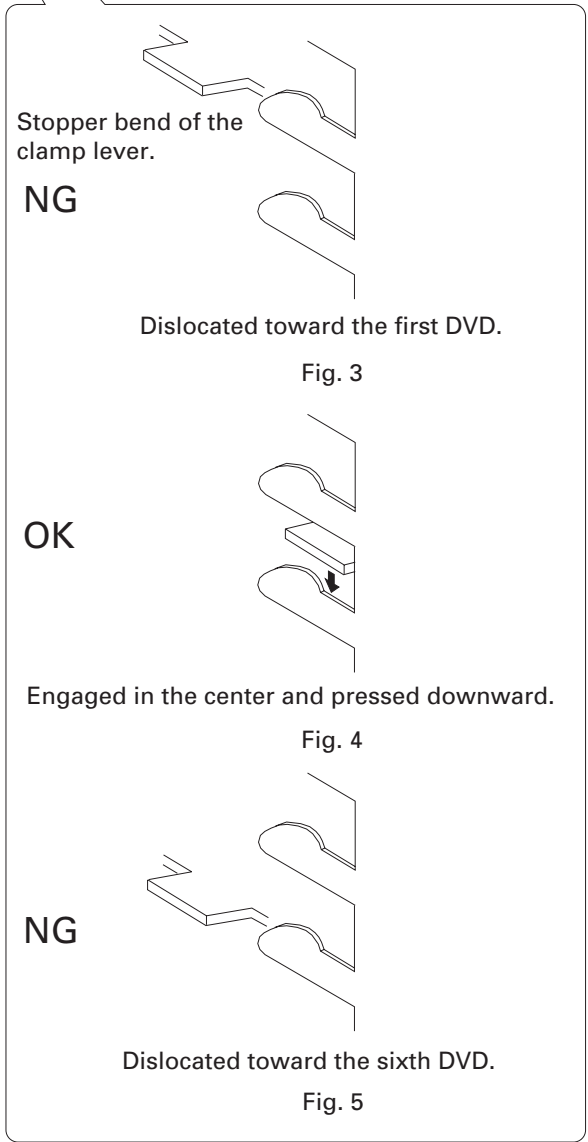
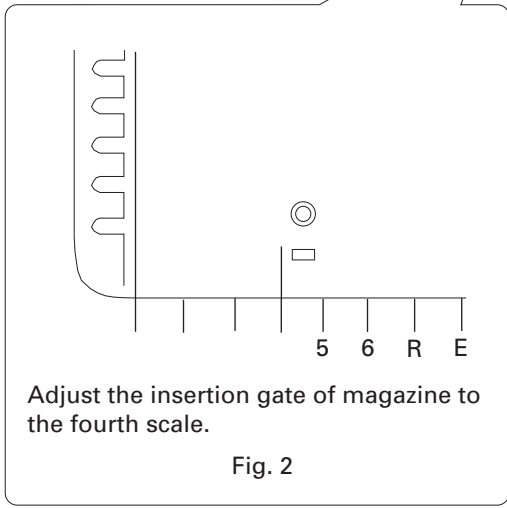
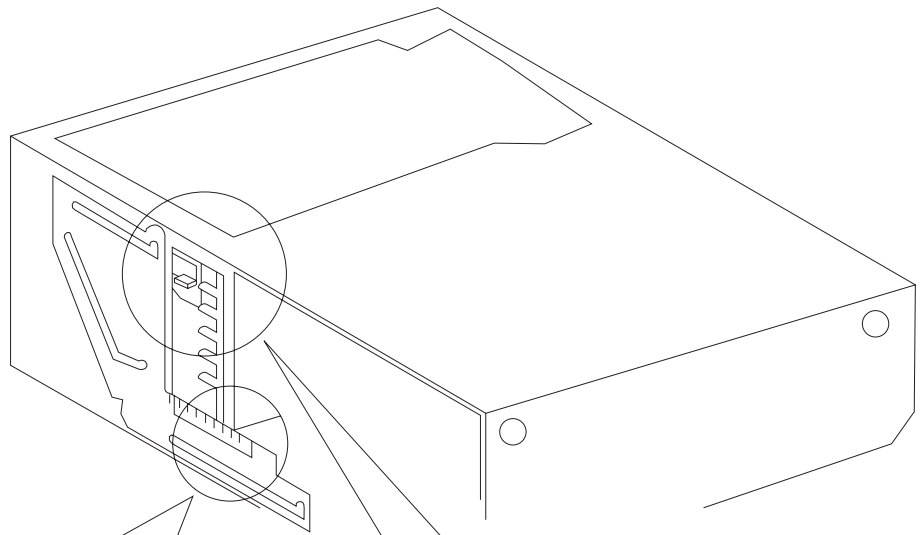
16. After the power has been turned off, turn on the power in one minute or more and insert the magazine.

17. Check that the mechanism unit operates normally for the first and fourth discs.

18. Terminate all adjustment for OK (normal operation) and readjust for NG (abnormal operation).



A  
B  
C  
D  
E  
F



## 6.5 TEST MODE

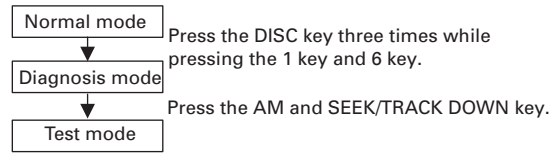
### 1) Precautions on Adjustment

- Because this equipment uses a single voltage (+5 V) in the regulator, the reference voltage of a signal is not GND, but is REFO (VR21, VR25, PREF). If REFO and GND are mixed and touched at product adjustment, correct potential cannot be measured but also the servo malfunctions and an strong shock applies to the pickup. So, note the following items. REFO and GND must not be mixed on the negative side of the probe of the measuring apparatus. In particular, do not connect the negative side of the ch1 probe of the oscilloscope to REFO and the negative side of the ch2 probe to GND. Further, in general, because most main units of measuring apparatuses reach the same potential as the negative side of the probe, make the main unit of the measuring apparatus enter the floating state. If REFO and GND are incorrectly connected, immediately turn off the power.
- Be sure to turn off the power when attaching and detaching the various filters and wire materials required for measurement.
- For the adjustment and measurement after power-on, adjust or measure after having performed running for about one minute until the circuit becomes stable.
- Because various types of protection do not operate by software in the test mode, do not apply a mechanical and electrical shock during adjustment.
- This equipment uses a photo transistor to detect a disc when inserting and removing it to and from the tray. Accordingly, if strong light enters this equipment with the case remove at repair and adjustment, the following malfunctions may occur.
  - \* Although there is a disc, play is disabled because the disc cannot be used.
  - \* A disc of 12 cm is incorrectly detected for a disc of 8 cm.When a malfunction occurred, take action such as changing the position of the light source, changing the orientation of this equipment or covering a photo transistor.
- In the test mode, after having executed carriage movement during focus search, immediately turn off the power. (The lens is stuck up or down and the actuator may be damaged by fire.)
- During disc replacement, press the key of the disc to be replaced by a new one.

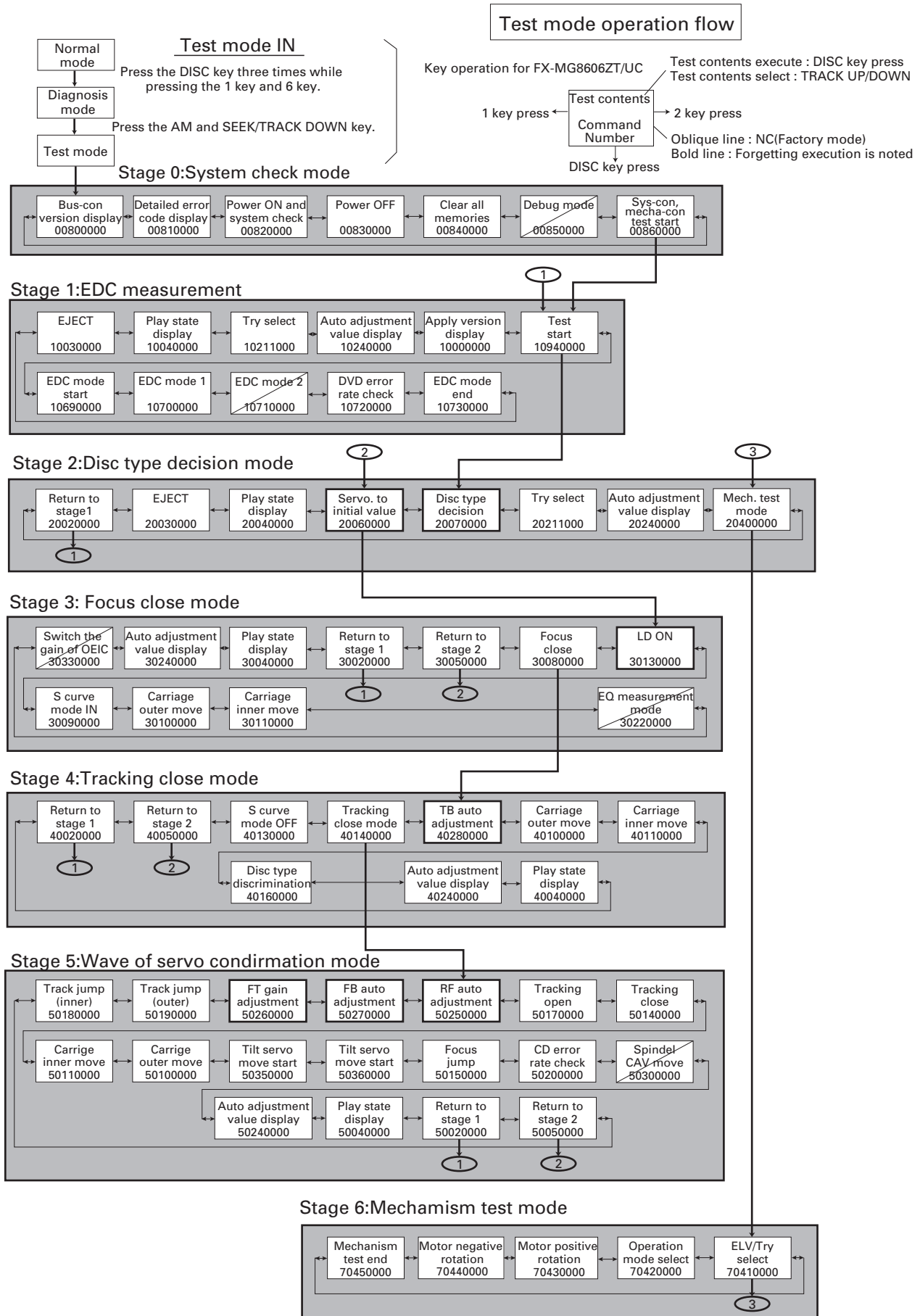
### 2) Test Mode

Because this machine is adjusted by combining a pet unit, each adjustment key operation is also performed by the pet unit. For reference purposes, how to enter the test mode and key operation for KEX-M9737ZT-02/UC are described. Besides, the key in this adjustment text is also an KEX-M9737ZT-02/UC key.

- How to enter the test mode



- How to reset the test mode  
Enter ACC and backup OFF.
- After having executed carriage movement during focus search, immediately turn off the power. (Because the lens is stuck, the actuator may be damaged by fire.)
- The TR Jump below 255 TR continues operation even if the key is detached. Other TR Jumps enter the T Close state when the key is detached.
- As soon as the power is turned on/off, the Jump Mode is reset to Single TR and the automatic adjustment value returns to the initial value.
- During disc replacement, press the key of the disc to be replaced by a new one.
- Be sure to load a DVD disc on the first tray of the magazine.



Test Mode IN, Stage 0

● Outline

[Test Mode IN]

- [Test Mode IN] is a procedure for entering the DVD changer in the test mode.
- Once the DVD changer has exited from the test mode, restart the test mode from [Test Mode IN]

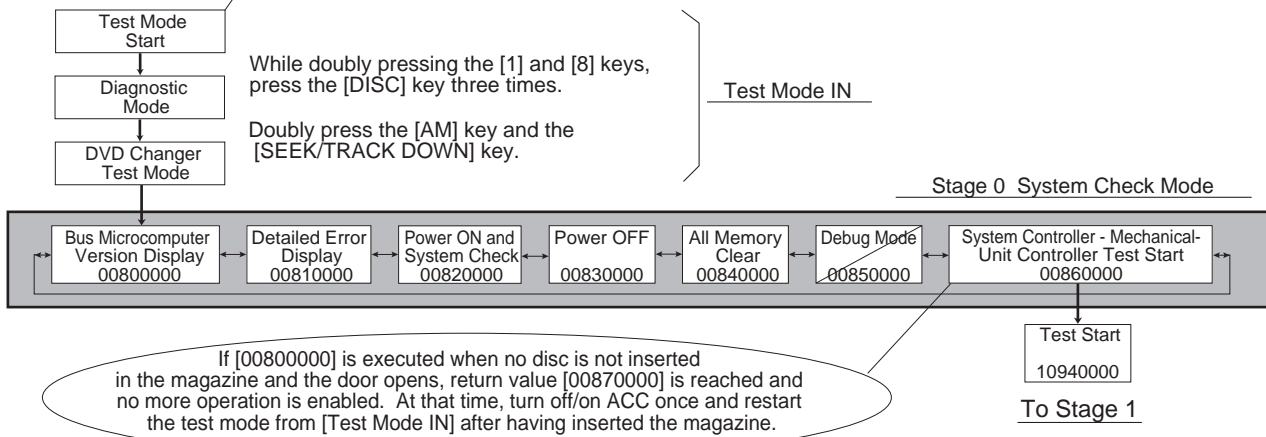
[Stage 0]

- This stage displays a version number of the bus microcomputer, checks the contents of detailed errors and performs a system check.

● Operation Flow of [Test Mode IN] and [Stage 0]

!! To prevent a malfunction and damage !!

- When performing the test mode of [Stages 1 to 6], be sure to insert a DVD video disc in Tray 1 of the magazine. (If DISC1 is not a DVD video disc, the test mode does not function normally.)
- When performing the test mode of [Stage 7], be sure to remove all the trays of the magazine and use a magazine in which no tray is inserted. (If a tray is inserted in the magazine, a mechanical unit may be damaged.)



● Example of Test Execution

- Check a detailed error code.
  - 1) Check the contents of an error which is currently occurring. : Execute [00810000].
  - 2) Newly obtain error contents. : Execute [00840000], [00830000], [00820000] and [00810000] in this order.
- Go to the next stage. : Execute [00860000].

● Contents of Test

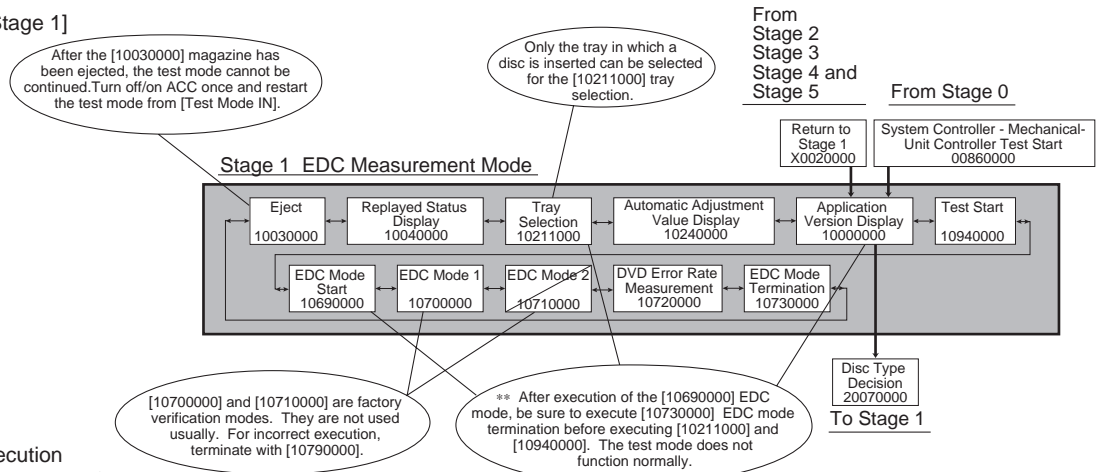
Command number	Test name	Test contents	Test contents selection item setting	Return value
Press the 1 key →  ← Press the 2 key	00800000	Bus microcomputer version display	Displays a bus microcomputer version.	Version number
	00810000	Detailed error display	Displays a detailed error code.	000_XX (XX: error code) For error contents, refer to the error code table.
	00820000	Power ON and system check	Turns on the power.	None
	00830000	Power OFF	Turns off the power.	None
	00840000	All memory clear	Clears error histories recorded in the system microcomputer.	00800001
	00850000	Debug mode	** Factory Mode ** Displays debug.	00800001
	00860000	System controller - mechanical-unit controller test start	Moves to the test mode.	None

Stage 1

● Outline

[Stage 1] displays an application program version number and measures (DVD) an error rate.

● Operation Flow of [Stage 1]



● Example of Test Execution

• DVD error rate measurement:

Collectively execute [10690000], [10700000], [10720000] Measurement and [10730000] in this order (normally less than 0.1%). For the details of the DVD error rate measurement method, refer to the appended table.

The CD error rate is enabled at [Stage 5].

• Display an automatic adjustment value of servo

Execute [10690000], [10240000] Display and [10730000] in this order. Only when [10690000] is executed, a normal value is displayed. The initial value of automatic adjustment is displayed.

• Go to the next step: Execute [10940000].

● Contents of Test

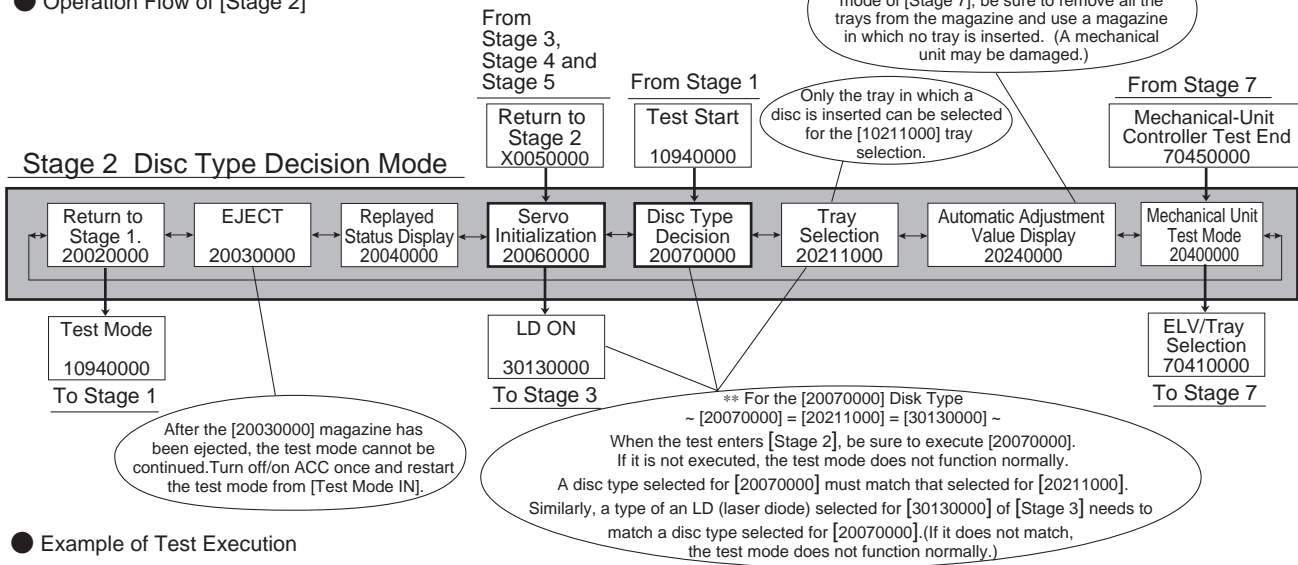
Command number	Test name	Test contents	Test contents selection item setting	Return value
			Execute test contents: Press the DISC key. Return to command number display: Re-press the DISC key.	
10030000	EJECT	Ejects the magazine.	Whether carriage returns the home position or not is selected at ejection. [10030000] With carriage home [10031000] Without carriage home	00000000(With carriage home) 00000001(Without carriage home) 00000000(at servo OFF) 01010101(Servo initialization state) 02020202(at focus servo ON) ID No. (at DVD replay) MSF No. (at CD replay)
10040000	Replayed status display	Displays a replayed status.		
10211000	Tray selection	Clamps an optional disc	A tray number is selected. Executes [1021X000] "X" matching an optional tray number.	0000000X("X" is a tray number.)
10240000	Automatic adjustment value display	Displays an automatic adjustment result of a servo system.	Toggle-selects an adjustment value to be displayed. Display at selection "0"[10240XXX] "1"[10241XXX] "2"[10242XXX]	Refer to the appended table.
10000000	Application version display	Displays a version of an application program.		Application program version number
10940000	Test start	Goes to Stage 2. (Starts the mechanical-unit controller/microcomputer test mode.)		00000000
10690000	EDC mode start	Starts normal replay after control data read for DVD, and after TOC read for CD.		TOC-RDX ("X" is a tray number.)
10700000	EDC test mode 1	Specifies a replay start position and performs solid replay.	A replay start position is set.(For DVD) ID number, and (for CD) MSF number. Sets an MSF number after having executed 10711000. Sets an ID number after having executed 10700000.	EDC10000(for DVD) EDC1XXXX(for CD) and X is a minute and second 10700000
10710000	EDC test mode 2	** Factory Mode ** (For DVD) Starts the replay which repeats the operation of 1-block read/pause. (For CD) Starts the same operation as EDC mode 1	A replay start position is set (For DVD) ID number, and (for CD) MSF number. Sets an MSF number after having executed 10711000. Sets an ID number after having executed 10700000.	EDC10000(for DVD) EDC1XXXX(for CD) and X is a minute and second
10720000	Error rate measurement	Measures a C1 error rate of DVD.	Selects between 1 and 64 of the number of sampling blocks. (Usually 32 blocks) ---Refer to the appended table.	A C1 error rate is exponentially displayed.
10730000	EDC mode end	Terminates the EDC mode.		None

Stage 2

● Outline

[Stage 2] sets and selects a disc type and test mode.

● Operation Flow of [Stage 2]



● Example of Test Execution

- Go to [Stage 3]: Execute [20211000], [20211000] and [20060000] in this order.
- Go to [Stage 7]: Execute [20240000].  
When the mechanical unit test mode is executed, the [20070000] Execution is unnecessary because there is no disc in the magazine.

● Contents of Test

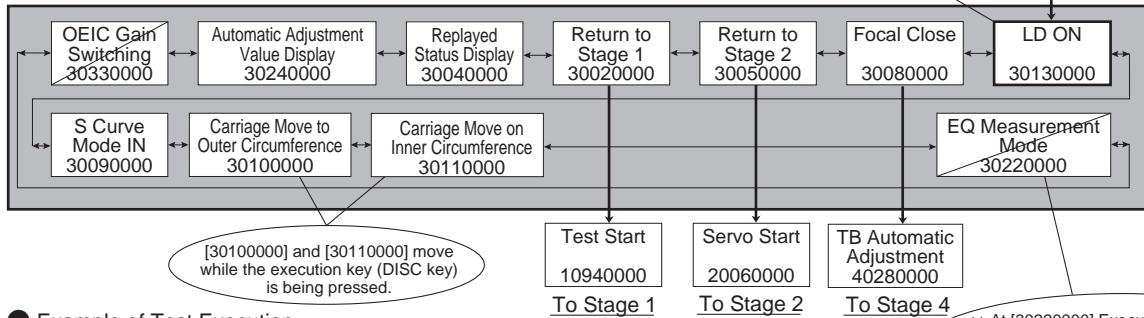
Command number	Test name	Test contents	Test contents selection item setting	Return value
			Execute test contents: Press the DISC key. Return to command number display: Re-press the DISC key	
20020000	Return to Stage 1	Returns to Stage 1.		00000000
20030000	EJECT	Ejects the magazine	Whether carriage returns to the home position is selected at ejection. [20030000] With home carriage [20310000] Without carriage home	00000000 (With carriage home) 00000001 (Without carriage home)
20040000	Replayed Status Display	Displays a replayed status.		00000000 (at servo OFF) 01010101 (Servo initialization state) 02020202 (at focus servo ON) ID number (at DVD replay) MSF number (at CD replay)
20060000	Servo Initialization	Initializes a servo system.	Whether a servo system automatic adjustment is performed or not is selected at servo initialization. [20610000] With offset adjustment (Usually set to offset adjustment) [20060000] Without offset adjustment	00000000 (Irrespective of a selection result)
20070000	Disc Type Decision	Decides a disc type to set a servo gain in accordance with the disc type used for test.	A disc type is decided. [20070000] CD setting [20071000] DVD1 layer setting [20072000] DVD2 layer setting [20073000] Reserved	00000000 (at CD selection) 00000001 (at DVD1 layer selection) 00000002 (at DVD2 layer selection) 00000003 (Reserved)
20211000	Tray Selection	Clamps an optional disc	A tray number is selected. Executes [2021X000] "X" matching an optional tray number	0000000X ("X" is a tray number.)
20240000	Automatic Adjustment Value Display	Toggle-selects an adjustment value to be displayed.	Toggle-selects an adjustment value to be displayed. Display at selection "0" [20240XXX] "1" [20241XXX] "2" [20242XXX]	Refer to the appended table.
20400000	Mechanical-Unit Controller Test Mode	Moves to the mechanical-unit controller test mode.		00000000

Stage 3

● Outline  
[Stage 3] is used for measuring a servo system. (LD ON to focal close)

● Operation Flow of [Stage 3]

Stage 3 Focal Close Mode



● Example of Test Execution

- S curve measurement:  
Enter the [30130000] to [30090000] Measurement Mode.  
→ [30080000] Measurement (An up and down movement is repeated at a fixed cycle in the S curve mode.)  
→ Turn off the S curve mode for [40130000] of [Stage 4].
- Focus servo system measurement/Go to the next stage: Execute [30130000] and [30080000] in this order.

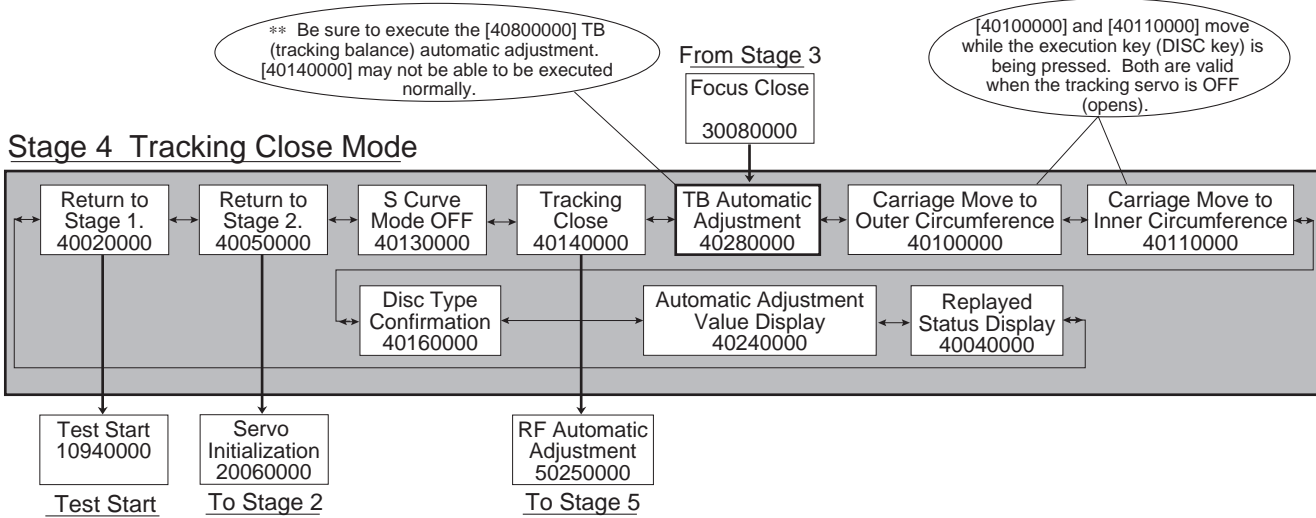
● Contents of Test

Command number	Test name	Test contents	Test contents selection item setting	Return value
30330000	OEIC gain switching	** Factory Mode ** Switch an OEIC gain.	A High/Low gain is selected. [30331000] gain High [30330000] gain Low	00000000(for Low gain) 00000001(for Low gain)
30240000	Automatic adjustment value display	Displays an automatic adjustment result of a servo system.	An adjustment value to be displayed is toggle-selected. Display at selection "0"[30240XXX] "1"[30241XXX] "2"[30242XXX]	Refer to the appended table.
30040000	Replayed status display	Displays a replayed status.		00000000(at Servo OFF) 01010101 (Servo initialization state) 02020202(at focus servo ON) ID number (at DVD replay) MSF number (at CD replay)
30020000	Return to Stage 1	Returns to Stage 1.		00000000
30050000	Return to Stage 2	Returns to Stage 2.		00000000
30080000	Folcal close	Moves up and down the actuator to the focus direction. When a focal close condition is satisfied, turn on focal servo		00000000
30130000	Turn on the LD	Executes the ON/OFF of laser diode (LD).	An LD to be turned on/off is selected. [30130000] DVD LD (650 mm) [30131000] CD LD (780 mm)	00007801 (at CD LD ON) 00007800(at CD LD OFF) 00006501(at DVD LD OFF) 00006500(at DVD LD OFF)
30090000	S curve mode IN	Turn on/off the S curve confirmation mode.		00000000
30100000	Carriage move to outer circumference	Moves the carriage to the outer circumference		32100000
30110000	Carriage move to inner circumference	Moves the carriage to the inner circumference.		32110000
30220000	EQ measurement mode	** Factory Mode ** Forcibly turn on the servo of focus and tracking and check the characteristics of servo ED.		00000000

# Stage 4

● Outline  
 [Stage 4] is used for measuring a servo system. (Tracking close)

● Operation Flow of [Stage 4]



● Execution of Test Execution

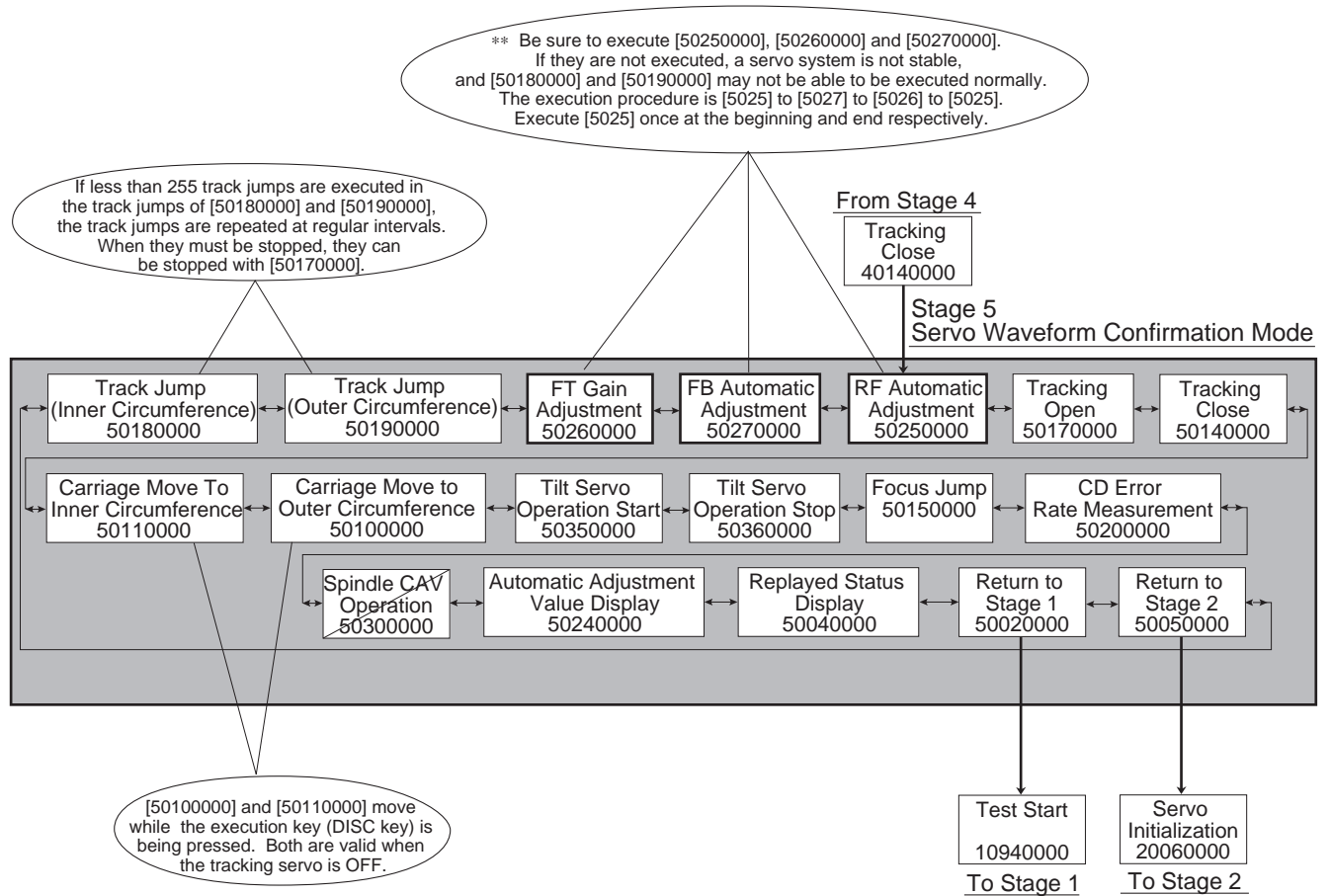
- Tracking servo system measurement/Go to the next stage: Execute [40280000] and [40140000] in this order.

● Contents of Test

Command number	Test name	Test contents	Test contents selection item setting	Return value
		Execute test contents: Press the DISC key. Return to command number display: Re-press the DISC key.	Selection switching: Pressing the TRACK UP/DOWN key	
40020000	Return to Stage 1	Returns to Stage 1.		00000000
40050000	Return to Stage 2	Returns to Stage 2.		00000000
40130000	S curve mode OFF	Turns off the S curve confirmation mode.		00006500
40140000	Tracking close	Turns on the tracking servo.		00000000
40280000	TB automatic adjustment	Automatically executes a tracking balance adjustment.		00000000
40100000	Carriage move to outer circumference	Moves the carriage to the outer circumference.		42100000
40110000	Carriage move to inner circumference	Moves the carriage to the inner circumference.		42110000
40160000	Disc type confirmation	A disc type selected for [disc type (2007000)] can be checked.		00000000(at CD selection) 00000001 (at DVD1 layer selection) 00000002 (at DVD2 layer selection) 00000003(Reserved)
40240000	Automatic adjustment value display	Displays an automatic adjustment result of a servo system.	Toggle-selects an adjustment value to be displayed. Display at selection "0"[40240XXX] "1"[40241XXX] "2"[40242XXX]	Refer to the appended table.
40040000	Replayed status display	Displays a replayed status.		00000000(at servo OFF) 01010101 (Servo initialization state) 02020202(at focus servo ON) ID No. (at DVD replay) MSF No. (at CD replay)

## Stage 5

- Outline  
[Stage 5] is used for measuring a servo system.
- Operation Flow of [Stage 5]



- Example of Test Execution
  - CD error rate measurement:  
Execute [50250000]→[50270000]→[50260000]→[50250000] and [50200000] Measurement in this order.
  - Tilt servo measurement:  
Execute [50250000]→[50270000]→[50260000]→[50250000]→[50350000] Measurement and [50360000] in this order.
  - Focus Jump measurement:  
Execute [50250000]→[50270000]→[50260000]→[50250000] and [50150000] Measurement in this order.
  - Track jump measureme:  
Execute [50250000]→[50270000]→[50260000]→[50250000]→[50180000] or [50190000] Measurement in this order.

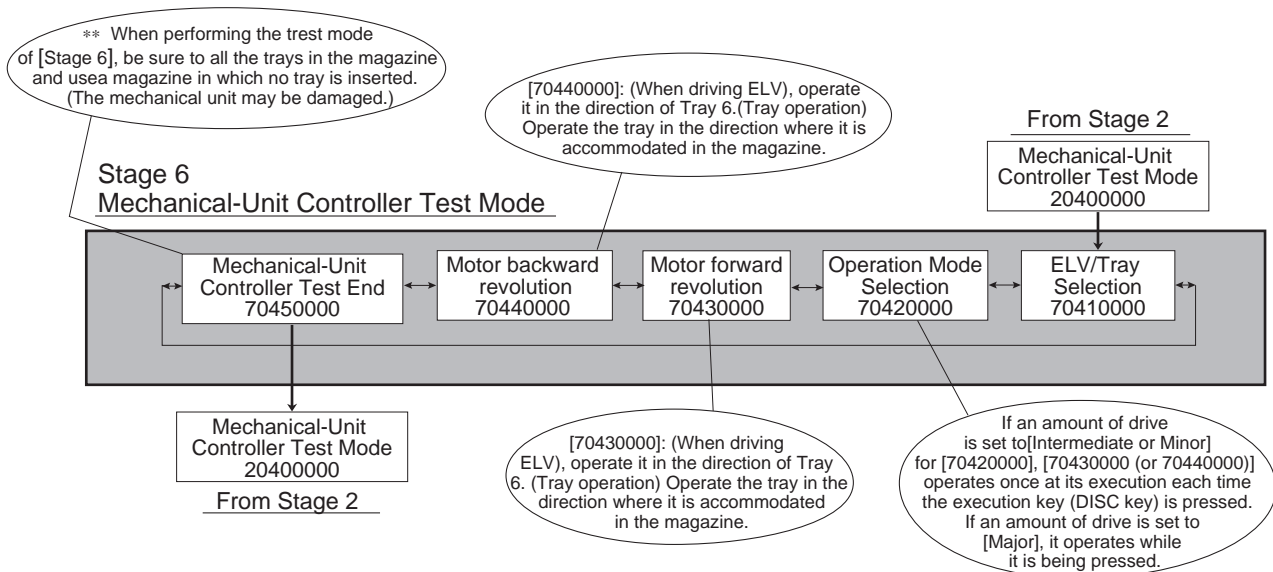
## ● Contents of Test

Command number	Test name	Test contents	Test contents selection item setting	Return value
			Execute test contents: Press the DISC key. Return to command number display: Re-press the DISC key.	
50110000	Carriage move to inner circumference	Moves the carriage to the inner circumference side.		52110000
50100000	Carriage move to outer circumference	Moves the carriage to the outer circumference side.		52100000
50350000	Tilt servo operation start	Turns on the liquid crystal tilt servo.		00000000
50360000	Tilt servo operation stop	Turns off the liquid crystal tilt servo		00000000
50150000	Focus jump	Executes the focal jump of the a DVD2 layer disc.(Swith the layer for which focus is adjusted(between the first and second layes)).		00000000(at Layer 0 after jump) 00000001(at Layer 1 after jump)
50200000	CD error rate measurement		Measures a C1 error rate of CD. (Usually five seconds) Once the execution key has been pressed, the test enters the number of sampling items setting mode with return value 51200100. ...Refer to the appended table.	A sampling time of 1 to 30 seconds is set.  52200000(during sampling) ↓ A C1 error rate is exponentially displayed.
50300000	Spindle CAV operation	** Factory Mode ** Rotates a spindle at a constant speed at 10 Hz for DVD.		00000000
50240000	Automatic adjustment value display	Displays an automatic adjustment result of a servo system.	Toggle-selects an adjustment value to be displayed. Display at selection "0"[50240XXX] "1"[50241XXX] "2"[50242XXX]	Refer to the appended table.
50040000	Replayed status display	Displays a replayed status.		00000000(at servo OFF) 01010101(Servo initialization state) 02020202(at focus servo ON) ID number (at DVD replay) MSF number (at CD replay)
50020000	Return to Stage 1	Returns to Stage 1.		00000000
50050000	Return to Stage 2	Returns to Stage 2.		00000000
50180000	Track jump (Inner circumference)	Executes a track jump having the specified number of tracks to the outer circumference.	The number of tracks to jump is specified. Refer to the appended table.	The number of specified tracks is displayed in hexadecimal notation.
50190000	Track jump	Executes a track jump having the circumference.	The number of tracks to jump is specified. ) Refer to the appended table.	The number of specified tracks is displayed in hexadecimal notation.
50260000	FT gain adjustment	Executes focus and tracking gain adjustments. (Automatic adjustment)		00000000
50270000	FB automatic adjustment	Exceutes a focus balance adjustment. (Automatic adjustment)		00000000
50250000	RF automatic adjustment	Executes an RF gain adjustment. (Automatic adjustment)		00000000
50170000	Tracking open	Turns off tracking servo.		00000000
50140000	Tracking close	Turns on tracking servo.		00000000

Stage 6

- Outline  
[Stage 6] is used for checking the ELV (elevation)/tray operation of a mechanical unit.

- Operation Flow of [Stage 6]



- Example of Test Execution

- Mechanical-unit controller test: Execute [70410000], [70420000] and [70430000 (or 70440000)] in this order.

- Contents of Test

Command number	Test name	Test contents	Test contents selection item setting	Return value
		Execute test contents: Press the DISC key. Return to command number display:Re-press the DISC key.	Selection switching: Pressing the TRACK UP/DOWN key	
Press the 1 key → 70450000 70440000 70430000 70420000	Mechanical-unit controller test end	Terminates the mechanical-unit controller test mode.		00000000
	Motor backward revolution	Executes motor drive.		72440000
	Motor forward revolution	Executes motor drive.		72430000
	Operation mode - selection	Sets an amount of motor drive.	An amount of drive is switched. (Switched to (Pressing the DISC key) every execution) [70420000]An amount drive is Minor. [70410000]An amount fo drive is Intermediate. [70422000]An amount of drive is Major.	00000000(at Minor amount of drive) 00000001(at Intermediate amount of drive) 00000002(at Major amount of drive)
← Press the 2 key 70410000	ELV/tray selection	Selects a motor to be operated.	Either the ELV motor or tray motor is switched. (Switched to (Pressing the DISC key) every execution) [70410000]ELV motor selection [70411000]Tray motor selection	00000000(at ELV motor selection) 00000001(at tray motor selection)

## TEST MODE APPENDED TABLE

### A ● [X0240000]Return Value Table of Automatic Adjustment Values. <Normal Values after Replay>

	For DVD	For CD
"0" [00⑥⑤④③②①]	⑥⑤ : F offset adjustment value	-
	④③ : T offset adjustment value	00h
	②① : F. BAL adjustment value	-
"1" [00⑥⑤④③②①]	⑥⑤ : F. AGC adjustment value	E7h~1Fh
	④③ : T. AGC adjustment value	E7h~1Fh
	② : F. AGC status adjustment value	1
	① : T. AGC status adjustment value	1
"2" [00⑥⑤④③②①]	⑥⑤ : RF gain adjustment value	07h~0Fh
	④③ : Tilt servo adjustment value	7Bh~85h
	②① : T. BAL adjustment value	-

### B ● DVD Error Rate Measurement Method

[Outline procedures] [10690000]→[10700000]→[10720000]Measurement→[10730000]

\* It is recommended that DVD error rates be measured according to the following settings

1	[10690000] EDC mode start	Starts replay.
2	[10700000] EDC mode 1	<p>Moves the pickup to the position where an error rate is measured (an ID No. is specified).            Operation 1. Execute [10700000] (press the DISC key).→Return value: 11700100            Operation 2. Then, operate the [TRACK UP/DOWN key] and the [1] [2] keys,            display [11700601] or [117050F] and execute it (press the DISC key).</p> <p>.... Points of the following ID Nos. are indicated respectively            601 = The sixth digit is 1 = 100000h.            50F = The fifth digit is F = F0000h.            .... (Application) If other ID Nos. must be specified, values can be set in the same manner as the following            number of track jumps setting method.</p>
3	[10720000] Measurement	<p>Sets the number of sampling items and measures an error rate.            Operation 1. Execute [10720000] (press the DISC key). Return value: 11720100            Operation 2. Then, operate the [TRACK UP/DOWN key] and the [1] and [2] keys,            sequentially display [11720203] and [11720102] and execute them (press the DISC key).</p> <p>.... [11720(1)0(2)] Enter (1) and (2) in this order. Both [11720203] and [11720102] can be entered previously.            .... The number of sampling items is set according to Operation 2.            203 = The two digit is 3 = 30, 102 = The first digit is 2 = 2 and the result is "32" in total.            .... (Application) If other ID Nos. must be specified, values can be set in the same manner as the following            number of track jumps setting method.</p>

### C ● [50200000] CD Error Rate Measurement Method

\* It is recommended that DVD error rates be measured according to the following settings.

[50200000] Measurement	<p>Sets a sampling time and measures an error rate.            Operation 1. Execute [50200000] (press the DISC key). Return value: 51200100            Operation 2. Then, operate the [TRACK UP/DOWN key] and the [1] and [2] keys,            display [51200105] and execute it (press the DISC key).</p> <p>.... The sampling time is set to "five seconds" according to Operation 2.            105 = The first digit is 5 = 5 seconds            .... If other ID Nos. must be specified, values can be set in the same manner as the following            number of track jumps setting method.</p>
------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

### D ● [50180000] or [50190000] Number of Track Jumps Measurement Method

[50180000] Jump	<p>Sets the number of jumps and performs a track jump.            Operation 1. Execute [50180000] (press the DISC key). Return value: 51180100            Operation 2. Then, operate the [TRACK UP/DOWN key] and the [1]and [2] keys,            enter (1) and (2) of [51180(1)0(2)] and execute them (press the DISC key).</p> <p>.... First enter (1) (the "number of digits" of a value set). Then enter (2) (the value of the number of            digitset for (1)). The value of each digit can be corrected even any times until the execution key is            pressed. Example) [511810105] [511810205] [511810306] [511810103] Execute (Press the DISC key).            The 653 track jump is executed. (Before execution, the first digit is changed from 5 to 3.)            .... If a track jump of less than 255 is specified, the track jump is repeated at regular intervals until            tracking open [50170000].</p>
-----------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

### ● Error No. Display

When the DVD cannot operate or if it stopped due to an error during operation, an error mode occurs and the cause of the error is displayed in numerals.

An object of this error No. display is to reduce the nonsense call of the user and aid in the analysis/repair in the service.

1) Summary of error display

\* If major classification error codes are blank, no detailed error codes are not displayed in normal use. Check them for the detailed error codes of the test mode.

Diagnosis mode	Error code		Type	Contents	Details and cause
	EMV on-screen display	Detailed code			
		01	Electricity	System Controller Peripheral Check Error	SRAM access check error * 1
		02	Electricity	System Controller Peripheral Check Error	A0-A16 address line check error * 1
		03	Electricity	System Controller Peripheral Check Error	Program flash ROM read access check error * 1
		04	Electricity	System Controller Peripheral Check Error	GUI flash ROM read access check error * 1
		05	Electricity	System Controller Peripheral Check Error	MPEG decoder read access check error * 1
		06	Electricity	System Controller Peripheral Check Error	MY-CHIP access check error * 1
		07	Electricity	System Controller Peripheral Check Error	Track buffer access check error * 1
		08	Electricity	System Controller Peripheral Check Error	Track buffer address line check error * 1
		09	Electricity	System Controller Peripheral Check Error	CD-ROM error correction IC access check error * 1
		0A	Electricity	System Controller Peripheral Check Error	Pull up/down check error * 1
		11	Electricity	Flash ROM Error	Flash ROM ID code differs →Flash ROM contents are damaged
		12	Electricity	Flash ROM Error	Flash ROM ID code differs →Flash ROM contents are damaged
		13	Electricity	Flash ROM Error	Flash ROM silicone signature differs →Flash ROM contents are damaged.Wiring between flash ROM and system controller is disconnected
		14	Electricity	Flash ROM Error	Flash ROM size differs →Flash ROM contents are damaged.Wiring between flash ROM and system controller is disconnected

Diagnosis mode	Error code			Contents	Details and cause
	EMV on-screen display	Major classification	Detailed code		
			15	Flash ROM Error	Flash ROM checksum differs →Flash ROM contents are damaged
			16	Flash ROM Error	Write protection is not applied to flash ROM →Flash ROM contents are damaged.Wiring between flash ROM and system controller is disconnected.
			17	Flash ROM Error	No reset vector is written to the first address of flash ROM →Flash ROM contents are damaged
			31	CPU Peripheral Hardware Fault	Undefined interrupt occurs in ROM →Wiring is disconnected or short-circuited on main unit
			32	CPU Peripheral Hardware Fault	General invalid instruction occurs in ROM →Wiring is disconnected and short-circuited on main unit
			33	CPU Peripheral Hardware Fault	Slot invalid instruction interrupt occurs in ROM →Wiring is disconnected and short-circuited on main unit
			34	CPU Peripheral Hardware Fault	CPU address error interrupt →Wiring is disconnected and short-circuited on main unit.
			35	CPU Peripheral Hardware Fault	Undefined interrupt occurs in flash ROM →Wiring is disconnected and short-circuited on main unit
			36	CPU Peripheral Hardware Fault	General invalid interrupt occurs in flash ROM →Wiring is disconnected and short-circuited on main unit.
			37	CPU Peripheral Hardware Fault	Slot invalid instruction occurs in flash ROM →Wiring is disconnected and short-circuited on main unit.
			38	CPU Peripheral Hardware Fault	CPU address error occurs in flash ROM →Wiring is disconnected and short-circuited on main unit.
			39	CPU Peripheral Hardware Fault	DMA address error is detected in flash ROM →Wiring is disconnected and short-circuited on main unit.
44	The DVD is stopping due to error detection	Error2 or 5	80	Address Not Found	Mechanism controller error code F2 XXXX
47	The DVD is stopping due to error detection	Error3	81	Heat Error	Pickup section is excessively heated.
45	The DVD is stopping due to error detection	Error5	82	Eject Error	MAG switch disconnection wait timeout Elevation timeout at ejection
50	The DVD is stopping due to error detection	Error5	83	Tray Existence/Nonexistence Error	Tray withdrawal or insertion operation timeout Tray is hooked at tray withdrawal
51	The DVD is stopping due to error detection	Error5	84	Elevation Error	Timeout at elevation operation
46	Check the X-th disc	Error2	90	Focus Search Error	Focus is disabled →Disc upside down, scratches, dirt and vibration are strong
46	Check the X-th disc	Error5	91	Spindle Lock Error	Because spindle lock is not done, subcode cannot be read →Spindle is faulty and disc scratches, dirt and vibration are strong.

Diagnosis mode	Error code			Type	Contents	Details and cause
	EMV on-screen display	Major classification	Detailed code			
44	Check the X-th disc	Error2	92	Electricity	Carriage Home Error	Movement is disabled to inner circumference and movement is disabled from inner circumference →Home SW is faulty and carriage movement is faulty
46	Check the X-th disc	Error2	93		FOK Error	Mechanism error code F8 0013
46	Check the X-th disc	Error2	94	Electricity	ID/SUBCODE Error	Subcode cannot be read →Spindle is faulty and disc scratches, dirt and vibration are strong.
46	Check the X-th disc	Error2	95	Mechanism	Spindle High Revolution Error	Mechanism error code F8 0015
46	Check the X-th disc	Error2	96	Mechanism	Spindle Low Revolution Error	Mechanism error code F8 0016
	The DVD is stopping due to error detection	Error6	97	Electricity	Mechanism Unit Reference Voltage Error	Elevation positioning is disabled →Power fault and control volume resistor is faulty.
			98	Electricity	TOC Error	Mechanism error code FA XXXX
			B0	Electricity	Mechanism controller Communication Error	Communication is disabled between mechanism controller and system controller. →Wiring is disconnected and short-circuited on main unit.
			B1	Electricity	Mechanism controller Communication Timeout	Mechanism controller does not respond. →Wiring is disconnected and short-circuited on main unit.
			B2	Electricity	Unexpected Error in Mechanism Controller. Communication	
			B3	Electricity	Communication Error between BUS Microcomputer and System Controller	No communication is done from BUS microcomputer. →Wiring between main unit and extension unit is disconnected and short-circuited.
	Region code error	Error09	A0	Electricity	Region Code Error	DVD disc having region code which cannot be played back
	Check the X-th disc		A1	Electricity	Digital Copy Guard Error	DVD disc violated against digital copy guard
	Check the X-th disc		A2	Electricity	DVD File System Read Error	DVD data read error →Defective carriage/tracking and disc scratches
	Check the X-th disc		A3	Electricity	DVD Search Timeout Error	Target address could not be reached. →Defective carriage/tracking and disc scratches
46	Check the X-th disc		A4	Electricity	CD-ROM Read Error	Disc data cannot be read →Spindle is faulty and disc scratches, dirt and vibration are strong.
46	Check the X-th disc		A5	Electricity	DVD Read Error	Disc scratches
46	Check the X-th disc		A6	Electricity	Video CD Read Error	Disc scratches
			C0	Electricity	System Controller Communication Error	Communication is disabled between system controller and BUS microcomputer. →Wiring between main unit and extension unit is disconnected and short-circuited.
47	The DVD is stopping due to error detection		C1	Electricity	Low Temperature Detection ... temperature.	Equipment temperature is lower than operable



## ● Explanation of Display Contents by Item

### (1) Address display

This item displays the address which is being traced currently.

DVD	*****	ID display (8 hexadecimal digits)
CD/VCD	0000****	A-TIME (minutes and seconds)
CD	00000000	Fixed

A

### (2) Receiving code

This item displays the command transferred from the BUS microcomputer to the system controller.

R: \*\* \*\* \*\*

### (3) Target operating state

This item displays the number of the tray to which playback operation is being attempted and the internal state of the player.

TGT: \* \*\*

Number of tray	1-6	
Internal state of player	01	Disc changing
	02	Waiting for power-off
	03	Stopping
	04	Disc being detected
	05	During setup
	06	TOC being read
	07	During playback
	08	Searching

B

### (4) Error number

This item displays the current error number.

E : \*\* \*\*

### (5) Error history

This item displays the past error history.

The upper left is the latest error number. The same number as the current error number is displayed in an error state. This error history is stored in flash ROM and will not be cleared even for backup OFF.

OE : \*\* \*\* \*\* \*\*  
\*\* \*\* \*\* \*\*

C

### (6) Current operating state

This item displays the number of the current tray and the internal state of the player.

Number of tray	1-6	
Internal state of player	01	Disc changing
	02	Waiting for power-off
	03	Stopping
	04	Disc being detected
	05	During setup
	06	TOC being read
	07	During playback
	08	Searching

D

### (7) Status display

This item displays the internal state of the current player.

STATS- \*\*

00	No tray is selected.
01	Tray 1 is selected.
02	Tray 2 is selected.
03	Tray 3 is selected.
04	Tray 4 is selected.
05	Tray 5 is selected.
06	Tray 6 is selected.
81	Tray 1 disc is changing.
82	Tray 2 disc is changing.
83	Tray 3 disc is changing.
84	Tray 4 disc is changing.
85	Tray 5 disc is changing.
86	Tray 6 disc is changing.

E

TOC information read step information.

TOC:

### (8) Output video formats

NTSC (National Television System Committee) method  
PAL (Programmable Array Logic) method  
Automatic setting

V-\*\*\*\*  
[NTSC]  
[PAL]  
[AUTO]

F

(9) Command history to mechanical-unit microcomputer

This item displays past commands from left to right and from up to down.  
Commands

MCT : \*\* \*\* \*\* \*\*  
\*\* \*\* \*\* \*\* \*\*

A

- 01 Communication Start
- 02 Stop
- 03 Seek
- 04 Read
- 05 Pause
- 06 Fast Forward
- 07 Reverse
- 08 Disc Replacement
- 09 Get Address
- 0A Get Power Startup State
- 0B Get Disc Information
- 0C Get Final Mechanism Controller Error Status
- 0D Communication Reset
- 0E Test Mode ON
- 10 Get Control Data
- 11 Get TOC Information (CD Only)
- 12 Get Magazine Information
- 14 Get CD Address
- 15 EJECT
- 16 Power-Off Processing
- 17 EJECT Interrupt

B

(10) AV1 chip revision

This item displays a revision of the AV1 chip.

AV1 = '\*'

C

(11) Flash ROM size

This item displays a size of flash ROM.

FLSH : \*

(12) Destination setting

F : \*\*\* / \*

(13) Region setting

This item displays the region setting of the player.

REG : \*Y  
R : \*

(14) Error rate display

Error rates are displayed for DVD (displayed only for DVD).  
C1 error rate for disc playback is displayed.  
To ensure calculation accuracy, the number of errors is being counted in a unit of 16 blocks.  
(C1 1block) = (182bytes x 208line = 37856bytes)  
(C1 16block) = (182bytes x 208line = 16block = 605696bytes)  
The minimum resolution is set to 1.65099E-6 .  
Usually, an error rate is less than 1.0E-3 .

ER- \*\*\*\* \*\*

D

(15) Flash ROM version 1

Version of the high-level module in flash ROM.  
Flash ROM version.

V : \*.\*\*\* \*  
\*\*

(16) Flash ROM version 2 and system controller version display

These items display a version of a low-level module in flash ROM.  
The version of the ROM incorporated in the system controller. \*.\*\*\*

S : \*.\*\*

E

F

(17) Disc judgment(System microcomputer)

MM : \*\*\*

NON	Disc not decided
DSC	No disc
NG	Disc of type not fixed
CD	No match etc.
CDP	CD (format not decided)
CDC	CD partial disc
D	CD combined disc
DVD	DVD (format not decided)
DNG	DVD (Region not decided)
DOK	DVD (Disc which cannot be played back due to a region error)
CDA	For DVD
CDR	For CD-DA
VC1	For CD-ROM
VC2	For VCD(Ver1.1)
	For VCD(Ver2.0)

A

(18) Disc judgment(Mechanism microcomputer)

DSC : \*\*\*

This item displays the type of the disc which is being clamped.

NON	No disc
DVD	For DVD
CD	For CD
VCD	For VCD

B

(19) Disc type in a magazine

For six sheets

The display format is the same as the system microcomputer decision results of item 17.

(20) AV1 chip version

AV1:\*.\*\*\*

Function description

Clear error histories by pressing the upper left section of the screen ten consecutive times.

C

D

E

F

# 7. GENERAL INFORMATION

## 7.1 DIAGNOSIS

### 7.1.1 DISASSEMBLY

**Note:**

When disassembling a product, be sure to set the PU unit short circuit switch to the short circuit direction. The vertical and horizontal specifications of a product are switched by switching the spring hooking position using an arm. At normal assembly and disassembly, the arm switches the position at the position which conforms to the horizontal specifications. However, because this product conforms to the vertical specifications, take notice not to forget the changeover.

The changeover position and method are as follows:

Because a changeover arm is provided in the hole near by the center of the product left and right sides, use the arm to switch the position. For the confirmation of the position, because H and V are marked on the top case.

Accordingly, to assemble a product, adjust H and V conforming to the installation specifications of the product.

#### ● Removing the Upper Case (Fig.1)

- ➔ 1 Remove the screw.
- ➔ 2 Remove the eight screws and then remove the Upper Case.

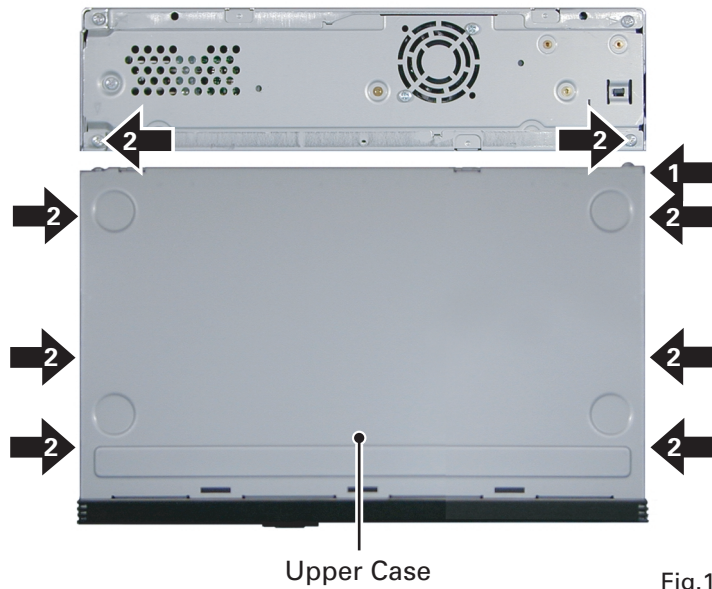


Fig.1

#### ● Removing the DVD/CD Mechanism Unit (Fig.2)

- ➔ 1 Remove the four dampers.
- ➔ 2 remove the two springs.

Disconnect the connector and then remove the DVD/CD Mechanism Unit.

#### ● Removing the Grille Assy (Fig.2)

- ➔ 3 Remove the two screws.

Disconnect the connector and then remove the Grille Assy.

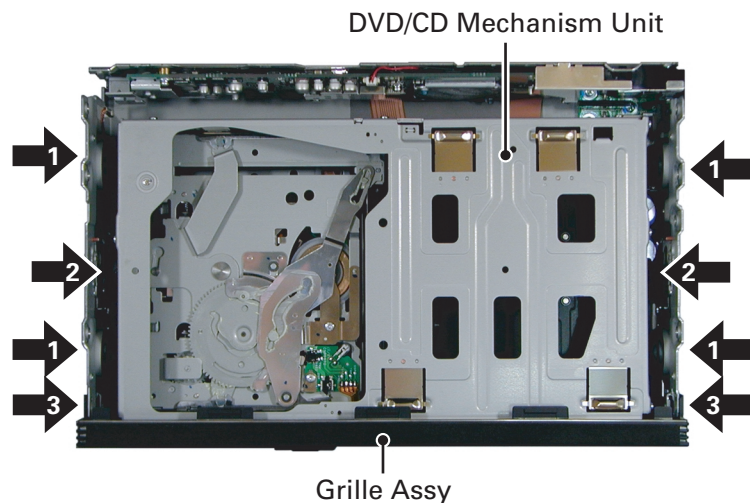
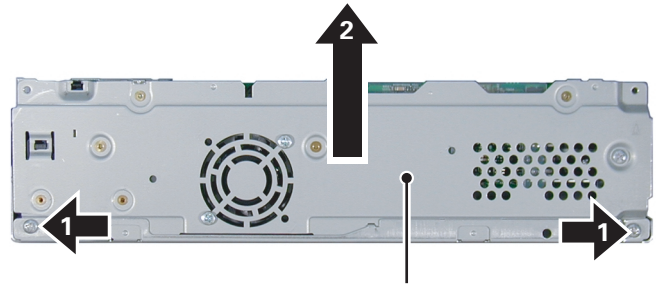


Fig.2

● **Removing the Rear Frame Unit (Fig.3)**

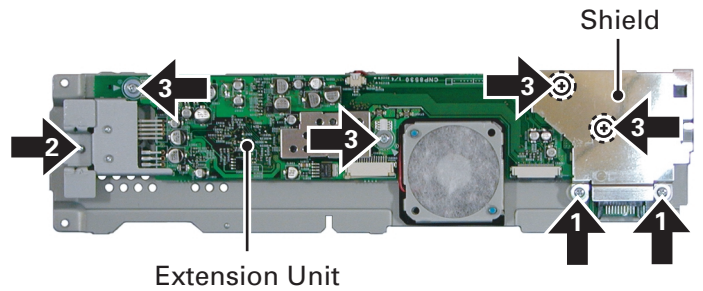
- 1** Remove the two screws.
- 2** Pull out the Rear Frame Unit in the arrow indicated direction.



Rear Frame Unit Fig.3

● **Removing the Extension Unit (Fig.4)**

- 1** Remove the two screws and then remove the Shield.
- 2** Remove the screw.
- 3** Remove the four screws.



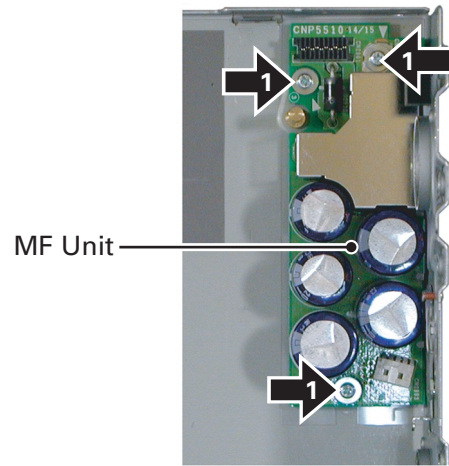
Extension Unit

Disconnect the connector and then remove the Extension Unit.

Fig.4

● **Removing the MF Unit (Fig.5)**

- 1** Remove the three screws and then remove the MF Unit.



MF Unit

Fig.5

## Precautions when making servicing works

- 1) Since the upper surface of the arrowed magazine slot in the DVD/CD mechanism unit can be deformed comparatively easily, do not hold this section when making servicing work. (Refer to Fig. 6)
- 2) The stage mechanism projects downward beyond the low end of the chassis when it is reset. Consequently, the stage mechanism may be damaged to cause functional failures when handled carelessly. When placing the mechanism, pay great attention not to damage the gear and the pickup unit.

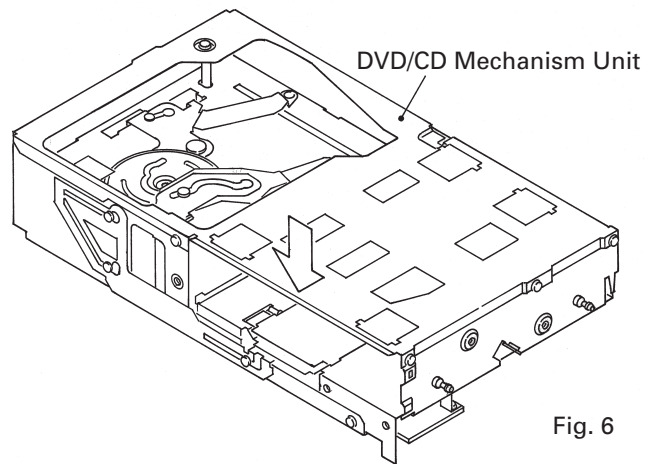


Fig. 6

### ● Removing the pickup unit(Fig. 7)

1. Set the short switch of the pickup unit to the SHORT side.
2. Remove the flexible PCB from the connector.
3. Unscrew one screw A to remove the grease cover.
4. Unscrew one screw B to remove the plate spring A.
5. Unscrew one screw C to remove the plate spring B.
6. Remove the pickup unit together with the main shaft.
7. Remove the cushion from one side only to pull out the main shaft. AT this time, pay attention not to lose the removed cushion.

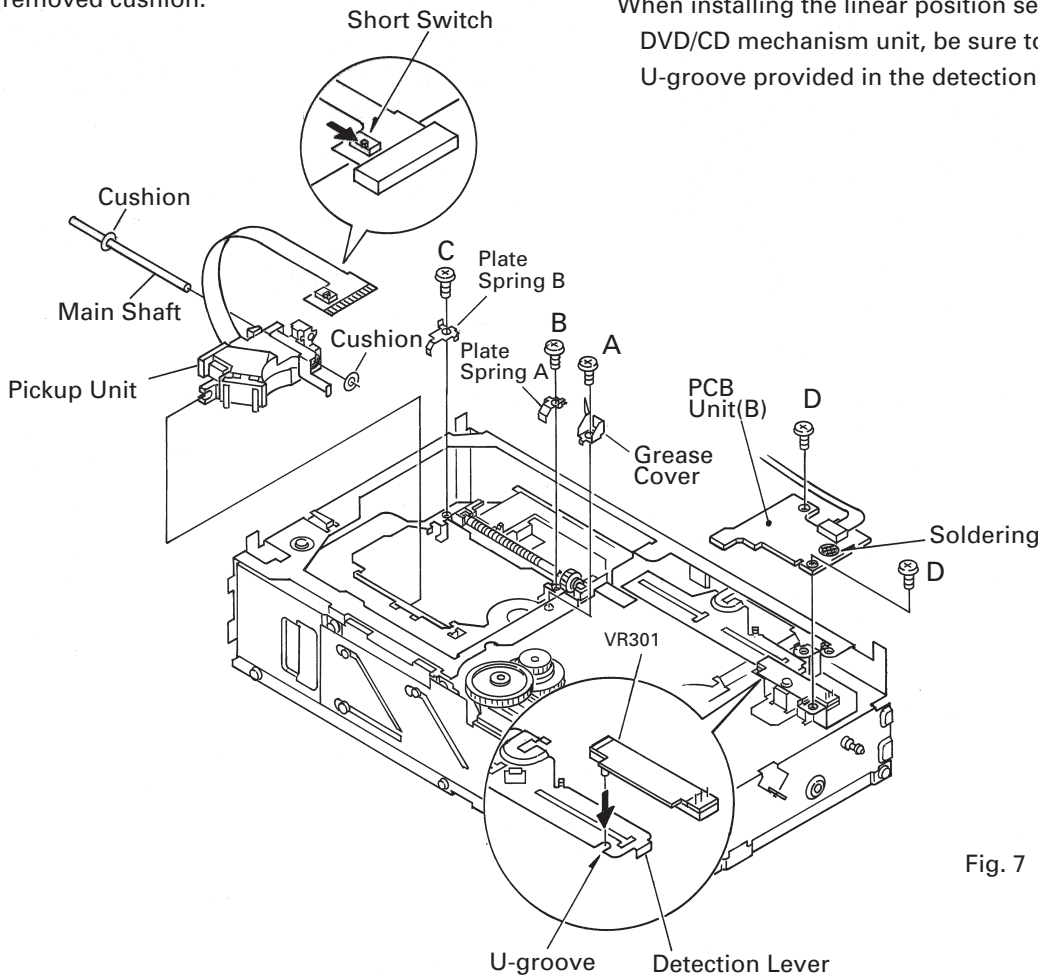


Fig. 7

### ● Removing the PCB unit(B)(Fig. 7)

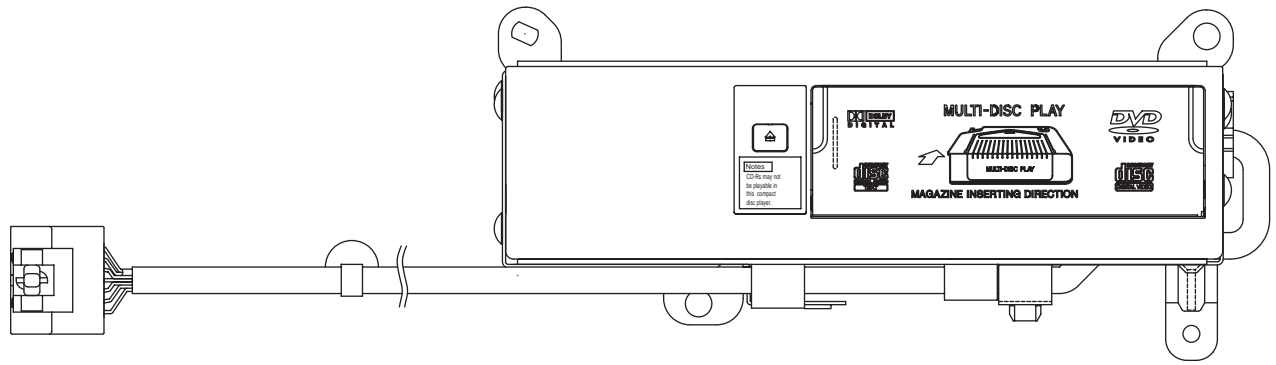
1. Remove soldering from the linear position sensor (VR301).
2. Unscrew the two screws D to remove the PCB unit(B).

### ● Precautions when installing the linear position sensor(Fig. 7)

1. If the linear position sensor (VR301) is not being properly inserted into the U-groove provided in the detection lever, elevation movement failures can occur.

When installing the linear position sensor to the DVD/CD mechanism unit, be sure to insert it into the U-groove provided in the detection lever securely.

## 7.1.2 CONNECTOR FUNCTION DESCRIPTION



1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

- |         |          |
|---------|----------|
| 1. +B   | 11. GND  |
| 2. NTSO | 12. NC   |
| 3. SG   | 13. NC   |
| 4. SGND | 14. NC   |
| 5. CDL+ | 15. CDL- |
| 6. CDR+ | 16. CDR- |
| 7. NC   | 17. SGND |
| 8. TXM+ | 18. TXM- |
| 9. NC   | 19. NC   |
| 10. ACC | 20. MUTE |

## 7.2 IC

MC33202D  
MSM5117800F-60JS  
TC7SET08FUS1  
TC7SH08FUS1  
TC9461F  
TC7SH32FUS1  
PEG114A

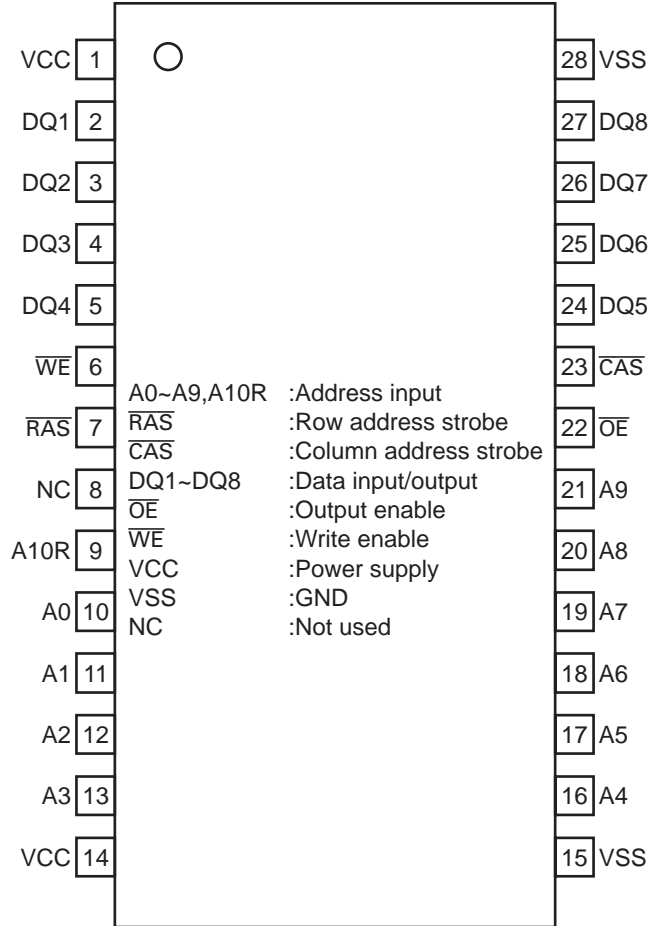
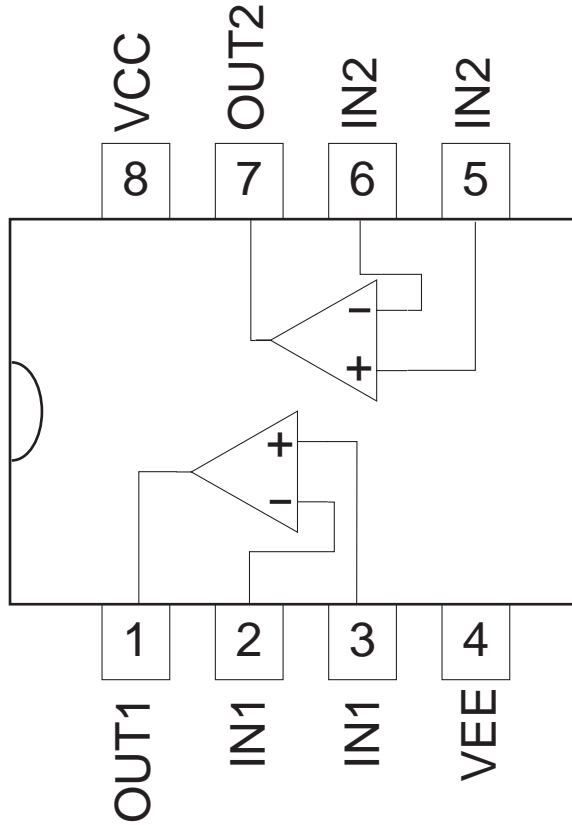
LC89170MP  
PD4995A  
TC7SET04FUS1  
M5M51008DKV-70HI  
PD6531A  
PD6520A  
MAX662AESA

PD3411A  
TC74VHC00FTS1  
TC74VHC139FT  
CY2292SI-1A0  
MSM56V16160DP-10TS  
MB86373BPFV-G-BI  
TC74VHC541FTS1

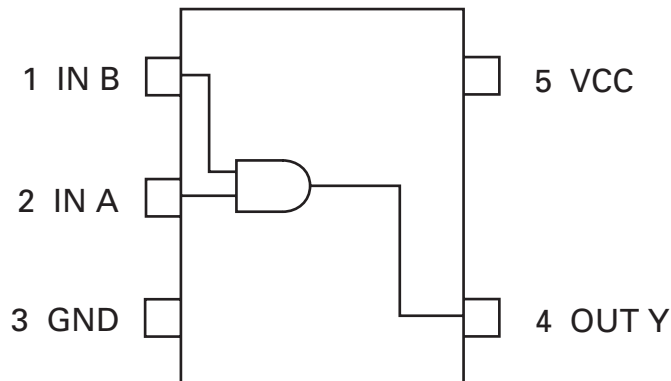
TC74VHCT08AFTS1  
TC74LCX245FTS1  
LC89513KP  
PE5272A  
LC35256FT-70U

MC33202D

\*MSM5117800F-60JS



\*TC7SET08FUS1  
\*TC7SH08FUS1



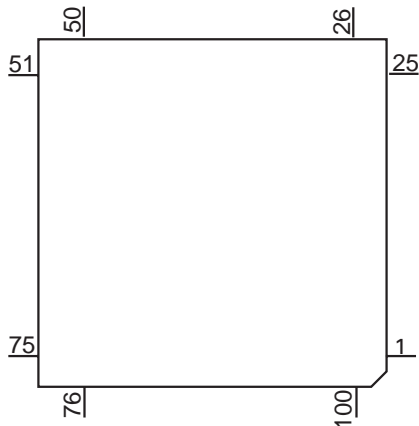
IC's marked by \* are MOS type.  
Be careful in handling them because they are very liable to be damaged by electrostatic induction.

### ● Pin Functions (TC9461F)

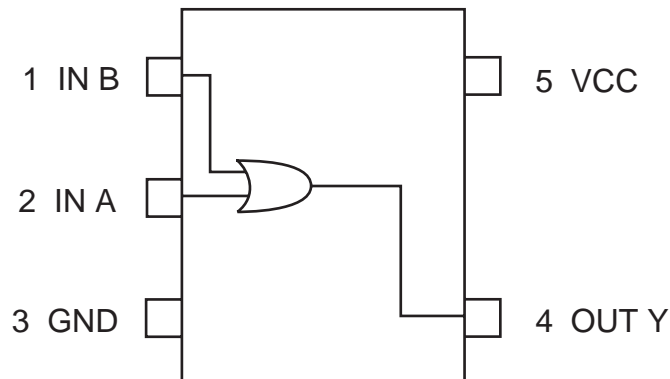
Pin No.	Pin Name	I/O	Function and Operation
1	VSS		GND
2	BCK	O	Bit clock (1.4122MHz) output
3	AOUT	O	Audio data output terminal
4	DOUT	O	Digital out output terminal
5	MBOV	O	Buffer memory over signal output terminal
6	IPF	O	Augment flag output terminal
7	SBOK	O	CRCC decision result output terminal of subcode Q data
8	CLCK	I/O	Clock output/input terminal for subcode P-W data reading
9	VDD		Positive power supply terminal
10	VSS		GND
11	DATA	O	Subcode P-W data output terminal
12	SFSY	O	Play group frame synchronous signal output terminal
13	SBSY	O	Subcode block synchronous output signal
14	SPCK	O	Clock output terminal for processor status signal reading
15	SPDA	O	Processor status signal output terminal
16	COFS	O	Correct group frame clock (7.35 kHz) output terminal
17	MONIT	O	LSI internal signal monitor terminal
18	VDD		Positive power supply terminal
19	TESIO0	I	Test input/output terminal
20	P2VREF		2VREF terminal for PLL group only
21	SPDO	O	VCO center frequency shift terminal
22	PDOS	O	Phase error signal output terminal of EFM signal and PLCK signal
23	PDO	O	Phase error signal output terminal of EFM signal and PLCK signal
24	TMAXS	O	TMAX detection result output terminal
25	TMAX	O	TMAX detection result output terminal
26	LPFN	I	Inverted input terminal of low-pass filter amplifier
27	LPFO	O	Output terminal of low-pass filter amplifier
28	PVREF		VREF terminal for PLL group only
29	VCOREF	I	VCO center frequency reference level terminal
30	VCOF	O	Filter terminal for VCO
31	AVSS		Analog group ground
32	SLCO	O	Output terminal for data slice level generator DAC
33	RFI	I	RF signal input terminal
34	AVDD		Analog group power supply terminal
35	RFCT	I	RFRP signal center level input terminal
36	RFZI	I	Input terminal for RFRP zero cross
37	RFRP	I	RF ripple signal input terminal
38	FEI	I	Focus error signal input terminal
39	SBAD	I	Sub beam summing signal input terminal
40	TSIN	I	Test input terminal
41	TEI	I	Tracking error input terminal
42	TEZI	I	Input terminal for tracking error zero cross
43	FOO	O	Focus equalizer output terminal
44	TRO	O	Tracking equalizer output terminal
45	VREF		Analog reference power supply terminal
46	RFGC	O	RF amplitude adjustment control signal output terminal
47	TEBC	O	Tracking balance control signal output terminal
48	FMO	O	Feed equalizer output terminal
49	FVO	O	Speed error or Feed search EQ output terminal
50	DMO	O	Disk equalizer output terminal
51	2VREF		Analog reference power supply terminal
52	SEL	O	APC circuit ON/OFF signal output terminal
53	FLGA	O	External flag output terminal for internal signal monitor
54	FLGB	O	External flag output terminal for internal signal monitor
55	FLGC	O	External flag output terminal for internal signal monitor
56	FLGD	O	External flag output terminal for internal signal monitor
57	VDD		Digital power supply terminal
58	VSS		Digital GND
59-62	IO0-3	I/O	General purpose I/O port

Pin No.	Pin Name	I/O	Function and Operation															
63	DMOUT	I	A terminal for setting the mode to output binary PWM for a feed equalizer from I/O terminals 0 and 1, and binary PWM for disc equalizer from I/O terminal 2 and 3															
64	CKSE	I	X'tal select terminal															
65	DACT	I	Test terminal															
66	TESIN	I	Test input terminal															
67	TESIO1	I	Test input/output terminal															
68	VSS		Digital GND															
69	PXI	I	DSP group clock oscillation circuit input terminal															
70	PXO	O	DSP group clock oscillation circuit input terminal															
71	VDD		Digital power supply terminal															
72	XVSS		Ground terminal for system clock oscillation circuit															
73	XI	I	System clock oscillation circuit input terminal															
74	XO	O	System clock oscillation circuit output terminal															
75	XVDD		Power supply terminal for system clock oscillation circuit															
76	DVDD		D/A converter power supply terminal															
77	RO	O	R channel data positive rotation output terminal															
78	DVSS		D/A converter analog ground terminal															
79	DVR		D/A converter reference voltage terminal															
80	LO	O	L channel data positive rotation output terminal															
81	DVDD		D/A converter power supply terminal															
82-84	TEST1-3	I	Test terminal															
85-88	BUS0-3	I/O	Data input/output terminal for microcomputer interface															
89	VDD		Digital power supply terminal															
90	VSS		Digital GND															
91	BUCK	I	Clock input terminal for microcomputer interface															
92	CCE	I	Chip enable signal input terminal for microcomputer interface															
93	TEST4	I	Test terminal															
94	TSMOD	I	Local test mode select terminal															
95	RST	I	Reset signal input terminal															
96	TEST0	I	Test terminal															
97	HSO	O	Play speed mode flag output terminal <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>UHSO</th> <th>HSO</th> <th>Play speed</th> </tr> </thead> <tbody> <tr> <td>H</td> <td>H</td> <td>Once speed play</td> </tr> <tr> <td>H</td> <td>L</td> <td>Twice speed play</td> </tr> <tr> <td>L</td> <td>H</td> <td>Four times speed play</td> </tr> <tr> <td>L</td> <td>L</td> <td>Eight times speed play</td> </tr> </tbody> </table>	UHSO	HSO	Play speed	H	H	Once speed play	H	L	Twice speed play	L	H	Four times speed play	L	L	Eight times speed play
UHSO	HSO	Play speed																
H	H	Once speed play																
H	L	Twice speed play																
L	H	Four times speed play																
L	L	Eight times speed play																
98	UHSO	O																
99	EMPH	O	Emphasis flag output terminal of subcode Q data															
100	LRCK	O	Channel clock (44.1 kHz) output terminal															

\*TC9461F



\*TC7SH32FUS1



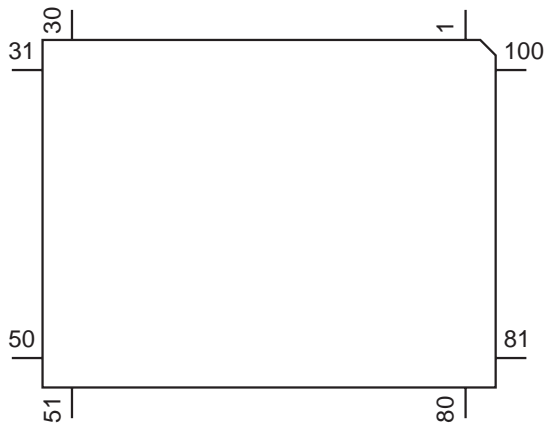
### ● Pin Functions (PEG114A)

Pin No.	Pin Name	I/O	Format	Function and Operation
1	RFSCD	O	C	TA1254AF serial data
2	RFSCB			TA1254AF bit clock
3	LCDBIAS			Liquid crystal temperature augment output
4	LCDTLT			Liquid crystal tilt augmenter control output
5	LDCONT	O	C	LD ON/OFF control output
6	PSC	O	C	VRCK deviding ON/OFF
7	FG	I		FG pulse input
8	BYTE	I		Connect to VCC
9	CNVSS			Connect to VSS
10	DSCSIZ	O	C	8cm/12cm select
11	VMCONT	O	C	9V regulator output voltage control output
12	XMRES	I		Reset input
13	XOUT	O		Main clock oscillation terminal
14	VSS			GND
15	XIN	I		Main clock oscillation terminal
16	VCC			Power supply terminal
17	NC			Not used
18	XMAG	I		Magazine detection switch input
19	NC			Not used
20	XIRQ	I		Interruption input
21	OEIC	O	C	OEIC gain select output
22	FEB			FE balance control output
23	FLGA	I		TC9461 internal signal monitor input
24	FLGB	I		TC9461 internal signal monitor input
25	FLGC	I		TC9461 internal signal monitor input
26	LCDCLK			Liquid tilt driver clock output
27	FLGD	I		TC9461 internal signal monitor input
28	TXCLK			CD-TEXT clock output
29, 30	NC			Not used
31	EEPDO	O	C	EEPROM data output
32	EEPDI	I		EEPROM data input
33	EEPSK	O	C	EEPROM clock output
34	EEPCS	O	C	EEPROM chip select
35	TEST_TX	O	C	RS232C communication data output
36	TEST_RX	I		RS232C communication data input
37	HSO	I		Play speed mode flag
38	UHSO	I		Play speed mode flag
39	XREADY	I		Wait signal input
40	ASTB	O	C	Address latch output
41	XHOLD	I		Hold signal input
42, 43	NC			Not used
44	XRD	O	C	Read signal output
45	NC			Not used
46	XWR	O	C	Write signal input
47	NC			Not used
48	LCDRS	O	C	LCD register select
49	XCS	O	C	Chip select signal output
50	CD/DVD	O	C	CD/DVD select output
51-54	LCDDT3-0	O	C	LCD display data
55	LCDEN	O	C	LCD enable
56	XCCE	O	C	Servo processor i/f
57	BUCK	O	C	Servo processor i/f
58-61	BUS3-0	I/O	C	Servo processor i/f
62	VCC			Power supply terminal
63	NC			Not used
64	VSS			GND
65-72	AD7-0	I/O	C	Address/data input/output
73	TXDQSY	I		CD-TEXT sub-code synchronous input
74	BSENS	I		Backup sense input
75	SRSENS	I		DDC sense input

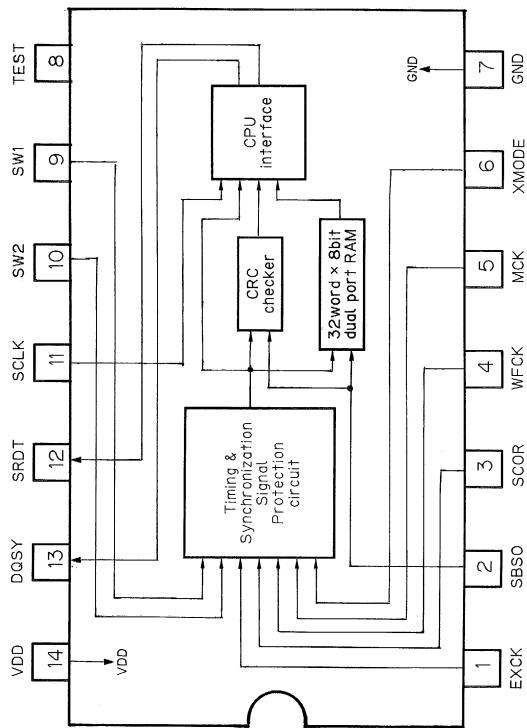
Pin No.	Pin Name	I/O	Format	Function and Operation
76	OPEN			Open
77	SEEKT	O	C	SEEK time monitor output
78	I13	O	C	Motor driver control output
79	I2	O	C	Motor driver control output
80	I4	O	C	Motor driver control output
81	HOME	I		Home position detection output
82	VDCONT	O	C	VD control output
83	SPCONT	O	C	Spindle control output
84	DCONT	O	C	Driver power ON output
85	XSYSRST	O	C	Reset output
86	ADENA	O		Reference voltage supply output for A/D
87	DSP	I		Disk detection timing input
88	XTESTIN	I		Unit check start input
89,90	KEYIN2,1			Key sense
91	VDSSENS	I		VD short detection input
92	DISK			Disk/No disk sense, 8/12cm detection
93	ELVPVO	I		Slide voltage input for ELV detection
94	ELVREF	I		ELV reference voltage input
95	TRP	I		Tray position input
96	AVSS			Analog ground
97	TEMP	I		Temperature detection input
98	VREF	I		Reference voltage input
99	AVCC			Analog power supply
100	RFSLC	O	C	TA1254AF data latch

\*PEG114A

Format	Meaning
C	CMOS



\*LC89170MP



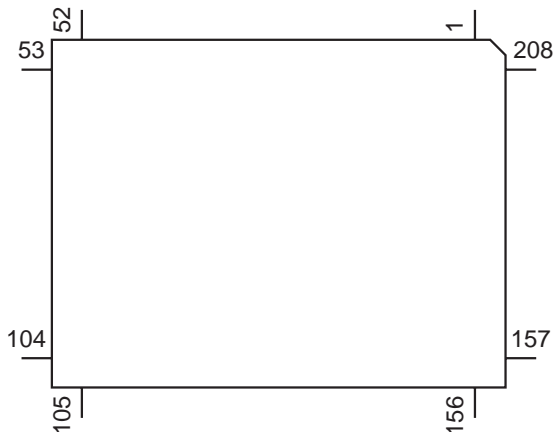
### ● Pin Functions (PD4995A)

Pin No.	Pin Name	I/O	Function and Operation
1,2	GND		Digital circuit GND
3	NC		Not used
4	DXTLI	I	27MHz crystal connection terminal which oscillates reference clock signals of the spindle and PLL
5	DXTLO	O	Not used
6	BUNRI	I	Separation test control terminal for internal RAM
7	TSTSTB	I	Test mode setting input
8	PC2/STB	I/O	Not used
9	PC3/BSYNC	I/O	Not used
10	PC4/SELNED	I	I/O setting terminals for NED (7:0), STM and BSYNC terminals
11	PA7/NED7	I/O	Not used
12	PA6/NED6	I/O	Not used
13	PA5/NED5	I/O	Not used
14	PA4/NED4	I/O	Not used
15	VDD		Digital circuit power supply
16	GND		Digital circuit GND
17	PA3/NED3	I/O	Not used
18	PA2/NED2	I/O	Not used
19	PA1/NED1	I/O	Not used
20	PA0/NED0	I/O	Not used
21	BMODE1	I	Sets which test is done in the test mode
22-25	DD7-4	I/O	DRAM data bus for VBR buffer
26	GND		Digital circuit GND
27	VDD		Digital circuit power supply
28-31	DD3-0	I/O	DRAM data bus for VBR buffer
32	XDCAS	O	DRAM CAS signal for VBR buffer
33	XDWE	O	DRAM WE signal for VBR buffer
34	XDOE	O	DRAM OE signal for VBR buffer
35	XDRAS	O	DRAM RAS signal for VBR buffer
36-38	DA12-10	O	Not used
39-41	DA9-7	O	DRAM address signal for VBR buffer
42	GND		Digital circuit GND
43	VDD		Digital circuit power supply
44-50	DA6-0	O	DRAM address signal for VBR buffer
51,52	GND		Digital circuit GND
53	VDD		Digital circuit power supply
54	XWR	O	Not used
55	XSACK	O	Transfer response terminal for VIDEO_DMA channel
56	SREQ	I	Data transfer request terminal for VIDEO_DMA channel
57-60	SDATA0-3	O	Data output bus for VIDEO=DMA channel
61	GND		Digital circuit GND
62	VDD		Digital circuit power supply
63-66	SDATA4-7	O	Data output bus for VIDEO=DMA channel
67	XAVTRM	O	Signal indicating the head of the sector of the transfer data for VIDEO_DMA channel
68	BMODE2	I	Sets which test is done in the test mode
69	DMACKI	I	System clock input of DVD/CD ROM data
70	GND		Digital circuit GND
71	DMACKO	O	Outputs reference crystal clock signals of the spindle and PLL
72	XSCL1	I	Chip select signal from the main CPU
73	XSWAIT	O	WAIT output to the main CPU
74	XSRD	I	RD signal for the main CPU
75	XSWR	I	WR signal for the main CPU
76	XSDREQ	O	DMA request for the main CPU
77	SDACK	I	DMA response signal
78	VDD		Digital circuit power supply
79	GND		Digital circuit GND
80-91	SA11-0	I	Main CPU address
92-95	SAD7-4	I/O	Main CPU data bus
96	VDD		Digital circuit power supply
97	GND		Digital circuit GND
98-101	SAD3-0	I/O	Main CPU data bus

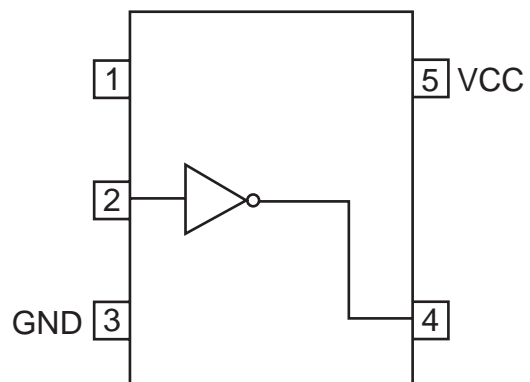
Pin No.	Pin Name	I/O	Function and Operation
102,103	XIRQ10,11	O	Interrupt request for the main CPU
104	VDD		Digital circuit power supply
105,106	GND		Digital circuit GND
107	CKCD	I	Master clock of audio I/F block
108	DIFOUT	O	Digital audio output
109	BCK	O	Bit clock output to DAC
110	LRCK	O	LRCK signal output to DAC
111	ADATAO	O	Serial data output to DAC
112	CDDT	I	Audio data input from CD decoder
113	CDLR	I	LRCK signal input from CD decoder
114	CDBCK	I	Bit clock input from CD decoder
115	CDDO	I	Digital out signal input from CD decoder
116	C2FI	I	Input terminal for the C2 error flag from CD decoder
117	WFCK	I	CD frame clock signal
118	SCOR	I	CD subcode sync input terminal
119	SBSO	I	CD subcode data input terminal
120	EXCK	O	Shift clock which generates the timing at which data is sent to the SBSO terminal
121	VDD		Digital circuit power supply
122	GND		Digital circuit GND
123	DSPA0	O	Not used
124	DSPA1	O	Not used
125	DSPA2	O	Not used
126	ASDATA0/PB0	I/O	Not used
127	ASDATA1/PB1	I/O	Not used
128	ASDATA2/PB2	I/O	Not used
129	ASDATA3/PB3	I/O	Not used
130	VDD		Digital circuit power supply
131	GND		Digital circuit GND
132	ASDATA4/PB4	I/O	Not used
133	ASDATA5/PB5	I/O	Not used
134	ASDATA6/PB6	I/O	Not used
135	ASDATA7/PB7	I/O	Not used
136	XAWR	O	Not used
137	ASREQ	I	Transfer request terminal for AUDIO_DMA channel
138	TMC2	I	Terminal test control terminal
139	ASTB	I	Strobe signal indicating that address information is provided in the address data bus (7:0) of the sub CPU
140	XMCS	I	Chip select signal from the sub CPU
141	XIRQ2	O	Interrupt request for the sub CPU
142	XMWR	I	Sub CPU WR signal
143	XMRD	I	Sub CPU RD signal
144	MAD7/PE7	I/O	Connected to the multiplex bus of the sub CPU address data
145	MAD6/PE6	I/O	Connected to the multiplex bus of the sub CPU address data
146	MAD5/PE5	I/O	Connected to the multiplex bus of the sub CPU address data
147	MAD4/SA16/PE4	I/O	Connected to the multiplex bus of the sub CPU address data
148	GND		Digital circuit GND
149	VDD		Digital circuit power supply
150	MAD3/SA15/PE3	I/O	Connected to the multiplex bus of the sub CPU address data
151	MAD2/SA14/PE2	I/O	Connected to the multiplex bus of the sub CPU address data
152	MAD1/SA13/PE1	I/O	Connected to the multiplex bus of the sub CPU address data
153	MAD0/SA12/PE0	I/O	Connected to the multiplex bus of the sub CPU address data
154	RPWM	O	Not used
155,156	GND		Digital circuit GND
157	VDD		Digital circuit power supply
158	RERR	O	Control output for rough servo
159	FPWM	O	7-bit PWM output terminal for FG servo
160	VPWM	O	5-bit PWM output terminal for velocity servo
161	PPWM	O	PWM output terminal for phase servo
162	FGPL	I	Rotational pulse input from the spindle motor
163	XASACK	O	Not used

Pin No.	Pin Name	I/O	Function and Operation
164	GND		Digital circuit GND
165	XRESET	I	Terminal for initializing the entire LSI system
166	AGND		GND for A/D converter
167	NC		Not used
168	VRB	I	Not used
169	AGND		GND for A/D converter
170	AIN	I	Analog RF signal input terminal to A/D converter
171	NC		Not used
172	VRC	I	Reference voltage input terminal for A/D converter
173	VRT	I	Not used
174,175	AVDD		Power supply for A/D converter
176	VDD		Digital circuit power supply
177	GND		Digital circuit GND
178	SEDI	I	Serial data input after BITABI decoding
179	SEDO	O	Serial data output after BITABI decoding
180	TMC1	I	Terminal test control terminal
181	VCOCLK	I	System clock signals of the spindle and demodulator
182	GND		Digital circuit GND
183	VDD		Digital circuit power supply
184	ASC	O	Outputs the frequency of the sync cycle as a PWM pulse
185	APC	O	Outputs the phase error of the PLL as a PWM pulse
186	ATC	O	Outputs the DC error of the RF signal as a PWM pulse
187	AFC	O	Outputs the frequency errors of VCOCLK and reference clock as PWM pulses
188	BMODE3	I	Sets which test is done in the test mode
189	DUTY50	O	Outputs a duty 50% pulse at any time
190	FSX/STATUS4	I/O	Not used
191	EFLG/STATUS3	I/O	Not used
192	DMCK/RF_A	O	Reference clock input terminals of the spindle and PLL for DVD double-speed playback
193	GND		Digital circuit GND
194	ADD7/PD7	I/O	Not used
195	ADD6/PD6	I/O	Not used
196	ADD5/PD5	I/O	Not used
197	ADD4/PD4	I/O	Not used
198	ADD3/PD3	I/O	Not used
199	ADD2/PD2	I/O	Not used
200	ADD1/PD1	I/O	Not used
201	ADD0/PD0	I/O	Not used
202	BMODE0	I	Sets which test is done in the test mode
203	DEFECT	I	External defect signal input
204	T_DET	O	Not used
205	PC7/STATUS2	O	Not used
206	PC6/STATUS1	O	Not used
207	PC5/STATUS0	O	Not used
208	VDD		Digital circuit power supply

\*PD4995A



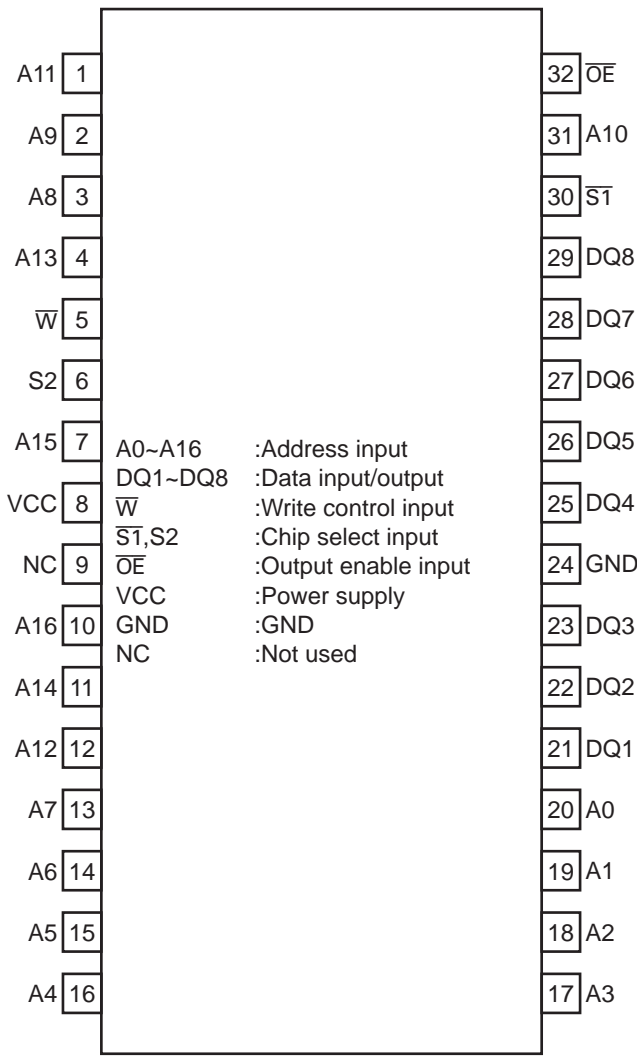
\*TC7SET04FUS1



\*M5M51008DKV-70HI

\*PD6531A  
\*PD6520A

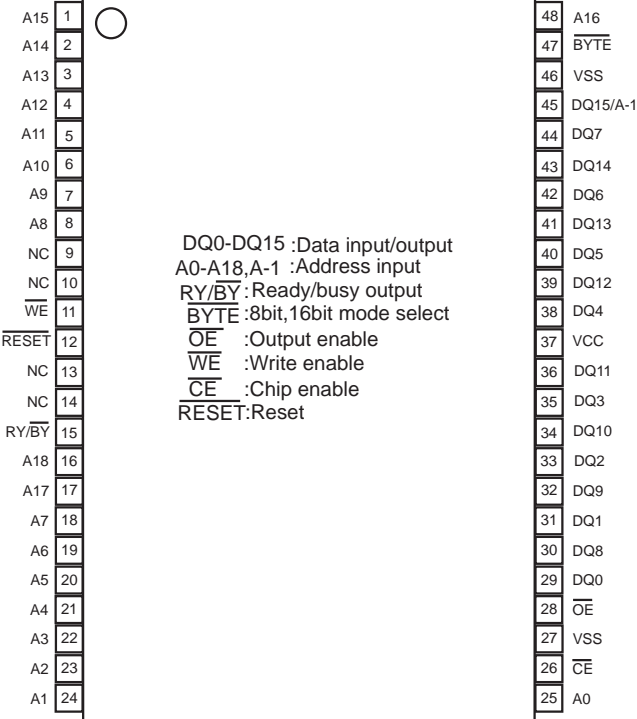
A



B

A0~A16 :Address input  
 DQ1~DQ8 :Data input/output  
 W :Write control input  
 S1,S2 :Chip select input  
 OE :Output enable input  
 VCC :Power supply  
 GND :GND  
 NC :Not used

C

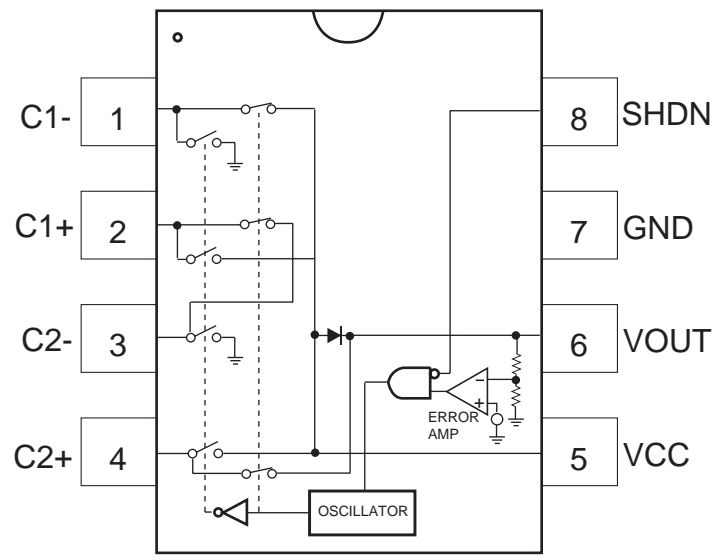


DQ0-DQ15 :Data input/output  
 A0-A18,A-1 :Address input  
 RY/BY :Ready/busy output  
 BYTE :8bit,16bit mode select  
 OE :Output enable  
 WE :Write enable  
 CE :Chip enable  
 RESET:Reset

D

\*MAX662AESA

E



F

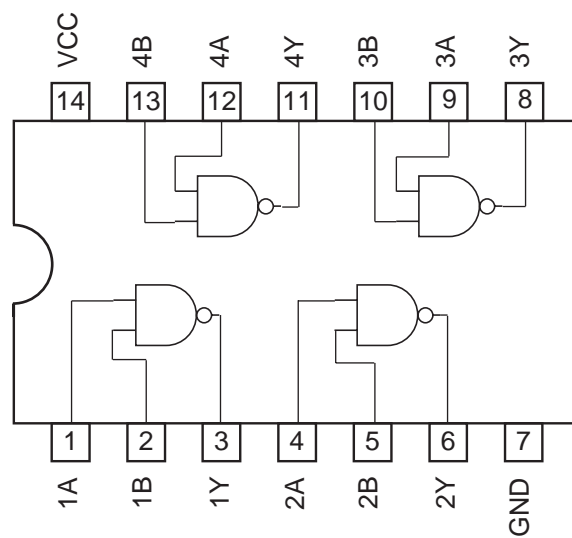
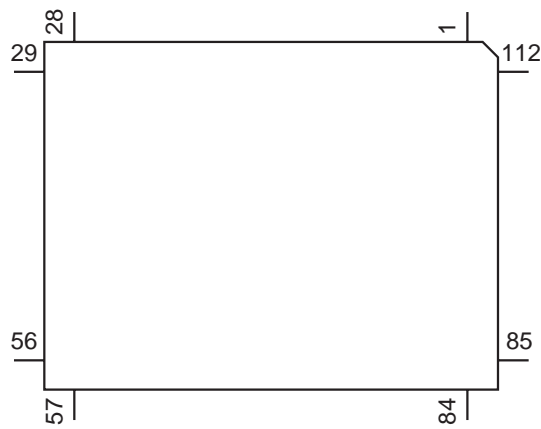
### ● Pin Functions (PD3411A)

Pin No.	Pin Name	I/O	Function and Operation
1	PB14	I	MY-Chip interruption #1
2	PB15	I	AV Chip interruption #0
3	VSS		GND
4-11	AD0-7	I/O	Data bus
12	VSS		GND
13,14	AD8,9	I/O	Data bus
15	VCC		Power supply terminal
16-21	AD10-15	I/O	Data bus
22	VSS		GND
23-30	A0-7	O	Address bus
31	VSS		GND
32-39	A8-15	O	Address bus
40	VSS		GND
41,42	A16,17	O	Address bus
43	VCC		Power supply terminal
44-47	A18-21	O	Address bus
48	CS0		Not used
49	CS1		CARNET 4 chip select
50	CS2		External memory area chip select
51	CS3		MY-Chip chip select
52	VSS		GND
53	PA0		DVD EDC error detection
54	PA1		Flash ROM write enable
55	PA2		AV Chip chip select
56	PA3		External wait input
57	PA4		Low Byte write pulse
58	PA5		High Byte write pulse
59	PA6		Read pulse
60	PA7		Serial data latch pulse
61	VSS		GND
62	PA8	I	Audio output last step mute
63	PA9	I	RS-232 ready for sending output
64	PA10	I	AV Chip interruption #1
65	PA11	I	Communication response to BUS microcomputer
66	PA12	O	DMA CH0 transfer request
67	PA13	I	DMA CH0 transfer request
68	PA14	O	DMA CH0 transfer request
69	PA15	I	DMA CH0 transfer request
70	VCC		Power supply terminal
71	CK	O	Not used
72	VSS		GND
73	EXTAL	I	Clock oscillator
74	XTAL	I	Clock oscillator
75	VCC		Power supply terminal
76	NMI	I	Not used
77	VCC		Power supply terminal
78	WDTOVF		Not used
79	RES	I	Chip enable of after power on
80-82	MD0-2	I	Mode 2
83,84	VCC		Power supply terminal
85	AVCC		Power supply terminal
86	AVREF		Power supply terminal
87-89	PC0-2		Not used
90	PC3	I	Data lead enable
91	AVSS		GND
92	PC4	I	V field discrimination signal input
93	PC5	I	Test mode entry
94	PC6	I	Communication request from BUS microcomputer
95	PC7	I	Request of RS-232 ready for communicating

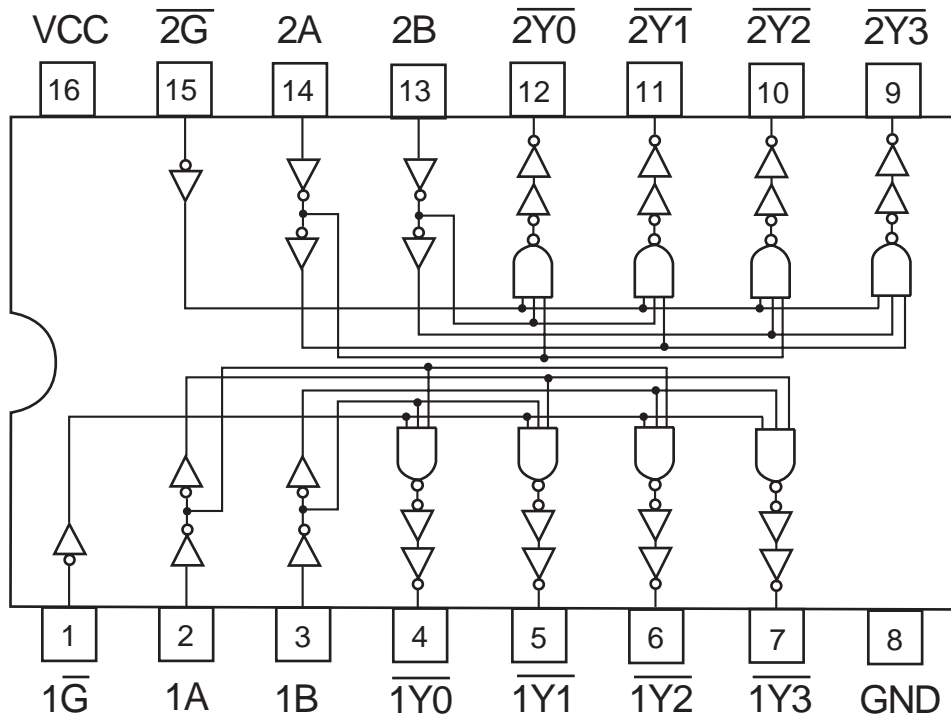
Pin No.	Pin Name	I/O	Function and Operation
96	VSS		GND
97	PB0	I	STEP 2 DMA transfer DREQ
98	PB1	I	Power supply terminal
99	VCC		Power supply terminal
100	PB2	I	Transfer end interruption
101	PB3	I	AV Chip interruption #2
102	PB4	I	STEP 2 receive interruption
103	PB5	I	STEP 2 transmit interruption #1
104	PB6	I	CARNET4 chip select
105	PB7	I	CARNET4 chip power
106	VSS		GND
107	PB8	I	Serial bus data input
108	PB9	I	Serial bus data output
109	PB10	I	RS232C RxD
110	PB11	I	RS232C TxD
111	PB12	I	Serial bus clock input/output
112	PB13	I	MY-Chip interruption #0

\*PD3411A

\*TC74VHC00FTS1



\*TC74VHC139FT



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\*CY2292SI-1A0

SHUTDOWN /OE 16  
S2/SUSPEND 15  
VDD 14  
SI 13  
SO 12  
GND 11  
CLKA 10  
CLKB 9

1 CLKC  
2 VDD  
3 GND  
4 XTAL IN  
5 XTAL OUT  
6 XBUF  
7 CLKD  
8 CPU CLK

Internal components: CONFIGURATION EPROM AND TEST LOGIC, CPU EPROM TABLE, OSC, SYS PLL, UTIL PLL, CPU PLL, OUTPUT MULTIPLEXER AND DIVIDERS.

\*MSM56V16160DP-10TS

50 Vss  
49 DQ16  
48 DQ15  
47 VssQ  
46 DQ14  
45 DQ13  
44 VccQ  
43 DQ12  
42 DQ11  
41 VssQ  
40 DQ10  
39 DQ9  
38 VccQ  
37 NC  
36 UDQM  
35 CLK  
34 CKE  
33 NC  
32 A9  
31 A8  
30 A7  
29 A6  
28 A5  
27 A4  
26 Vss

1 Vcc  
2 DQ1  
3 DQ2  
4 VssQ  
5 DQ3  
6 DQ4  
7 VccQ  
8 DQ5  
9 DQ6  
10 VssQ  
11 DQ7  
12 DQ8  
13 VccQ  
14 LDQM  
15 WE  
16 CAS  
17 RAS  
18 CS  
19 A11  
20 A10  
21 A0  
22 A1  
23 A2  
24 A3  
25 Vcc

Legend:  
 CLK : System clock  
 CS : Chip select  
 CKE : Clock enable  
 A0-A10 : Address input  
 A11 : Bank select address input  
 RAS : Row address strobe  
 CAS : Column address strobe  
 WE : Write enable  
 UDQM, LDQM : Data input/output mask  
 DQ : Data input/output

XDV-M8357ZT/UC

5

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107

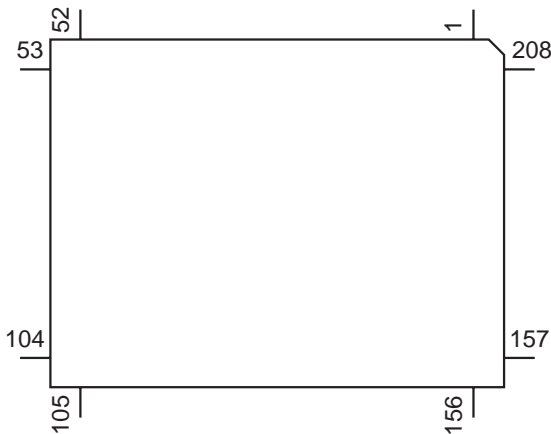
### ● Pin Functions (MB86373BPFV-G-BI)

Pin No.	Pin Name	I/O	Function and Operation
1	CLKSEL	I	ON/OFF signal of PLL
2	DIGCPN7	O	Digital component signal output
3	VSS		GND
4-9	DIGCPN6-1	O	Digital component signal output
10	VDD		2.5V Power supply
11	DIGCPN0	O	Digital component signal output
12	RBSEL	O	Cb, Cr identification signal of during digital component signal output
13	XHS	O	Horizontal synchronizing output signal
14	XVS	O	Vertical synchronizing output signal
15	VSS		GND
16	XRESET	I	Reset
17	XLDCSYNC	I	External synchronizing signal input (LD mode)
18	KEY	O	KEY signal for LD, OSD overlay (LD mode)
19	PD	O	Phase comparing result output signal of horizontal synchronous
20	VFLD	O	Field discrimination signal of digital signal output
21-25	DIGCOMP9-5	O	Digital composite signal output
26	VSS		GND
27	VDD		2.5V Power supply
28-32	DIGCOMP4-0	O	Digital composite signal output
33	DACK	O	27MHz clock output terminal
34	NC		Not used
35	VSSA3		GND (D/A converter)
36	ANAC	O	Analog color (C) output signal
37	VDDA3		2.5V power supply (internal D/A converter only)
38	VSSA2		GND (D/A converter)
39	ANAY	O	Analog brightness (Y) output signal
40	VDDA2		2.5V Power supply (internal D/A converter only)
41	VREF	I	Reference voltage for D/A converter
42	VRO	O	D/A converter inner current set terminal
43	VDDA4		2.5V Power supply (internal D/A converter only)
44	VSSA1		GND (D/A converter)
45	ANACOMP	O	Analog composite output terminal
46	VDDA1		2.5V Power supply (internal D/A converter only)
47	BF	O	Burst flag signal
48	XBLK	O	H/V complex blanking signal
49	TEST4	O	Open
50	VSS		GND
51	TEST0	I	Open
52	TEST1	I	Test terminal
53	DAIIN	I	External input digital data input (SPDIF)
54	CDDATA	I	External input audio data input (for CD)
55	CDLR	I	External input data channel clock input (for CD)
56	CDBCK	I	External input data clock input (for CD)
57-59	AODATA3-1	O	Audio decode data
60	VSS		GND
61	VDD		2.5V Power supply
62	AODATA0	O	Audio decode data
63	AOPCM	O	Digital audio interface output
64	AODAI	O	Digital audio interface output
65	LRCK	O	Data channel clock for D/A, digital filter
66	AOMCK	O	Master clock for D/A, digital filter
67	BCK	O	Bit clock for D/A, digital filter
68,69	TEST2,3	I	open
70	NC		Not used
71	XDSPRST	I	Open
72	VSS		GND
73	TEST5	O	Open
74-77	NC		Not used
78	SD7	I	Parallel data input
79	VDD		2.5V Power supply

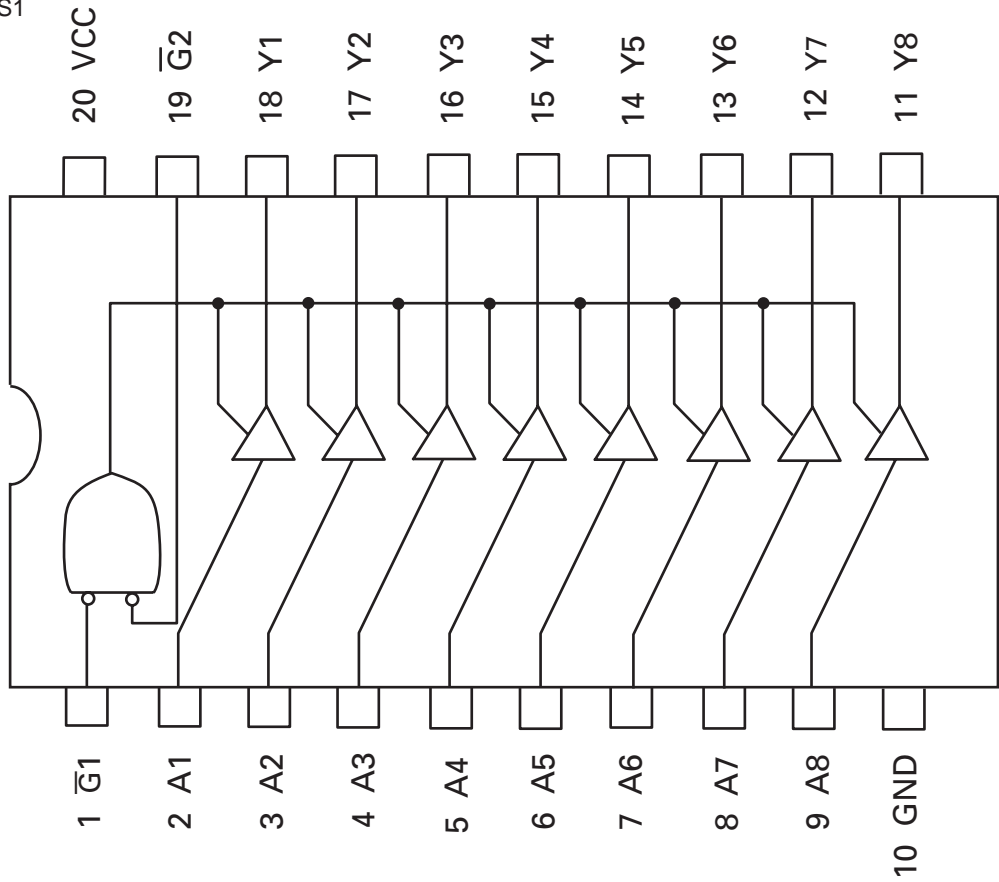
Pin No.	Pin Name	I/O	Function and Operation
80-84	SD6-2	I	Parallel data input
85	VSS		GND
86,87	SD1,0	I	Parallel data input
88	XERR	I	Error input signal
89	XSACK	I	Acknowledge signal
90	XTEST	I	Test terminal
91	SREQ	O	Data request signal
92-95	HADRS10-7	I	CPU address bus signal
96	VSS		GND
97	VDD		2.5V Power supply
98-102	HADRS6-2	I	CPU address bus signal
103-106	HDATA15-12	I/O	CPU data bus signal
107	VSS		GND
108-113	HDATA11-6	I/O	CPU data bus signal
114	VDD		2.5V Power supply
115-118	HDATA5-2	I/O	CPU data bus signal
119	VSS		GND
120,121	HDATA1,0	I/O	CPU data bus signal
122	BUSSEL	I	Bus width select signal
123	XOSDACK	I	OSD data acknowledge signal
124	XOSDREQ	O	OSD data request signal
125,126	HCPUSEL1,0	I	CPU select signal
127-129	XINT3-1	O	Interruption request signal to CPU
130	VSS		GND
131	VDD		2.5V Power supply
132	XINT0	O	Interruption request signal to CPU
133	XEXTRDY	O	Acknowledge signal to CPU
134	HRW	I	CPU read/write signal
135	HCLKIN	I	Host clock input
136	XHCS	I	LSI chip select signal
137	XHAS	I	CPU address status
138-141	XHBE3-0	I	CPU byte enable signal
142	VSS		GND
143	MDRADR4	O	Address signal for SDRAM
144	MDRADR3	O	Address signal for SDRAM
145	MDRADR5	O	Address signal for SDRAM
146	MDRADR2	O	Address signal for SDRAM
147	VDD		2.5V Power supply
148	VSS		GND
149	MDRADR6	O	Address signal for SDRAM
150	MDRADR1	O	Address signal for SDRAM
151	MDRADR7	O	Address signal for SDRAM
152	MDRADR0	O	Address signal for SDRAM
153	MDRADR8	O	Address signal for SDRAM
154	VSS		GND
155-158	TEST6-9	I	Test terminal
159	MDRADR10	O	Address signal for SDRAM
160	MDRADR9	O	Address signal for SDRAM
161	MDRADR11	O	Address signal for SDRAM
162	XMDRCS	O	Chip select signal for SDRAM
163	MDRCKE	O	Clock enable signal for SDRAM
164	VSS		GND
165	VDD		2.5V Power supply
166	XMDRRAS	O	RAS signal for SDRAM
167	MDRCLK	O	Clock output signal for SDRAM
168	VSS		GND
169	MDRCLKIN	I	Clock input signal for SDRAM
170	XMDRCAS	O	CAS signal for SDRAM

Pin No.	Pin Name	I/O	Function and Operation
171	XMDRDQM1	O	Input mask/output enable signal for SDRAM
172	VSS		GND
173	XMDRWE	O	Write enable signal for SDRAM
174	XMDRDQM0	O	Input mask/output enable signal for SDRAM
175	MDRDAT8	I/O	Data bus signal for SDRAM
176	VSS		GND
177	MDRDAT7	I/O	Data bus signal for SDRAM
178	MDRDAT9	I/O	Data bus signal for SDRAM
179	MDRDAT6	I/O	Data bus signal for SDRAM
180	MDRDAT10	I/O	Data bus signal for SDRAM
181	MDRDAT5	I/O	Data bus signal for SDRAM
182	VSS		GND
183	VDD		2.5V Power supply
184	MDRDAT11	I/O	Data bus signal for SDRAM
185	MDRDAT4	I/O	Data bus signal for SDRAM
186	MDRDAT12	I/O	Data bus signal for SDRAM
187	MDRDAT3	I/O	Data bus signal for SDRAM
188	MDRDAT13	I/O	Data bus signal for SDRAM
189	VSS		GND
190	MDRDAT2	I/O	Data bus signal for SDRAM
191	MDRDAT14	I/O	Data bus signal for SDRAM
192	MDRDAT1	I/O	Data bus signal for SDRAM
193	MDRDAT15	I/O	Data bus signal for SDRAM
194	MDRDAT0	I/O	Data bus signal for SDRAM
195	VSS		GND
196	NC		Not used
197	ICK27M	I	System clock output
198	VSS		GND
199	OCK27M	O	System clock input
200	VSSA		GND (VCO only)
201	VDDA		2.5V Power supply (VCO only)
202	ILPF	O	PLL section inverter output for audio
203	MLPF	I	PLL section inverter input for audio
204	OLPF	O	Phase detector output for audio
205	OVCO	I	VCO input for audio clock
206	VSS		GND
207	XPLL_RST	I	PLL section reset signal
208	XSYNCRST		Connect to VDD

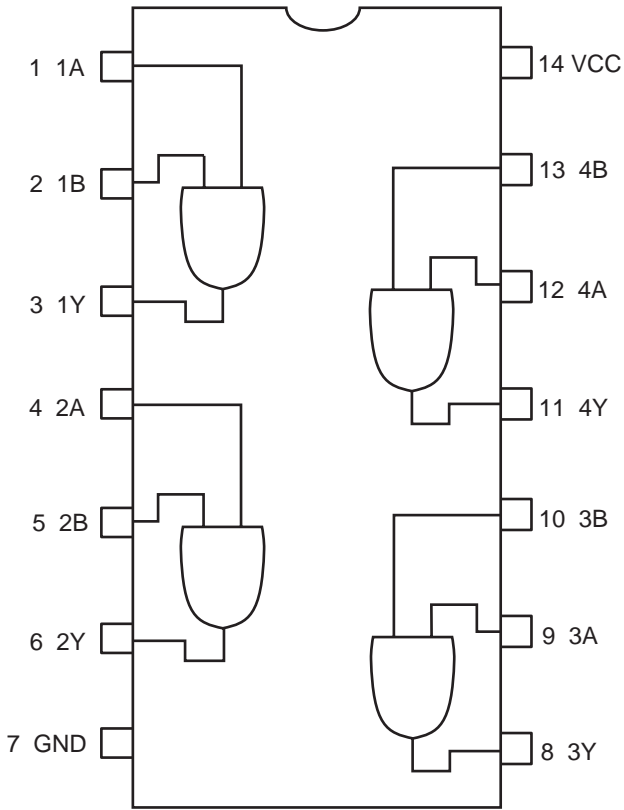
\*MB86373BPFV-G-BI



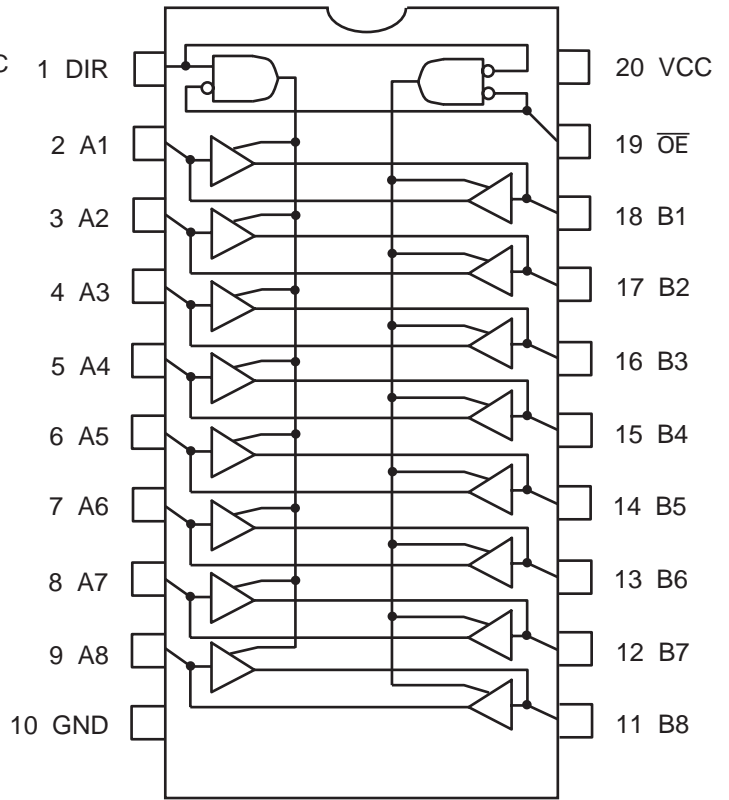
\*TC74VHC541FTS1



\*TC74VHC08FTS1



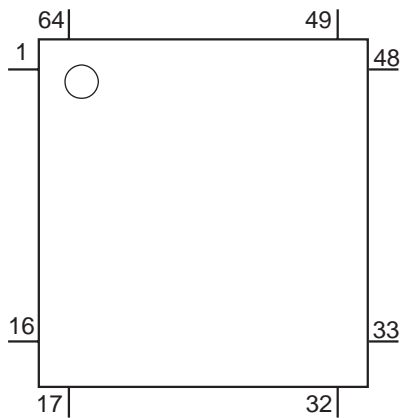
\*TC74LCX245FTS1



### ● Pin Functions (LC89513KP)

Pin No.	Pin Name	I/O	Function and Operation
1	VSS		GND
2-8	RA0-6	O	Address signal output
9	VSS		GND
10-16	RA7-13	O	Address signal output
17	VSS		GND
18	$\overline{RA13}$	O	Address signal output
19	$\overline{RCS}$	O	Chip select
20	$\overline{RWE}$	O	Data write signal
21	ROE	O	Data read signal
22	$\overline{RESET}$	I	Reset input
23	XTALCK	I	Oscillator input
24	VDD		Power supply
25	C2PO	I	C2 pointer input
26	BCK	I	Serial data clock input
27	SDATA	O	Serial data output
28	LRCK	I/O	44.1kHz strobe input
29	RS	I	Register select signal input
30	$\overline{RD}$	I	Data read signal input
31	$\overline{WR}$	I	Data write signal input
32	$\overline{CS}$	I	Chip select
33	VSS		GND
34-41	D0-7		CPU data signal
42	PSRAM	I	SRAM select
43	$\overline{INT}$	O	Interrupt request signal output
44	DRQ	O	DRQ signal output
45-48	HD0-3	O	Data output
49	VSS		GND
50-53	HD4-7	O	Data output
54	HRD	I	Data reading request input
55	$\overline{DTEN}$	O	Data enable output
56	VDD		Power supply
57-64	IO0-7		Data buffer RAM data signal

\*LC89513KP



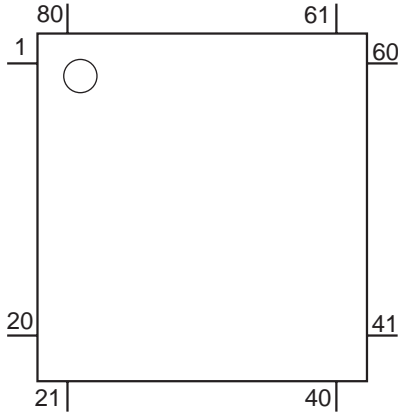
### ● Pin Functions (PE5272A)

Pin No.	Pin Name	I/O	Format	Function and Operation
1	SENS25	I		VD short sense 2.5V
2	SENS3	I		VD short sense 3V
3	NC			Open
4	AVSS			GND
5	XSRSENS	O	C	SWREG information output to mechanism controller (H : Off, L : On)
6	XADEN	O	C	AVREF0 control output
7	AVREF1			D/A converter reference voltage
8	SWREG	O	C	System power supply voltage
9	XILL			Open
10	VADCONT	O	C	Servo, liquid tilt power supply, audio power supply control output
11	SI	I		System controller communication data input
12	SO	O	C	System controller communication data output
13	SCK	O	C	System controller communication clock output
14	NC			Open
15	XRDY	O	C	Communication request to system controller (L : Communication permission)
16	XRES	O	C	System reset output (L : Reset)
17	XMRES	O	C	Mechanism controller reset output
18,19	NC			Open
20	VIOC	O	C	Image changeover switch(H:External through hole,L:MMCH output)
21-25	NC			Open
26	SYSMUTE	O	C	Mute output of AVC-LAN
27	ANSW	O	C	Analog switch control output
28	XRMUTE	O	C	Mute output for rear RCA
29-32	NC			Open
33	VSS			GND
34	DEST2	I		Destination set input
35	XVMUTE	O	C	Front video mute output (H : Mute on)
36-39	NC			Open
40	AV8CONT	O	C	Power supply control output of audio
41-46	NC			Open
47	LT1	I		Communication response from system controller (L : Communication permission)
48-51	NC			Open
52,53	FANPW1,2	O	C	Power control output of FAN
54	NC			Open
55	IEPW	O	C	IE-BUS driver STBY control output
56	IEDO	O	C	Data output for IE-BUS driver
57	IEDI	I		Data input for IE-BUS driver
58,59	NC			Open
60	XRST	I		System reset input
61	RMIN	I		Remote control input
62	XASEN	I		ACC on/off state detection input (7, 7.5 V sense)
63	XMBSEN	I		Backup state detection input (8.5 V sense)
64	XBSEN	I		Backup state detection input (7, 7.5 V sense)
65	XCLOSSEN	I		Door detection (L : Door close)
66	XEJ	I		Eject SW detection (L : Eject key)
67	XMAG	I		Magazine insert detection (L : Magazine)
68	VDD			Positive power supply
69	X2			System clock oscillation
70	X1	I		System clock oscillation input
71	IC			Connect to GND
72	NC			Open
73	TESTIN	I		Chip test mode input
74	AVDD			A/D converter analog power supply
75	AVREF0			A/D converter reference voltage

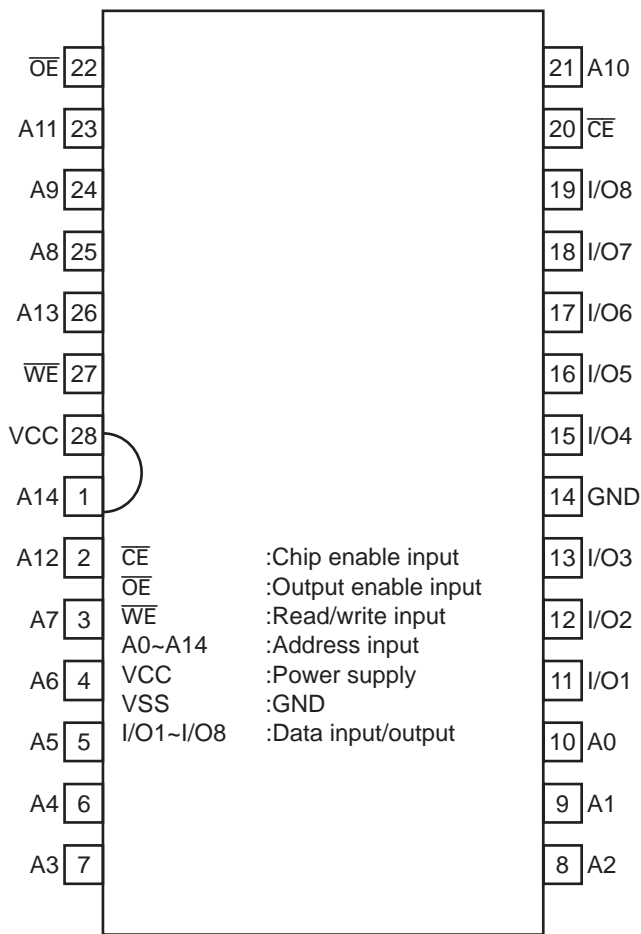
Pin No.	Pin Name	I/O	Format	Function and Operation
76	STEMP	I		System controller section high-temperature sense A/D input
77	BTEMP	I		BUS microcomputer section high-temperature sense A/D input
78	LOTEMP	I		Low-temperature sense A/D input
79	DEST	I		Destination set A/D input
80	SENS9	I		VD short sense 9V group

\*PE5272A

Format	Meaning
C	C MOS

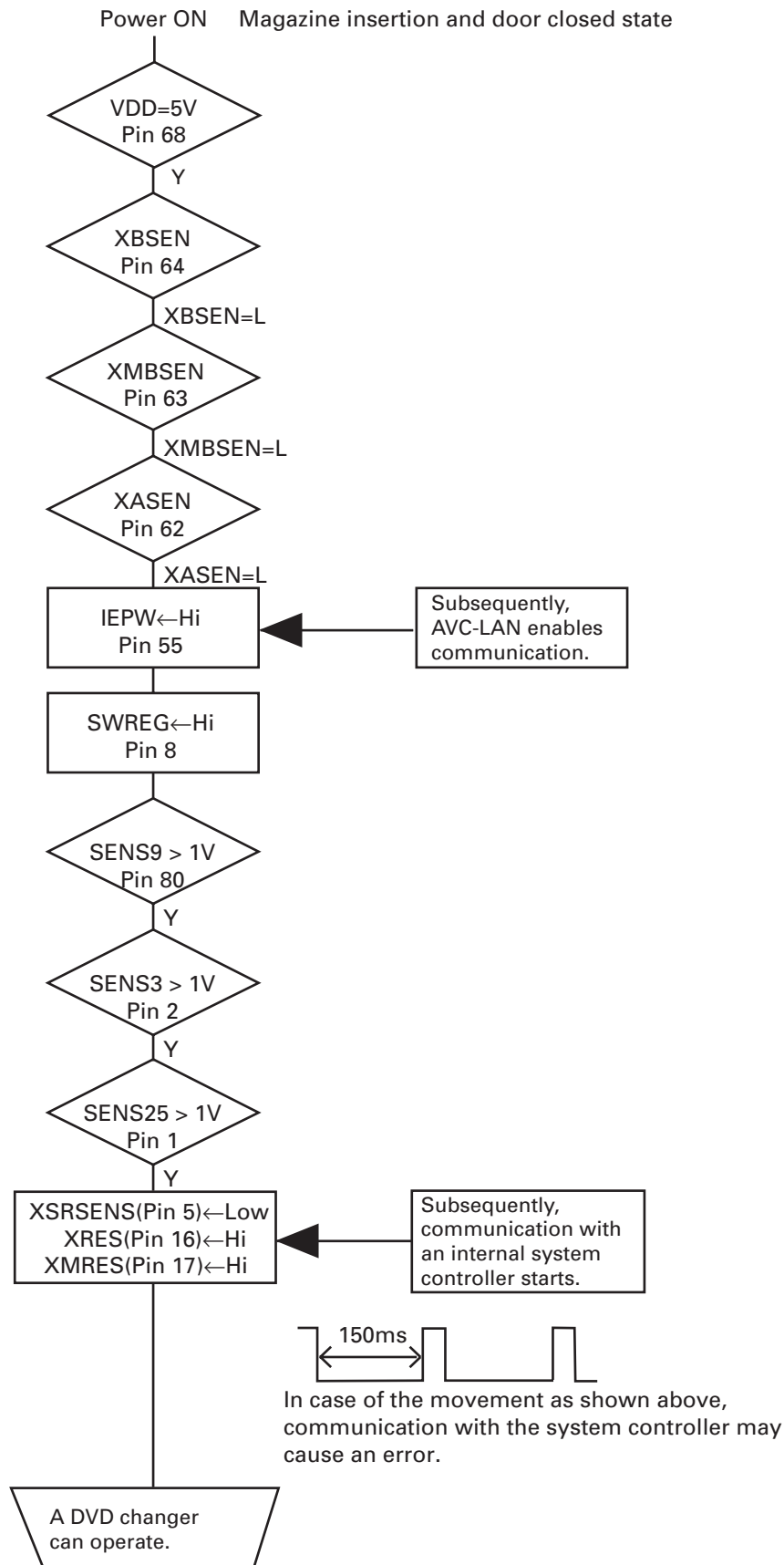


\*LC35256FT-70U



# 7.3 EXPLANATION

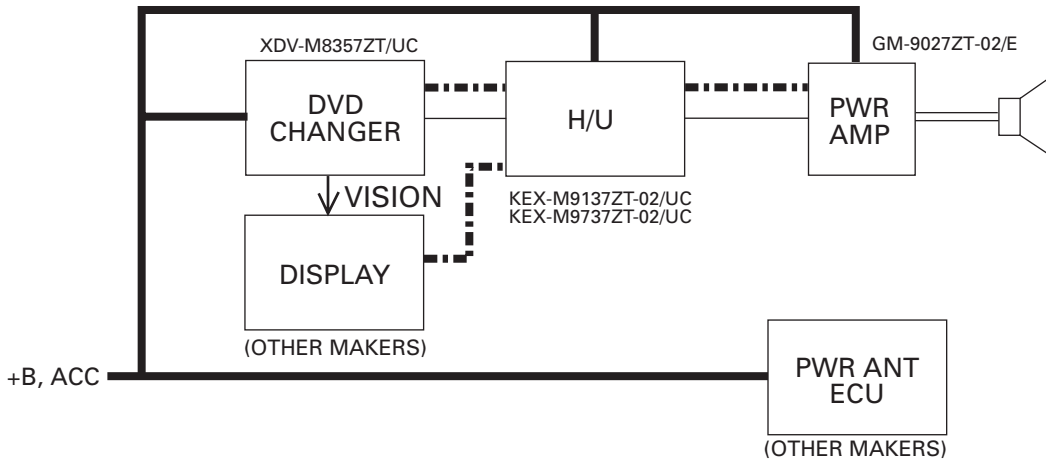
## 7.3.1 OPERATIONAL FLOW CHART



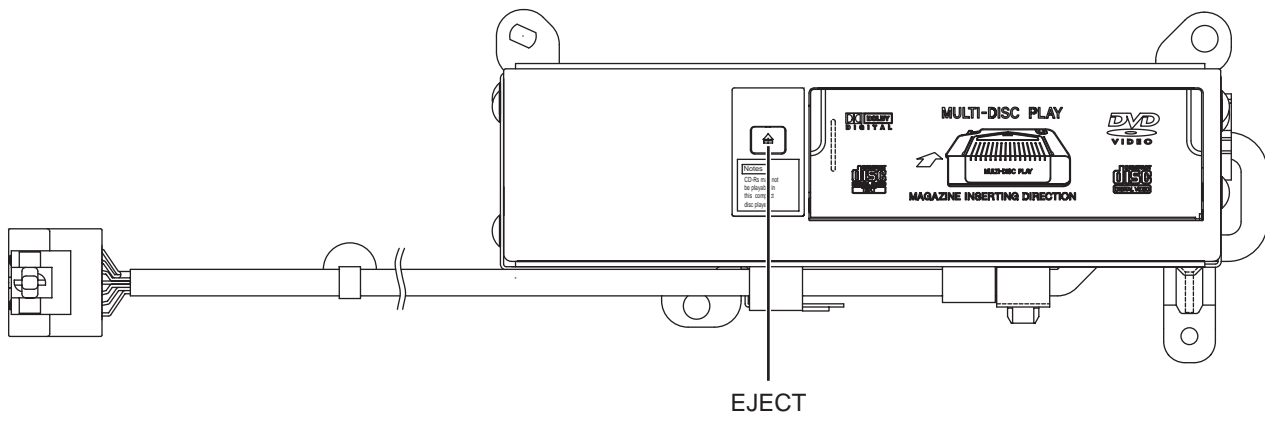
### 7.3.2 SYSTEM BLOCK DIAGRAM

● (7SP)

——— POWER SUPPLY(+B, ACC)  
 - - - - - BUS  
 ——— SIGNAL(SOUND)



# 8. OPERATIONS





Before shipping out the product, be sure to clean the following portions by using the prescribed cleaning tools:

Portions to be cleaned	Cleaning tools
DVD pickup lenses	Cleaning liquid : GEM1004 Cleaning paper : GED-008

Portions to be cleaned	Cleaning tools
Fans	Cleaning paper : GED-008

### ● Jigs List

Name	Jig No.	Remarks
15P Extension cable	GGD1177	Adjustment
30P Extension cable	GGD1171	Adjustment
Extension cord	GGD1398	Adjustment
Extension cord	GGD1348	Adjustment
Extension cord	GGD1240	Adjustment
Extension cord	GGD1169	Adjustment
Clamp adjusting disc	GGV1018	Skew adjustment

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**PIONEER EUROPE NV** Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium  
**PIONEER ELECTRONICS ASIACENTRE PTE. LTD.** 253 Alexandra Road, #04-01, Singapore 159936