

MICRO COMPONENT SYSTEM RDX-E600MK2 DVD PLAYER DVD-E600MK2

SERVICE MANUAL

The RDX-E600MK2 consists of the RX-E600MK2 and the DVD-E600MK2.
This service manual is for the DVD-E600MK2.
For the RX-E600MK2 service manual, please refer to the following publication number:

RX-E600MK2 100983

DVD-E600MK2

IMPORTANT NOTICE

This manual has been provided for the use of authorized YAMAHA Retailers and their service personnel. It has been assumed that basic service procedures inherent to the industry, and more specifically YAMAHA Products, are already known and understood by the users, and have therefore not been restated.

WARNING: Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components, and failure of the product to perform as specified. For these reasons, we advise all YAMAHA product owners that any service required should be performed by an authorized YAMAHA Retailer or the appointed service representative.

IMPORTANT: The presentation or sale of this manual to any individual or firm does not constitute authorization, certification or recognition of any applicable technical capabilities, or establish a principle-agent relationship of any form.

The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research, engineering, and service departments of YAMAHA are continually striving to improve YAMAHA products. Modifications are, therefore, inevitable and specifications are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

WARNING: Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground buss in the unit (heavy gauge black wires connect to this buss).

IMPORTANT: Turn the unit OFF during disassembly and part replacement. Recheck all work before you apply power to the unit.

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100984

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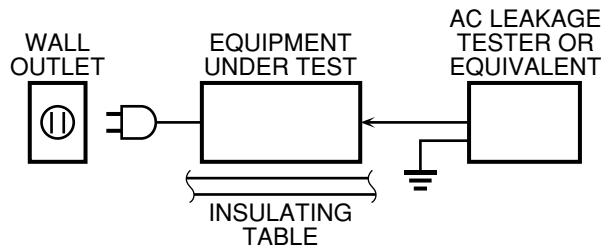
YAMAHA

YAMAHA CORPORATION
P.O.Box 1, Hamamatsu, Japan

05.10

■ TO SERVICE PERSONNEL

1. Critical Components Information
Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
 2. Leakage Current Measurement (For 120V Models Only)
When service has been completed, it is imperative to verify that all exposed conductive surfaces are properly insulated from supply circuits.
- Meter impedance should be equivalent to 1500 ohms shunted by 0.15μF.



- Leakage current must not exceed 0.5mA.
- Be sure to test for leakage with the AC plug in both polarities.

WARNING: CHEMICAL CONTENT NOTICE!

The solder used in the production of this product contains LEAD. In addition, other electrical/electronic and/or plastic (where applicable) components may also contain traces of chemicals found by the California Health and Welfare Agency (and possibly other entities) to cause cancer and/or birth defects or other reproductive harm.

DO NOT PLACE SOLDER, ELECTRICAL/ELECTRONIC OR PLASTIC COMPONENTS IN YOUR MOUTH FOR ANY REASON WHATSOEVER!

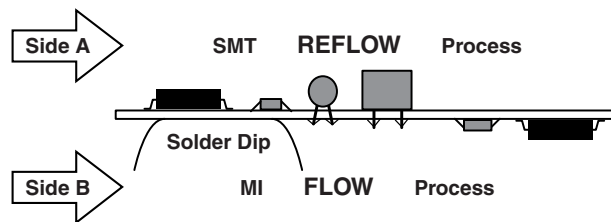
Avoid prolonged, unprotected contact between solder and your skin! When soldering, do not inhale solder fumes or expose eyes to solder/flux vapor!

If you come in contact with solder or components located inside the enclosure of this product, wash your hands before handling food.

About Lead Free Solder

The P.C.B.s installed in this unit are soldered using the following solder.

	SIDE A	SIDE B
MAIN P.C.B	-	Lead Free Solder



Among some types of lead free solder currently available, it is recommended to use one of the following types for the repair work.

- Sn + Ag + Cu (tin + silver + copper)
- Sn + Cu (tin + copper)
- Sn + Zn + Bi (tin + zinc + bismuth)

Caution:

1. As the melting point temperature of the lead free solder is about 30°C to 40°C (50°F to 70°F) higher than that of the lead solder, be sure to use a soldering iron suitable to each solder.
2. If lead solder must be used, be sure to remove lead free solder from each terminal section of the parts to be replaced and from the area around it completely before soldering, or make sure that the lead free solder and lead solder melt together fully.

WARNING: Laser Safety

This product contains a laser beam component. This component may emit invisible, as well as visible radiation, which may cause eye damage. To protect your eyes and skin from laser radiation, the following precautions must be used during servicing of the unit.

- 1) When testing and/or repairing any component within the product, keep your eyes and skin more than 30 cm away from the laser pick-up unit at all times. Do not stare at the laser beam at any time.
- 2) Do not attempt to readjust, disassemble or repair the laser pick-up, unless noted elsewhere in this manual.
- 3) CAUTION : Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Laser Emitting conditions:

- 1) When the Top Cover is removed, and the STANDBY/ON SW is turned to the "ON" position, the laser component will emit a beam for several seconds to detect if a disc is present. During this time (5-10 sec.) the laser may radiate through the lens of the laser pick-up unit. Do not attempt any servicing during this period!
If no disc is detected, the laser will stop emitting the beam. When a disc is loaded, you will not be exposed to any laser emissions.
- 2) The laser power level can be adjusted with the VR on the pick-up PWB, however, this level has been set by the factory prior to shipping from the factory. Do not adjust this laser level control unless instruction is provided elsewhere in this manual. Adjustment of this control can increase the laser emission level from the device.

Laser Diode Properties

Type:	Semiconductor laser GaAIAs
Wave length:	650 nm (DVD) 780 nm (VCD/CD)
Output Power:	7 mW (DVD) 10 mW (VCD/CD)
Beam divergence:	60 degree

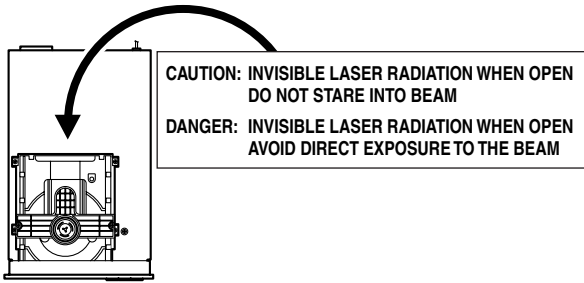
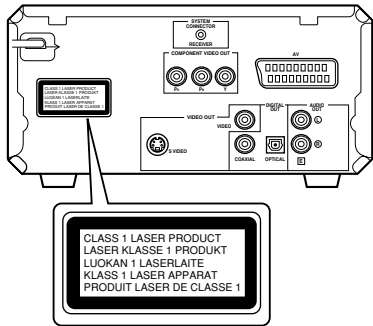
VARO! : AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASER-SÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

WARNING! : OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.

WARNING

<p>CAUTION Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.</p>
<p>ATTENTION L'emploi de commandes, de réglages ou un choix de procédures différents des spécifications de cette brochure peut entraîner une exposition à d'éventuelles radiations pouvant être dangereuses.</p>
<p>ACHTUNG Die Verwendung von Bedienungselementen oder Einstellungen oder die Durchführung von Bedienungsvorgängen, die nicht in dieser Anleitung aufgeführt sind, kann zu einem Kontakt mit gefährlichen Laserstrahlen führen.</p>
<p>OBSERVERA Användning av kontroller och justeringar eller genomförande av procedurer andra än de som specificeras i denna bok kan resultera i att du utsätter dig för farlig strålning.</p>
<p>ATTENZIONE Uso di controlli o regolazioni o procedure non specificamente descritte può causare l'esposizione a radiazioni di livello pericoloso.</p>
<p>PRECAUCIÓN El uso de los controles o los procedimientos de ajuste o utilización diferentes de los especificados en este manual pueden causar una exposición peligrosa a la radiación.</p>
<p>VOORZICHTIG Gebruik van bedieningsorganen of instellingen, of uitvoeren van handelingen anders dan staan beschreven in deze handleiding kunnen leiden tot blootstelling aan gevaarlijke stralen.</p>

<p>The unit is not disconnected from the AC power source as long as it is connected to the wall outlet, even if this unit itself is turned off. This state is called the standby mode. In this state, this unit is designed to consume a very small quantity of power.</p>
<p>L'appareil n'est pas isolé de la source d'alimentation aussi longtemps qu'il reste branché sur une prise murale, même lorsqu'il est éteint. Il est alors dit en mode «Veille». Dans ce mode, l'appareil consomme très peu de courant.</p>
<p>Das Gerät ist nicht vom Netz getrennt, solange der Netzstecker noch mit der Wandsteckdose verbunden ist, selbst wenn das Gerät ausgeschaltet wurde. Dieser Betriebszustand wird als Bereitschaftsmodus bezeichnet. In diesem Zustand nimmt das Gerät eine sehr geringe Menge Strom auf.</p>
<p>Enheten är inte urkopplad från nätet så länge som den är ansluten till vägguttaget även om enheten i sig självt är avstängd. Detta kallas för beredskapsläge och i detta tillstånd konsumerar apparaten minimalt med ström.</p>
<p>L'unità non è scollegata dall'impianto elettrico di casa sintanto che rimane collegata ad una presa di corrente anche se è spenta. Questo modo viene chiamato "modo di attesa". In esso, l'unità consuma una quantità molto bassa di energia per mantenere in memoria le impostazioni da voi fatte.</p>
<p>Aunque el propio aparato se encuentre apagado, éste no se desconectará de la fuente de CA siempre que se mantenga enchufado a la toma de corriente. Este estado recibe el nombre de "modo de espera". En este estado, este aparato ha sido diseñado para consumir una cantidad muy pequeña de energía.</p>
<p>De stroomtoevoer naar het toestel is niet afgesloten zolang de stekker nog in het stopcontact zit, zelfs niet als het toestel zelf uitgeschakeld is. Deze toestand wordt "standby" (waak- of paraatstand) genoemd. Het toestel is ontworpen om in deze toestand.</p>



<p>CAUTION VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM. ADVARSEL SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UDSÆTTELSE FOR STRÅLING. ADVARSEL SYNLIG OG USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES. UNNGÅ EKSPONERING FOR STRÅLEN. VARNING SYNLIG OCH OSYNLIG LASERSTRÅLNING NÅR DENNA DEL ÄR ÖPPNAD. BETRakta EJ STRÅLEN. VARO! AVATTAESSA OLET ALTIINA NÄKYVÄLLE JA NÄKYMÄTTÖMÄLLE LASER SÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN. VORSICHT SICHTBARE UND UNSICHTBARE LASERSTRALUNG WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN. DANGER VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM. ATTENTION RAYONNEMENT LASER VISIBLE ET INVISIBLE EN CAS D'OUVERTURE. EXPOSITION DANGEREUSE AU FAISCEAU.</p>
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DVD-E600MK2

Warning for power supply

The primary side of the power supply carries live mains voltage when the player is connected to the mains even when the player is switched off !

This primary area is not shielded so it is possible to touch copper tracks and/or components when servicing the player. Service personnel have to take precautions to prevent touching this area or components in this area .

The primary side of the power supply has been indicated with a lightening stroke and a stripe-marked print on the printed wiring board.

Note:

The screws on the DVD mechanism may never be touched, removed or re-adjusted.

Handle the DVD mechanism with care when the unit has to be exchanged!

The DVD mechanism is very sensitive for dropping or giving shocks.

■ PREVENTION OF ELECTROSTATIC DISCHARGE

The laser diode in the DVD mechanism may be damaged due to static electricity from clothes or the human body. Use caution to prevent electro static damage when servicing or handling the DVD-mechanism.

1. Grounding for electro static damage prevention

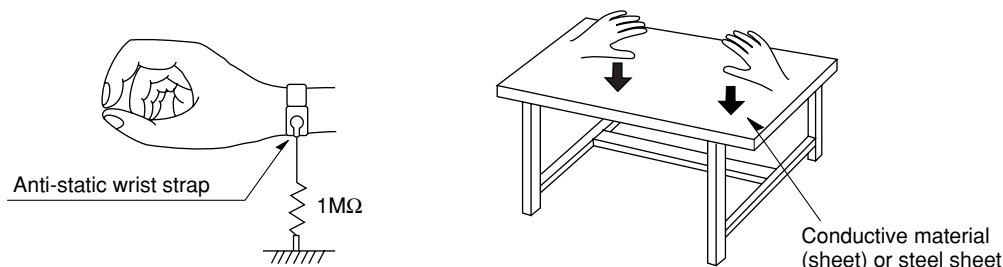
Some devices, such as the DVD player, use an optical pickup (laser diode) that will be damaged by static electricity in the working environment. Only attempt service after ensuring that all grounding procedures have been completed.

1. Worktable grounding

Put a grounded conductive material (sheet) or iron sheet on the area where the optical pickup is placed.

2. Human body grounding

Use an anti-static wrist strap to discharge the static electricity from your body.



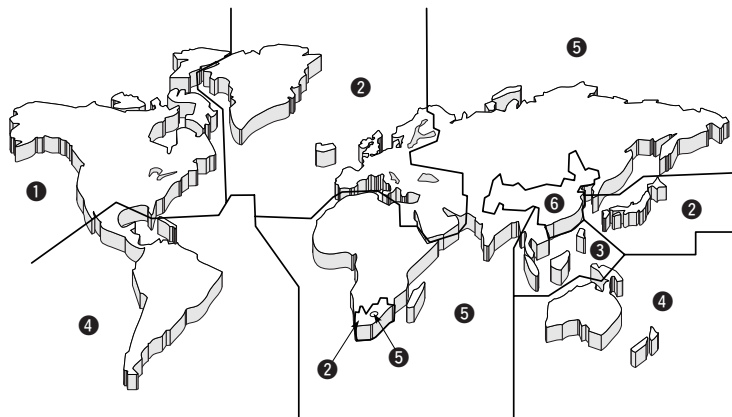
2. Handling Precautions for DVD mechanism

1. Handle the DVD mechanism gently, as it is an extremely high-precision assembly.
2. The flexible cable lines may break if an excessive force is applied to it. Use caution when handling the cable.
3. The semi-fixed resistor for laser power adjustment should not be adjusted. Do not turn the resistor.

■ LOCALE MANAGEMENT INFORMATION

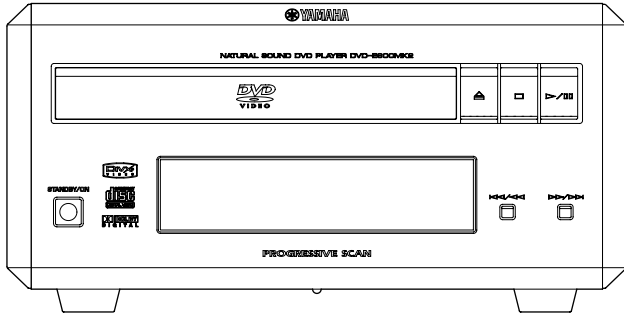
Locale Management Information : This DVD player is designed and manufactured to respond to the Locale Management Information that is recorded on a DVD disc. If the Locale number described on the DVD disc does not correspond to the Locale number of this DVD player, this DVD player cannot play this disc.

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.



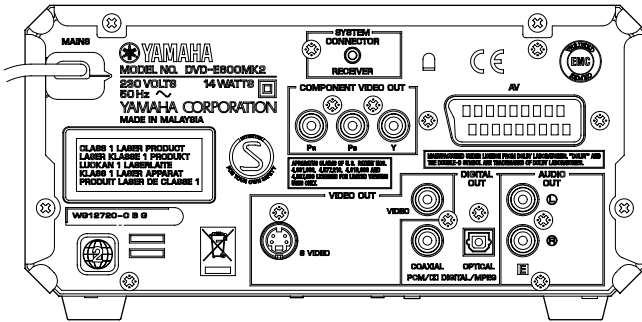
FRONT PANEL

B, G, E models

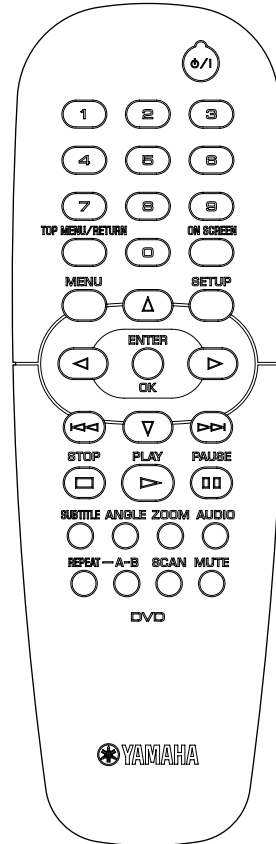


REAR PANEL

B, G, E models



REMOTE CONTROL PANEL



SPECIFICATIONS

PLAYBACK SYSTEM

DVD Video
Video CD & SVCD
CD
PICTURE CD
CD-R, CD-RW
DVD+R, DVD+RW
DVD-R, DVD-RW

VIDEO PERFORMANCE

Video (CVBS) Output 1 Vpp into 75 ohms
S-Video Output Y: 1 Vpp into 75 ohms
C: 0.3 Vpp into 75 ohms
Component Video Output Y: 1 Vpp into 75 ohms
Pb/Cb Pr/Cr: 0.7 Vpp into 75 ohms
RGB (SCART) Output 0.7 Vpp into 75 ohms

AUDIO FORMAT

Digital Mpeg/Dolby Digital/Compressed Digital
DTS
PCM 16, 20, 24 bits
fs, 44.1, 48, 96 kHz
MP3 (ISO 9660) 24, 32, 56, 64, 96, 128, 256 kbps
fs 16, 22.05, 24, 32, 44.1, 48 kHz
WMA 32 kbps - 192 kbps, Mono, Stereo
Analog Sound Stereo

AUDIO PERFORMANCE

DA Converter 24 bits
Signal-Noise (1kHz) 105 dB
Dynamic Range (1kHz) 100 dB
DVD fs 96 kHz 2 Hz - 44 kHz
fs 48 kHz 2 Hz - 22 kHz
SVCD fs 48 kHz 2 Hz - 22 kHz
fs 44.1 kHz 2 Hz - 20 kHz
CD/VCD fs 44.1 kHz 2 Hz - 20 kHz
Distortion and Noise (1kHz) 0.003%

TV STANDARD (PAL/50Hz) (NTSC/60Hz)

Number of lines 625 525
Playback Multistandard (PAL/NTSC)

CONNECTIONS

Y Output RCA (green)
Pb/Cb Output RCA (blue)
Pr/Cr Output RCA (red)
SCART Euroconnector
S-Video Output Mini DIN, 4 pins
Video Output RCA
Audio Output (L+R) RCA
Digital Output 1 coaxial, 1 optical
IEC60958 for CDDA / LPCM / MPEG1
IEC61937 for MPEG 2, Dolby Digital and DTS

GENERAL

Dimensions (W x H x D)

217 x 108 x 346 (8-9/16" x 4-1/4" x 13-5/8")

Weight Approx. 2.6 Kg (5 lbs. 12 oz.)

Finish

Gold color G, E models

Silver color B, G, E models

Power Supply AC230V, 50Hz

Power Consumption 14W

Standby Power Consumption (reference data) 1W

ACCESSORIES

Remote Control x 1, Battery x 2, System Control Cable x 1,
Audio Pin Cable x 1, Video Pin Cable x 1

** Specifications subject to change without prior notice.*

B British model

G European model

E South European model



Manufactured under license from Dolby Laboratories. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories.

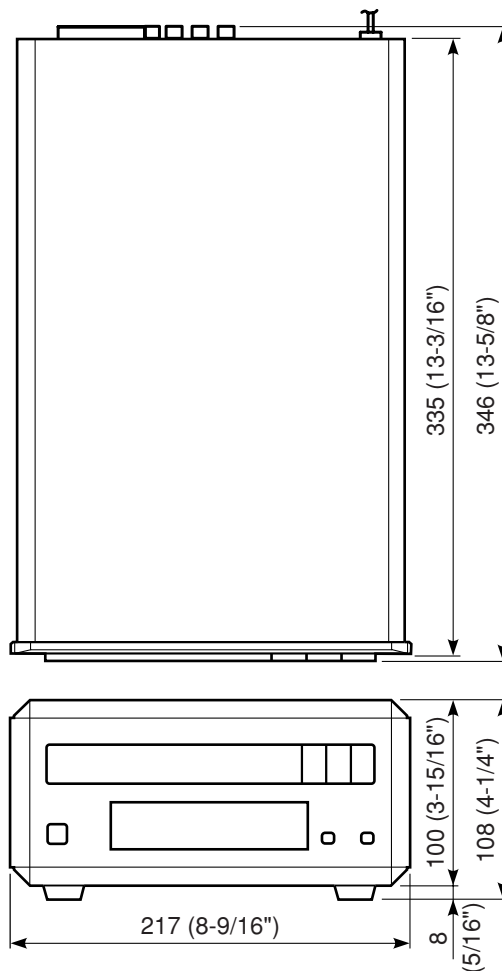


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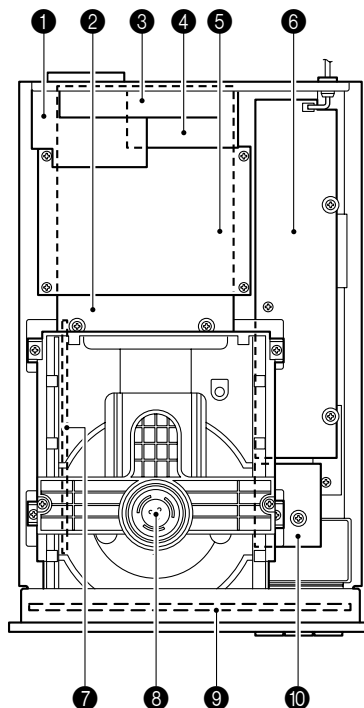
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● DIMENSIONS



Unit: mm (inch)

■ INTERNAL VIEW



- ① MAIN (2) P.C.B.
- ② MAIN (5) P.C.B.
- ③ MAIN (3) P.C.B.
- ④ MAIN (4) P.C.B.
- ⑤ MONO BOARD
- ⑥ POWER SUPPLY UNIT
- ⑦ MAIN (7) P.C.B.
- ⑧ DVD MECHANISM UNIT
- ⑨ MAIN (1) P.C.B.
- ⑩ MAIN (6) P.C.B.

DVD-E600MK2

DISASSEMBLY PROCEDURES

(Remove parts in the order as numbered.)

Disconnect the power cable from the AC outlet.

1. Removal of Top Cover

- a. Remove 4 screws (①), 4 screws (②). (Fig. 1)
- b. Slide the Top Cover rearward to remove it.

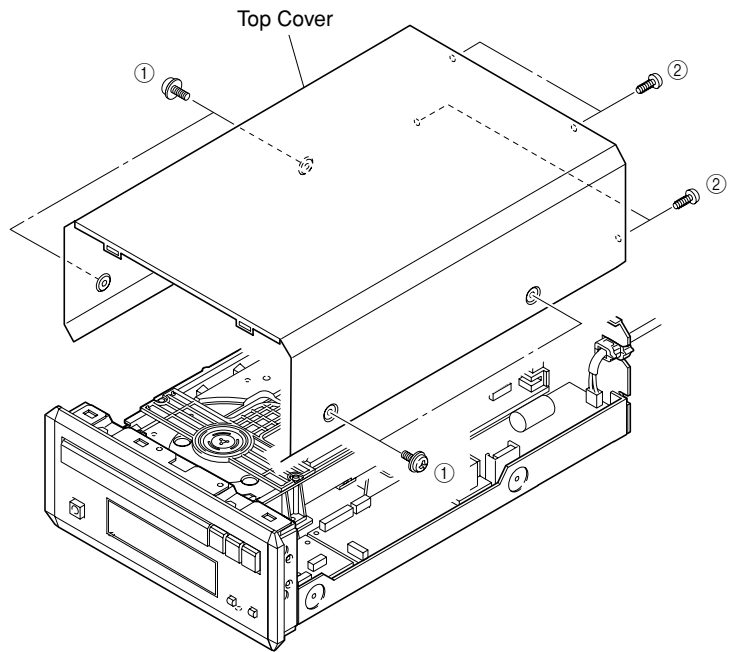


Fig. 1

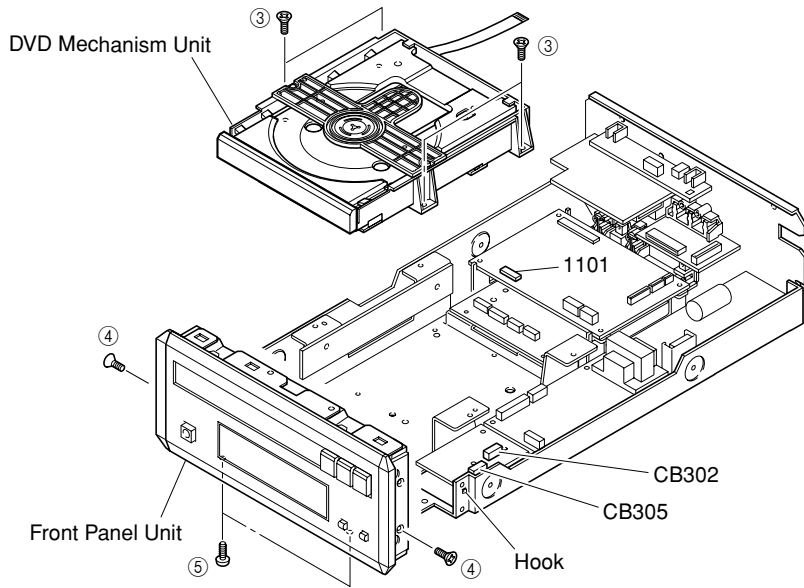


Fig. 2

2. Removal of DVD Mechanism Unit

- a. Remove 4 screws (③). (Fig. 2)
- b. Remove a connectors (1101, CB302, CB305). (Fig. 2)
- c. Remove the DVD Mechanism Unit backward.

3. Removal of Front Panel Unit

- a. Remove 2 screws (④), 2 screws (⑤). (Fig. 2)
- b. Remove a connectors (CB16, CB17). (Fig. 3)
- c. Release 2 hooks and remove the Front Panel Unit by pulling it forward. (Fig. 2)

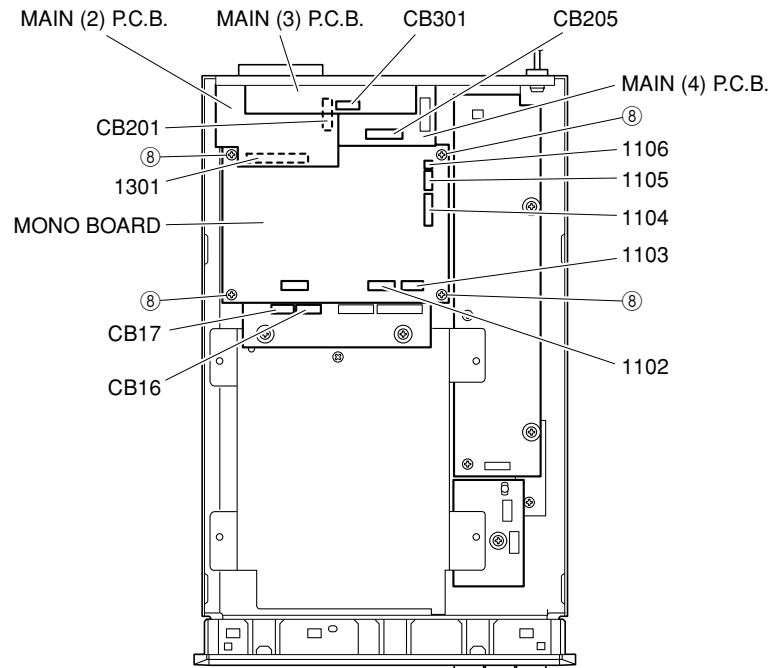


Fig. 3

4. Removal of MAIN (3) P.C.B.

- a. Remove 2 screws (⑥). (Fig. 4)
- b. Remove a connector (CB301). (Fig. 3)
- c. Remove the MAIN (3) P.C.B..

6. Removal of MONO BOARD

- a. Remove 4 screws (⑧). (Fig. 3)
- b. Remove a connectors (1102~1106, 1301). (Fig. 3)
- c. Remove the MONO P.C.B..

5. Removal of MAIN (2) and MAIN (4) P.C.B.

- a. Remove 4 screws (⑦). (Fig. 4)
- b. Remove a connector (CB205). (Fig. 3)
- c. Remove the MAIN (2) and MAIN (4) P.C.B..

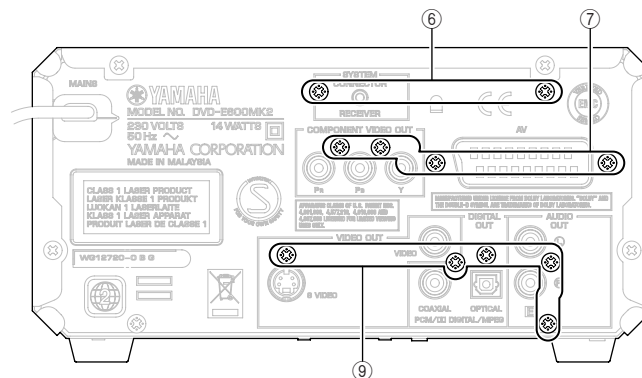


Fig. 4

7. Removal of MAIN (5), MAIN (6) P.C.B. and POWER SUPPLY UNIT

- a. Remove 5 screws (9). (Fig. 4)
- b. Remove 5 screws (10). (Fig. 5)
- c. Remove 2 screws (11). (Fig. 5)
- d. Loosen 1 Locking Card Spacer. (Fig. 5)
- e. Remove the MAIN (5), MAIN (6) P.C.B. and POWER SUPPLY UNIT.

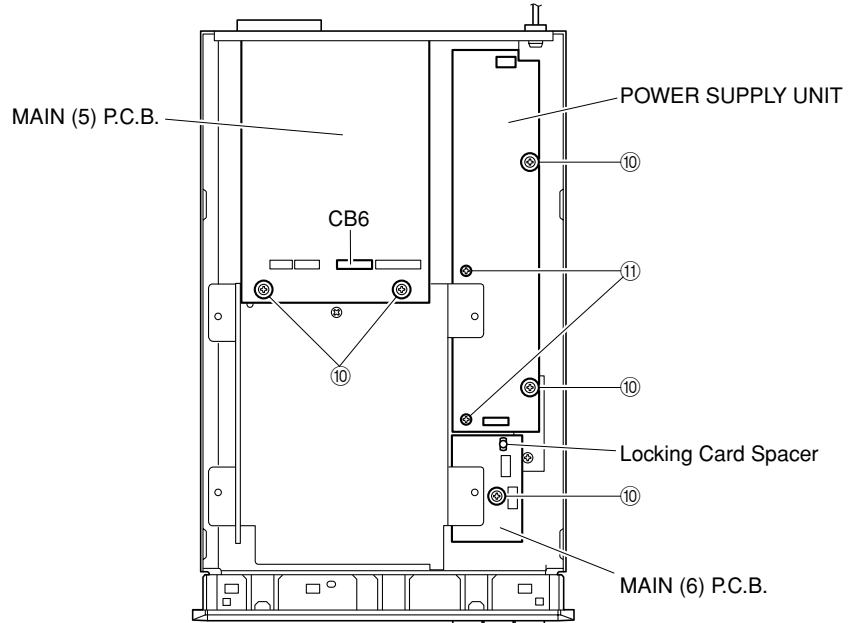


Fig. 5

When checking the P.C.B.

- Reconnect all cables (connectors) that have been disconnected.
- When connecting the flat cable, use care for the polarity.

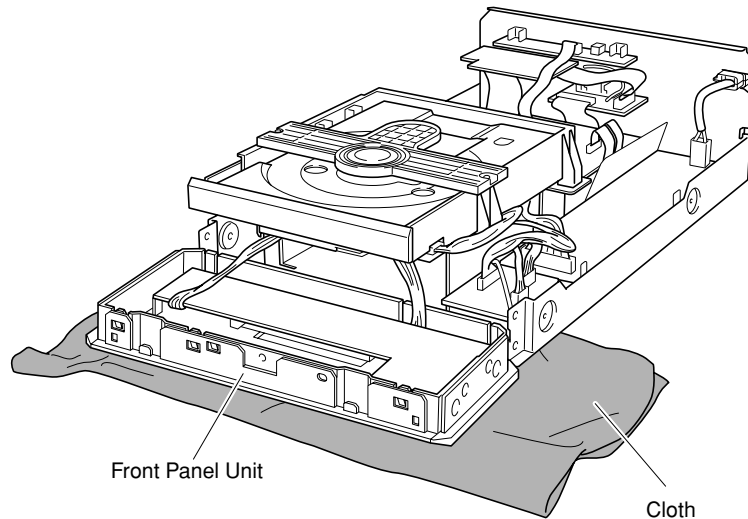
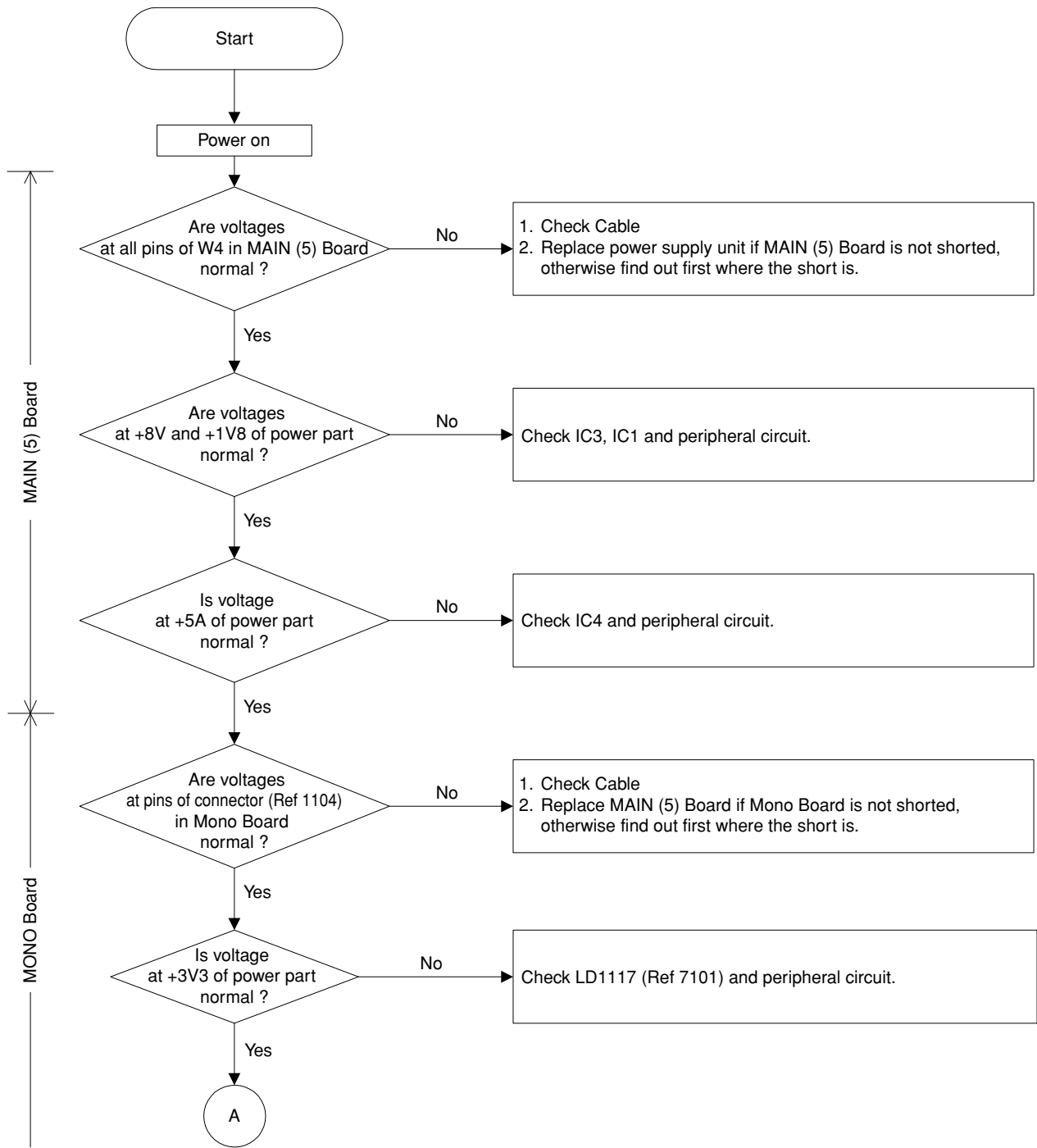
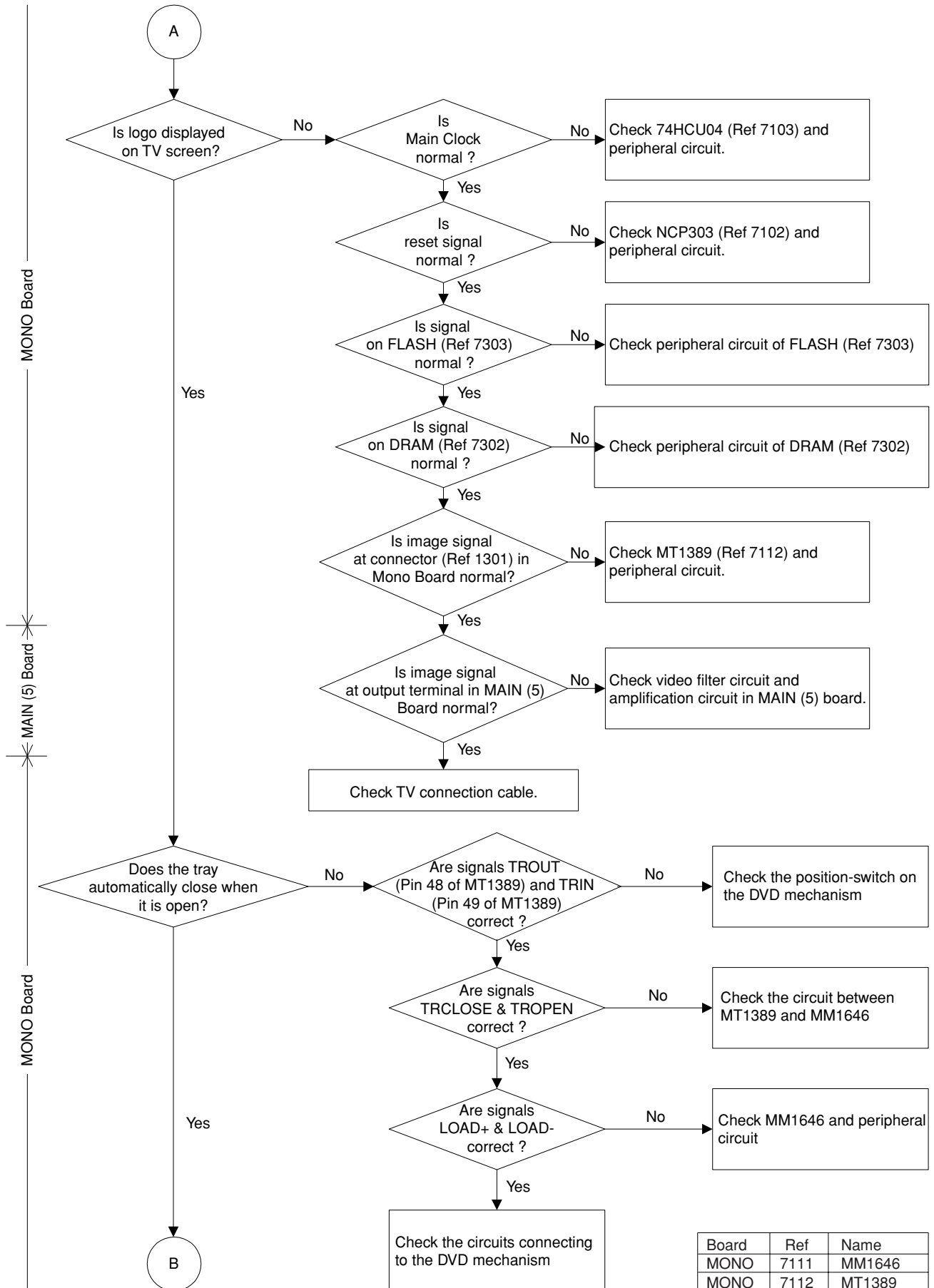


Fig. 6

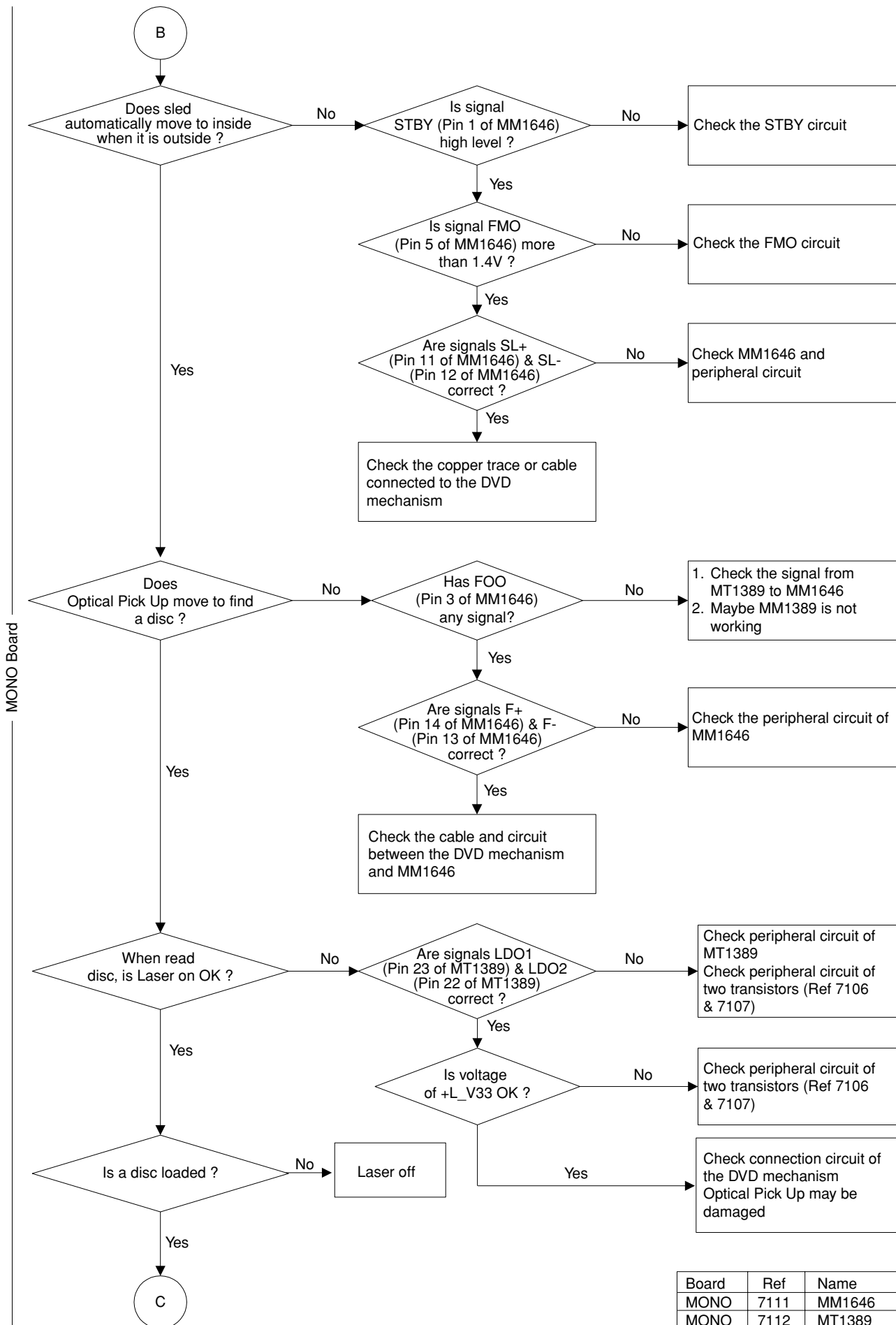
MAINTENANCE FLOW CHART



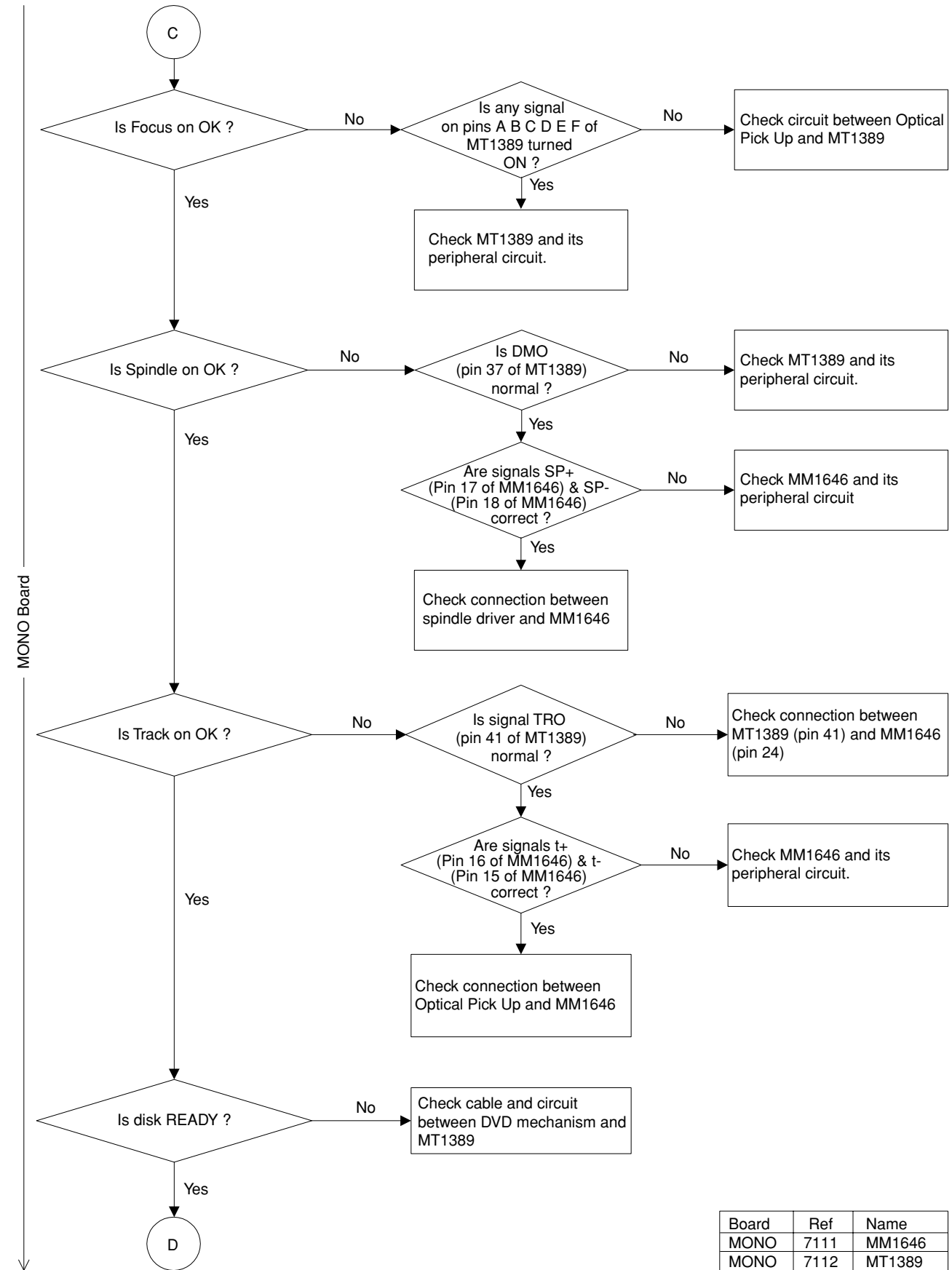
DVD-E600MK2



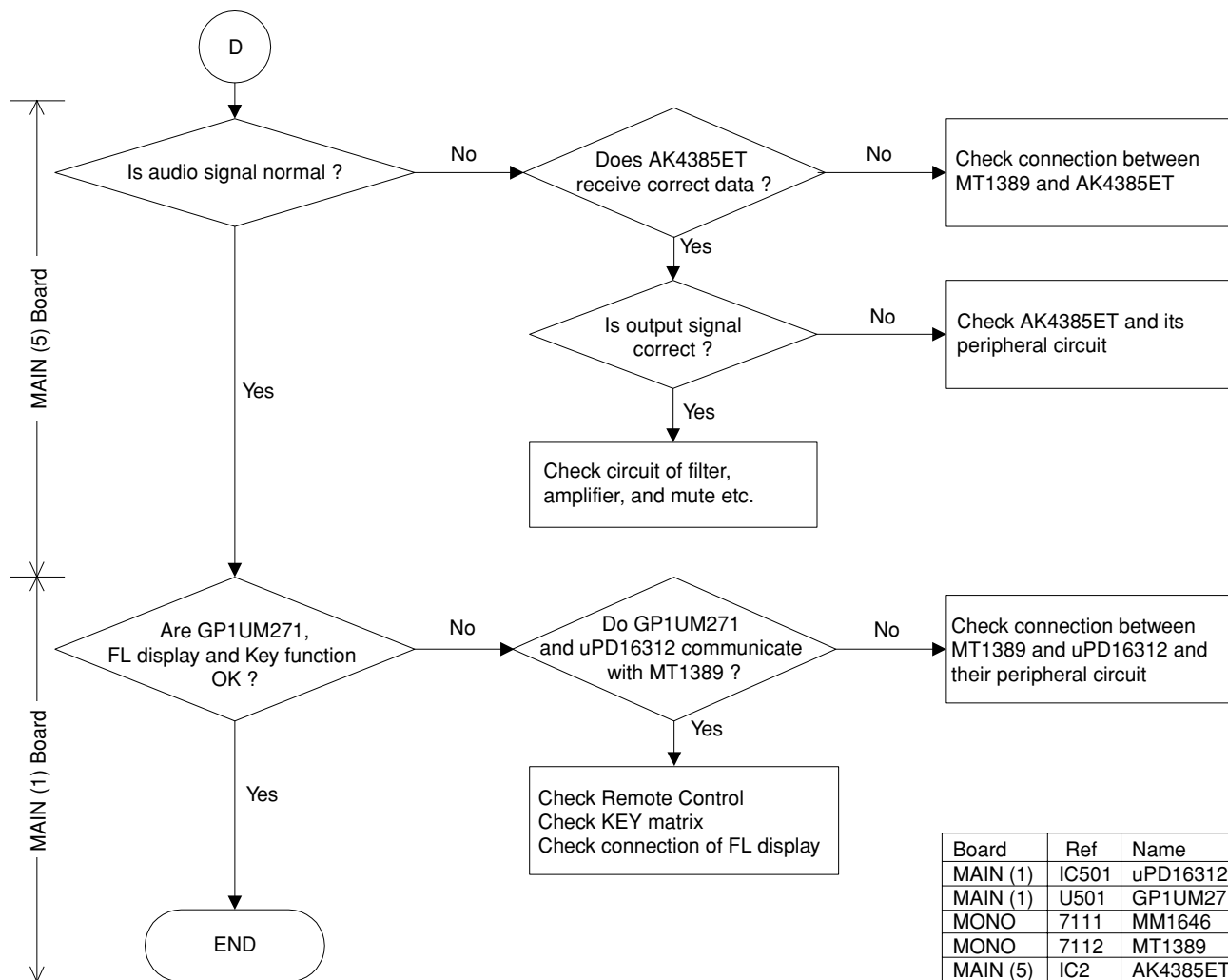
Board	Ref	Name
MONO	7111	MM1646
MONO	7112	MT1389



Board	Ref	Name
MONO	7111	MM1646
MONO	7112	MT1389



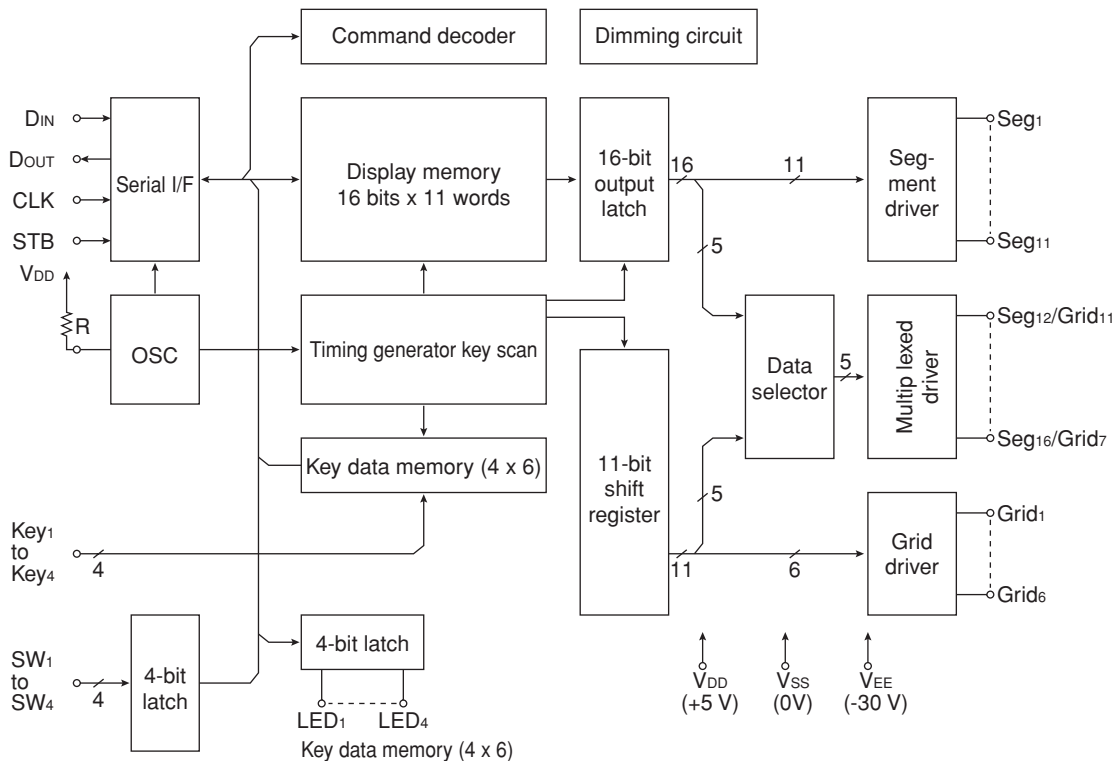
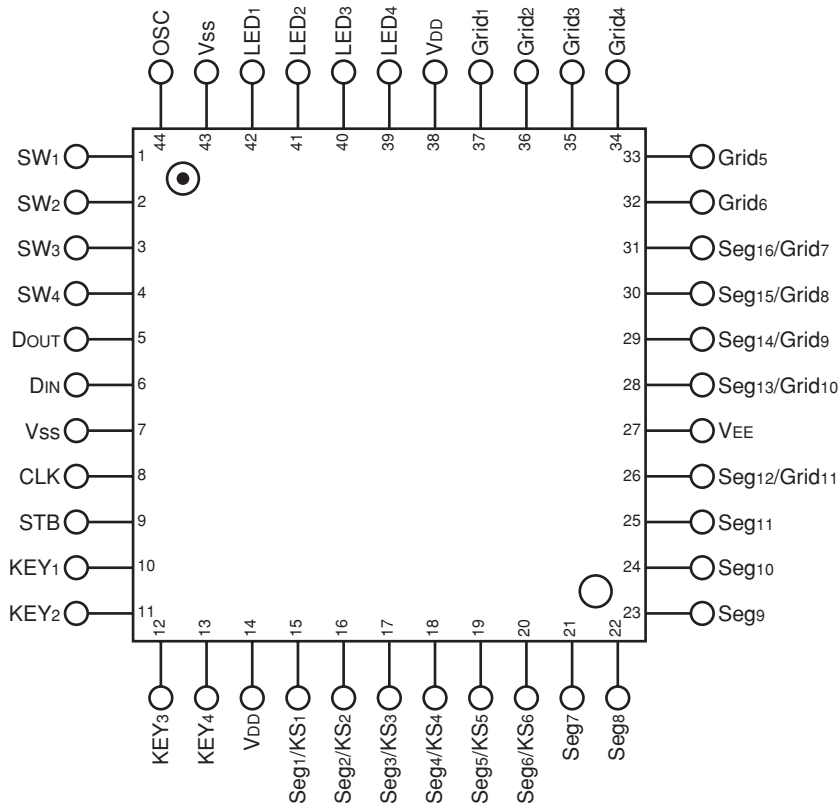
Board	Ref	Name
MONO	7111	MM1646
MONO	7112	MT1389



DVD-E600MK2

IC DATA

IC501: μ PD16312GB-3B4 [MAIN (1) P.C.B.]
8-bit Microprocessor



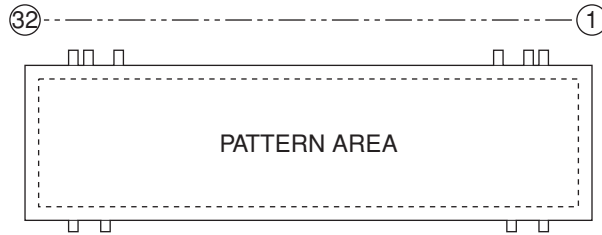
IC501: μ PD16312GB-3B4 [MAIN (1) P.C.B.]

8-bit Microprocessor

No.	Name	Symbol	Description
1	Switch input	SW1	These pins constitute a 4-bit general-purpose input port.
2		SW2	
3		SW3	
4		SW4	
5	Data output	DOUT	Output serial data at the falling edge of the shift clock, starting from low order bit. This is N-ch open-drain output pin.
6	Data input	DIN	Input serial data at rising edge of shift clock, starting from the low order bit.
7	Logic ground	VSS	Connect this pin to system GND.
8	Clock input	CLK	Reads serial data at the rising edge, and outputs data at the falling edge.
9	Strobe	STB	Initializes serial interface at the rising or falling edge of the μ PD16312. It then waits for reception of a command. Data input after STB has fallen is processed as a command. While command data is processed, current processing is stopped, and the serial interface is initialized. While STB is high, CLK is ignored.
10	Key data input	KEY1	Data input to these pins is latched at the end of the display cycle.
11		KEY2	
12		KEY3	
13		KEY4	
14	Logic power	VDD	5 V \pm 10 %
15	High-voltage output	Seg1/KS1	Segment output pins (Dual function as key source)
16		Seg2/KS2	
17		Seg3/KS3	
18		Seg4/KS4	
19		Seg5/KS5	
20		Seg6/KS6	
21	High-voltage output (segment)	Seg7	Segment output pins
22		Seg8	
23		Seg9	
24		Seg10	
25		Seg11	
26	High-voltage output (segment/grid)	Seg12/Grid11	These pins are selectable for segment or grid driving.
27	Pull-down level	VEE	VDD - 35 V max.
28	High-voltage output (segment/grid)	Seg13/Grid10	These pins are selectable for segment or grid driving.
29		Seg14/Grid9	
30		Seg15/Grid8	
31		Seg16/Grid7	
32	High-voltage output (grid)	Grid6	Grid output pins
33		Grid5	
34		Grid4	
35		Grid3	
36		Grid2	
37		Grid1	
38	Logic power	VDD	5 V \pm 10 %
39	LED output	LED4	CMOS output. +20 mA max.
40		LED3	
41		LED2	
42		LED1	
43	Logic ground	VSS	Connect this pin to system GND.
44	Oscillator pin	OSC	Connect resistor to this pin to determine the oscillation frequency to this pin.

■ DISPLAY DATA

● V1 : 7-BT-299GNK (WD602800)

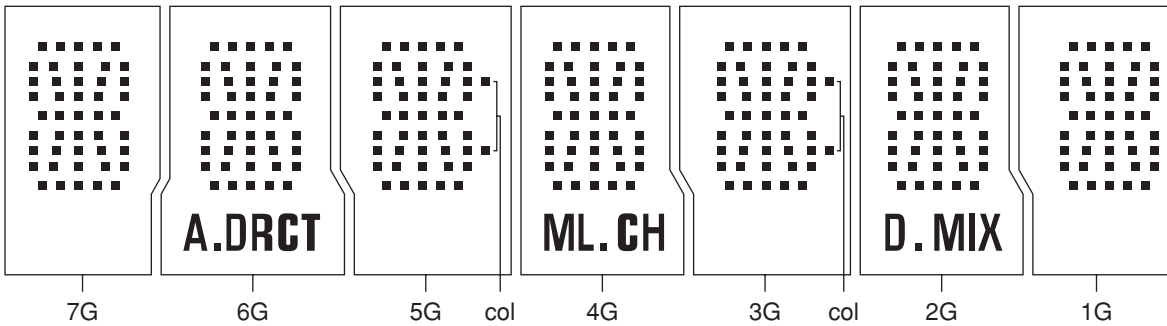


● PIN CONNECTION

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

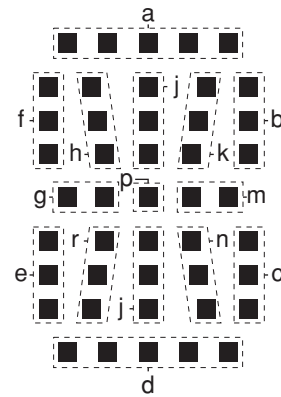
NOTE : 1) F1, F2 Filament 2) NP No pin 3) 1G ~ 7G Grid

● GRID ASSIGNMENT

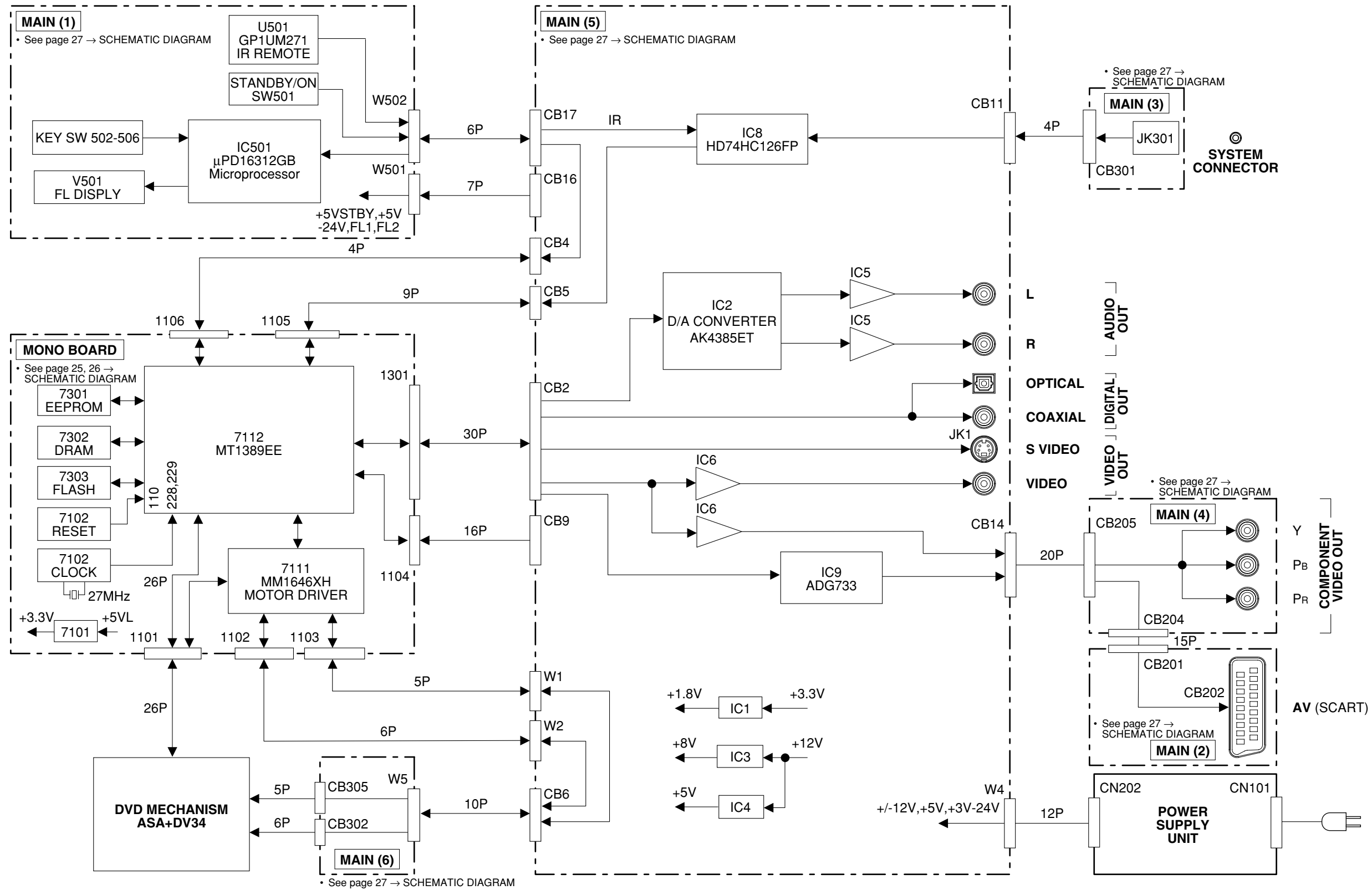


● ANODE CONNECTION

	7G	6G	5G	4G	3G	2G	1G
P1				a			
P2				j			
P3				h			
P4				k			
P5				b			
P6				f			
P7				m			
P8				g			
P9				c			
P10				e			
P11				r			
P12				n			
P13				d			
P14	-	A.DRGT	col	ML.CH	col	D.MIX	-
P15				p			

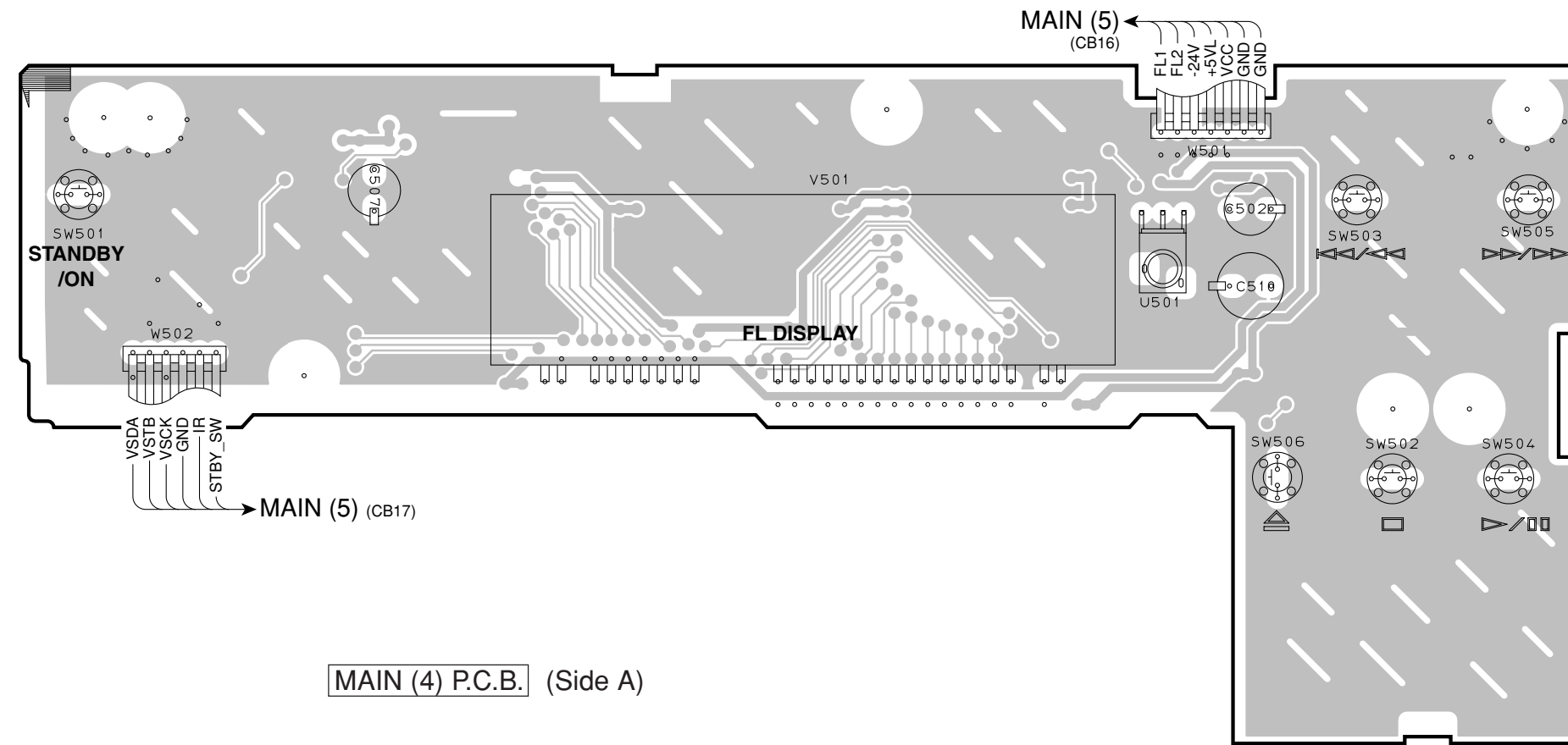


■ BLOCK DIAGRAM

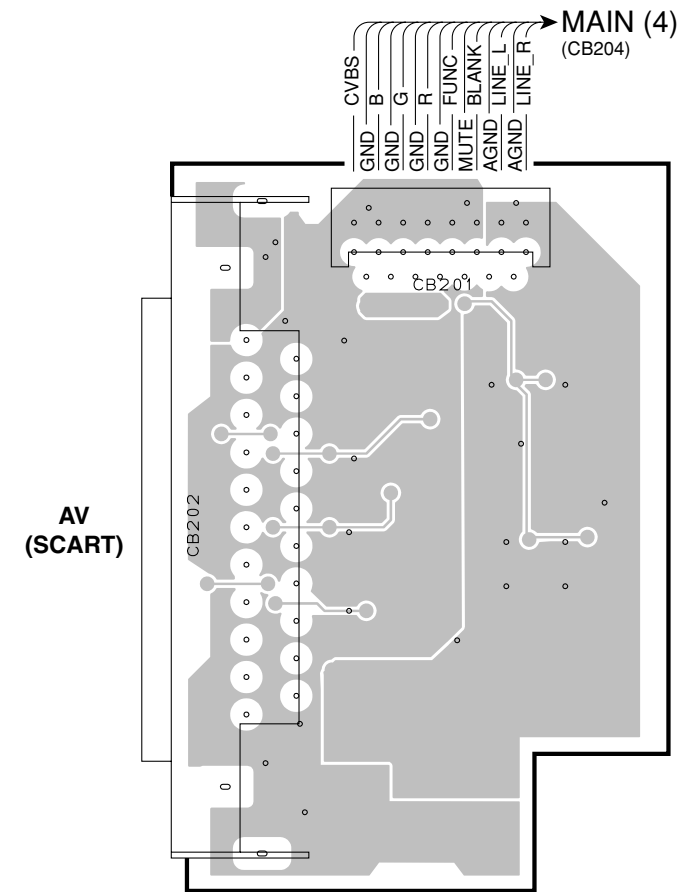


PRINTED CIRCUIT BOARD (Foil side)

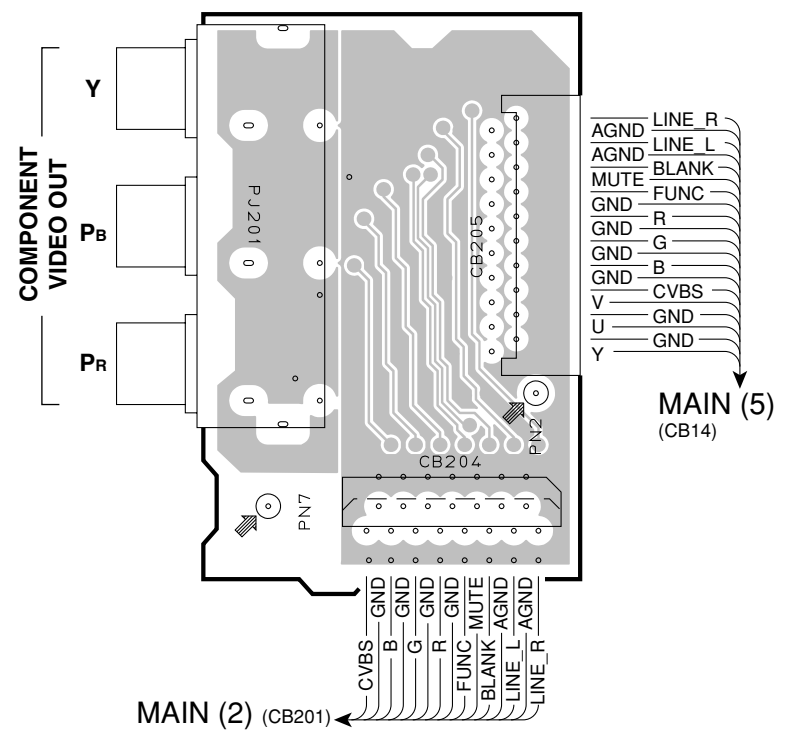
MAIN (1) P.C.B. (Side A)



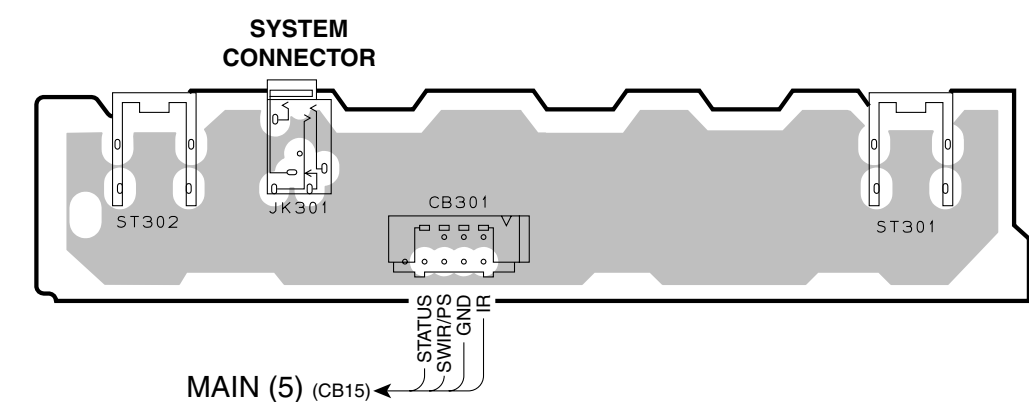
MAIN (2) P.C.B. (Side A)



MAIN (4) P.C.B. (Side A)

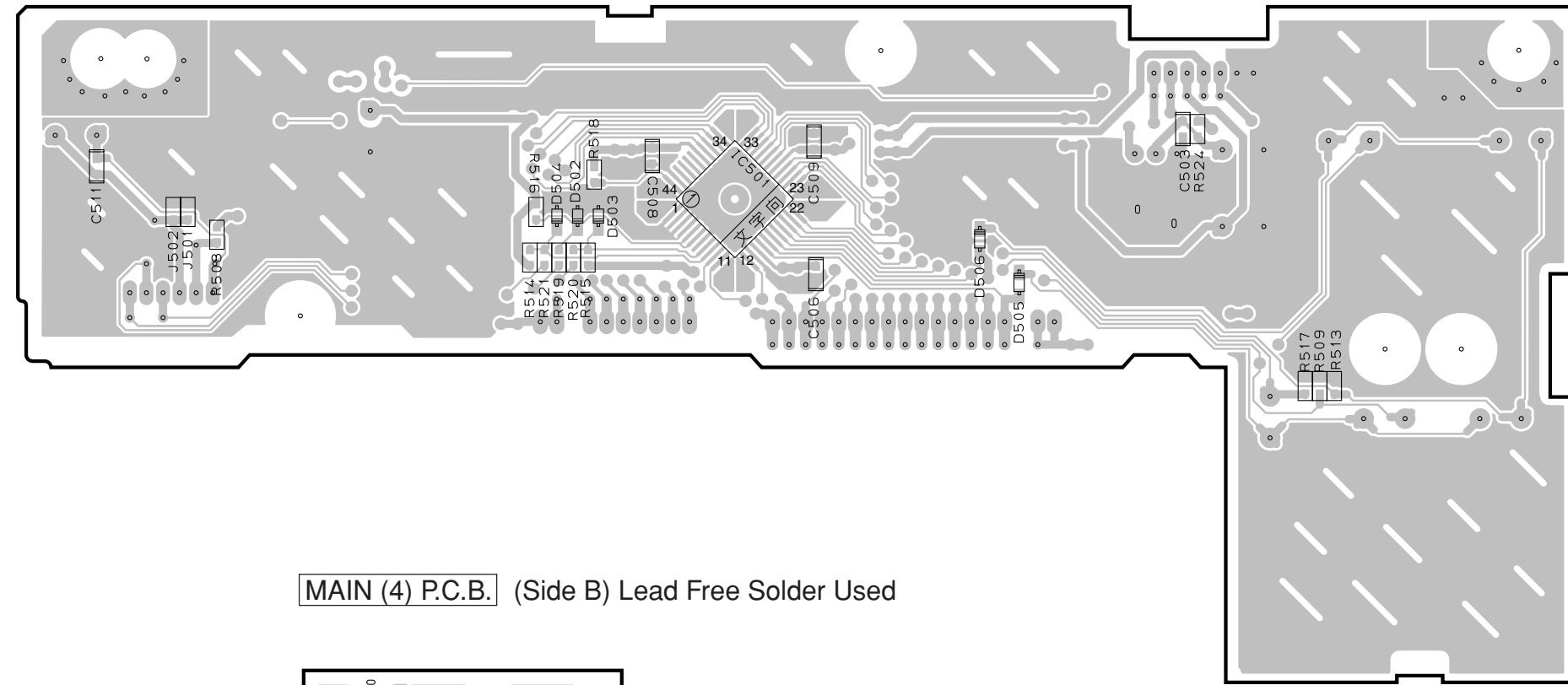


MAIN (3) P.C.B. (Side A)

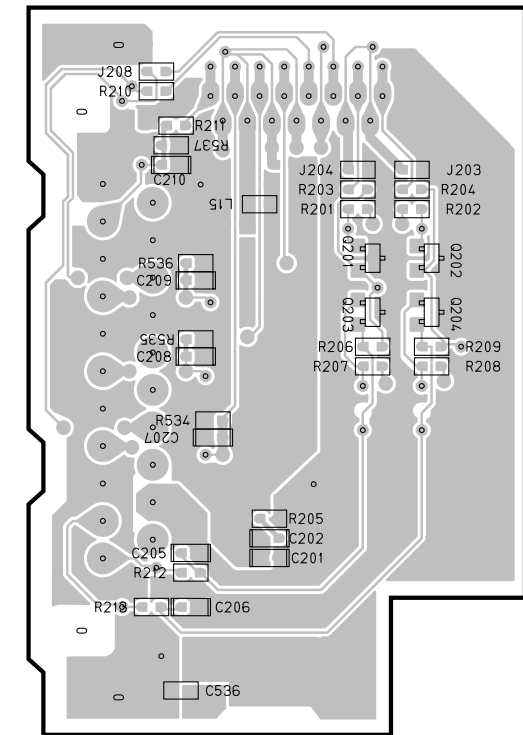


1 ■ PRINTED CIRCUIT BOARD (Foil side)

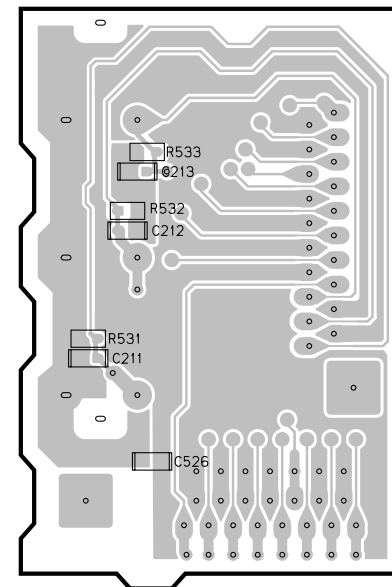
MAIN (1) P.C.B. (Side B) Lead Free Solder Used



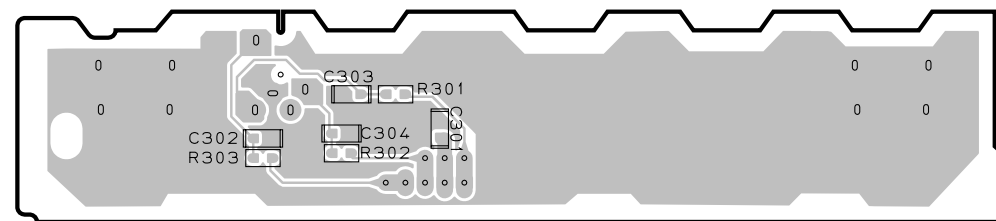
MAIN (2) P.C.B. (Side B) Lead Free Solder Used



MAIN (4) P.C.B. (Side B) Lead Free Solder Used



MAIN (3) P.C.B. (Side B) Lead Free Solder Used

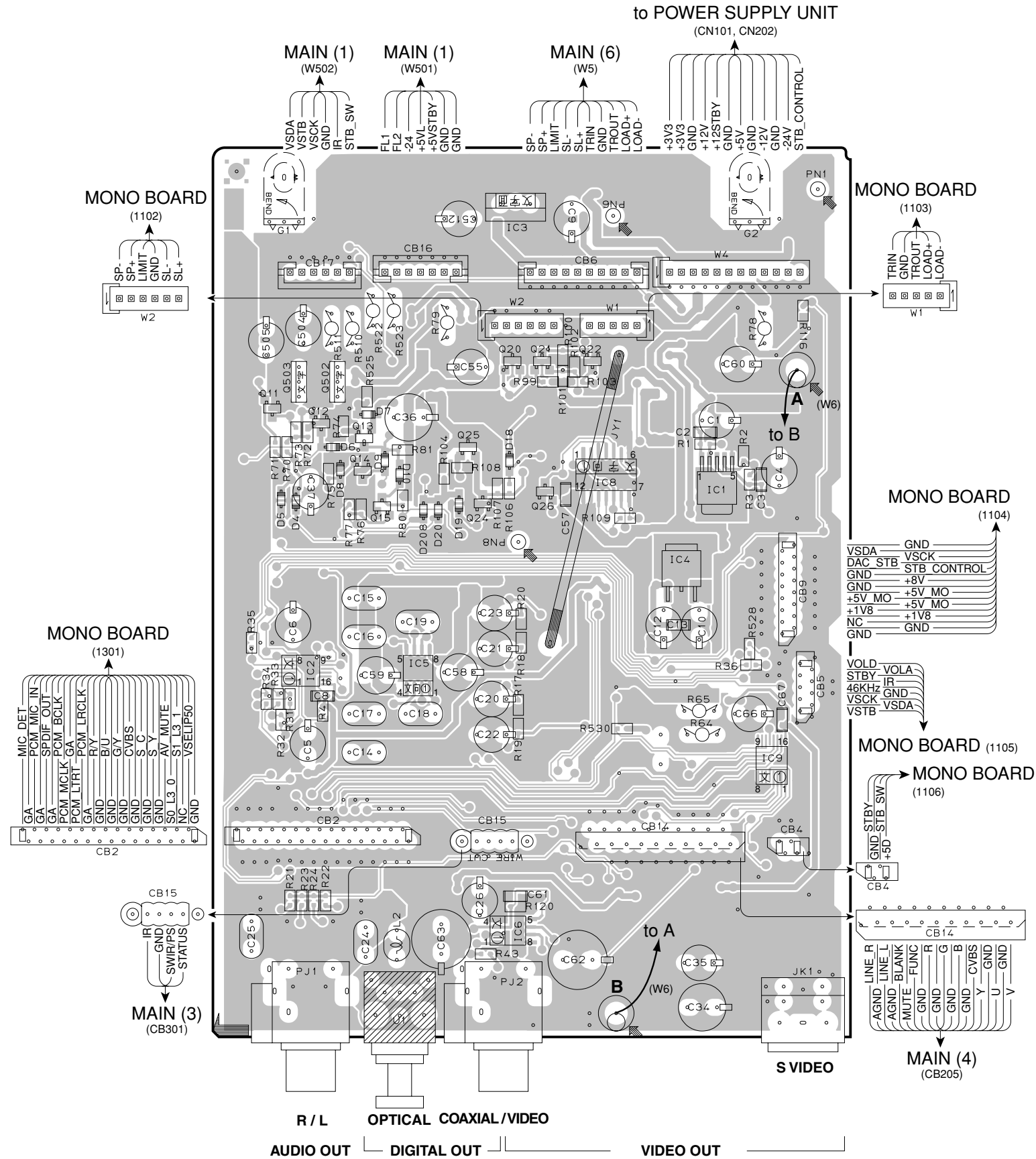


• Semiconductor Location

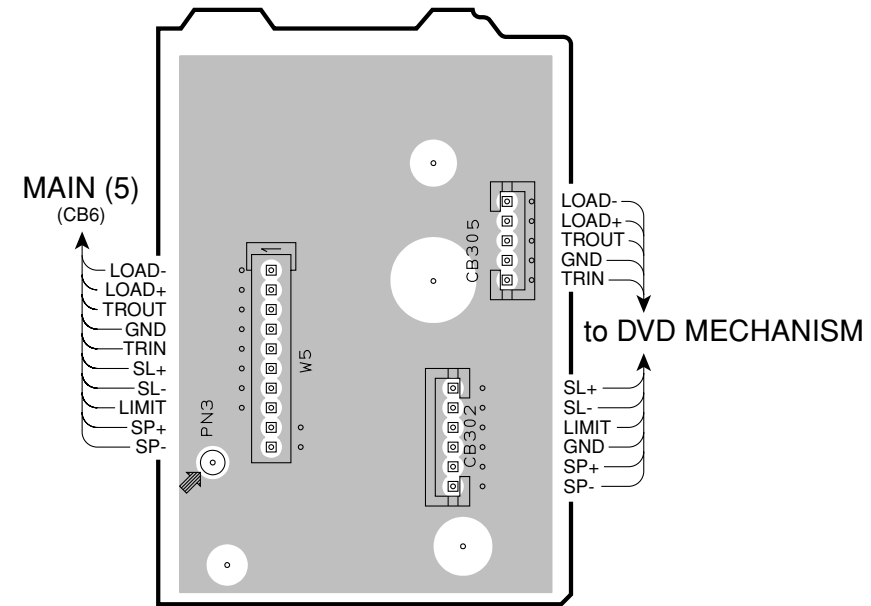
Ref no.	Location
D502	C3
D503	C3
D504	C3
D505	E3
D506	E3
IC501	D3
Q201	I3
Q202	I3
Q203	I3
Q204	I3

PRINTED CIRCUIT BOARD (Foil side)

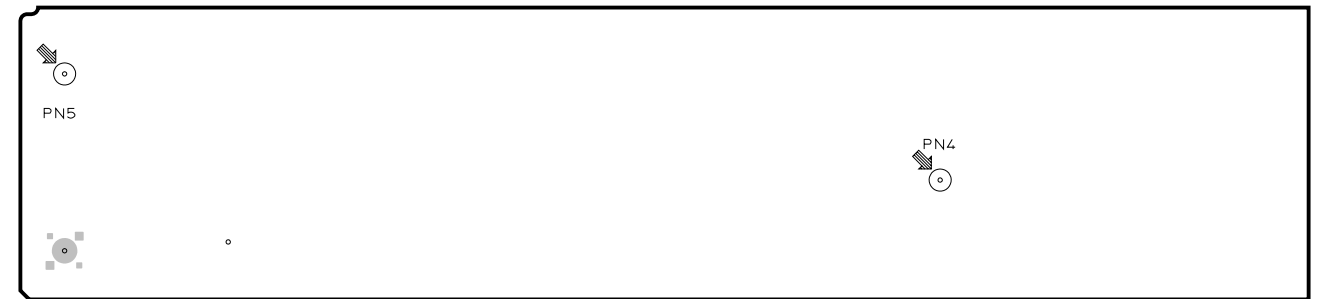
MAIN (5) P.C.B. (Side A)



MAIN (6) P.C.B. (Side A)



MAIN (7) P.C.B. (Side A)

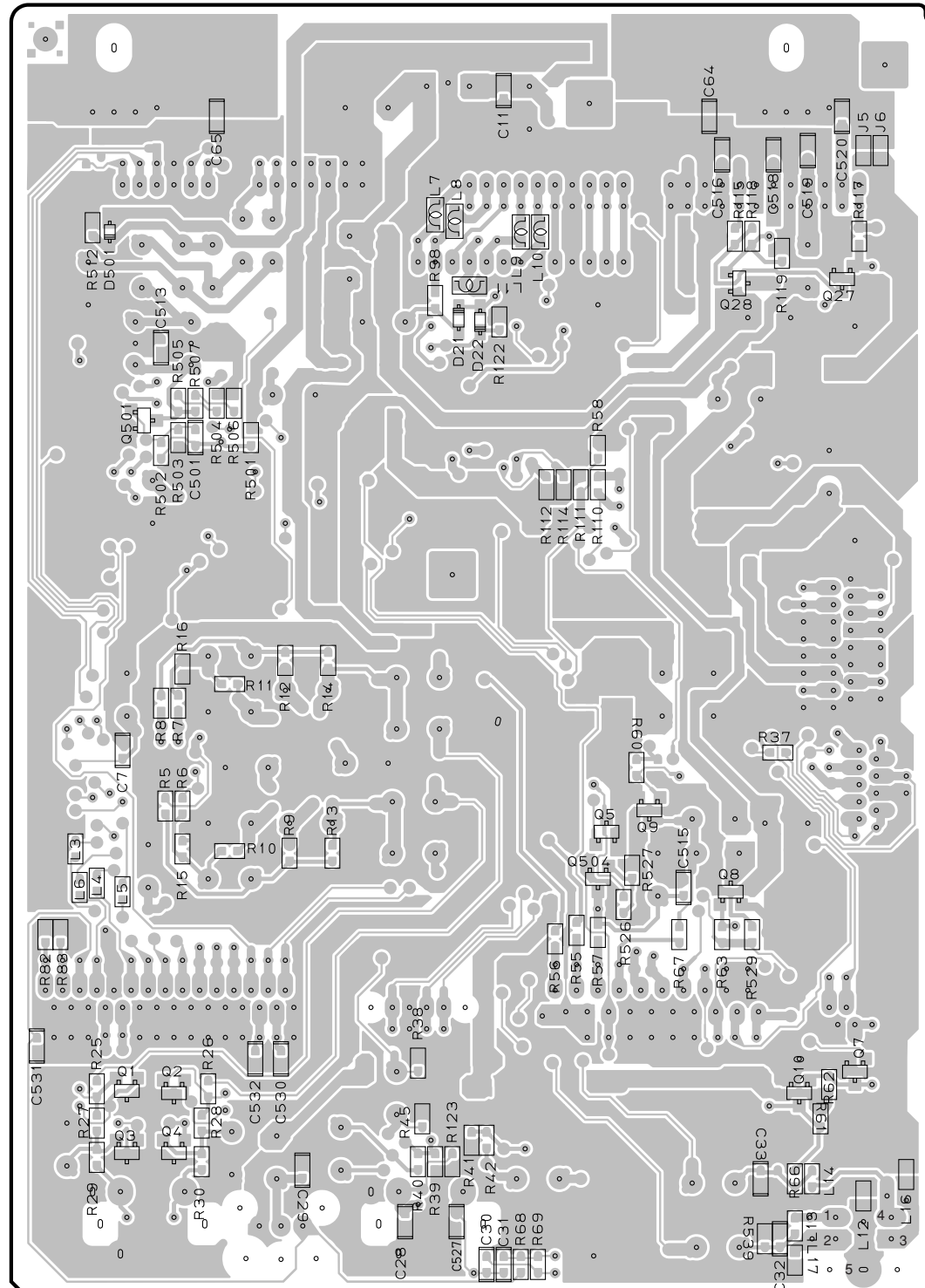


• Semiconductor Location

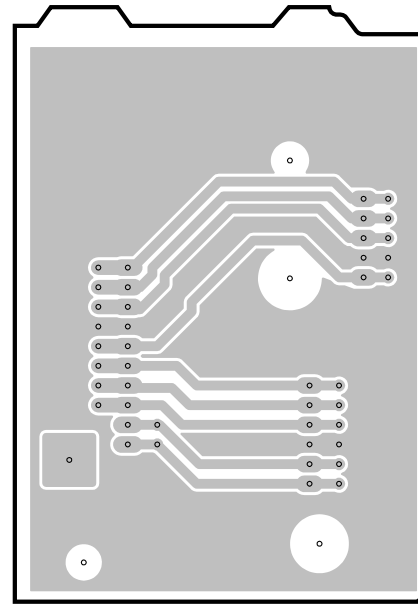
Ref no.	Location	Ref no.	Location	Ref no.	Location	Ref no.	Location
D4	B4	D19	C4	IC6	C6	Q20	C3
D5	B4	D20	C4	IC8	D4	Q21	C3
D6	B4	D208	C4	IC9	D9	Q22	D3
D7	B3	IC1	D4	Q11	B3	Q24	C4
D8	B4	IC2	B5	Q12	B4	Q25	C4
D9	C4	IC3	C2	Q13	B4	Q26	C4
D10	C4	IC4	D4	Q14	B4	Q502	B3
D18	C4	IC5	C5	Q15	C4	Q503	B3

1 ■ PRINTED CIRCUIT BOARD (Foil side)

MAIN (5) P.C.B. (Side B) Lead Free Solder Used



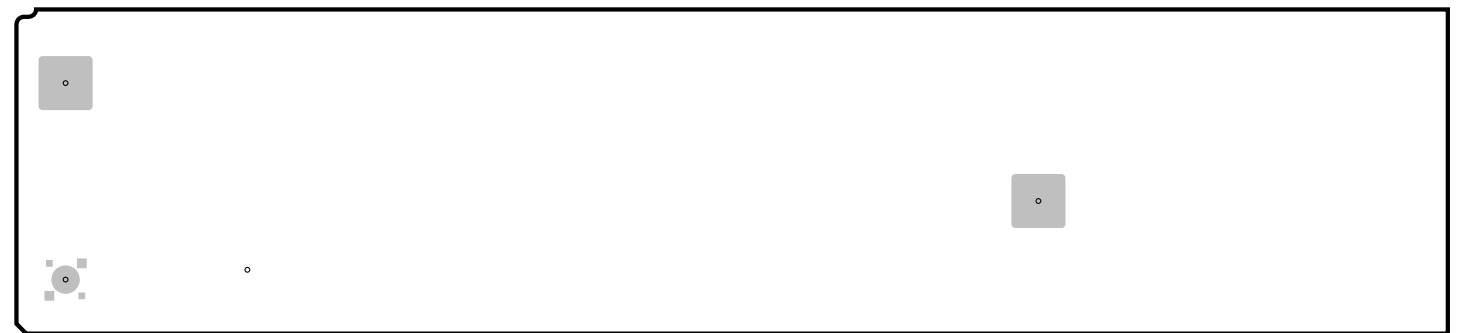
MAIN (6) P.C.B. (Side B) Lead Free Solder Used



• Semiconductor Location

Ref no.	Location	Ref no.	Location
D21	C3	Q7	D6
D22	C3	Q8	D5
D501	B3	Q9	D5
Q1	B6	Q10	D6
Q2	B6	Q27	D3
Q3	B6	Q28	D3
Q4	B6	Q501	B4
Q5	C5	Q504	C5

MAIN (7) P.C.B. (Side B) Lead Free Solder Used



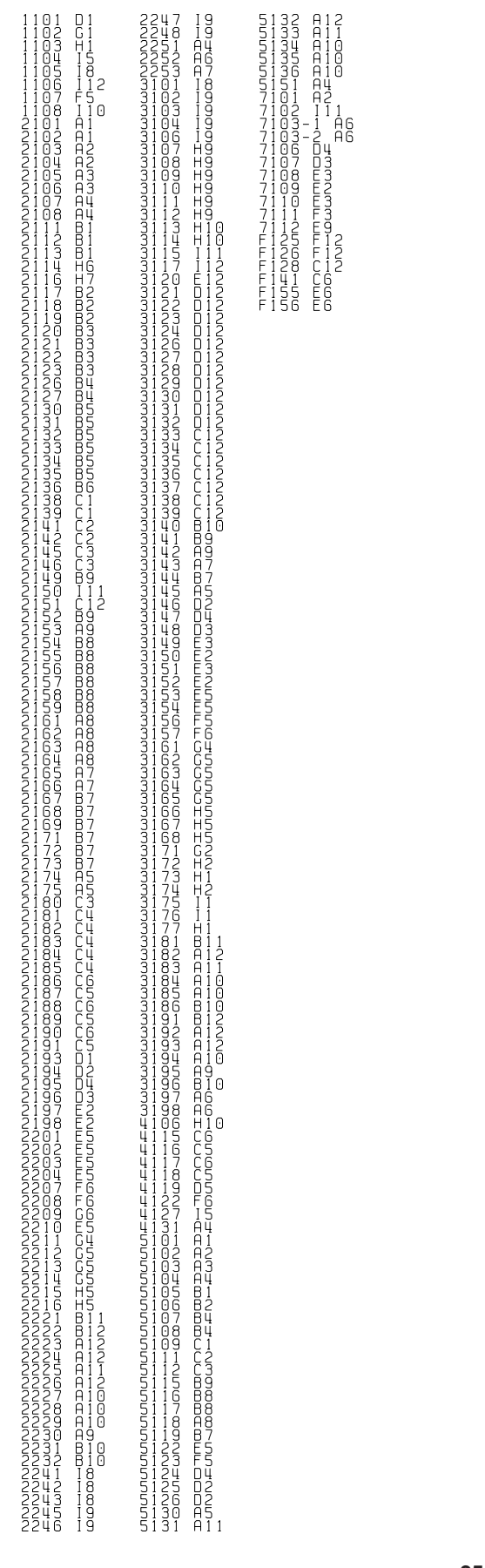
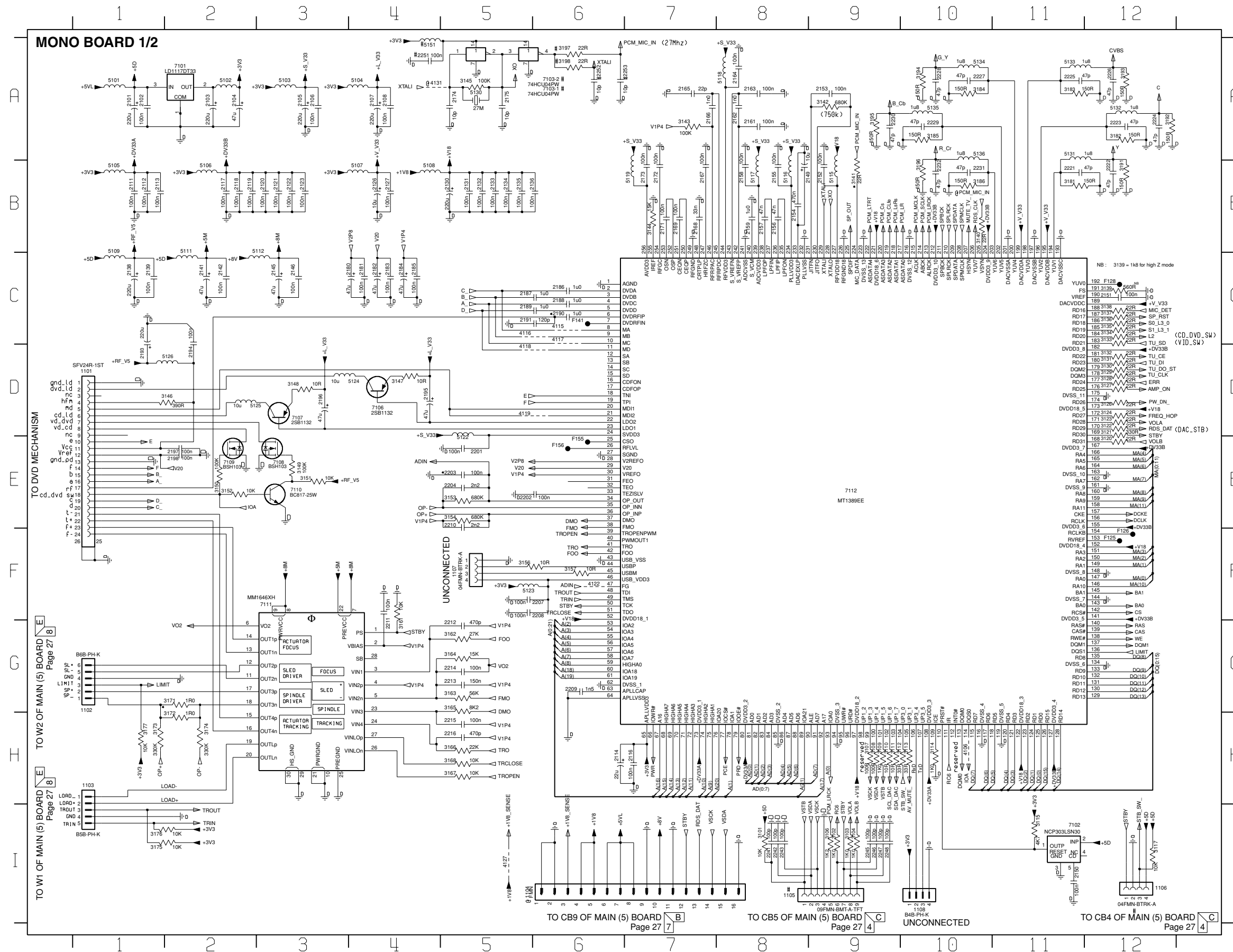
1
2
3
4
5
6
7

SCHEMATIC DIAGRAM

FOR INFORMATION ONLY (NO REPLACEMENT COMPONENT PARTS WILL BE AVAILABLE)

The first digit of a component indicates the component type.

- 1xxx : Connector 3xxx : Resistor 5xxx : Coil 7xxx : IC, Transistor, FET
- 2xxx : Capacitor 4xxx : SMD jumper 6xxx : Diode 9xxx : Wire jumper

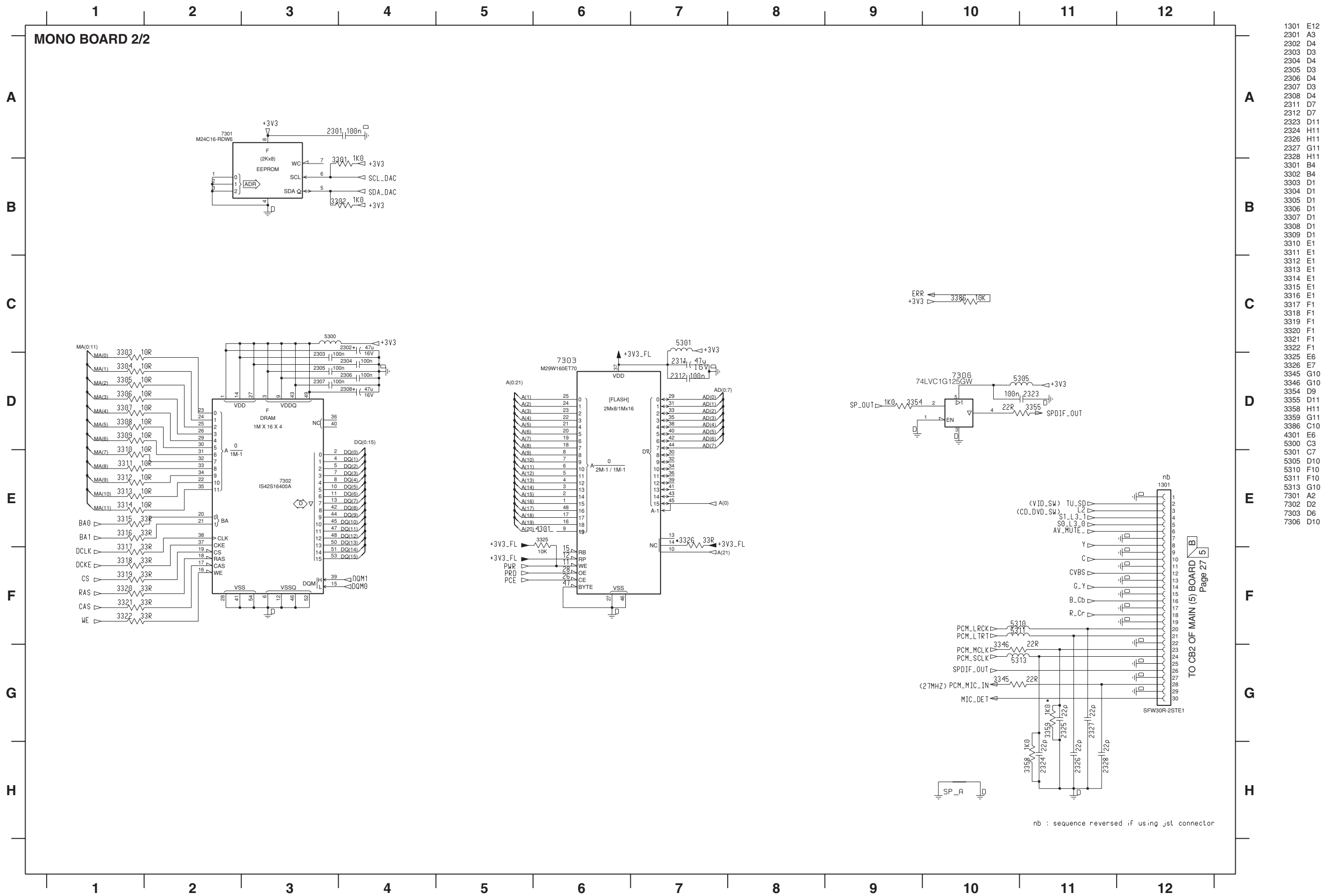


■ SCHEMATIC DIAGRAM

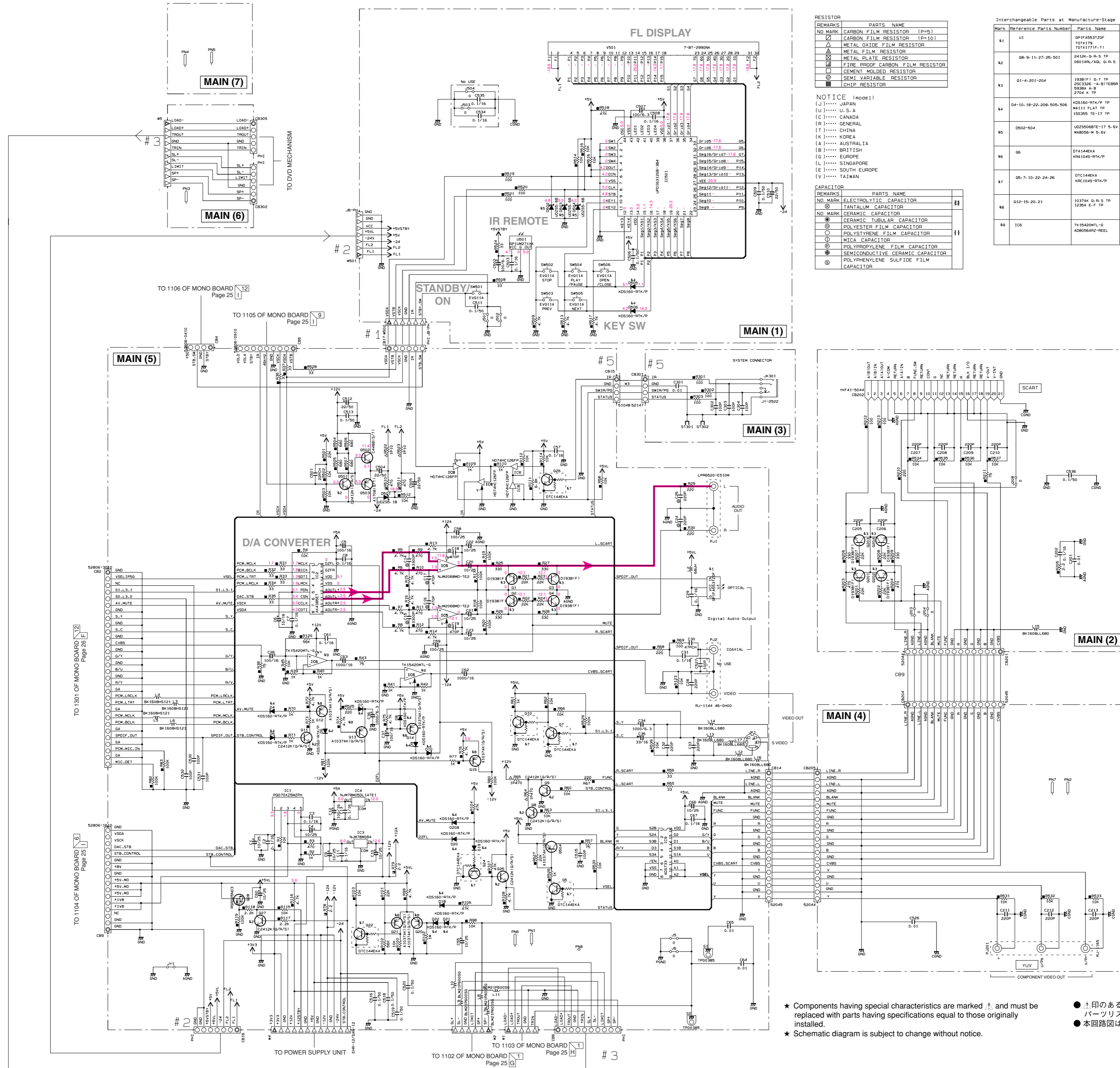
FOR INFORMATION ONLY (NO REPLACEMENT COMPONENT PARTS WILL BE AVAILABLE)

The first digit of a component indicates the component type.

- 1xxx : Connector
- 2xxx : Capacitor
- 3xxx : Resistor
- 4xxx : SMD jumper
- 5xxx : Coil
- 6xxx : Diode
- 7xxx : IC, Transistor, FET
- 8xxx : Wire jumper
- 9xxx : Wire jumper



■ SCHEMATIC DIAGRAM (MAIN)



RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
△	CARBON FILM RESISTOR (P=10)
▲	METAL OXIDE FILM RESISTOR
⊠	METAL FILM RESISTOR
⊡	METAL PLATE RESISTOR
⊞	FINE PROOF CARBON FILM RESISTOR
⊞	CEMENT MOLDED RESISTOR
⊞	SEMI VARIABLE RESISTOR
⊞	CHIP RESISTOR

Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
41	U1	GP14553Z0F 101X179 101X177(F1)
42	98-9-11-27-26-501	2412K-G-R-S TP 9801AR/ABL G-R-S
43	01-4-201-204	1938(F1) S-T TP 25C3356 -A-B1TE89A 938A A-B 2704 K TP
44	04-10-18-20-208-505-506	KDS160-RTK/P TP M4111 PLAT TP 155295 TE-17 TP
45	D502-504	UD25068TE-17 5-6V M48056-W 5-6V
46	06	DT144EK4 K481045-RTK/P
47	05-7-10-22-24-26	DT144EK4 K481045-RTK/P
48	012-15-20-21	1037K G-R-S TP 1235A E-F TP
49	1C5	K15420MTL-G AD80564R2-REEL

NOTICE (mode1)

(J) JAPAN
(U) U.S.A
(C) CANADA
(R) GENERAL
(T) CHINA
(K) KOREA
(A) AUSTRALIA
(B) BRITISH
(G) EUROPE
(L) SINGAPORE
(E) SOUTH EUROPE
(V) TAIWAN

CAPACITOR

REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
⊞	TANTALUM CAPACITOR
⊞	CERAMIC TUBULAR CAPACITOR
⊞	CERAMIC CAPACITOR
⊞	POLYPROPYLENE FILM CAPACITOR
⊞	POLYSTYRENE FILM CAPACITOR
⊞	MICA CAPACITOR
⊞	SEMICONDUCTIVE CERAMIC CAPACITOR
⊞	POLYPHENYLENE SULFIDE FILM CAPACITOR

★ Components having special characteristics are marked △ and must be replaced with parts having specifications equal to those originally installed.

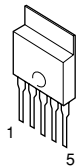
● △印のある部品は、安全性確保部品を示しています。部品の交換が必要な場合、パーツリストに記載されている部品を使用してください。

● 本回路図は標準回路図です。改良のため予告なく変更することがございます。

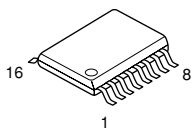
PIN CONNECTION DIAGRAM

● ICs

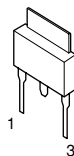
PQ070X25MZP



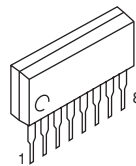
AK4385ET
ADG733



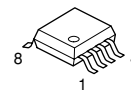
NJM78M05DL 1A
NJM78M08A 8V



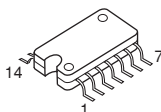
NJM2068MD



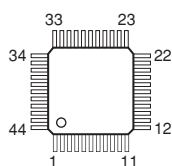
TK15420M



HD74HC126FP



uPD16312GB

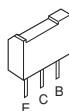


● Transistors

2SA1037K (Q, R, S)
2SC2412K (Q, R, S)
2SD1938F (S, T)
DTC144EKA
RSR025N03

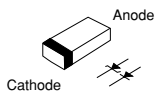


2SA1708 (S, T)
2SC4488 (S, T)

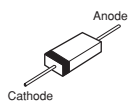


● Diodes

UDZ5.1B 5.1V
UDZS5.6BTE-17 5.6V



KDS160-RTK




DVD-E600MK2

PARTS LIST

■ ELECTRICAL PARTS

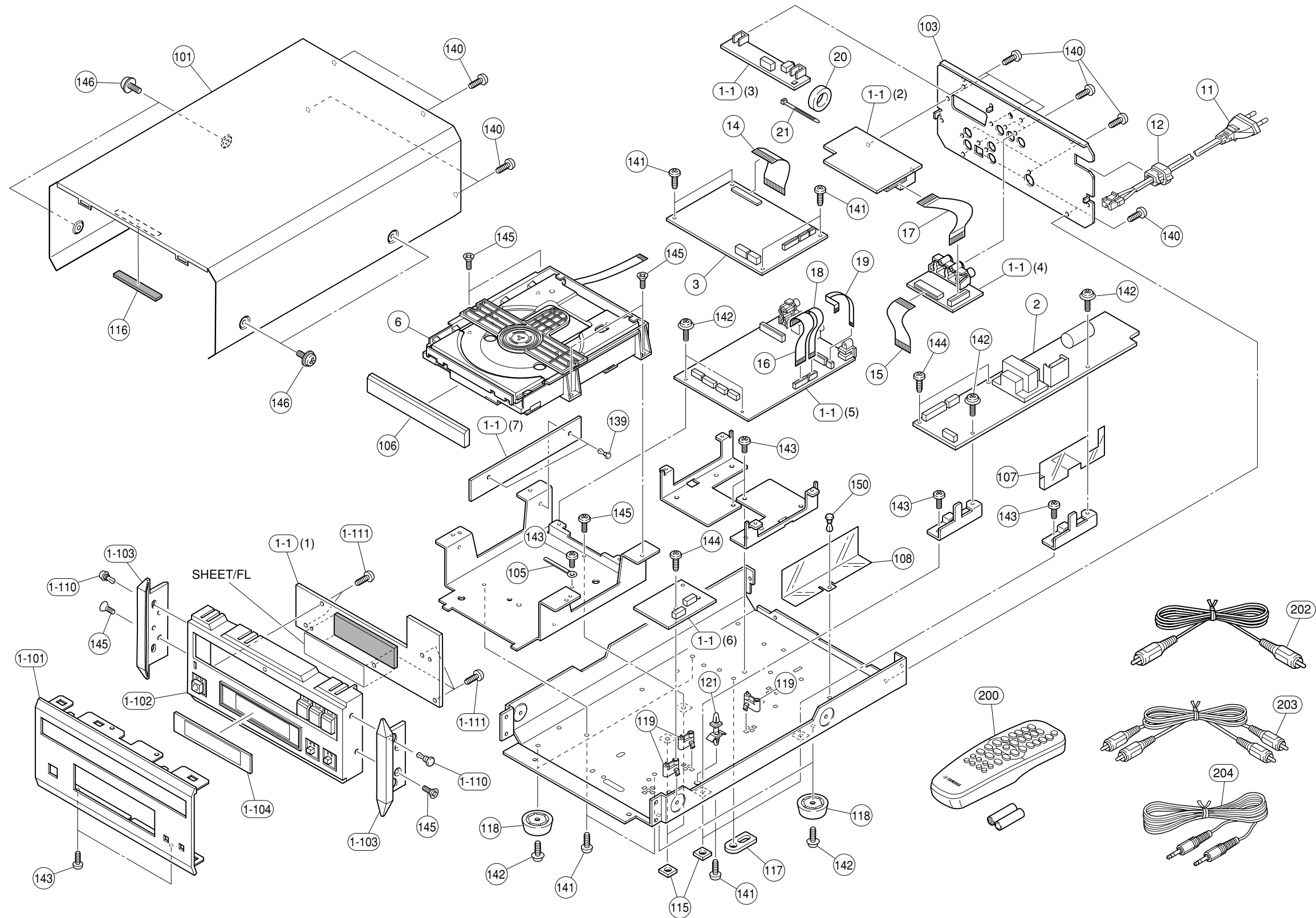
■ WARNING

- Components having special characteristics are marked  and must be replaced with parts having specifications equal to those originally installed.

ABBREVIATIONS IN THIS LIST ARE AS FOLLOWS:

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

■ EXPLODED VIEW



⚠: Note on the MAIN P.C.B.

Of the MAIN P.C.B. part Nos., only the silver (SI) type part Nos. are included in the table.

The only different part between the gold (GD) and silver (SI) type parts is the sheet/FL that is attached to the fluorescent character display tube. When a gold (GD) type MAIN P.C.B. becomes necessary, order a silver (SI) type MAIN P.C.B. and a gold (GD) type sheet/FL (WD890100) and replace the sheet/FL of the silver (SI) type MAIN P.C.B. with the gold (GD) type sheet/FL.

MECHANICAL PARTS

Ref. No.	Part No.	Description	Remarks	Markets
* 1-1	WG111500	P. C. B. ASS'Y	MAIN	SI
* 1-101	WG127400	FRONT PANEL		GD
* 1-101	WG127300	FRONT PANEL		SI
1-102	WE493500	SUB PANEL-DVD		GD
1-102	WE493400	SUB PANEL-DVD		SI
1-103	V8785200	PANEL/SIDE	H100	
1-104	WD607500	SHEET/WINDOW		
1-110	VQ368600	PUSH RIVET	P3555-B	
1-111	VF617600	PAN HEAD P-TIGHT SCREW	2.6x8 MFC2BL	
* 2	X7186A00	POWER SUPPLY UNIT		3139 248 72062
* 3	X7187A00	MONO BOARD		3139 248 86741
* 6	WG205300	DVD MECHANISM UNIT		3139 248 72251
* 11	VN363600	POWER CABLE		GE
* 11	WF723100	POWER CABLE	2m	B
12	V2438700	CORD STOPPER	10P1	
* 14	WG226900	FLEXIBLE FLAT CABLE	30P 70mm P=1.0	
* 15	WG227300	FLEXIBLE FLAT CABLE	20P 80mm P=1.25	
* 16	WG227100	FLEXIBLE FLAT CABLE	16P 80mm P=1.0	
17	MF115080	FLEXIBLE FLAT CABLE	15P 80mm P=1.25	
* 18	WG227200	FLEXIBLE FLAT CABLE	9P 80mm P=1.0	
* 19	WG227000	FLEXIBLE FLAT CABLE	4P 70mm P=1.0	
20	VB933800	FERRITE CORE	BP53RB310190NOA	
21	VU590000	BINDING TIE	CBTD001B	
101	V7127400	TOP COVER		GD
101	V7127300	TOP COVER		SI
* 103	WG127200	REAR PANEL		
105	WD397500	BINDING TIE	MSF-085	
* 106	WG127600	LID/DVD		GD
* 106	WG127500	LID/DVD		SI
107	WE361000	SHEET/BARRIER		
108	WF754600	BARRIER PSU		
115	WC879000	DAMPER		
116	VP857700	DAMPER	4x6x55	
117	V7616600	DAMPER		
118	V3688500	LEG	M0080-M0	
* 119	WG085200	SUPPORT/PSU		
121	WA602600	LOCKING CARD SPACER	KGLS-8S	
139	VQ368500	PUSH RIVET	P3545-B	
140	WE774100	BIND HEAD BONDING B-T. SCREW	3x8 MFZN2B3	
141	WE774300	BIND HEAD B-TIGHT SCREW	3x8 MFZN2W3	
142	VT669300	PW HEAD B-TIGHT SCREW	3x8-8 MFC2	
143	WE936300	BIND HEAD B-TIGHT SCREW	3x6 MFZN2W3	

* New Parts

Ref. No.	Part No.	Description	Remarks	Markets
144	WE774800	BIND HEAD P-TIGHT SCREW	3x8 MFZN2W3	
145	EP600790	FLAT HEAD B-TIGHT SCREW	3x8 MFZN2BL	
146	VY712800	PW HEAD B-TIGHT SCREW	3x8-8 MFN133	
* 150	WG432900	PUSH RIVET	P3535	
%	WD890100	SHEET/FL	ORANGE	GD
	WD890000	SHEET/FL	BLUE	SI
		ACCESSORIES		
200	WD882600	REMOTE CONTROL		3139 248 71873
202	VV209200	VIDEO PIN CABLE	1P 1.0m	
203	VY952200	AUDIO PIN CABLE	2P 1.0m 1pc	
204	WD865200	SYSTEM CONTROL CABLE	1P 1.0m 1pc	
		BATTERY, MANGANESE	SUM-3M 2pcs	

* New Parts

DVD-E600MK2

