

SERVICE MANUAL

MODEL
SDP1731A

CAUTION : Before servicing this chassis, read the "PRODUCT SAFETY SERVICE FOR VIDEO PRODUCTS" section on page 2 of this manual.

DVD and CD PLAYER

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LASER BEAM CAUTION LABEL

- レンズには絶対に触れないでください。
- DO NOT TOUCH THE LENS.
- LINSE NICHT BRÜHREN.
- NE PAS TOUCHER LA LENTILLE.

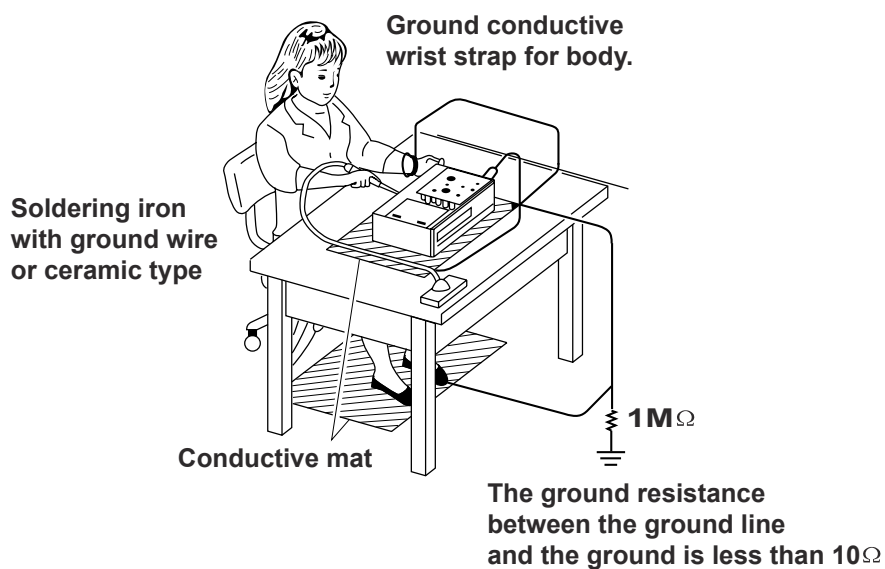
When the power supply is being turned on, you may not remove this laser cautions label. If it removes, radiation of laser may be received.

PREPARATION OF SERVICING

Pickup Head consists of a laser diode that is very susceptible to external static electricity.

Although it operates properly after replacement, if it was subject to electrostatic discharge during replacement, its life might be shortened. When replacing, use a conductive mat, soldering iron with ground wire, etc. to protect the laser diode from damage by static electricity.

And also, the LSI and IC are same as above.



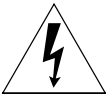
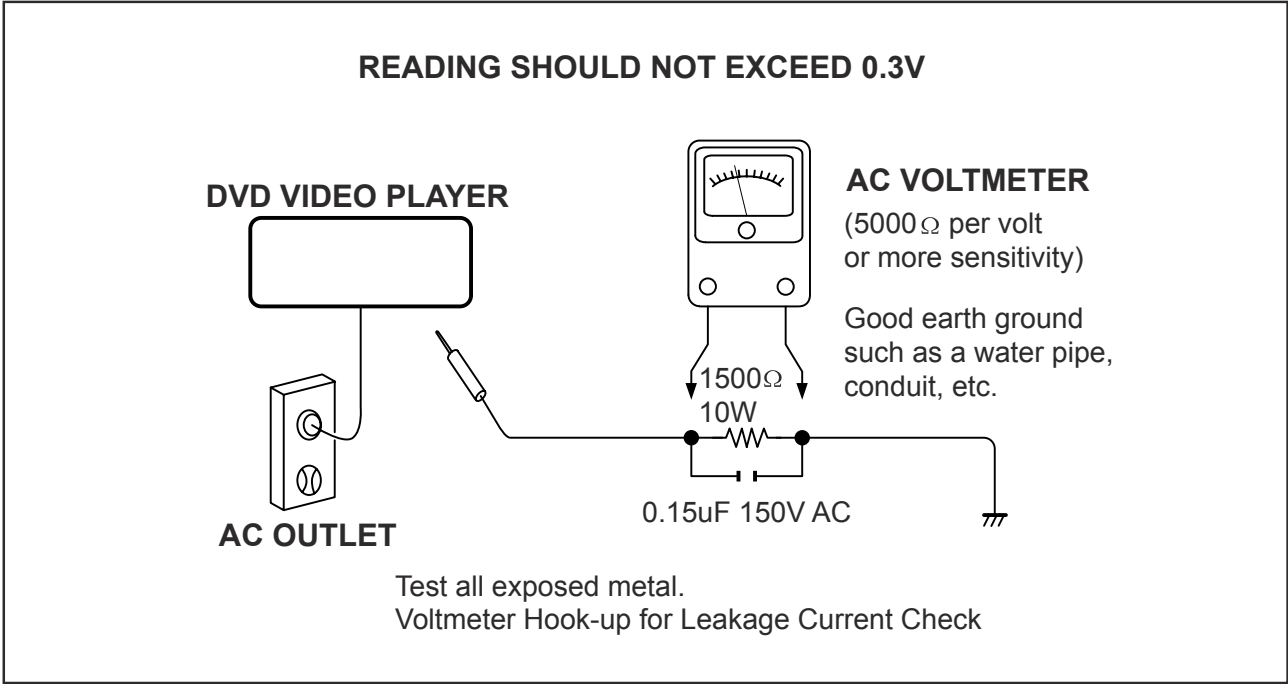
SAFTY NOTICE

SAFTY PRECAUTIONS

LEAKAGE CURRENT CHECK

Plug the AC line cord directly into a 120V AC outlet (do not use an isolation transformer for this check). Use an AC voltmeter, having 5000Ω per volt or more sensitivity. Connect a 1500Ω 10W resistor,paralleled by a 0.15uF 150V AC capacitor between a knomn good earth ground (water pipe, conduit, etc.) and all exposed metal parts of cabinet (antennas, handle bracket, metal cabinet screwheads, metal overlays, control shafts, etc.).

Measure the AC voltage across the 1500Ω resistor. The test must be conducted with the AC switch on and then repeated with the AC switch off. The AC voltage indicated by the meter may not exceed 0.3V.A reading exceeding 0.3V indicates that a dangerous potential exists, the fault must be located and corrected. Repeat the above test with the DVD VIDEO PLAYER power plug reversed. NEVER RETURN A DVD VIDEO PLAYER TO THE CUSTOMER WITHOUT TAKING NECESSARY CORRECTIVE ACTION.

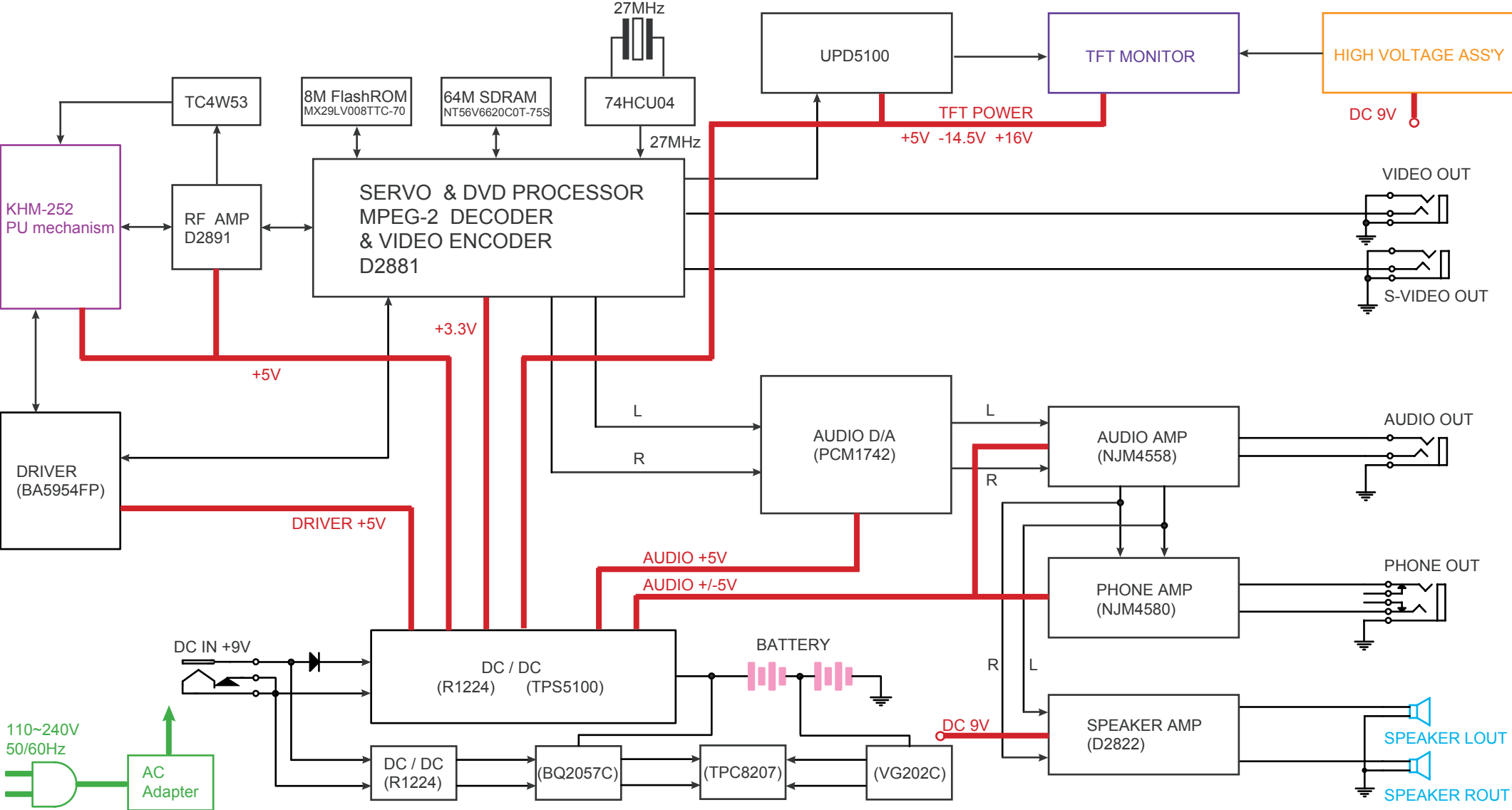


The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

OVERALL BLOCK DIAGRAM



1. Troubleshooting

1. No power when turned on.
2. The initial screen is not displayed on the LCD.
3. The DVD drive does not work.
4. The operation of the DVD player stops at initializing display.
5. Image output stops during the operation.
6. No sound or abnormal sound comes out form the speakers in the DVD player.
7. No image or sound comes out form the external output.
8. No sound comes out form the headphones.
9. No image or sound is output by external input.
10. The DVD drive does not operate with the battery.

1.1 No power when turned on.

When the power is turned on, and if the LED on the front panel does not light green, check the following items and repair the defective parts.

(1) Check the power supply cable

If the cable is not the supplied one, replace it with the supplied cable and turn on the power again.

If the power supply cable is good, the AC adapter may be defective.

If the LED does not light after replacing, check the following items.

(2) Check the AC adapter

If the AC adapter is not the supplied one, replace it with the supplied AC adapter and turn on the power.

If the AC adapter is good, the power supply boards may be defective.

If the LED does not light after replacing, check the following items.

(3) Check the Power and Play buttons

Press the POWER button or the PLAY button on the DVD player. If the power does not turn on, check the following:

- Check the connector of the switch unit in the DVD player.
(If the connection is loose, repair the connection.)
- Replace the switch unit and turn on the power again.
If the LED does not light after replacing, check the following items.

(4) Replace the main board

1.2 The initial screen is not displayed on the LCD.

If the initial screen is not displayed on the LCD, check the following items.

(1) Check the LED on the front

If the LED does not light, proceed to 1.1.

(2) Check the backlight

If the backlight does not light up, separate the DVD player into top assembly and bottom assembly, and check the connector harness, and check the connectors for defects.

If the connector harness is broken:

Replace the broken harness.

If the connector harness is not broken:

Remove the LCD cover and plate of the LCD unit and check the following:

- Check the connector of the FL harness, repair connectors.
- If the connectors are good, replace the FL inverter or the LCD.

(3) Check the lighting of LCD

If the LCD does not light, separate the DVD player into the top assembly and bottom assembly, and check the LCD harness, and check the connectors on the main board.

If the connector is broken:

Replace the LCD harness or the main board.

If the connector is not broken:

Remove the LCD cover and plate of the LCD unit, and check the connection to the harness of the LCD unit.

- If a bad connection is found.
Connect the LCD harness to the LCD unit.
- Other than the above
Replace the LCD unit or the main board.

1.3 The DVD drive does not work.

When the DVD drive does not work after the power is turned on, check the following items and repair or replace the defective parts.

- (1) **Press the DISC cover switch at the center of the DVD player and turn on the power. Then check whether or not the optical pick-up lens of the DVD drive lights.**

CAUTION: Visible laser radiation when open and interlock defeated. Do not stare into Laser beam.

The optical pick-up lens lights dim:

It is caused by deterioration of the optical pick-up lens. Replace the DVD drive.

The optical pick-up lens does not light:

Check the connectors of the DVD-FFC. Also check the connection to the main board and to the DVD drive.

- Loose connection is found.
Repair the connection, and then check the operation of the DVD drive again.
- The DVD-FFC is broken.
Replace the DVD-FFC.
- Other than the above.
Replace the DVD drive or the main board.

- (2) **Insert a DVD disk and turn on the power**

The DVD drive does not work:

The motor of the DVD drive or the main board is defective. Replace the DVD drive or the main board.

The DVD drive works but the initializing operation of the optical pick-up lens does not start (the optical pick-up lens operates twice), or abnormal noise sound:

The DVD drive is defective. Replace the DVD drive.

1.4 The operation of the DVD player stops at initializing display.

If the DVD player does not work after the initializing screen is displayed, check the indication on the screen. Then repair the defect according to it.

- (1) **Insert a DVD disk and close the DISC cover, and turn on the power. Then check the LCD screen or use an external display.**

- **The message “loading” is not displayed or the operation stops at the message “Loading”.**

Since the DVD drive or the main board is defective, check in the following order:

- 1) DVD drive
- 2) Main board

- **The message “CHECK DISK” is displayed.**

Check the DVD disk for fingerprints, dirt, etc.

If the DVD disk is OK, then check the following items:

- 1) Check the DVD-FFC
If a loose connection, repair the connection.
If it is damaged, replace it with new one.
- 2) Other than above
For other cases, replace the unit in the following order:
 - DVD drive (defective optical pick-up)
 - Main board

1.5 Image output stops during the operation.

If the image output from the media in the DVD player stops during the operation, replace the DVD drive.

1.6 No sound or abnormal sound comes out from the speakers in the DVD player.

If no sound comes out from the speakers in the DVD player, check the following:

(1) Check for moving images on the LCD screen

Check whether or not the move of image stops in halfway. If it stops, replace the DVD drive.

(2) Check the operation of the DVD driver.

Check whether or not the DVD drive works. If it stops, replace the DVD drive.

(3) Check the connection of the speakers in the LCD unit.

Separate the DVD player into the top assembly and bottom assembly, and then check the connection of the speaker harnesses to the main board. If a bad connection, repair the connection.

Other than the above, disassemble the LCD unit and replace the speakers or the main board.

1.7 No image or sound comes out from the external output

If any image or sound is output from the TV connected by the external cable, replace the main board or the connector.

NOTE: Before this test, make sure the drive works.

1.8 No sound comes out from the headphones.

If no sound comes out from the headphones, replace the main board or the connector.

1.9 No image or sound is output by the external input.

If any image or sound is output by external input, replace the main board or the connector.

1.10 The DVD drive does not operate with the battery.

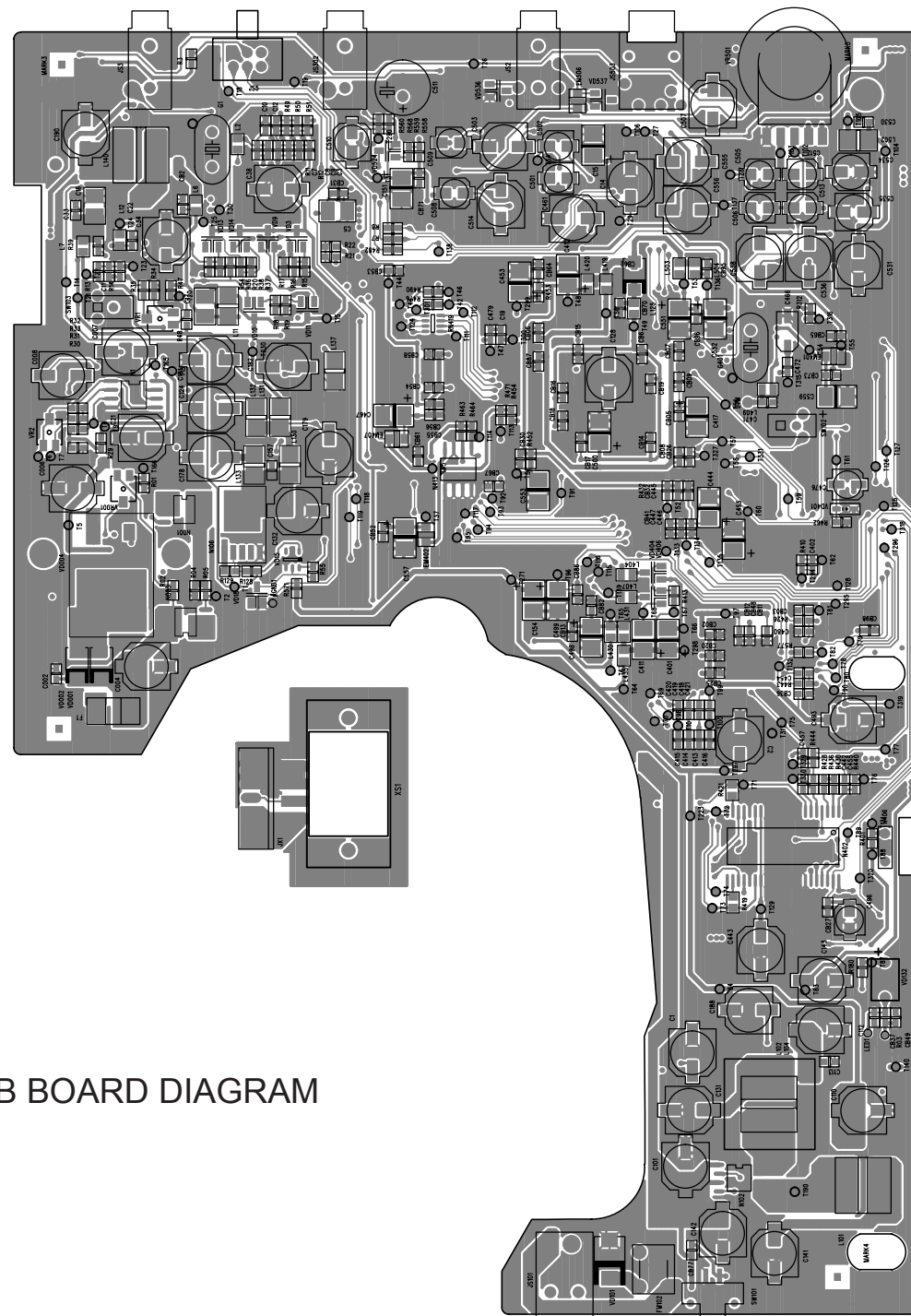
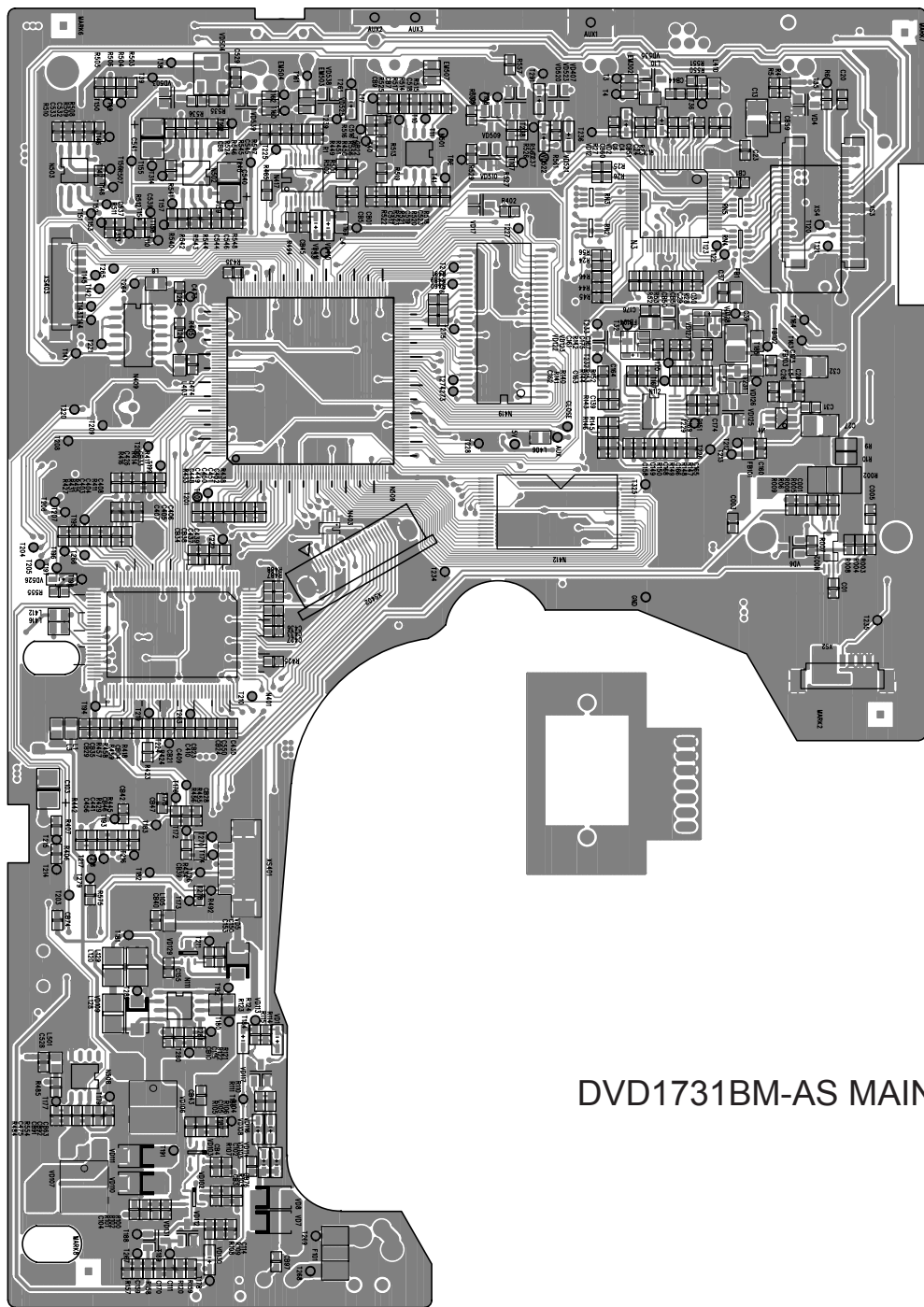
(1) Check the operation with a good battery.

Install a good battery and make sure the LED lights up orange while the AC adapter is connected. When the LED does not light up or blinks, check the connection of the battery harness inside the DVD player. If the connection is loose, repair connection. If the harness has been connected firmly, replace the main board.

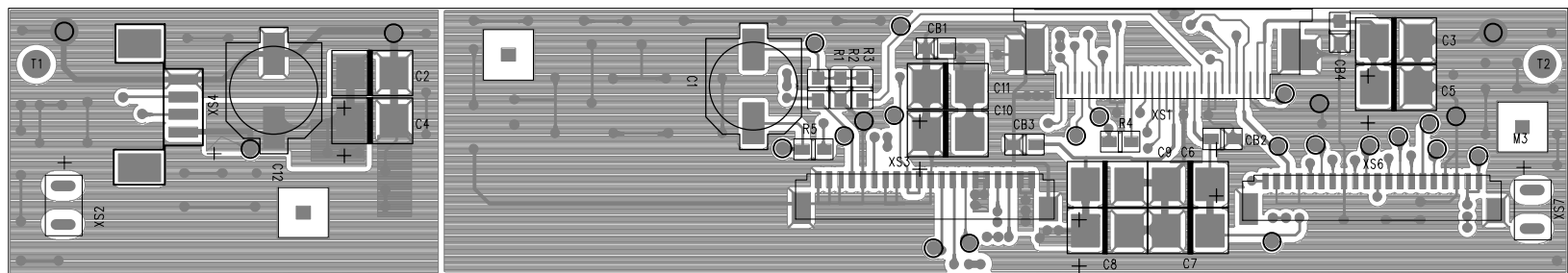
(2) Other than the above, replace the battery.

NOTE:

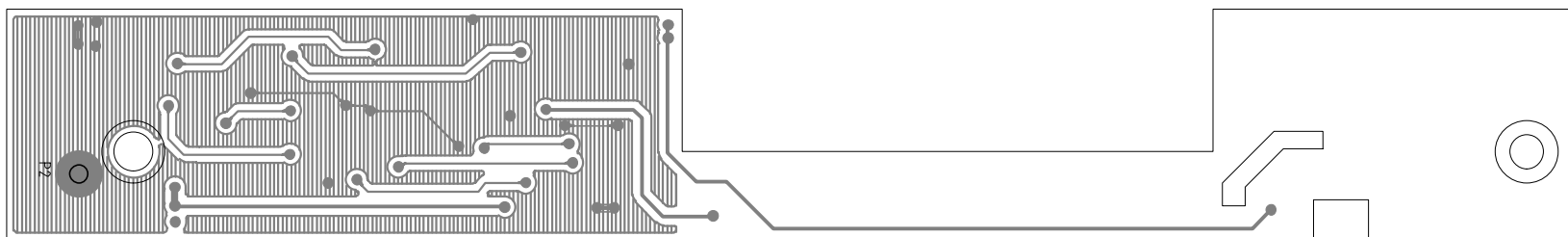
- For this check, use a battery which is not fully charged (because the LED does not light when the battery is fully charged.)
- Before this check, make sure other function work correctly.



DVD1731BM-AS MAIN PCB BOARD DIAGRAM



DVD1731T-AS IF PCB BOARD DIAGRAM



DVD1731H-L HV PCB BOARD DIAGRAM

ELECTRICAL PARTS LIST

PART No.	PART NAME	Q'TY
SDP1731A		
11079j	RB-LI24 LITHIUM BATTERY	1
21328	DVD1731H-L HV PCB ASS'Y	1
21186	DVD1731 FUNCTION PCB ASS'Y	1
21385	DVD1731BM-AS MAIN PCB ASS'Y	1
21344	DVD1731T-AS IF PCB ASS'Y	1
S8064	KHM-252 LOADING ASS'Y	1
S0578e	ADPV18A AC POWER ADAPTER	1
S5006a	SPEAKER	2
S1177d	OWNER MANUAL	1
S06024	RC-1730 REMOTE	1
S3421a	20 PIN HARNESS (LE105)	1
S3421c	20 PIN HARNESS (LE140)	1
a7187e	LB070W02-S TFT LCD	1
S0535	CAR CIGARETTE ADAPTER	1
S3589	SPEAKER CONNECT WIRE	2
S3590	TFT EARTHING WIRE	1
S3736	HV POWER CONNECT WIRE	1
S3153	RCA CORD VIDEO	1
S3154	RCA CORD AUDIO	1
S4353	EARPHONE	1
S3501	FFC-0.5-24-130	1

REF No.	PART No.	PART NAME
DVD1731BM-AS MAIN PCB ASS'Y		
RESISTOR		
R1	P11038	Resistor chip 39K Ω
R3	P11013	Resistor chip 10K Ω
R4	P11000	Resistor chip 0 Ω
R6	P11012	Resistor chip 4.7K Ω
R7	P11004	Resistor chip 33 Ω
R8	P11004	Resistor chip 33 Ω
R01	P11039	Resistor chip 56K Ω
R02	P11039	Resistor chip 56K Ω
R03	P11010	Resistor chip 2K Ω
R04	P11018	Resistor chip 47K Ω
R05	P11009	Resistor chip 1K Ω
R06	P11018	Resistor chip 47K Ω
R10	P11207	Resistor chip 0.5 Ω
R12	P11009	Resistor chip 1K Ω
R14	P11000	Resistor chip 0 Ω
R17	P11072	Resistor chip 300 Ω
R20	P11072	Resistor chip 300 Ω
R22	P11013	Resistor chip 10K Ω
R23	P11023	Resistor chip 1M Ω
R24	P11147	Resistor chip 750 Ω
R25	P11006	Resistor chip 100 Ω
R26	P11006	Resistor chip 100 Ω
R27	P11035	Resistor chip 20K Ω
R28	P11010	Resistor chip 2K Ω
R29	P11017	Resistor chip 33K Ω
R30	P11013	Resistor chip 10K Ω
R31	P11013	Resistor chip 10K Ω
R32	P11013	Resistor chip 10K Ω
R33	P11013	Resistor chip 10K Ω
R34	P11013	Resistor chip 10K Ω
R36	P11072	Resistor chip 300 Ω
R39	P11013	Resistor chip 10K Ω
R44	P11013	Resistor chip 10K Ω
R45	P11013	Resistor chip 10K Ω
R46	P11013	Resistor chip 10K Ω
R47	P11053	Resistor chip 5.6K Ω
R49	P11025	Resistor chip 680 Ω
R50	P11005	Resistor chip 75 Ω

REF No.	PART No.	PART NAME
R52	P11000	Resistor chip 0 Ω
R53	P11000	Resistor chip 0 Ω
R54	P11000	Resistor chip 0 Ω
R55	P11012	Resistor chip 4.7K Ω
R002	P11254	SL1TE100MF
R003	P11042	Resistor chip 120K Ω
R004	P11019	Resistor chip 100K Ω
R005	P11041	Resistor chip 82K Ω
R006	P11013	Resistor chip 10K Ω
R007	P11009	Resistor chip 1K Ω
R008	P11009	Resistor chip 1K Ω
R009	P11009	Resistor chip 1K Ω
R100	P11035	Resistor chip 20K Ω
R101	P11052	Resistor chip 3K Ω
R102	P11030	Resistor chip 2.7K Ω
R103	P11003	Resistor chip 10 Ω
R104	P11034	Resistor chip 18K Ω
R105	P11014	Resistor chip 12K Ω
R106	P11030	Resistor chip 2.7K Ω
R107	P11003	Resistor chip 10 Ω
R108	P11009	Resistor chip 1K Ω
R109	P11018	Resistor chip 47K Ω
R110	P11069	Resistor chip 13K Ω
R111	P11012	Resistor chip 4.7K Ω
R114	P11018	Resistor chip 47K Ω
R115	P11009	Resistor chip 1K Ω
R120	P11009	Resistor chip 1K Ω
R129	P11000	Resistor chip 0 Ω
R140	P11044	Resistor chip 220K Ω
R141	P11054	Resistor chip 7.5K Ω
R142	P11034	Resistor chip 18K Ω
R143	P11006	Resistor chip 100 Ω
R144	P11044	Resistor chip 220K Ω
R145	P11008	Resistor chip 470 Ω
R146	P11008	Resistor chip 470 Ω
R147	P11040	Resistor chip 68K Ω
R148	P11040	Resistor chip 68K Ω
R149	P11040	Resistor chip 68K Ω
R150	P11040	Resistor chip 68K Ω
R151	P11142	Resistor chip 6.2K Ω

REF No.	PART No.	PART NAME
R152	P11044	Resistor chip 220K Ω
R153	P11034	Resistor chip 18K Ω
R157	P11018	Resistor chip 47K Ω
R158	P11013	Resistor chip 10K Ω
R159	P11013	Resistor chip 10K Ω
R180	P11010	Resistor chip 2K Ω
R312	P11004	Resistor chip 33 Ω
R401	P11006	Resistor chip 100 Ω
R402	P11013	Resistor chip 10K Ω
R405	P11023	Resistor chip 1M Ω
R406	P11000	Resistor chip 0 Ω
R407	P11013	Resistor chip 10K Ω
R413	P11003	Resistor chip 10 Ω
R414	P11019	Resistor chip 100K Ω
R415	P11000	Resistor chip 0 Ω
R417	P11034	Resistor chip 18K Ω
R419	P11207	Resistor chip 0.5 Ω
R421	P11207	Resistor chip 0.5 Ω
R425	P11015	Resistor chip 15K Ω
R426	P11000	Resistor chip 0 Ω
R428	P11013	Resistor chip 10K Ω
R429	P11035	Resistor chip 20K Ω
R430	P11035	Resistor chip 20K Ω
R432	P11002	Resistor chip 4.7 Ω
R433	P11055	Resistor chip 8.2K Ω
R434	P11063	Resistor chip 1 Ω
R435	P11117	Resistor chip 510 Ω
R436	P11035	Resistor chip 20K Ω
R438	P11122	Resistor chip 750K Ω
R440	P11035	Resistor chip 20K Ω
R442	P11038	Resistor chip 39K Ω
R443	P11000	Resistor chip 0 Ω
R444	P11013	Resistor chip 10K Ω
R445	P11015	Resistor chip 15K Ω
R449	P11013	Resistor chip 10K Ω
R450	P11013	Resistor chip 10K Ω
R451	P11013	Resistor chip 10K Ω
R452	P11002	Resistor chip 4.7 Ω
R453	P11002	Resistor chip 4.7 Ω
R454	P11013	Resistor chip 10K Ω

REF No.	PART No.	PART NAME
R455	P11019	Resistor chip 100K Ω
R456	P11009	Resistor chip 1K Ω
R457	P11023	Resistor chip 1M Ω
R458	P11013	Resistor chip 10K Ω
R459	P11009	Resistor chip 1K Ω
R460	P11004	Resistor chip 33 Ω
R462	P11038	Resistor chip 39K Ω
R463	P11025	Resistor chip 680 Ω
R464	P11025	Resistor chip 680 Ω
R465	P11004	Resistor chip 33 Ω
R471	P11013	Resistor chip 10K Ω
R476	P11004	Resistor chip 33 Ω
R482	P11003	Resistor chip 10 Ω
R484	P11057	Resistor chip 51K Ω
R485	P11018	Resistor chip 47K Ω
R487	P11002	Resistor chip 4.7 Ω
R488	P11002	Resistor chip 4.7 Ω
R489	P11004	Resistor chip 33 Ω
R490	P11004	Resistor chip 33 Ω
R491	P11004	Resistor chip 33 Ω
R492	P11013	Resistor chip 10K Ω
R494	P11004	Resistor chip 33 Ω
R501	P11018	Resistor chip 47K Ω
R502	P11018	Resistor chip 47K Ω
R503	P11000	Resistor chip 0 Ω
R506	P11000	Resistor chip 0 Ω
R507	P11020	Resistor chip 150K Ω
R508	P11020	Resistor chip 150K Ω
R509	P11013	Resistor chip 10K Ω
R510	P11013	Resistor chip 10K Ω
R511	P11002	Resistor chip 4.7 Ω
R512	P11002	Resistor chip 4.7 Ω
R513	P11053	Resistor chip 5.6K Ω
R514	P11031	Resistor chip 3.9K Ω
R515	P11013	Resistor chip 10K Ω
R516	P11019	Resistor chip 100K Ω
R517	P11013	Resistor chip 10K Ω
R518	P11006	Resistor chip 100 Ω
R519	P11053	Resistor chip 5.6K Ω
R520	P11013	Resistor chip 10K Ω

REF No.	PART No.	PART NAME
R521	P11031	Resistor chip 3.9K Ω
R522	P11019	Resistor chip 100K Ω
R523	P11013	Resistor chip 10K Ω
R524	P11002	Resistor chip 4.7 Ω
R525	P11003	Resistor chip 10 Ω
R526	P11009	Resistor chip 1K Ω
R527	P11009	Resistor chip 1K Ω
R529	P11006	Resistor chip 100 Ω
R530	P11006	Resistor chip 100 Ω
R535	P11034	Resistor chip 18K Ω
R536	P11009	Resistor chip 1K Ω
R540	P11013	Resistor chip 10K Ω
R541	P11013	Resistor chip 10K Ω
R542	P11013	Resistor chip 10K Ω
R543	P11019	Resistor chip 100K Ω
R544	P11055	Resistor chip 8.2K Ω
R545	P11019	Resistor chip 100K Ω
R546	P11013	Resistor chip 10K Ω
R547	P11055	Resistor chip 8.2K Ω
R548	P11002	Resistor chip 4.7 Ω
R550	P11024	Resistor chip 330 Ω
R551	P11006	Resistor chip 100 Ω
R554	P11009	Resistor chip 1K Ω
R555	P11009	Resistor chip 1K Ω
R556	P11009	Resistor chip 1K Ω
R557	P11009	Resistor chip 1K Ω
R558	P11013	Resistor chip 10K Ω
R559	P11012	Resistor chip 4.7K Ω
R560	P11008	Resistor chip 470 Ω
R567	P11006	Resistor chip 100 Ω
R568	P11019	Resistor chip 100K Ω
R575	P11013	Resistor chip 10K Ω
R577	P11009	Resistor chip 1K Ω
L4	P11002	Resistor chip 4.7 Ω
L8	P11000	Resistor chip 0 Ω
L10	P11000	Resistor chip 0 Ω
C21	P11195	Resistor chip 10K Ω
RN2	P1006	Row of resistor 100 Ω
RN3	P1006	Row of resistor 100 Ω
RN4	P1006	Row of resistor 100 Ω

REF No.	PART No.	PART NAME
RN5	P1006	Row of resistor 100 Ω
RN419	P11206	Row of resistor 22 Ω
CAPACITOR		
C1	P30014	Electrolytic CAP 100uF/16V
C2	P30014	Electrolytic CAP 100uF/16V
C4	P20015	Capacitor chip 0.1uF
C5	P31100	Ceramic CAP 10uF/16V
C6	P20015	Capacitor chip 0.1uF
C8	P20015	Capacitor chip 0.1uF
C9	P20015	Capacitor chip 0.1uF
C01	P20009	Capacitor chip 1000pF
C12	P20034j	Capacitor chip 390pF
C13	P31100	Ceramic CAP 10uF/16V
C14	P30003	Electrolytic CAP 100uF/6V
C15	P31100	Ceramic CAP 10uF/16V
C16	P31100	Ceramic CAP 10uF/16V
C17	P31100	Ceramic CAP 10uF/16V
C18	P31100	Ceramic CAP 10uF/16V
C20	P20015	Capacitor chip 0.1uF
C22	P20015	Capacitor chip 0.1uF
C23	P20052	Capacitor chip 20pF
C24	P20052	Capacitor chip 20pF
C27	P31100	Ceramic CAP 10uF/16V
C29	P20015	Capacitor chip 0.1uF
C30	P20017	Capacitor chip 0.47uF
C31	P20012	Capacitor chip 0.01uF
C32	P31100	Ceramic CAP 10uF/16V
C33	P20015	Capacitor chip 0.1uF
C34	P30014	Electrolytic CAP 100uF/16V
C39	P31100	Ceramic CAP 10uF/16V
C001	P20009	Capacitor chip 1000pF
C002	P20015	Capacitor chip 0.1uF
C003	P20015	Capacitor chip 0.1uF
C004	P30014	Electrolytic CAP 100uF/16V
C005	P20015	Capacitor chip 0.1uF
C006	P30014	Electrolytic CAP 100uF/16V
C007	P30014	Electrolytic CAP 100uF/16V
C008	P30010	Electrolytic CAP 10uF/16V(Al)
C101	P30014	Electrolytic CAP 100uF/16V
C102	P20015	Capacitor chip 0.1uF

REF No.	PART No.	PART NAME
C103	P31100	Ceramic CAP 10uF/16V
C104	P20009	Capacitor chip 1000pF
C105	P20009	Capacitor chip 1000pF
C110	P30014	Electrolytic CAP 100uF/16V
C111	P20035	Capacitor chip 1uF
C112	P30014	Electrolytic CAP 100uF/16V
C124	P30014	Electrolytic CAP 100uF/16V
C128	P30003	Electrolytic CAP 100uF/6V
C131	P30014	Electrolytic CAP 100uF/16V
C132	P30014	Electrolytic CAP 100uF/16V
C139	P20015	Capacitor chip 0.1uF
C141	P30014	Electrolytic CAP 100uF/16V
C142	P30014	Electrolytic CAP 100uF/16V
C143	P30014	Electrolytic CAP 100uF/16V
C149	P20053	Capacitor chip 68pF
C150	P20015	Capacitor chip 0.1uF
C151	P31100	Ceramic CAP 10uF/16V
C153	P20035	Capacitor chip 1uF
C154	P31100	Ceramic CAP 10uF/16V
C155	P20035	Capacitor chip 1uF
C157	P20015	Capacitor chip 0.1uF
C158	P20053	Capacitor chip 68pF
C160	P20015	Capacitor chip 0.1uF
C161	P20015	Capacitor chip 0.1uF
C162	P20015	Capacitor chip 0.1uF
C163	P20015	Capacitor chip 0.1uF
C164	P20053	Capacitor chip 68pF
C165	P20016	Capacitor chip 0.33uF
C166	P20015	Capacitor chip 0.1uF
C167	P20015	Capacitor chip 0.1uF
C168	P20016	Capacitor chip 0.33uF
C169	P20015	Capacitor chip 0.1uF
C173	P20015	Capacitor chip 0.1uF
C174	P20027	Capacitor chip 150pF
C175	P20015	Capacitor chip 0.1uF
C176	P20015	Capacitor chip 0.1uF
C178	P30014	Electrolytic CAP 100uF/16V
C179	P30014	Electrolytic CAP 100uF/16V
C181	P30014	Electrolytic CAP 100uF/16V

REF No.	PART No.	PART NAME
C182	P30014	Electrolytic CAP 100uF/16V
C188	P30014	Electrolytic CAP 100uF/16V
C190	P30014	Electrolytic CAP 100uF/16V
C401	P31100	Ceramic CAP 10uF/16V
C403	P20061	Capacitor chip 0.015uF
C405	P20034j	Capacitor chip 390pF
C406	P20015	Capacitor chip 0.1uF
C408	P20049	Capacitor chip 33000pF
C411	P31100	Ceramic CAP 10uF/16V
C412	P31100	Ceramic CAP 10uF/16V
C417	P31100	Ceramic CAP 10uF/16V
C418	P20035	Capacitor chip 1uF
C419	P20035	Capacitor chip 1uF
C420	P20035	Capacitor chip 1uF
C421	P20035	Capacitor chip 1uF
C426	P20009	Capacitor chip 1000pF
C427	P20061	Capacitor chip 0.015uF
C433	P20061	Capacitor chip 0.015uF
C436	P20061	Capacitor chip 0.015uF
C437	P20009	Capacitor chip 1000pF
C439	P20009	Capacitor chip 1000pF
C441	P20027	Capacitor chip 150pF
C442	P20027	Capacitor chip 150pF
C443	P30014	Electrolytic CAP 100uF/16V
C444	P31100	Ceramic CAP 10uF/16V
C445	P20009	Capacitor chip 1000pF
C446	P20012	Capacitor chip 0.01uF
C447	P20035	Capacitor chip 1uF
C448	P20012	Capacitor chip 0.01uF
C449	P20012	Capacitor chip 0.01uF
C450	P20012	Capacitor chip 0.01uF
C451	P20012	Capacitor chip 0.01uF
C452	P20015	Capacitor chip 0.1uF
C453	P31100	Ceramic CAP 10uF/16V
C455	P20029	Capacitor chip 330pF
C456	P20009	Capacitor chip 1000pF
C457	P20061	Capacitor chip 0.015uF
C461	P30003	Electrolytic CAP 100uF/6V
C466	P20057	Adjustable capacitor

REF No.	PART No.	PART NAME
C467	P31100	Ceramic CAP 10uF/16V
C471	P20051	Capacitor chip 5.1pF
C472	P20009	Capacitor chip 1000pF
C473	P20051	Capacitor chip 5.1pF
C474	P20002	Capacitor chip 22pF
C475	P20015	Capacitor chip 0.1uF
C476	P30010	Electrolytic CAP 10uF/16V(Al)
C480	P20009	Capacitor chip 1000pF
C493	P30014	Electrolytic CAP 100uF/16V
C495	P31100	Ceramic CAP 10uF/16V
C496	P30006	Electrolytic CAP 47uF/4V
C498	P31100	Ceramic CAP 10uF/16V
C499	P31100	Ceramic CAP 10uF/16V
C500	P31100	Ceramic CAP 10uF/16V
C501	P30006	Electrolytic CAP 47uF/4V
C502	P30006	Electrolytic CAP 47uF/4V
C503	P30014	Electrolytic CAP 100uF/16V
C505	P30006	Electrolytic CAP 47uF/4V
C506	P30006	Electrolytic CAP 47uF/4V
C507	P30014	Electrolytic CAP 100uF/16V
C508	P30006	Electrolytic CAP 47uF/4V
C509	P30006	Electrolytic CAP 47uF/4V
C510	P30002	Electrolytic CAP 47uF/6V
C511	a3690	CDV-220uF-M-10V
C512	P30010	Electrolytic CAP 10uF/16V(Al)
C513	P30010	Electrolytic CAP 10uF/16V(Al)
C514	P30014	Electrolytic CAP 100uF/16V
C516	P20030	Capacitor chip 2700pF
C517	P20030	Capacitor chip 2700pF
C518	P20048	Capacitor chip 300pF
C519	P20048	Capacitor chip 300pF
C523	P20015	Capacitor chip 0.1uF
C528	P20015	Capacitor chip 0.1uF
C529	P20015	Capacitor chip 0.1uF
C530	P20015	Capacitor chip 0.1uF
C531	P30014	Electrolytic CAP 100uF/16V
C532	P20043	Capacitor chip 3300pF
C533	P20043	Capacitor chip 3300pF
C534	P30002	Electrolytic CAP 47uF/6V

REF No.	PART No.	PART NAME
C535	P30002	Electrolytic CAP 47uF/6V
C536	P30014	Electrolytic CAP 100uF/16V
C537	P20015	Capacitor chip 0.1uF
C538	P30014	Electrolytic CAP 100uF/16V
C539	P20015	Capacitor chip 0.1uF
C540	P31100	Ceramic CAP 10uF/16V
C541	P31100	Ceramic CAP 10uF/16V
C544	P20064	Capacitor chip 51pF
C545	P20064	Capacitor chip 51pF
C546	P20015	Capacitor chip 0.1uF
C550	P20059	Capacitor chip 4700pF
C551	P31100	Ceramic CAP 10uF/16V
C552	P31100	Ceramic CAP 10uF/16V
C553	P31100	Ceramic CAP 10uF/16V
C555	P30004	Electrolytic CAP 220uF/4V
C556	P30004	Electrolytic CAP 220uF/4V
C557	P31100	Ceramic CAP 10uF/16V
C559	P31100	Ceramic CAP 10uF/16V
CB1	P20015	Capacitor chip 0.1uF
CB2	P20015	Capacitor chip 0.1uF
CB3	P20015	Capacitor chip 0.1uF
CB4	P20015	Capacitor chip 0.1uF
CB5	P20015	Capacitor chip 0.1uF
CB6	P20015	Capacitor chip 0.1uF
CB7	P20015	Capacitor chip 0.1uF
CB8	P20015	Capacitor chip 0.1uF
CB9	P20015	Capacitor chip 0.1uF
CB01	P20015	Capacitor chip 0.1uF
CB02	P20015	Capacitor chip 0.1uF
CB03	P20015	Capacitor chip 0.1uF
CB04	P20015	Capacitor chip 0.1uF
CB05	P20015	Capacitor chip 0.1uF
CB06	P20015	Capacitor chip 0.1uF
CB07	P20015	Capacitor chip 0.1uF
CB08	P20015	Capacitor chip 0.1uF
CB09	P20015	Capacitor chip 0.1uF
CB11	P20015	Capacitor chip 0.1uF
CB12	P20015	Capacitor chip 0.1uF
CB13	P20015	Capacitor chip 0.1uF

REF No.	PART No.	PART NAME
CB14	P20015	Capacitor chip 0.1uF
CB15	P20015	Capacitor chip 0.1uF
CB16	P20015	Capacitor chip 0.1uF
CB17	P20015	Capacitor chip 0.1uF
CB18	P20015	Capacitor chip 0.1uF
CB19	P20015	Capacitor chip 0.1uF
CB20	P20015	Capacitor chip 0.1uF
CB21	P20038	Capacitor chip 470pF
CB22	P20015	Capacitor chip 0.1uF
CB23	P20015	Capacitor chip 0.1uF
CB24	P20015	Capacitor chip 0.1uF
CB25	P20015	Capacitor chip 0.1uF
CB26	P20015	Capacitor chip 0.1uF
CB27	P20015	Capacitor chip 0.1uF
CB28	P20015	Capacitor chip 0.1uF
CB29	P20015	Capacitor chip 0.1uF
CB30	P20015	Capacitor chip 0.1uF
CB31	P20015	Capacitor chip 0.1uF
CB32	P20015	Capacitor chip 0.1uF
CB33	P20015	Capacitor chip 0.1uF
CB34	P20015	Capacitor chip 0.1uF
CB35	P20015	Capacitor chip 0.1uF
CB36	P20015	Capacitor chip 0.1uF
CB37	P20015	Capacitor chip 0.1uF
CB38	P20015	Capacitor chip 0.1uF
CB39	P20015	Capacitor chip 0.1uF
CB40	P20015	Capacitor chip 0.1uF
CB41	P20015	Capacitor chip 0.1uF
CB42	P20015	Capacitor chip 0.1uF
CB43	P20015	Capacitor chip 0.1uF
CB44	P20015	Capacitor chip 0.1uF
CB45	P20015	Capacitor chip 0.1uF
CB46	P20015	Capacitor chip 0.1uF
CB48	P20015	Capacitor chip 0.1uF
CB49	P20015	Capacitor chip 0.1uF
CB50	P20015	Capacitor chip 0.1uF
CB51	P20015	Capacitor chip 0.1uF
CB52	P20015	Capacitor chip 0.1uF
CB53	P20015	Capacitor chip 0.1uF
CB54	P20015	Capacitor chip 0.1uF

REF No.	PART No.	PART NAME
CB55	P20015	Capacitor chip 0.1uF
CB56	P20015	Capacitor chip 0.1uF
CB57	P20015	Capacitor chip 0.1uF
CB58	P20015	Capacitor chip 0.1uF
CB59	P20015	Capacitor chip 0.1uF
CB60	P20015	Capacitor chip 0.1uF
CB63	P20015	Capacitor chip 0.1uF
CB64	P20009	Capacitor chip 1000pF
CB65	P20015	Capacitor chip 0.1uF
CB70	P20015	Capacitor chip 0.1uF
CB71	P20015	Capacitor chip 0.1uF
CB73	P20015	Capacitor chip 0.1uF
CB74	P20015	Capacitor chip 0.1uF
CB76	P20015	Capacitor chip 0.1uF
CB77	P20015	Capacitor chip 0.1uF
CB82	P20015	Capacitor chip 0.1uF
CB86	P20015	Capacitor chip 0.1uF
CB87	P20015	Capacitor chip 0.1uF
CB91	P20009	Capacitor chip 1000pF
CB92	P20015	Capacitor chip 0.1uF
CB95	P20015	Capacitor chip 0.1uF
CB96	P20015	Capacitor chip 0.1uF
CB97	P20015	Capacitor chip 0.1uF
CB98	P20015	Capacitor chip 0.1uF
INDUCTOR		
L2	P6659	Impedance at 100MHz:600 Ω
L3	P6659	Impedance at 100MHz:600 Ω
L5	P6659	Impedance at 100MHz:600 Ω
L6	P6659	Impedance at 100MHz:600 Ω
L7	P6659	Impedance at 100MHz:600 Ω
L11	P6681	100uH
L12	P6659	Impedance at 100MHz:600 Ω
L101	P60003	33uH
L102	P60003	33uH
L105	P6659	Impedance at 100MHz:600 Ω
L120	P6681	100uH
L125	P6659	Impedance at 100MHz:600 Ω
L130	P6679	10uH
L131	P60039	470uH
L132	P60039	470uH

REF No.	PART No.	PART NAME
L133	P6679	10uH
L137	P6681	100uH
L140	P60003	33uH
L403	P6817	Impedance at 100MHz:60 Ω
L404	P6659	Impedance at 100MHz:600 Ω
L407	P6659	Impedance at 100MHz:600 Ω
L409	P6817	Impedance at 100MHz:60 Ω
L410	P6659	Impedance at 100MHz:600 Ω
L416	P6659	Impedance at 100MHz:600 Ω
L419	P6659	Impedance at 100MHz:600 Ω
L420	P6659	Impedance at 100MHz:600 Ω
L430	P6659	Impedance at 100MHz:600 Ω
L435	P6659	Impedance at 100MHz:600 Ω
L501	P6659	Impedance at 100MHz:600 Ω
L502	P6681	100uH
L503	P6659	Impedance at 100MHz:600 Ω
L504	P6659	Impedance at 100MHz:600 Ω
FB101	P6659	Impedance at 100MHz:600 Ω
FB103	P6659	Impedance at 100MHz:600 Ω
FB104	P6659	Impedance at 100MHz:600 Ω
EM302	P60006	FK2125T186AL
EM401	P60006	FK2125T186AL
EM402	P60006	FK2125T186AL
EM407	P60006	FK2125T186AL
EM503	P60006	FK2125T186AL
EM504	P60006	FK2125T186AL
EM506	P60006	FK2125T186AL
EM507	P60006	FK2125T186AL
TRANSISTOR		
VD1	P1200	1SS355TE Switch Diode
VD2	P1200	1SS355TE Switch Diode
VD4	P5706	DTC144EUAT106
VD5	P5722a	B240A
VD6	P5073a	2SD601AR
VD7	P5722a	B240A
VD8	P5722a	B240A
VD12	P1200	1SS355TE Switch Diode
VD15	P5714	FMC3AT148
VD17	P5706	DTC144EUAT106
VD18	P5706	DTC144EUAT106

REF No.	PART No.	PART NAME
VD001	P5722a	B240A
VD002	P5722a	B240A
VD004	P5752	2SJ401
VD101	P1219	1N5402T
VD102	P90211	RN1224N332F
VD103	P90211	RN1224N332F
VD105	P5771	UDZS7E-1715B
VD106	P90092	UPC29M05T-E1
VD107	P90072	BA033FP
VD108	P1200	1SS355TE Switch Diode
VD110	P5722a	B240A
VD111	P5722a	B240A
VD112	P5073a	2SD601AR
VD113	P1200	1SS355TE Switch Diode
VD114	P5772	UDZS7E-174.7B
VD115	P1566	CRG01
VD116	P1200	1SS355TE Switch Diode
VD117	P5073a	2SD601AR
VD122	P5700	2SB709AR
VD123	P1556	MA152
VD125	P5073a	2SD601AR
VD126	P1556	MA152
VD127	P5073a	2SD601AR
VD128	P1556	MA152
VD129	P90277	TPS60400DBVR
VD130	P1200	1SS355TE Switch Diode
VD131	P5067	KTA1298
VD132	a1604a	LED
VD401	P1200	1SS355TE Switch Diode
VD404	P5067	KTA1298
VD406	P5067	KTA1298
VD407	P5067	KTA1298
VD410	P1200	1SS355TE Switch Diode
VD411	P1200	1SS355TE Switch Diode
VD503	P5706	DTC144EUAT106
VD504	P5769	2SB1561T100Q
VD509	P5073a	2SD601AR
VD510	P5073a	2SD601AR
VD520	P5073a	2SD601AR
VD521	P1200	1SS355TE Switch Diode

REF No.	PART No.	PART NAME
VD522	P1200	1SS355TE Switch Diode
VD523	P1200	1SS355TE Switch Diode
VD524	P5067	KTA1298
VD525	P1200	1SS355TE Switch Diode
VD526	P1200	1SS355TE Switch Diode
VD535	P5766	STZ6.2NT146
VD536	P5766	STZ6.2NT146
VD537	P5766	STZ6.2NT146
VD538	P5766	STZ6.2NT146
VD539	P5766	STZ6.2NT146
FUSE		
F1	P60045	FUSE 451005
F101	P60047	FUSE 452003
FILTER		
FM102	a6916	LV-R0489 FILTER
CRYSTAL OSCILLATOR		
G1	a6476	14.31818MHz
G401	a6603a	27.000MHz
POTENTIOMETERS		
VR1	P0620	POZ3AN-1-503N-T00
VR2	P0620	POZ3AN-1-503N-T00
VR001	P0619a	TMC3K-B5K-TR
VR501	a0654	WHE10xB-2-20K
SWITCH		
SW101	P60078	SSSS710603
SW102	a6683	ESE11SV1
SW103	a6683	ESE11SV1
IC		
N1	P4582	NJM3414AM-TE1
N2	P90113a	BA033LBSG-TR
N3	P90332	UPD5100
N001	P5770	UPA1716G-E2
N002	P90103	BQ2057CTSTR
N003	P5770	UPA1716G-E2
N102	P5759	IRF7304
N106	P90090	PQ05DZ11
N112	P90015	TPS5100IPWR
N401	P90205	D2891
N402	P90007	BA5954FP
N403	P4581	TC4W53FU

REF No.	PART No.	PART NAME
N406	a6733	HS0038B
N409	P4516	74HCU04
N412	P90157c	SST39VF-080-70 4C-EI
N413	P4620a	BR24C02F-WE2
N417	P90129	PCM1742E/2K
N419	P90074	NT56V6620COT-75S
N501	P4530	NJM4558
N502	P4513	NJM4580
N503	P4535	CD2822CB
N508	P4530	NJM4558
N509	P90204b	D2881C
SOCKET		
JS2	a6674c	CK35-15
JS3	a6905b	HSJ1456-010330
JS5	a7420	MS100-22AD40
JS101	a6663	HEC3600-010110 SOCKET
JS302	a6674c	CK35-15
JS503	a6704a	CK35-17
JX1	a9135	BATTERY CONNECT WIRE
XS1	a7345	BATTERY CONNECT
XS2	P60043	MOLEX-53261-0790
XS3	P60083	SM20B-SURS-TF SOCKET
XS4	P60083	SM20B-SURS-TF SOCKET
XS401	P60061	53261-0690 6P SOCKET
XS402	P6971	FPL0.5B-SMT-24P SOCKET
XS403	P60081	53261-0890 8P SOCKET
DVD1731H-L HV PCB ASS'Y		
RESISTOR		
R1	P11023	Resistor chip 1M Ω
R2	P11023	Resistor chip 1M Ω
R3	P11013	Resistor chip 10K Ω
R4	P11051	Resistor chip 1.5K Ω
R5	P11026	Resistor chip 1.2K Ω
R6	P11006	Resistor chip 100 Ω
R7	P11060	Resistor chip 560K Ω
R8	P11209	Resistor chip 43K Ω
R9	P11029	Resistor chip 2.2K Ω
R11	P11156	Resistor chip 300K Ω
R13	P11013	Resistor chip 10K Ω
R14	P11057	Resistor chip 51K Ω

REF No.	PART No.	PART NAME
R15	P11013	Resistor chip 10K Ω
CAPACITOR		
C2	P20035	Capacitor chip 1uF
C3	P20012	Capacitor chip 0.01uF
C4	P20015	Capacitor chip 0.1uF
C5	P20035	Capacitor chip 1uF
C6	P20014	Capacitor chip 47000pF
C7	P20006	Capacitor chip 100pF
C8	P20010	Capacitor chip 1500pF
C9	P20012	Capacitor chip 0.01uF
C11	P20043	Capacitor chip 3300pF
C14	P20031a	GHM1038SL120J3K
C15	P20013	Capacitor chip 22000pF
C16	P20021	Capacitor chip 4.7uF
C17	P20023	Capacitor chip 10uF
C18	P20014	Capacitor chip 47000pF
C20	P20028	Capacitor chip 220pF
TRANSISTOR		
D1	P1557	DAN217T146
D2	P1557	DAN217T146
Q1	P5750	MMST3904T146
Q2	P5706	DTC144EUAT106
Q3	P5749	RK7002T116
Z1	P1558	UDZSTE-175.6B
Z2	P1558	UDZSTE-175.6B
Z3	P1558	UDZSTE-175.6B
IC		
U1	P90100	OZ960S
U2	P90102	SI5504DC
U3	P90102	SI5504DC
OTHER		
F1	a7276	K12 FUSE
CN1	P6981	MOLEX-53261-0490
XS1	P7045	BHS-2P
DVD1731T-AS IF PCB ASS'Y		
RESISTOR		
R1	P11052	Resistor chip 3K Ω
R2	P11014	Resistor chip 12K Ω
R3	P11000	Resistor chip 0 Ω
R5	P11000	Resistor chip 0 Ω

REF No.	PART No.	PART NAME
CAPACITOR		
C1	P31091	EEVMC1C470P
C2	P31100	Ceramic CAP 10uF/16V
C3	P31100	Ceramic CAP 10uF/16V
C4	P31100	Ceramic CAP 10uF/16V
C5	P31100	Ceramic CAP 10uF/16V
C6	P31100	Ceramic CAP 10uF/16V
C7	P31100	Ceramic CAP 10uF/16V
C8	P31100	Ceramic CAP 10uF/16V
C9	P31100	Ceramic CAP 10uF/16V
C10	P31100	Ceramic CAP 10uF/16V
C11	P31100	Ceramic CAP 10uF/16V
C12	P31091	EEVMC1C470P
CB1	P20015	Capacitor chip 0.1uF
CB2	P20015	Capacitor chip 0.1uF
CB3	P20015	Capacitor chip 0.1uF
CB4	P20015	Capacitor chip 0.1uF
SOCKET		
XS1	P6849	MOLEX-52437-3091
XS3	P60083	SM20B-SURS-TF SOCKET
XS4	P6981	MOLEX-53261-0490
XS6	P60083	SM20B-SURS-TF SOCKET