

MDP-212

RMT-102

SERVICE MANUAL

AEP Model
Australian Model



SPECIFICATIONS

Type CD video system player
Signal read-out Optical (laser beam reflection)
Signal format CCIR standard, PAL color system
Playing time

LD	CAV	30 cm (12 inches) double-sided	72
		20 cm (8 inches) double-sided	32
	CLV	30 cm (12 inches) double-sided	120
		20 cm (8 inches) double-sided	40
CD	12 cm (5 inches) single-sided		74
	8 cm (3 inches) single-sided		20
CDV	Audio portion		20
	Video portion		6

(minutes)

Frequency response 5 Hz to 20 kHz (± 0.3 dB)
Signal-to-noise ratio More than 100 dB
Dynamic range More than 96 dB
Total harmonic distortion 0.003% or less
Wow and flutter Below measurement limit (± 0.001 W.PEAK)
Video output 1.0 V_{p-p}, 75 ohms, unbalanced
Audio output ($\times 2$) Analog: 200 mV_{rms} (1 kHz, 40% modulation)
Digital: 200 mV_{rms} (1 kHz, -20 dB)
AERIAL (VHF) input/output A symmetrical aerial socket, 75 ohms unbalanced
Headphone output 28 mW (32 ohms), impedance = 8 ohms

Power requirements

For the United Kingdom: 240 V AC, 50/60 Hz
For the other area: 220 V AC, 50/60 Hz

Power consumption

40 watts

Weight 11 kg (24 lb 4 oz)

Dimensions Approx. 430 × 110 × 414 mm (w/h/d)
(17 × 4³/₈ × 16³/₈ inches)

Operating temperature

+ 5°C to 35°C

Ambient humidity 5 to 90%

Remote Commander RMT-102

Principle of operation

Infrared pulse

Power requirements

3 V DC (2 size AA batteries)

Dimensions Approx. 67 × 21 × 175 mm (w/h/d)
(2³/₄ × 2¹/₃₂ × 7 inches)

Weight Approx. 155 g (including batteries), (6 oz)

Design and specifications subject to change without notice.


 CD VIDEO CD/CDV/LD PLAYER
SONY®

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are “pinched” or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

Remote commander RMT-102 is supplied as a unit for service. Don't supply individual parts except the battery case lid.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs a laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING !!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION, BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 25 cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.

1. Laser Diode Properties

- Material: GaAlAs
- Wavelength: 780 nm
- Emission Duration: continuous

2. During service, do not take the Optical Pick-up Block apart, and do not adjust the APC circuit. If there is a breakdown in the APC circuit (including laser diode), replace the entire Optical Pick-up Block (including APC board).

DANGER

Invisible laser radiations when open and interlock failed or defeated.
Avoid direct exposure to beam.

CLASS I LASER PRODUCT

ADVARSEL:
USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UD AF FUNCTION UNDGÅ. UDSAETTEELSE FOR STRÅLING.

CLASS 3B LASER

VAROITUS!
SUOJAKOTELOA EI SAA AVATA. LAITE SISÄLTÄÄ LASERDIODIN, JOKA LÄHETTÄÄ (NÄKYMÄTÖNTÄ) SILMILLE VAARALLISTA LASERSÄTEILYÄ.

LASER COMPONENT IN PRODUCT IS CAPABLE OF EMITTING RADIATION EXCEEDING THE LIMIT FOR CLASS I.

TABLE OF CONTENTS

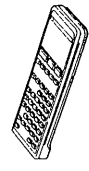
<u>Section</u>	<u>Title</u>	<u>Page</u>	<u>Section</u>	<u>Title</u>	<u>Page</u>
1.	GENERAL		5.	EXPLODED VIEWS	
	Location and Function of Parts and Controls	5	5-1.	Front Panel and Cabinet Assemblies	91
	Preparations	7	5-2.	Tray Assembly	92
2.	DISASSEMBLY		5-3.	Chassis Assembly	93
	Note for Handling of Optical Block Ass'y (KHS-110A)	8	5-4.	CD Feed Base Block Assembly	94
2-1.	Removal of Case and Front Panel	9	5-5.	Optical Block Assembly	95
2-2.	Removal of the LP-3 Board	9	5-6.	Main Boards and Rear Panel Assembly	96
2-3.	Removal of CD Chuck	9	6.	ELECTRICAL PARTS LIST	97
2-4.	Removal of Chuck Plate	10	7.	ELECTRICAL ADJUSTMENT	
2-5.	Removal of Tray Assembly	10	7-1.	Measuring Instrument Jig Used	118
2-6.	Removal of Control Cam and Tray Installation	11	7-2.	Precautions of Adjustment	118
2-7.	Removal of the Optical Block	12	7-3.	Reference Discs	118
2-8.	Removal of CD Feed Base Block Assembly	12	7-3-1.	LD Reference Disc	118
3.	DIAGRAMS		7-3-2.	CD Reference Disc	118
3-1.	Circuit Boards Location	13	7-4.	Servo Checker Jigs	118
3-2.	Overall Block Diagram	14	7-4-1.	Servo Checker for LD (J-6166-370-A)	118
3-3.	Video Block Diagram	17	7-4-2.	Servo Checker for CD (J-6080-907-A)	120
3-4.	Servo Block Diagram	20	7-5.	Power Supply Section Check	121
3-5.	System Control Block Diagram	23	7-6.	System Control System Adjustment	121
3-6.	Audio Block Diagram (1)	26	7-6-1.	Microcomputer Clock Adjustment	121
3-7.	Audio Block Diagram (2)	29	7-7.	Servo System Adjustment	122
3-8.	Power Block Diagram	31	7-7-1.	LD System Servo Adjustment	122
4.	PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAM		7-7-2.	CD System Servo Adjustment	125
4-1.	Frame Schematic Diagram	34	7-8.	Video System Adjustment	126
4-2.	Printed Wiring Boards and Schematic Diagrams	37	7-8-1.	RF Level Adjustment	126
•	LP-3 (Video Signal Processing) and CL-10 Boards	37	7-8-2.	DOC Adjustment (1)	127
•	LP-3 (Servo) Board	46	7-8-3.	DOC Adjustment (2)	127
•	LP-3 (System Control), FG-10, FG-11, FG-12, and DC-12 Boards	56	7-8-4.	TBC Clock (Lower Limit) Adjustment	127
•	DS-27 and HP-44 Boards	68	7-8-5.	TBC Clock (Upper Limit) Check	128
•	AF-49 Board	75	7-8-6.	CCD Bias Adjustment	128
•	FP-142 and FP-143 Boards	79	7-8-7.	TBC IC Adjustment	128
•	PS-188, AC-37, and CK-9 Boards	84	7-8-8.	Color Framing Y Level	128
4-3.	Semiconductors	89	7-8-9.	Color Framing Chroma Level I Adjustment	129
			7-8-10.	Color Framing Chroma Level II Adjustment	129
			7-8-11.	Video Output Level Adjustment	129
			7-9.	Audio System Adjustments	130
			7-9-1.	Analog Audio System Adjustment	130
			7-9-2.	Digital Audio System Adjustments	130
			7-10.	E-F Litharge Waveform Adjustment	131
			7-11.	Parts Arrangement Diagram for Adjustments	132

Location and Function of Parts and Controls

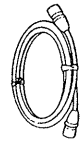
Front panel

Accessories

The following accessories are included in the carton.



RMT-102 Remote Commander



75-ohms coaxial cable for TV connection

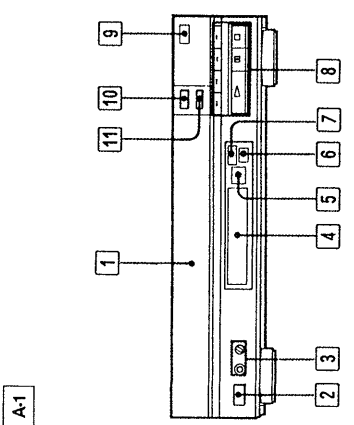


Two IEC R6 (size AA) batteries



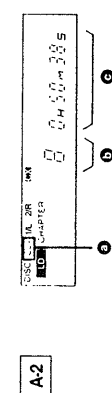
A minus screwdriver for channel adjustment

- 5 Remote sensor**
Point the supplied Remote Commander here.
- 6 DIGITAL SOUND indicator**
When an analog sound of an LD is played back, this indicator goes off.
- 7 Standby indicator**
Lights up when the unit is in the standby state, and goes off when the ON/STANDBY indicator lights.
- 8 Basic operation buttons**
 - ◀▶ Automatic Chapter Select/Music Sensor (ACS/AMS) buttons (reverse/forward)
 - ▶ (Play) button and indicator
 - ⏸ (Pause) button and indicator
 - (Stop) button
- 9 CDV (DIRECT) button**
Press to locate the video portion of a CDV disc.
- 10 OPEN button**
Press to open the disc tray.
- 11 CLOSE button**
Press to close the disc tray.



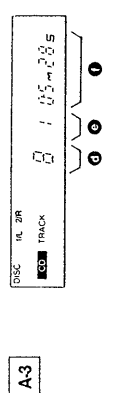
A-1

- A-1 Buttons on the Remote Commander with the same indications as those of the main unit have the same function.**
- 1 Disc tray**
- 2 ON/STANDBY (power) switch and indicator**
- 3 PHONES jack (stereo phone type) and LEVEL control**
When listening with headphones, connect the headphones with stereo phone plug here. Adjust the volume with the LEVEL control.
- 4 Display window**
When playing back a disc, the following indications appear on the display.



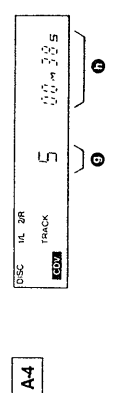
A-2

- A-2 LD**
 - 1 Type of LD
 - 2 Chapter number
 - 3 Time (hr./min./sec.) or frame number



A-3

- A-3 CDV/CDV audio portion**
 - 1 Selection number
 - 2 Index
 - 3 Elapsed time (min./sec.) for selection



A-4

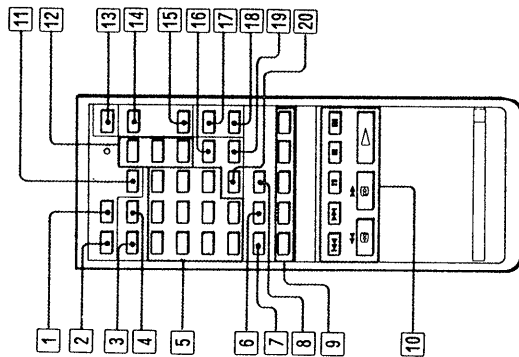
- A-4 CDV video portion**
 - 1 Track number
 - 2 Elapsed time (min./sec.) for track

SECTION 1 GENERAL

Location and Function of Parts and Controls

Remote Commander

B-1



B-1

Buttons on the Remote Commander with the same indications as those of the main unit have the same function.

- 1 TV/DISC button
When the unit is connected to the TV via the EUROCONNECTOR, press to monitor TV programmes. Press again to return to disc viewing.
- 2 DISPLAY button
Press during playback to superimpose the screen messages (see page 7) on the monitor screen. Press again to remove the message.
- 3 PGM (program play) button
- 4 FRAMEtime search button
- 5 Number buttons
These are used for entering program, chapter, track, frame and time numbers.
- 6 STILL button
- 7 <|/STEP button (reverse)
- 8 >|/STEP button (forward)
- 9 Speed play buttons (x 1/30, x 1/8, x 1/2, x 1/2, x 3)
- 10 Basic operation buttons
 - ◀|/▶ ACSIAMS (Automatic Chapter Select/Music Sensor) buttons
 - || (Pause) button
 - (Stop) button
 - (Memory stop) button
 - ◀◀|/▶▶ (Scan) buttons (reverse/forward)
 - ▶ (Play) button

- 11 CLEAR button
Press to cancel a wrong numerical entry or to terminate the search or other function currently in operation. (The functions affected are marked on the Remote Commander with yellow underlines.)
- 12 REPEAT (1, A-B, ALL) buttons
These are used for three types of repeat playback.

- 13 (Standby) button

- 14 OPEN button

- 15 AUDIO MONITOR button
Press to switch the audio channels of a disc in the order of stereo, 1L, and 2R.

- 16 SHUFFLE button
Press to play back selections on a CD/CDV in a random order.

- 17 CD TIME display selector button

- 18 CDV (DIRECT) button

- 19 BACK button

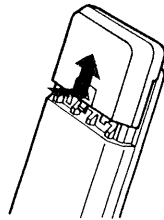
- 20 SEARCH/NEXT button

Precautions on the Remote Commander

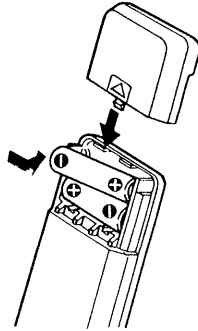
- Do not let strong sunlight or a strong artificial light source shine directly on the remote sensor, as it may interfere with the operation or damage the sensor.
- When a TV or other equipment is connected to the CONTROL S IN jack of the MDP-212, the remote sensor of this unit is deactivated. In this case, point the Remote Commander to the sensor of the connected equipment.

Installing batteries

- 1 Open the lid.



- 2 Insert the two IEC R6 (size AA) batteries with correct polarity.



Battery life

Batteries should last for about six months under normal operating conditions. When the operating range of the Remote Commander becomes noticeably short, replace the batteries with new ones.

Note

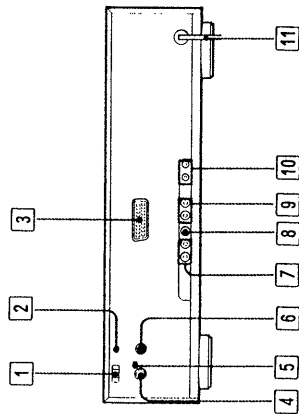
When the Remote Commander is not to be used for a long period of time, remove the batteries to avoid possible damage from battery leakage.

Location and Function of Parts and Controls

Preparations

Rear Panel

C-1

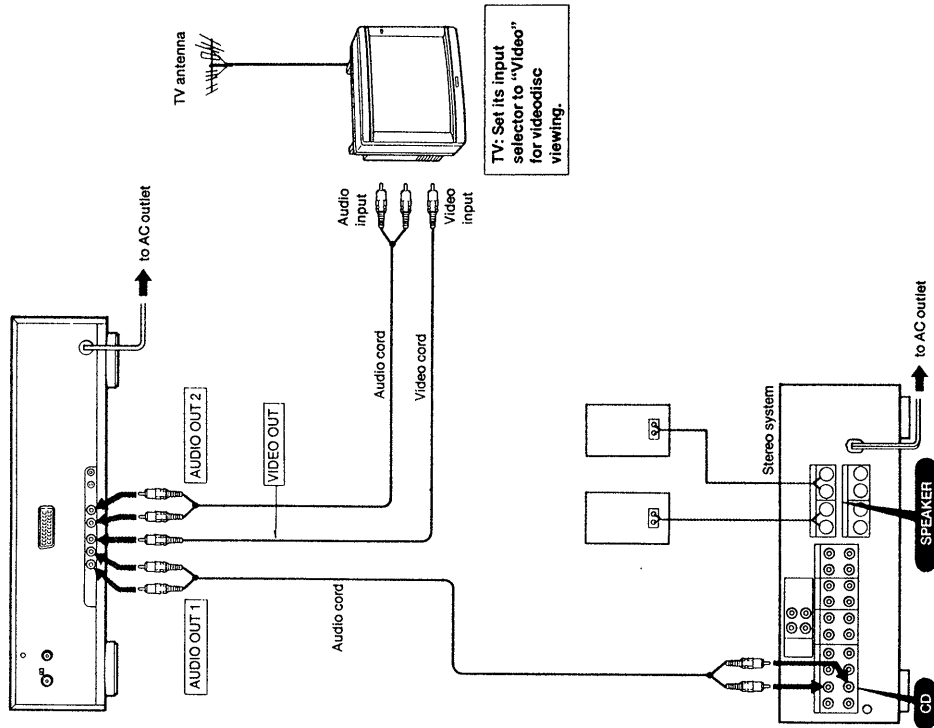


C-1

- 1 **TV SYSTEM selector**
This selector is set to the I position for the United Kingdom or to the G position for the other European countries at the factory for proper RF modulation.
- 2 **RF channel screw**
If there is interference on the factory-set channel for RF output and the output signal from this unit cannot be displayed clearly on the TV screen, adjust the screw using the supplied minus screwdriver.
- 3 **EUROCONNECTOR (21-pin)**
Connect to the 21-pin connector of a VTR or a TV, or to the audio/video input of these units with a commercially available connecting cable.
- 4 **AERIAL IN socket**
Connect the aerial cable.
- 5 **DX/LOCAL selector**
Set to LOCAL when noise appears in areas where the TV signals are strong, or to DX in areas where the signals are weak.
- 6 **AERIAL OUT socket**
Connect the aerial input of the TV receiver.
- 7 **AUDIO (1L/2R) OUT (output) 1 jacks (phono type)**
- 8 **VIDEO OUT (output) jack (phono type)**
- 9 **AUDIO (1L/2R) OUT (output) 2 jacks (phono type)**
- 10 **CONTROL S IN (input)/OUT (output) jacks (mini type)**
IN: Connect the CONTROL S OUT jack on a TV, and the MDP-212 can remotely be controlled by pointing the Remote Commander to the remote sensor on the TV.
OUT: Connect the CONTROL S IN jack of a VTR. If the CONTROL S IN jack of the MDP-212 is connected to the CONTROL S OUT of a TV, both the VTR and the MDP-212 can remotely be controlled by pointing the Remote Commander to the remote sensor on the TV.
- 11 **AC power cord**

Make system connecting before operating the player.

To Connect to Audio System or TV with Audio/Video Inputs



TV: Set its input selector to "Video" for videodisc viewing.

SECTION 2 DISASSEMBLY

NOTE FOR HANDLING OF OPTICAL BLOCK ASS'Y (KHS-110A)

- Sometimes electrostatic breakdown of the laser diode in the optical block ass'y is caused by potential difference between the electrostatic charge of the block and the one of clothes or a human body.

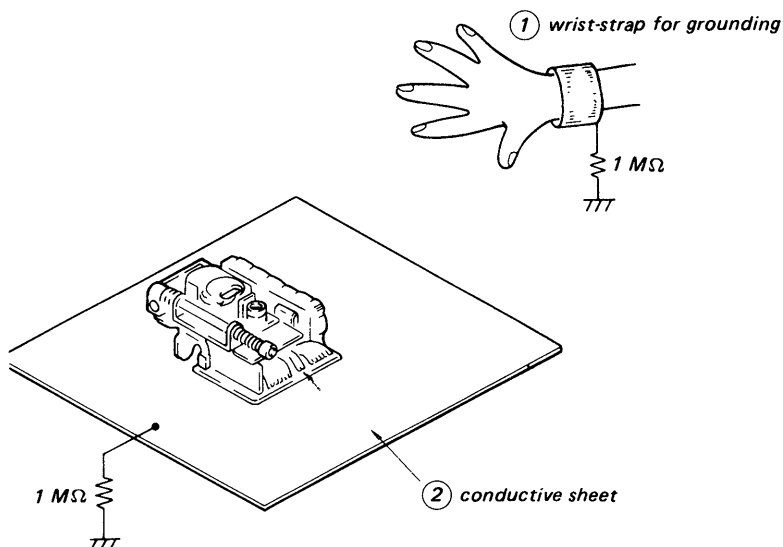
Be careful to the following notes for preventing the diode from the breakdown.

The following manners are recommended as reference.

1. Cover a work table with a conductive sheet (black sheet used for the part package).
2. Place a set on the sheet so that the chassis of the set contacts the sheet (for making the potential of the set equal to the one of the sheet).
3. Put hands on the conductive sheet (for making the potential of a human body equal to the one of the sheet).
4. Take out the optical block ass'y from its bag.
5. Work should be done on the conductive sheet with care that clothes do not touch the optical block ass'y.

Also, these notes are enclosed in repair part package.

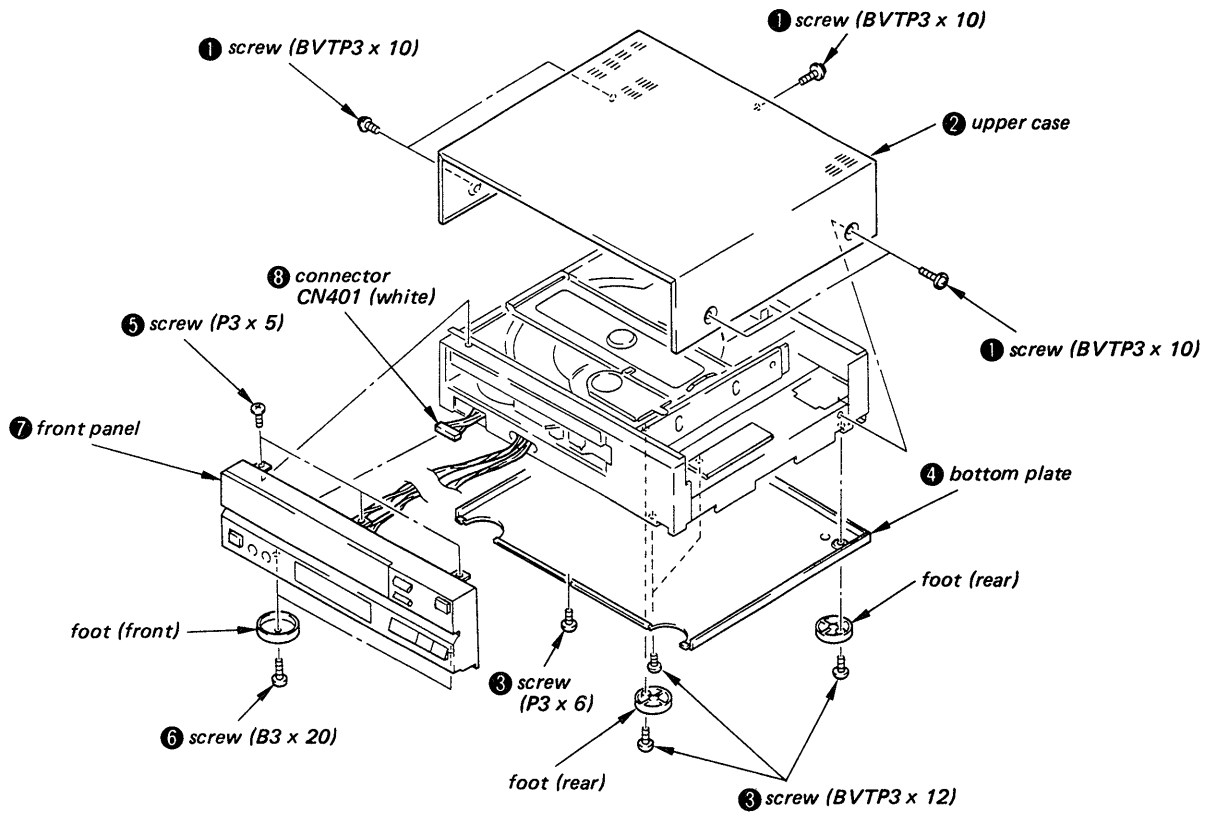
1. Grounding for the human body
Be sure to put on a wrist-strap for grounding (with impedance lower than $10^8 \Omega$) whose other end is grounded. The strap works to drain away the static electricity build-up on the human body.
2. Grounding for the work table
Be sure to lay on the table a conductive sheet (with impedance lower than $10^9 \Omega$) such as a sheet of copper, which is grounded.
3. As static electricity build-up on clothes is not drained away, be careful not to let your clothes touch the unit.



- Be careful not to put dust or fingerprints on the object lens and skew lens while handling.

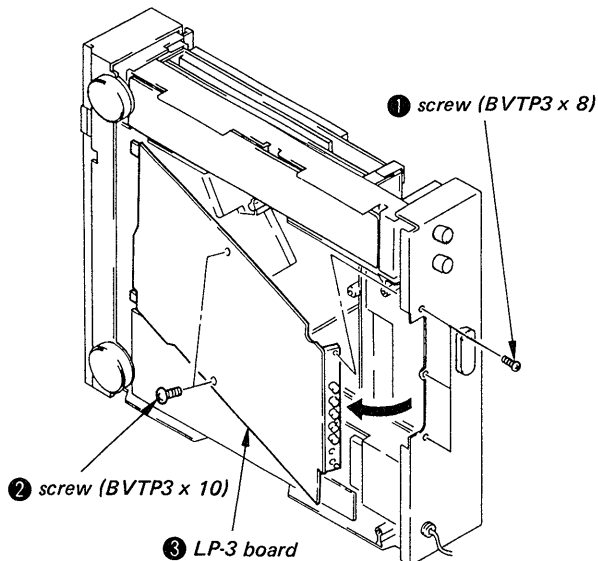
2-1. REMOVAL OF CASE AND FRONT PANEL

- 1) Remove the five screws (BVTP3 x 10) ①.
- 2) Remove the upper case ②.
- 3) Remove the five screws (BVTP3 x 12) ③.
- 4) Remove the bottom plate ④.
- 5) Remove the three screws (P3 x 5) ⑤.
- 6) Remove the two screws (B3 x 20) ⑥.
- 7) Remove the front panel ⑦ and remove the connector (CN401) ⑧.



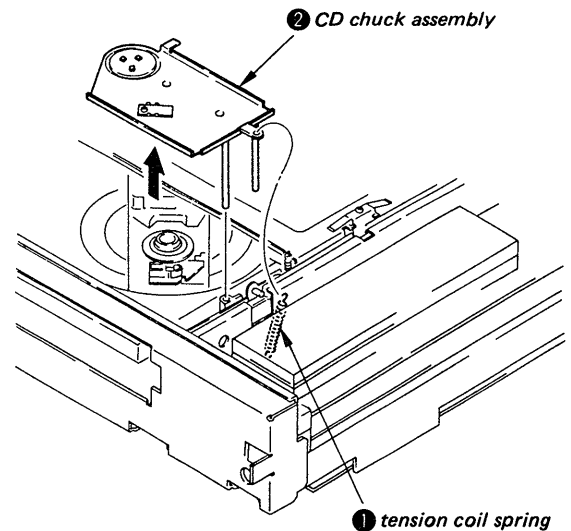
2-2. REMOVAL OF THE LP-3 BOARD

- 1) Remove the three screws (BVTP3 x 8) ①.
- 2) Remove the two screw (BVTP3 x 10) ②.
- 3) Open the LP-3 board ③ in the direction of arrow.



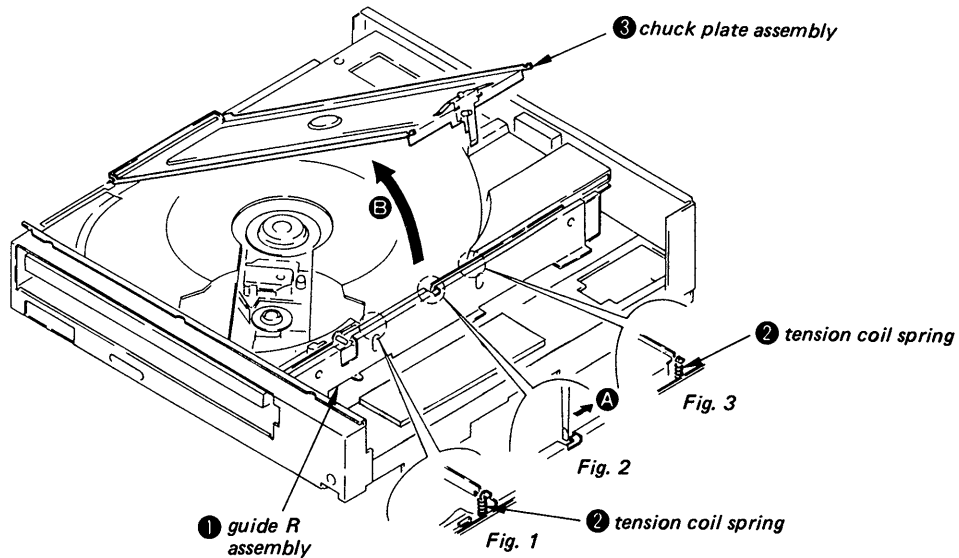
2-3. REMOVAL OF CD CHUCK

- 1) Remove the tension coil spring ①.
- 2) Remove the CD chuck assembly ② in the direction of arrow.



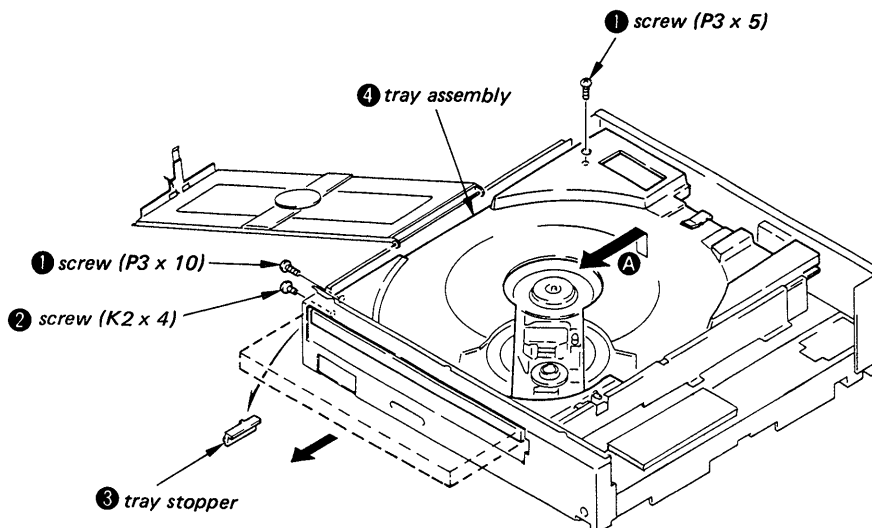
2-4. REMOVAL OF CHUCK PLATE

- 1) Push the section of the guide R assembly ① shown in Fig. 1 in the direction A using a slotted screwdriver, etc.
- 2) Remove the tension coil springs ② located in two places (Figs. 2 and 3).
- 3) Remove the chuck plate assembly ③ in the direction of arrow B.



2-5. REMOVAL OF TRAY ASSEMBLY

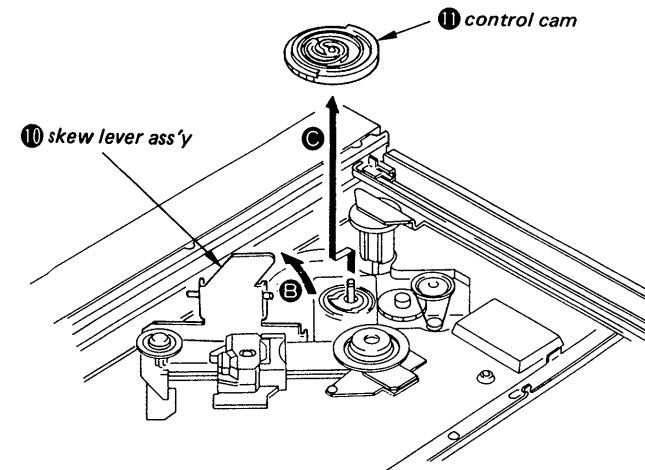
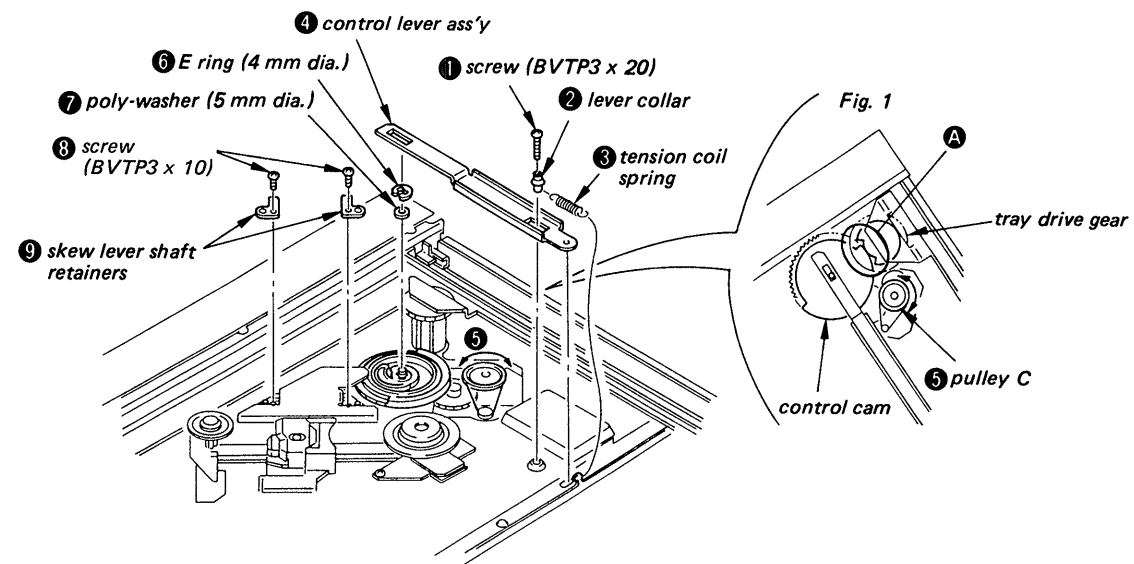
- 1) Remove the two screws (P3 x 5, P3 x 10) ①.
- 2) Remove the screw (K2 x 4) ②.
Note: This screw stops the tray stopper ③, and when the tray is pulled out, the tray stopper ③ may be removed.
- 3) Pull the tray assembly ④ out while lifting up slightly in the direction of arrow A.



2-6. REMOVAL OF CONTROL CAM AND TRAY INSTALLATION

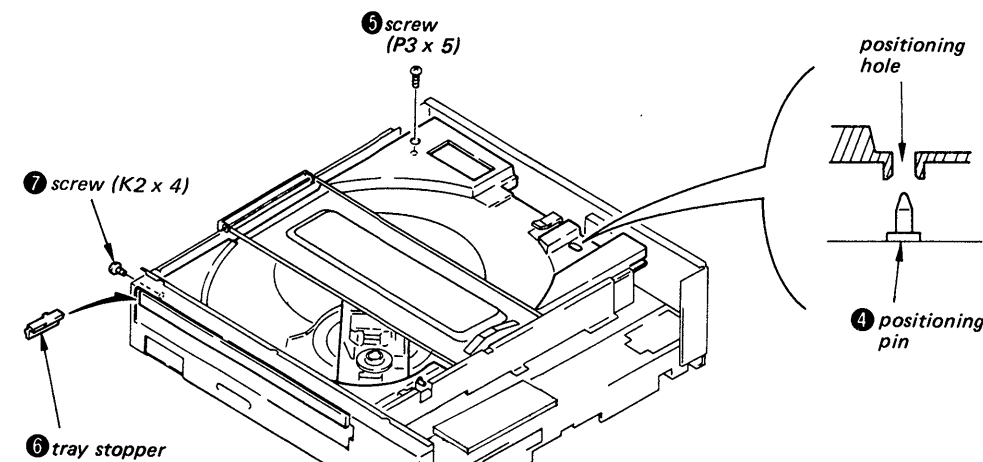
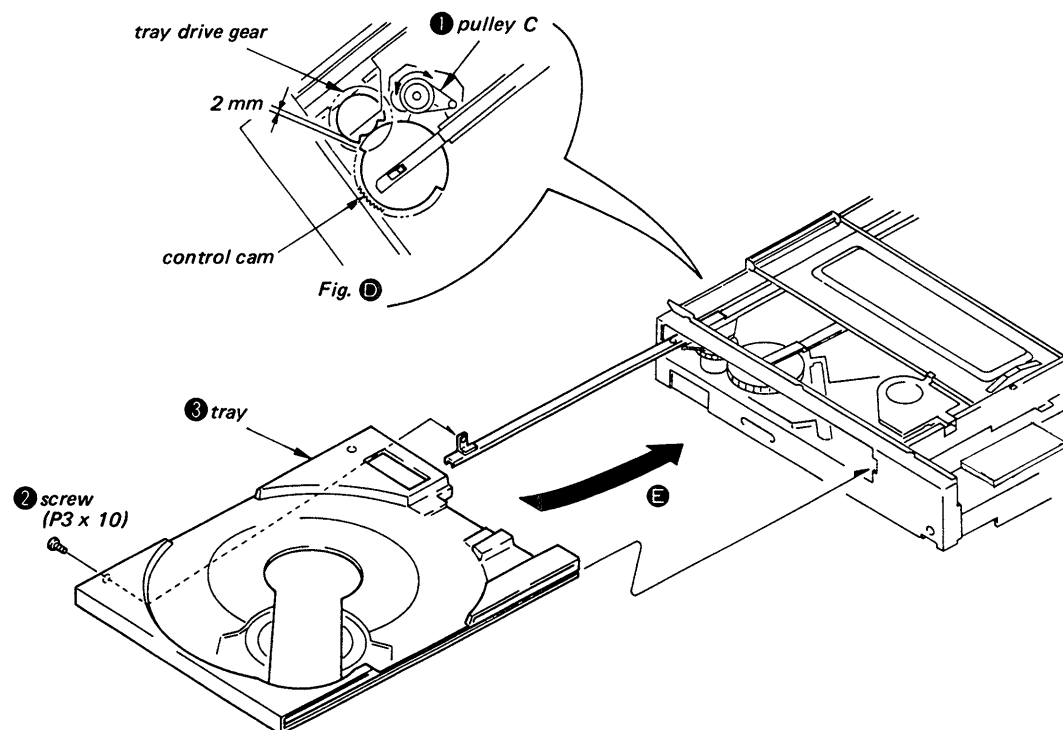
• Removal of Control Cam

- 1) Remove the screw (BVTP3 x 20) ① and then, the lever collar ② and the tension coil spring ③.
- 2) Remove the control lever ass'y ④.
- 3) Rotate the pulley C ⑤ so that the control cam and the tray drive gear come to A state in Fig. 1.
- 4) Remove E ring (4 mm dia.) ⑥ and the poly-washer (5 mm dia.) ⑦.
- 5) Remove the two screws (BVTP3 x 10) ⑧, and then remove the skew lever shaft retainers ⑨.
- 6) Pull up the skew lever ass'y ⑩ in the direction of arrow B.
- 7) Then at last, remove the control cam ⑪ in the direction of arrow C.



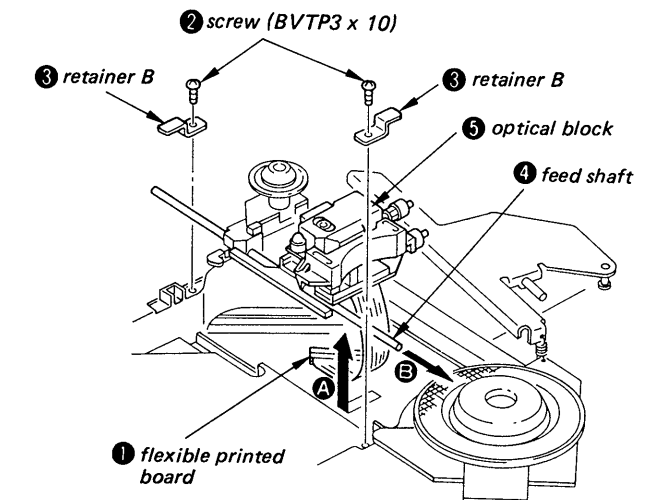
• Tray Installation

- 1) Rotate the pulley C ① so that the control cam and the tray drive gear come to the state shown in Fig. D.
- 2) Loosely screw in the screw (P3 x 10) ②.
- 3) Push the tray ③ into the set in the direction of arrow E with pressing it to left side because of avoiding the tray drive gear with the tray.
- 4) Confirm the positioning pin ④ is seen through the positioning hole of the tray.
- 5) Tighten the screw (P3 x 5) ⑤ and (P3 x 10) ②.
- 6) Install the tray stopper ⑥ and tighten the screw (K2 x 4) ⑦.



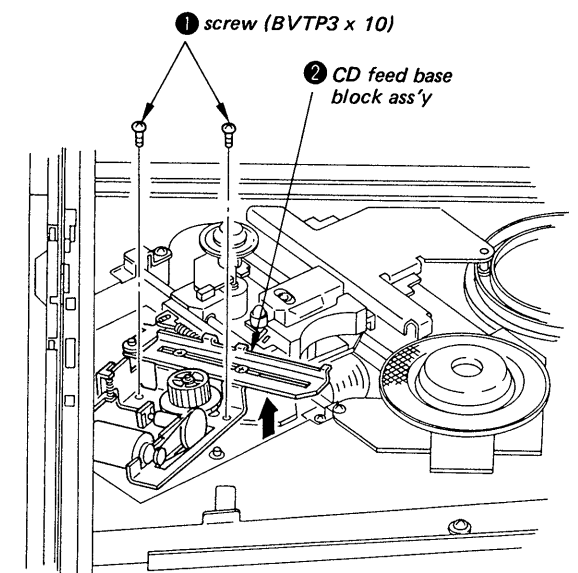
2-7. REMOVAL OF THE OPTICAL BLOCK

- 1) Pull out the flexible printed board ① from CN401 on the LP-3 board.
- 2) Remove the two screws (BVTP3 x 10) ② and then two retainers Bs ③.
- 3) Put the optical block ⑤ up in the direction of arrow A, and pull out the feed shaft ④ in the direction of arrow B.
- 4) Then, remove the optical block ⑤.



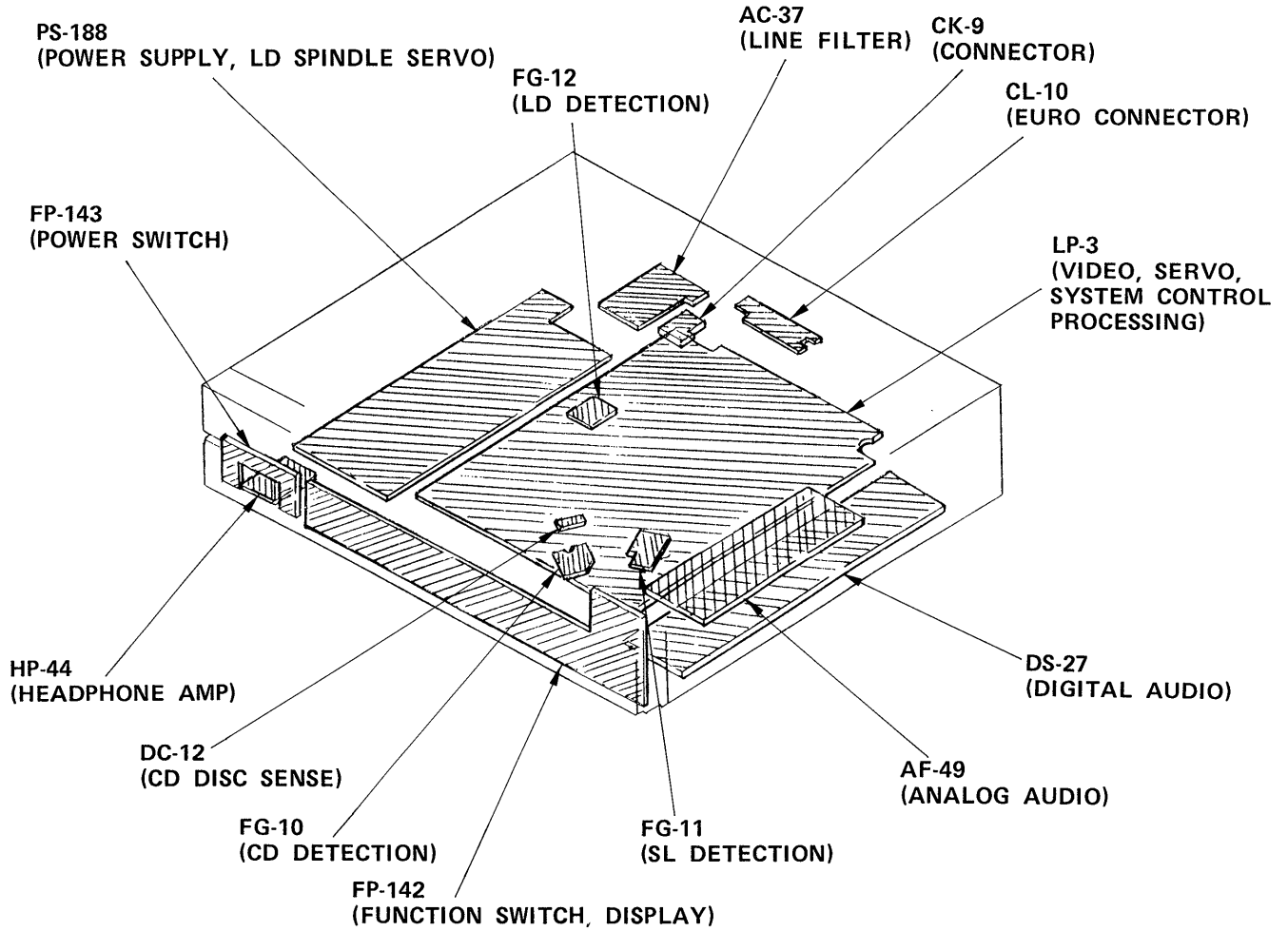
2-8. REMOVAL OF CD FEED BASE BLOCK ASSEMBLY

- 1) Remove the two screws (BVTP3 x 10) ①.
- 2) Then, raise up the CD feed base block ass'y ② a little in the direction of arrow.



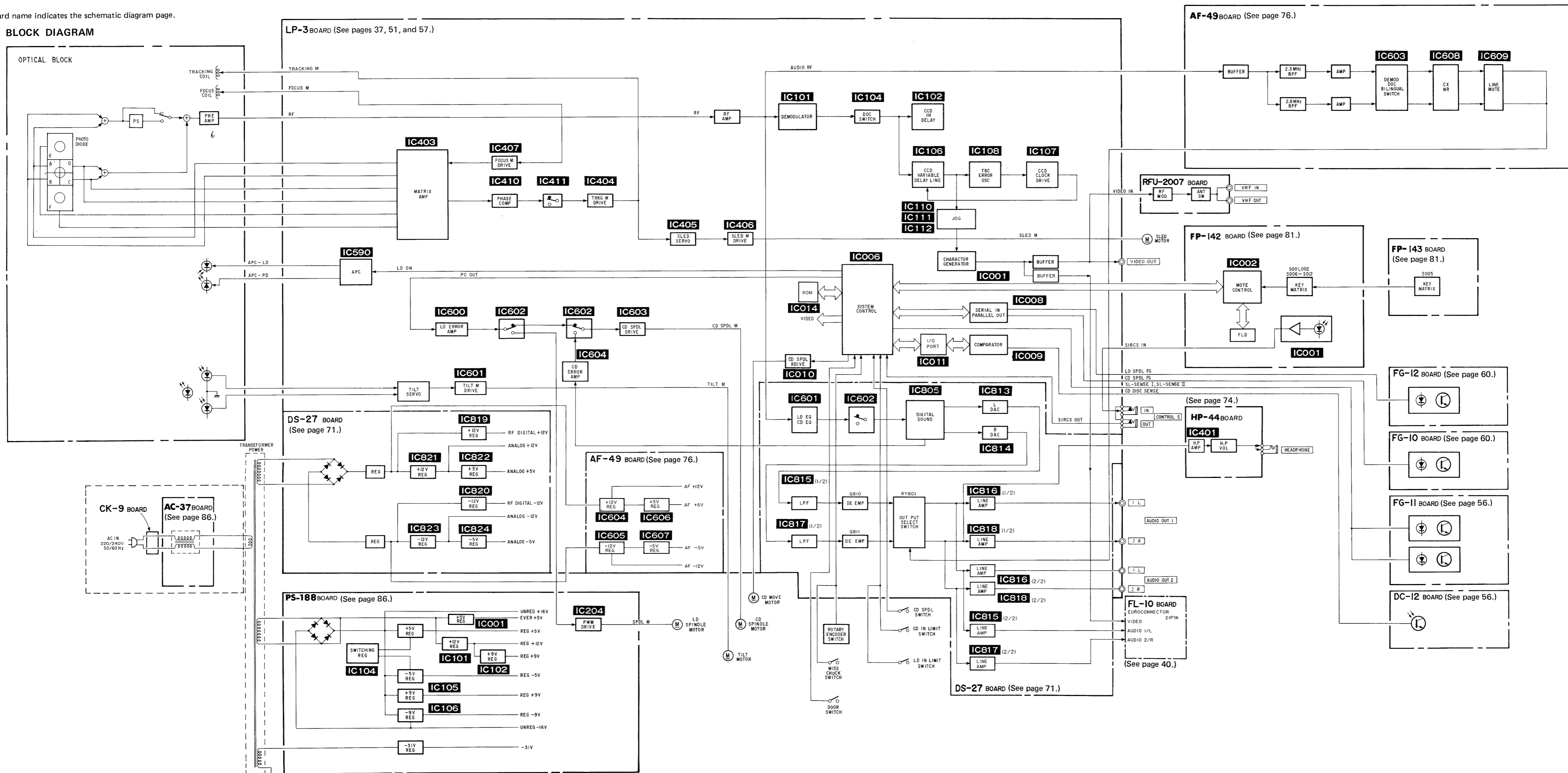
**SECTION 3
DIAGRAMS**

3-1. CIRCUIT BOARDS LOCATION

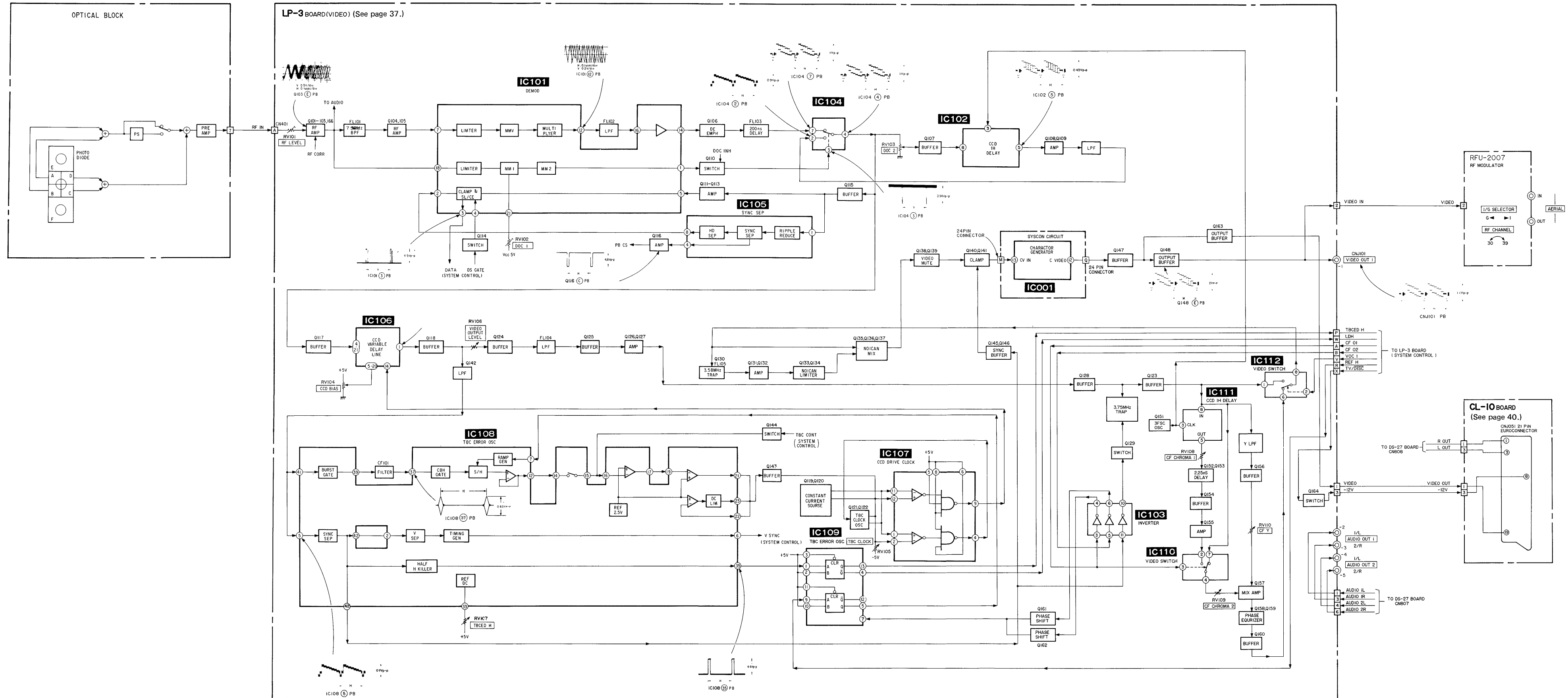


• () near the board name indicates the schematic diagram page.

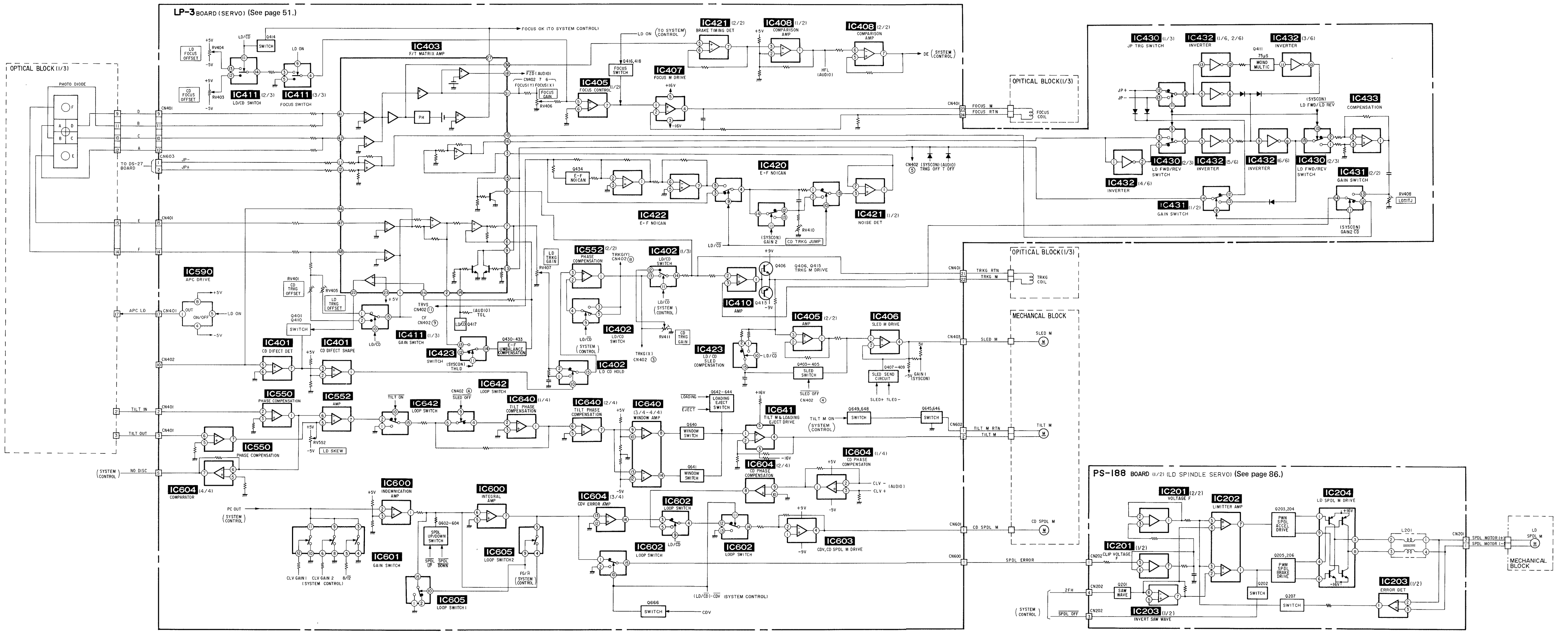
3-2. OVERALL BLOCK DIAGRAM



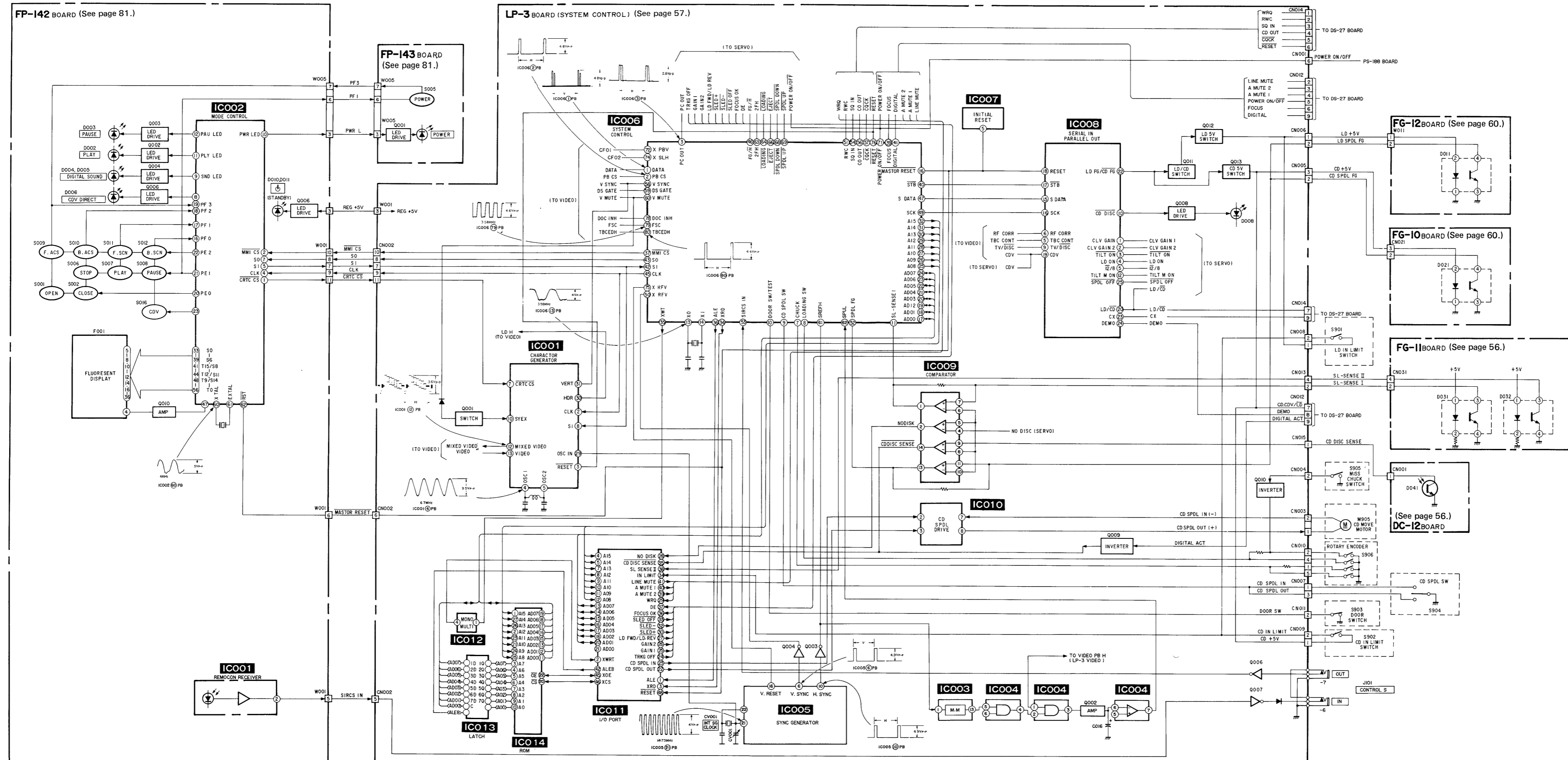
3-3. VIDEO BLOCK DIAGRAM



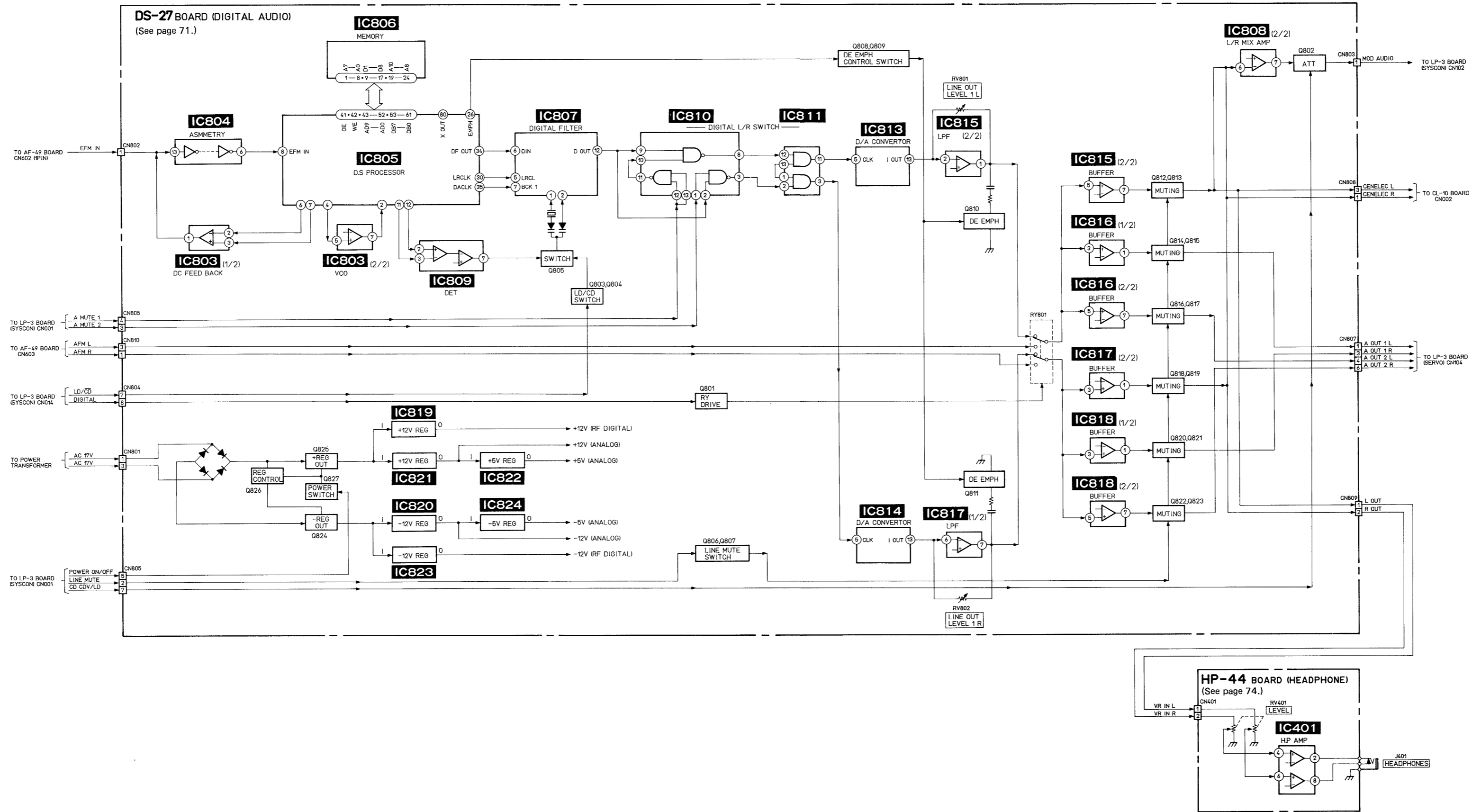
3-4. SERVO BLOCK DIAGRAM



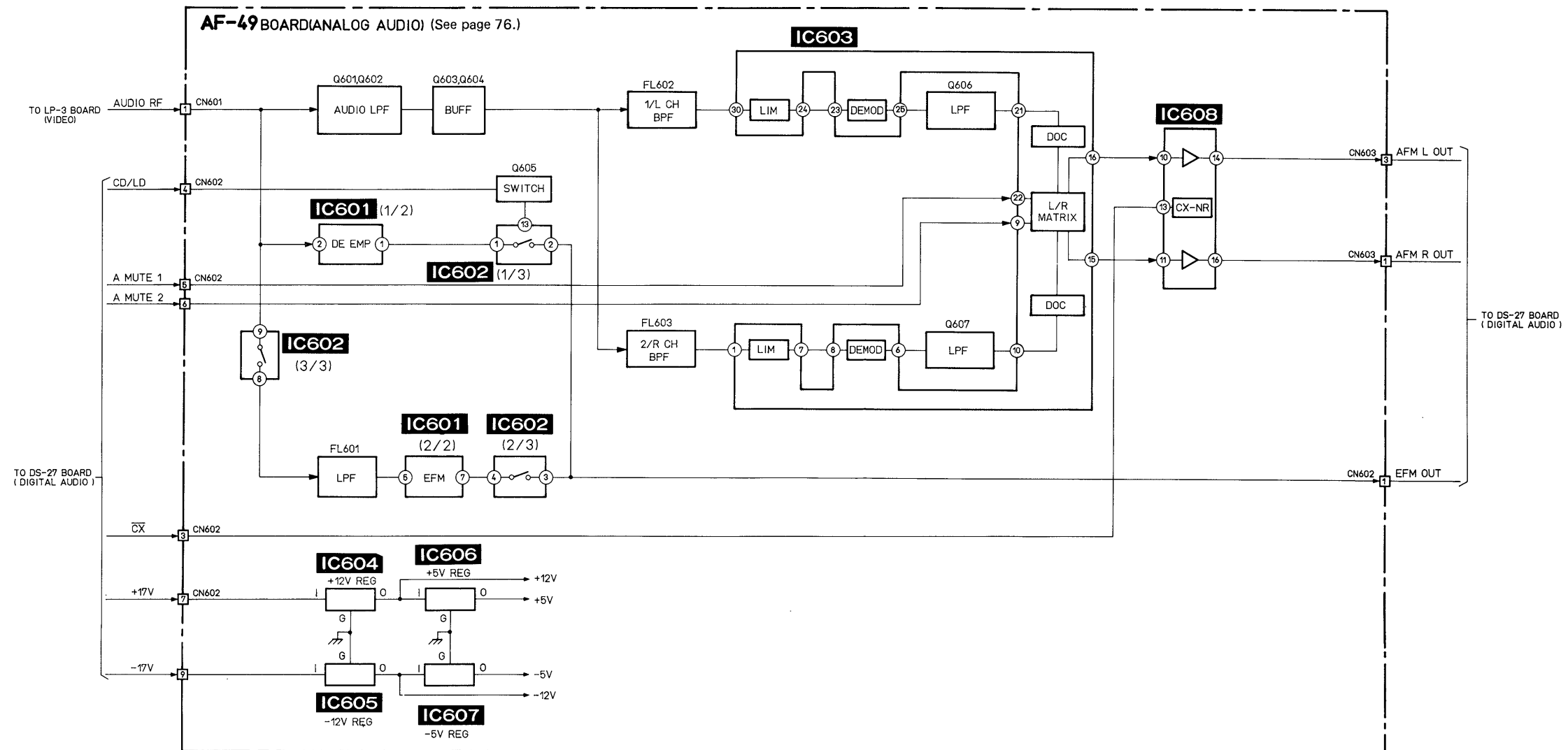
3-5. SYSTEM CONTROL BLOCK DIAGRAM



3-6. AUDIO BLOCK DIAGRAM (1)

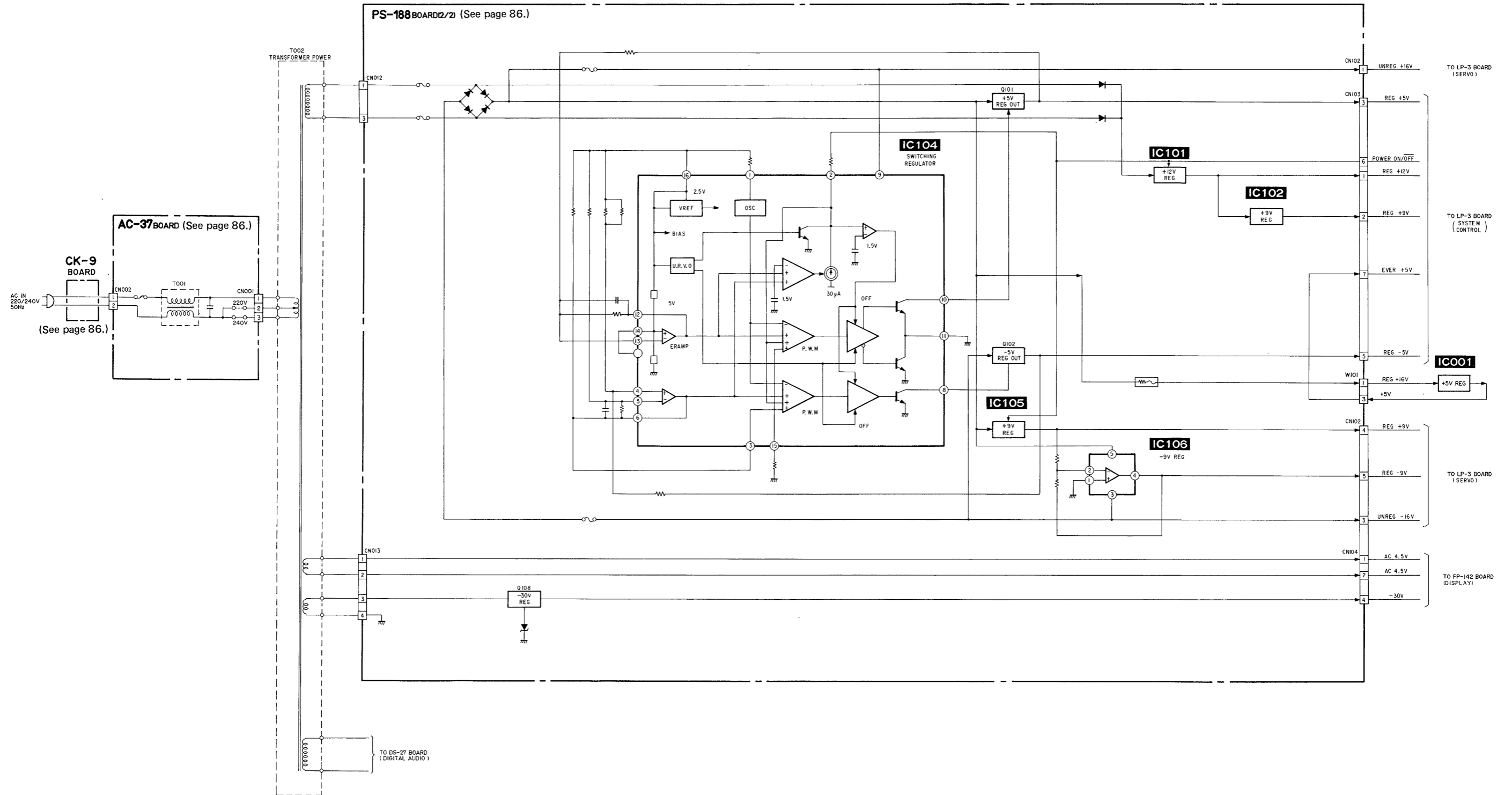


3-7. AUDIO BLOCK DIAGRAM (2)



MDP-212

3-8. POWER BLOCK DIAGRAM



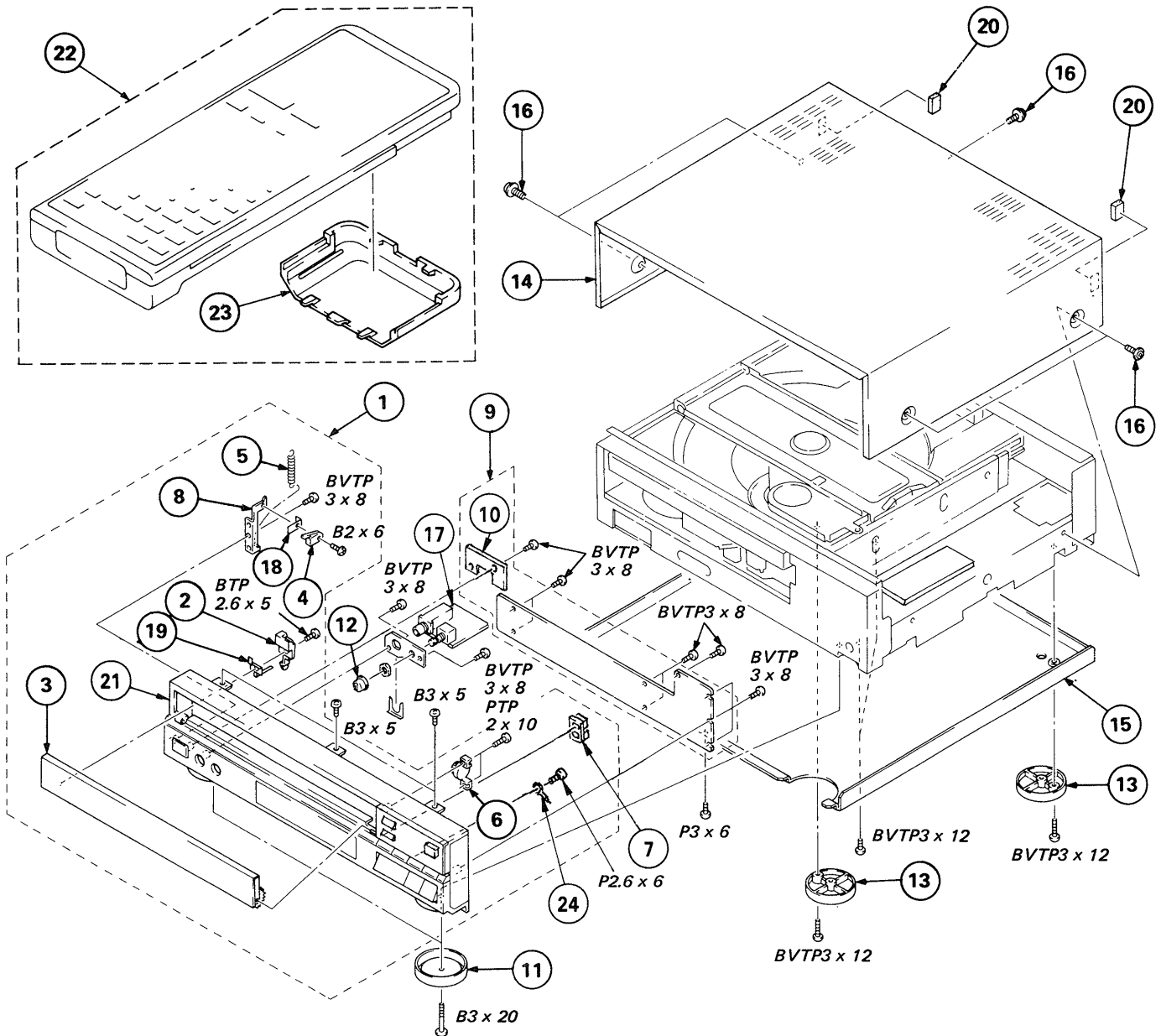
SECTION 5 EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some differences from the original one.

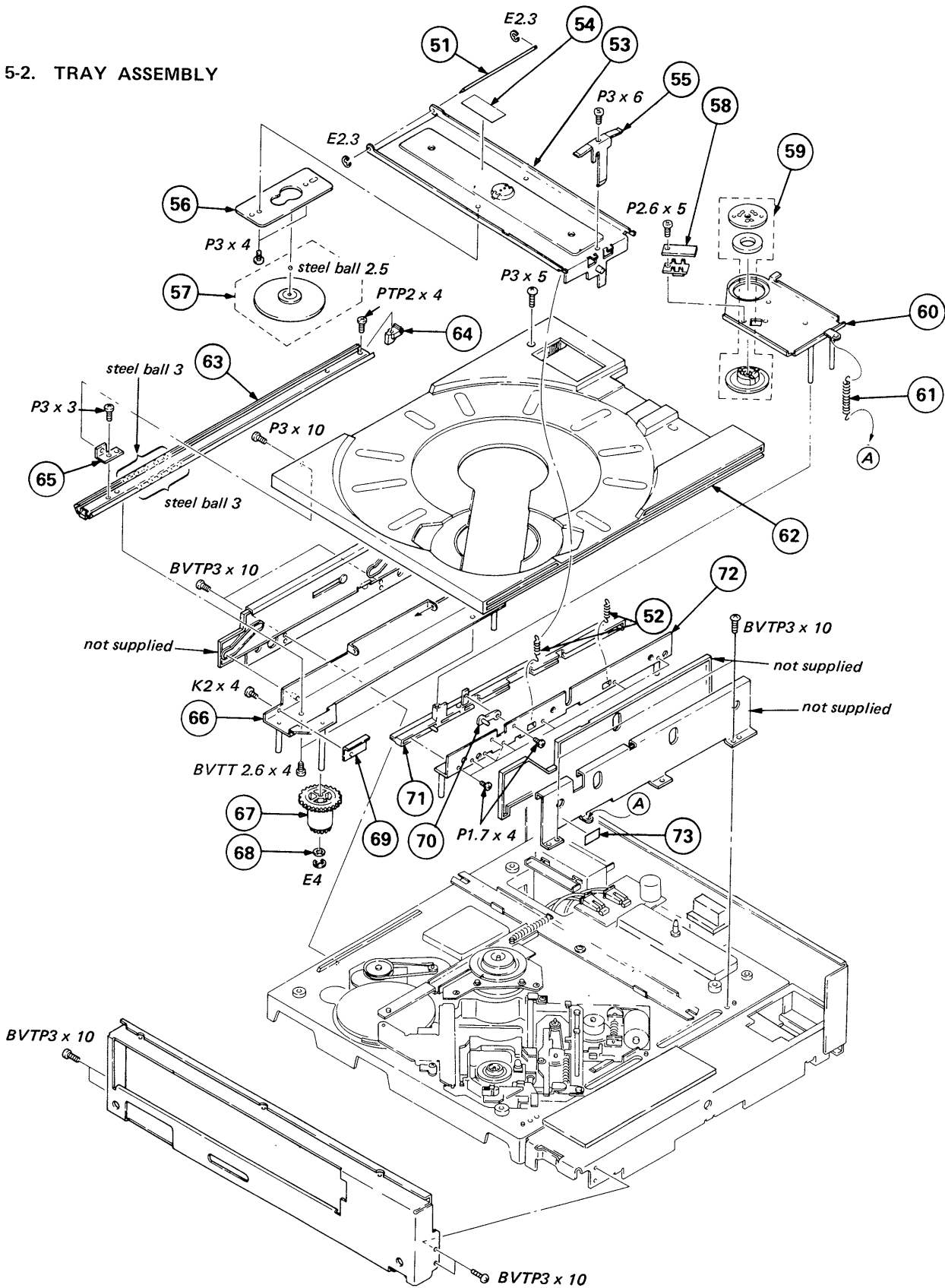
The components identified by mark or dotted line with mark are critical for safety. Replace only with part number specified.

5-1. FRONT PANEL AND CABINET ASSEMBLIES



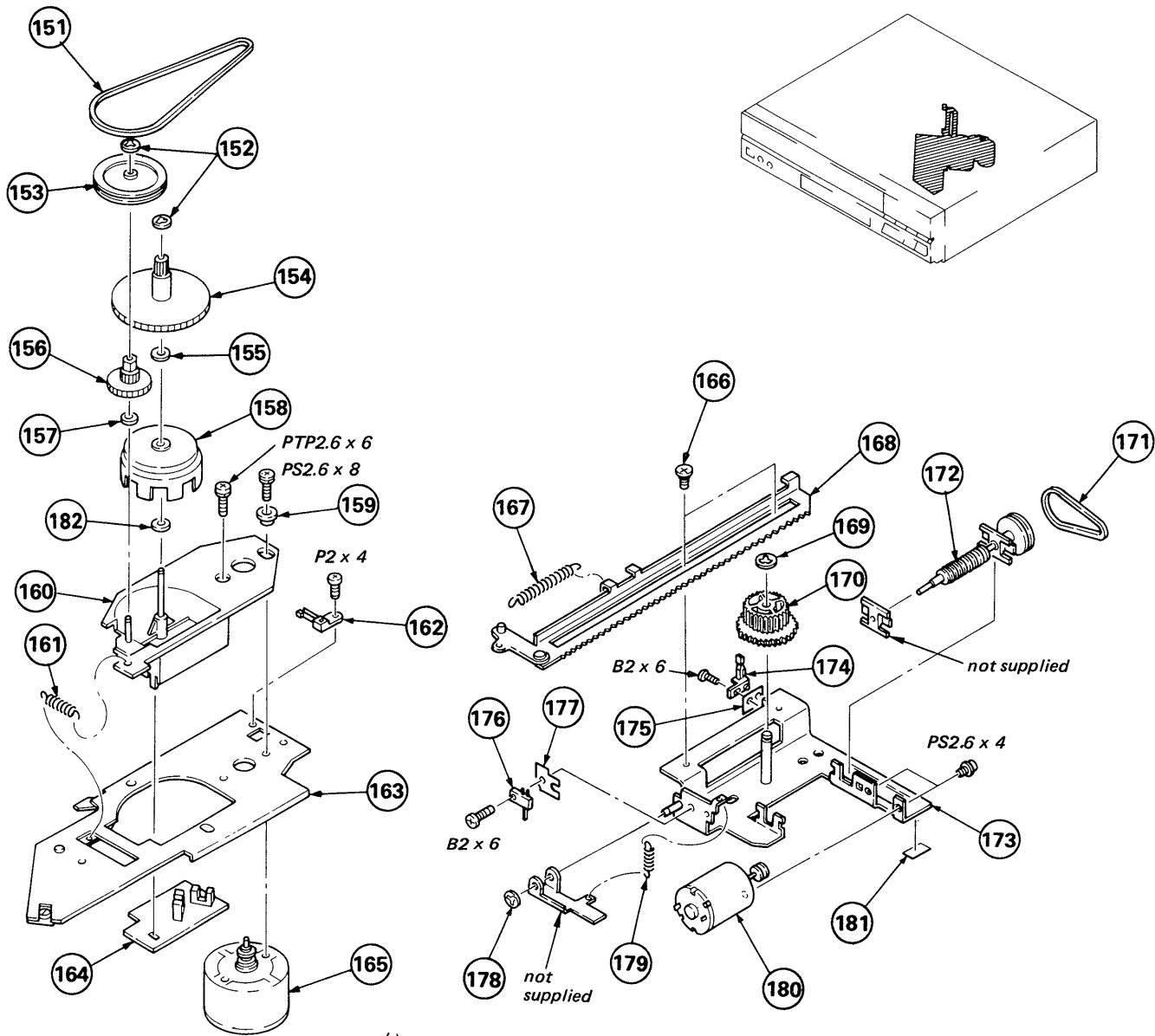
No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
1	A-6408-115-A	PANEL SUB BLOCK ASSY, FRONT	2-8, 18, 19, 21, 24	13	X-3720-340-1	FOOT ASSY (REAR)	
2	X-3720-339-1	HOOK ASSY, DOOR		14	X-3720-354-1	CASE ASSY, UPPER	
3	X-3720-380-1	DOOR ASSY		15	*X-3720-379-1	PLATE ASSY, BOTTOM	
4	1-570-679-11	SWITCH (DOOR) (S903)		16	7-685-647-79	SCREW, TAPPING	
5	3-721-281-02	SPRING (DOOR), TENSION		17	*1-627-194-21	HP-44 BOARD	
6	3-721-204-01	DAMPER		18	*3-721-215-01	PLATE, GROUND	
7	*3-721-246-01	HOOD, REFLECTION		19	*3-721-282-01	PLATE (B), GROUND	
8	*3-721-228-01	BRACKET, DOOR		20	3-538-026-00	CUSHION	
9	*A-6421-231-A	FP-142 BOARD, COMPLETE	10	21	X-3720-381-1	PANEL ASSY, FRONT	
10	*1-627-193-11	FP-143 BOARD		22	1-465-075-11	REMOTE COMMANDER (RMT-102)	23
11	X-3720-341-1	FOOT ASSY (FRONT)		23	3-694-907-01	LID, BATTERY CASE	
12	3-713-333-01	KNOB, HP		24	7-623-507-01	LUG, 2.6	

5-2. TRAY ASSEMBLY



No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
51	*3-720-367-01	SHAFT, CHUCK PLATE		63	X-3720-315-1	RAIL ASSY, SLIDE	
52	3-720-352-01	SPRING, TENSION		64	*3-720-394-01	RETAINER, RAIL	
53	X-3720-326-1	PLATE ASSY, CHUCK		65	*3-720-393-01	BRACKET, TRAY	
54	*3-718-975-01	LABEL (ENGLISH), CAUTION		66	X-3720-319-1	GUIDE (LEFT) ASSY	
55	3-720-402-01	SPRING		67	3-720-409-01	GEAR, TRAY DRIVING	
56	*3-720-303-01	BRACKET, CHUCK		68	3-701-443-11	WASHER	
57	X-3720-307-1	CLAMP ASSY		69	3-720-456-01	STOPPER, TRAY	
58	*1-628-111-11	DC-12 BOARD		70	X-3720-301-1	LEVER ASSY, CD CHUCK	
59	X-3720-304-2	PULLEY ASSY, PRESS		71	3-720-412-01	GUIDE, TRAY	
60	X-3720-317-1	CHUCK ASSY, CD		72	X-3720-316-1	GUIDE (RIGHT) ASSY	
61	3-720-365-01	SPRING, TENSION		73	3-831-441-XX	CUSHION, STOPPER	
62	X-3720-324-1	TRAY ASSY					

5-4. CD FEED BASE BLOCK ASSEMBLY

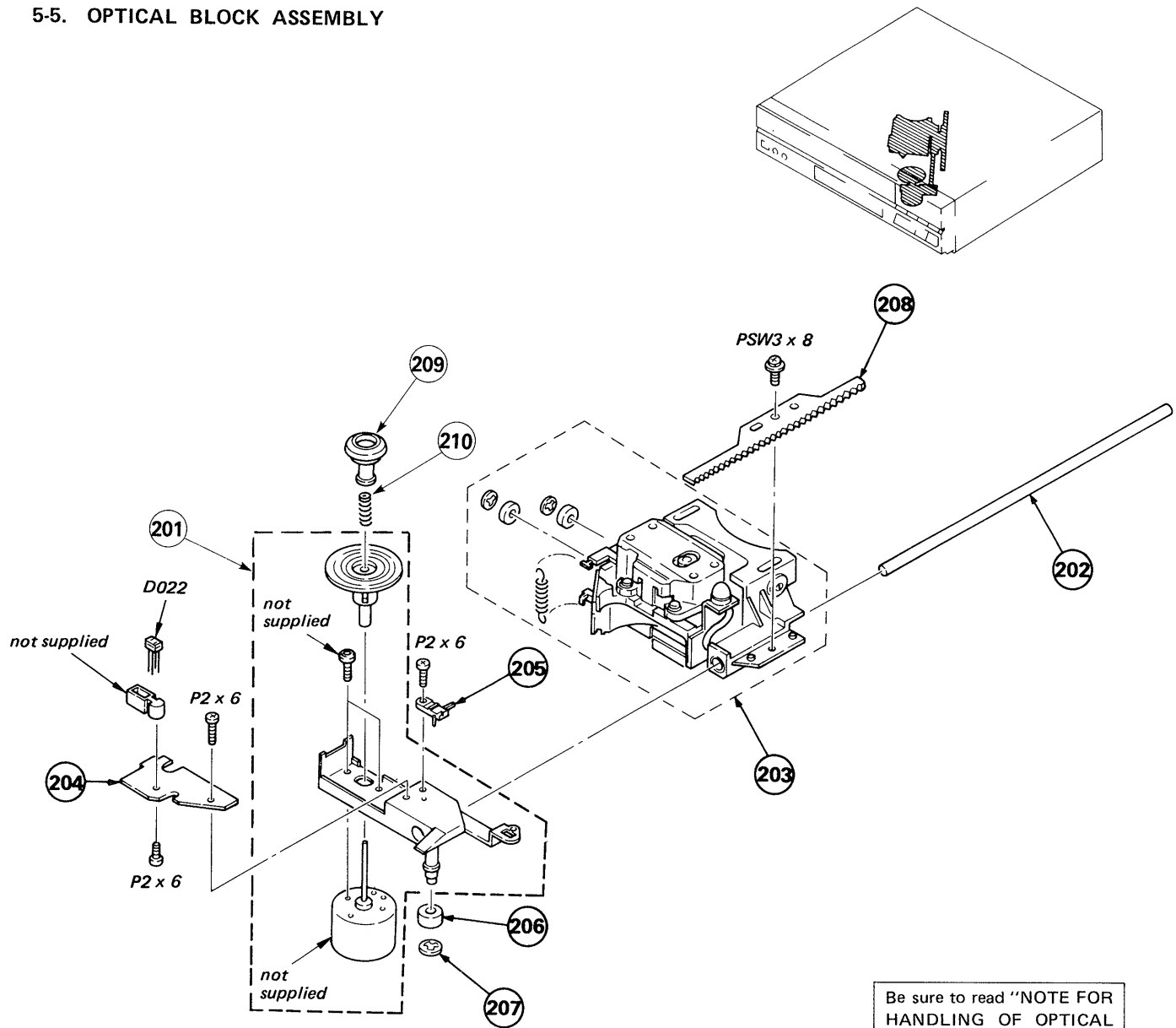


BASE PLATE SUB BLOCK ASS'Y

CD FEED BASE BLOCK ASS'Y

No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
151	3-725-503-01	BELT		167	3-534-924-11	SPRING, TENSION	
152	3-669-465-00	WASHER (1.5), STOPPER		168	X-3720-313-1	PLATE ASSY, RACK, CD FEED	
153	3-720-379-01	PULLEY		169	3-696-510-01	WASHER (3), STOPPER	
154	3-720-377-01	GEAR, PINION		170	3-720-338-01	GEAR, CD DRIVING	
155	3-701-438-11	WASHER, 2.5		171	3-569-705-00	BELT, RELAY, COUNTER	
156	3-720-378-01	GEAR, MIDWAY		172	X-3720-328-1	WORM ASSY	
157	3-701-437-11	WASHER		173	*X-3720-303-1	BASE ASSY, RM FITTING	
158	3-720-374-01	SENSOR, FG		174	1-570-203-11	SWITCH, LEAF(TRANSFER)(CD SPINDLE)(S904)	
159	*3-720-376-01	COLLAR, FEED MOTOR BASE		175	*3-721-243-01	SHEET (B), INSULATING	
160	X-3720-311-2	PLATE (A) ASSY, BASE, FEED MOTOR		176	1-570-771-21	SWITCH (MISS CHUCK) (S905)	
161	3-648-626-11	SPRING, TENSION		177	*3-720-448-01	SHEET, INSULATING	
162	1-570-112-11	SWITCH, LEAF (LD IN LIMIT) (S901)		178	3-669-596-00	WASHER (2.3), STOPPER	
163	X-3720-318-1	PLATE (B) ASSY, BASE, FEED MOTOR		179	3-720-371-01	SPRING, TENSION	
164	*1-628-109-11	FG-11 BOARD		180	X-3720-305-1	MOTOR ASSY (CD FEED) (M905)	
165	X-3720-310-1	MOTOR ASSY, FEED (TILT) (M901)		181	3-831-441-XX	CUSHION, STOPPER	
166	3-720-322-01	SCREW, STEP		182	3-701-438-01	WASHER	

5-5. OPTICAL BLOCK ASSEMBLY

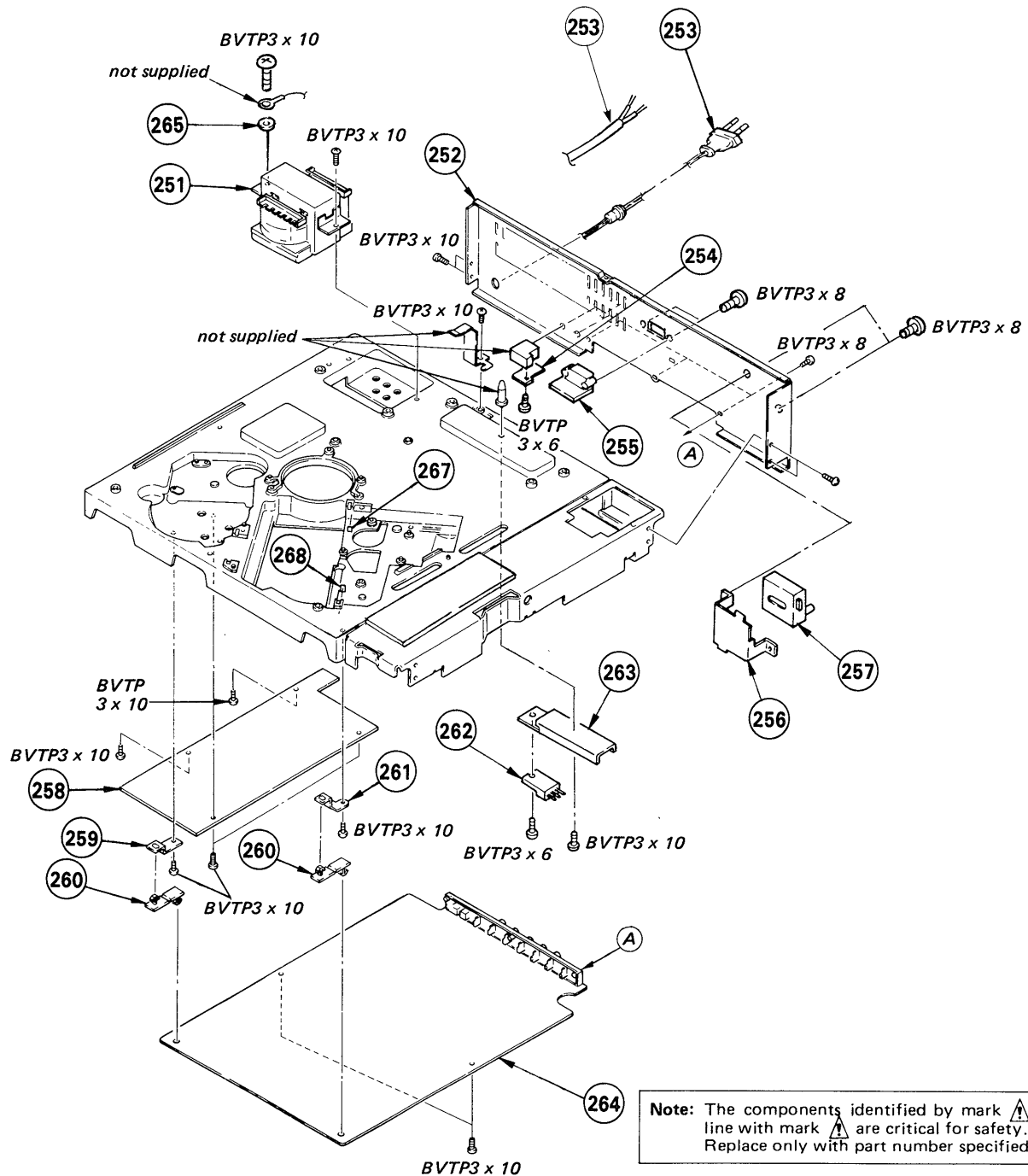


Be sure to read "NOTE FOR HANDLING OF OPTICAL BLOCK ASS'Y" on page 8, when replacing the optical block assembly.

No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
201	A-6415-182-A	CARRIAGE ASSY, CD SP		206	3-720-310-01	ROLLER	
202	*3-720-307-01	SHAFT, FEED		207	3-696-510-01	WASHER (3), STOPPER	
203	▲.8-848-090-11	DEVICE, OPTICAL KHS-110A		208	3-720-389-01	PLATE, RACK	
204	*1-628-108-11	FG-10 BOARD		209	3-720-381-01	CAP, CENTER	
205	1-570-771-11	SWITCH (CD IN LIMIT) (S902)		210	3-720-384-01	SPRING, COMPRESSION	

Note: The components identified by mark ▲ or dotted line with mark ▲ are critical for safety. Replace only with part number specified.

5-6. MAIN BOARDS AND REAR PANEL ASSEMBLY



No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
251	⚠.1-449-383-12	TRANSFORMER, POWER (T002)		259	*3-721-244-01	BRACKET (LEFT), LV HINGE	
252	*3-725-588-01	PANEL, REAR (AEP MODEL)		260	*3-696-448-01	HINGE, SS	
	*3-725-588-12	PANEL, REAR (AUS MODEL)		261	*3-721-245-01	BRACKET (RIGHT), LV HINGE	
253	⚠.1-555-795-00	CORD, POWER, EULO PLUG (AEP MODEL)		262	8-759-400-63	IC UPC7805H (IC001)	
	⚠.1-551-884-32	CORD, POWER (AUS MODEL)		263	*3-721-257-11	HEAT SINK	
254	*1-628-106-11	CK-9 BOARD		264	*A-6421-229-A	LP-3 BOARD, COMPLETE	
255	*1-628-113-11	CL-10 BOARD		265	7-623-422-07	LW 3, TYPE B	
256	*3-712-894-01	BRACKET		266	*A-6421-232-A	AF-49 BOARD, COMPLETE	
257	1-466-014-11	MODULATOR, RF (RFU-2007)		267	9-911-838-XX	CUSHION, METER	
258	*A-6421-228-A	PS-188 BOARD, COMPLETE		268	3-846-312-00	SPACER	

SECTION 6

ELECTRICAL PARTS LIST

PS-188

NOTE:

The components identified by mark **▲** or dotted line with mark **▲** are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- **RESISTORS**
All resistors are in ohms
METAL: Metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F: nonflammable
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- **SEMICONDUCTORS**
In each case, U: μ , for example:
UA...: μ A..., UPA...: μ PA...,
UPB...: μ PB..., UPC...: μ PC...,
UPD...: μ PD...
- **CAPACITORS**
MF: μ F, PF: μ μ F
- **COILS**
MMH: mH, UH: μ H

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
*A-6421-228-A	PS-188	BOARD, COMPLETE	(Ref.No. 5,000Series)	<u>CONNECTOR</u>			
*1-533-189-11		HOLDER, FUSE		CN012	*1-564-420-11	HEADER, SPRING (POWER) 3P	
*3-720-461-01		HEAT SINK, IC105		CN013	*1-564-421-11	HEADER, SPRING (POWER) 4P	
*3-720-462-01		HEAT SINK, IC106		CN102	*1-560-893-00	PIN, CONNECTOR 5P	
*3-720-463-01		HEAT SINK		CN103	*1-560-896-00	PIN, CONNECTOR 8P	
7-685-645-79		SCREW +BVTP 3X6 TYPE2 IT-3		CN104	*1-560-892-00	PIN, CONNECTOR 4P	
<u>CAPACITOR</u>				CN201	*1-560-890-00	PIN, CONNECTOR 2P	
C101	1-125-349-00	ELECT	6800MF 20% 25V	CN202	*1-564-003-00	PIN, CONNECTOR 4P	
C102	1-125-349-00	ELECT	6800MF 20% 25V	<u>DIODE</u>			
C103	1-125-349-00	ELECT	6800MF 20% 25V	D101	8-719-500-65	DIODE S3S6M	
C104	1-124-120-11	ELECT	220MF 20% 16V	D102	8-719-200-02	DIODE 10E-2	
C105	1-124-120-11	ELECT	220MF 20% 16V	D103	8-719-200-02	DIODE 10E-2	
C106	1-126-101-11	ELECT	100MF 20% 16V	D104	8-719-948-76	DIODE ERB81-004U1	
C107	1-161-494-00	CERAMIC	0.022MF 25V	D105	8-719-948-76	DIODE ERB81-004U1	
C108	1-102-121-00	CERAMIC	0.0022MF 10% 50V	D106	8-719-500-65	DIODE S3S6M	
C109	1-102-114-00	CERAMIC	470PF 10% 50V	D107	8-719-500-65	DIODE S3S6M	
C110	1-102-074-00	CERAMIC	0.001MF 10% 50V	D108	8-719-114-15	DIODE RD39ES-B2	
C111	1-124-927-11	ELECT	4.7MF 20% 50V	D110	8-719-200-02	DIODE 10E-2	
C112	1-102-125-00	CERAMIC	0.0047MF 10% 50V	D111	8-719-112-64	DIODE RD10ES-B2	
C113	1-161-772-11	CERAMIC	0.1MF 10% 25V	D112	8-719-110-76	DIODE RD33ES-B1	
C114	1-124-604-00	ELECT	330MF 20% 10V	D113	8-719-500-65	DIODE S3S6M	
C115	1-124-604-00	ELECT	330MF 20% 10V	D201	8-719-300-92	DIODE EK04	
C116	1-161-061-11	CERAMIC	0.068MF 10% 50V	D202	8-719-300-92	DIODE EK04	
C117	1-124-473-11	ELECT	1000MF 20% 10V	D203	8-719-300-92	DIODE EK04	
C118	1-124-604-00	ELECT	330MF 20% 10V	D204	8-719-300-92	DIODE EK04	
C119	1-161-061-11	CERAMIC	0.068MF 10% 50V	D205	8-719-921-20	DIODE 1SS119	
C131	1-124-912-11	ELECT	330MF 20% 50V	<u>FUSE</u>			
C132	1-124-910-11	ELECT	47MF 20% 50V	F101	▲ 1-532-299-00	FUSE, TIME-LAG (T5A 250V)	
C133	1-124-122-11	ELECT	100MF 20% 50V	F102	▲ 1-532-299-00	FUSE, TIME-LAG (T5A 250V)	
C134	1-161-024-00	CERAMIC	0.082MF 10% 25V	F103	▲ 1-576-047-11	FUSE, MICRO (F1.25A 125V)	
C135	1-124-482-11	ELECT	33MF 20% 25V	F104	▲ 1-576-047-11	FUSE, MICRO (F1.25A 125V)	
C136	1-124-479-11	ELECT	330MF 20% 25V	<u>IC</u>			
C137	1-102-125-00	CERAMIC	0.0047MF 10% 50V	IC101	8-759-946-29	IC PQ12R04S	
C138	1-124-478-11	ELECT	100MF 20% 25V	IC102	8-759-700-54	IC NJM7809K	
C139	1-161-772-11	CERAMIC	0.1MF 10% 25V	IC104	8-759-946-09	IC FA7611M	
C140	1-102-125-00	CERAMIC	0.0047MF 10% 50V	IC105	8-759-945-51	IC PQ09R04S	
C141	1-124-479-11	ELECT	330MF 20% 25V	IC106	8-759-803-42	IC LA6500-FA	
C142	1-102-125-00	CERAMIC	0.0047MF 10% 50V	IC201	8-759-745-58	IC UPC4558C	
C143	1-124-478-11	ELECT	100MF 20% 25V	IC202	8-759-745-60	IC NJM4560D	
C144	1-124-477-11	ELECT	47MF 20% 25V	IC203	8-759-745-58	IC UPC4558C	
C201	1-161-051-00	CERAMIC	0.01MF 10% 25V	IC204	8-749-920-02	IC STA455C	
C202	1-102-074-00	CERAMIC	0.001MF 10% 50V	<u>COIL</u>			
C203	1-102-114-00	CERAMIC	470PF 10% 50V	L101	1-410-938-11	COIL, CHOKE 220UH	
C204	1-130-479-00	MYLAR	0.0047MF 5% 50V	L102	1-410-939-11	COIL, CHOKE 68UH	
C207	1-124-120-11	ELECT	220MF 20% 25V	L103	1-410-938-11	COIL, CHOKE 220UH	
C208	1-124-120-11	ELECT	220MF 20% 25V	L104	1-410-939-11	COIL, CHOKE 68UH	
C209	1-124-910-11	ELECT	47MF 20% 50V	L201	1-410-937-11	COIL, CHOKE 380UH	
C210	1-124-766-00	ELECT	0.1MF 20% 50V				
C215	1-161-772-11	CERAMIC	0.1MF 10% 25V				

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
<u>TRANSISTOR</u>							
Q101	8-729-804-68	TRANSISTOR 2SB1133-S		R215	△ 1-215-913-11	WIREWOUND 220 10% 2W	F
Q102	8-729-804-68	TRANSISTOR 2SB1133-S		R216	△ 1-215-913-11	WIREWOUND 220 10% 2W	F
Q108	8-729-113-33	TRANSISTOR 2SB733-4		R217	△ 1-215-913-11	WIREWOUND 220 10% 2W	F
Q111	8-729-900-89	TRANSISTOR DTC144ES		R218	△ 1-215-913-11	WIREWOUND 220 10% 2W	F
Q201	8-729-178-54	TRANSISTOR 2SC2785		R219	1-215-469-00	METAL 100K 1%	1/6W
Q202	8-729-900-61	TRANSISTOR DTA114ES		R220	1-215-469-00	METAL 100K 1%	1/6W
Q203	8-729-178-54	TRANSISTOR 2SC2785		R221	1-215-445-00	METAL 10K 1%	1/6W
Q204	8-729-117-54	TRANSISTOR 2SA1175		R222	1-215-445-00	METAL 10K 1%	1/6W
Q205	8-729-117-54	TRANSISTOR 2SA1175		R223	1-249-409-11	CARBON 220 5%	1/4W
Q206	8-729-178-54	TRANSISTOR 2SC2785		R224	1-247-895-00	CARBON 470K 5%	1/4W
Q207	8-729-900-80	TRANSISTOR DTC114ES		R255	1-249-401-11	CARBON 47 5%	1/4W
<u>RESISTOR</u>							
R101	1-215-447-00	METAL 12K 1%	1/6W	R256	1-249-401-11	CARBON 47 5%	1/4W
R102	1-215-465-00	METAL 68K 1%	1/6W	R257	1-249-401-11	CARBON 47 5%	1/4W
R103	1-247-888-11	CARBON 240K 5%	1/4W	R258	1-249-401-11	CARBON 47 5%	1/4W
R104	1-249-438-11	CARBON 56K 5%	1/4W	*****			
R105	1-215-430-00	METAL 2.4K 1%	1/6W	*A-6421-229-A	LP-3 BOARD, COMPLETE (Ref.No. 1,000Series)		
R107	1-249-441-11	CARBON 100K 5%	1/4W	*3-674-372-00	HOLDER (A), LED		
R108	1-215-453-00	METAL 22K 1%	1/6W	3-721-270-01	PLATE, GROUND, JACK		
R109	1-247-751-11	CARBON 820 5%	1/2W	<u>CAPACITOR</u>			
R110	1-249-418-11	CARBON 1.2K 5%	1/4W	C001	1-123-661-00	ELECT 100MF 20%	6.3V
R111	1-247-751-11	CARBON 820 5%	1/2W	C002	1-163-035-00	CERAMIC CHIP 0.047MF	50V
R112	1-249-416-11	CARBON 820 5%	1/4W	C003	1-163-103-00	CERAMIC CHIP 27PF	5% 50V
R124	1-249-416-11	CARBON 820 5%	1/4W	C004	1-163-103-00	CERAMIC CHIP 27PF	5% 50V
R125	1-249-405-11	CARBON 100 5%	1/4W	C005	1-163-111-00	CERAMIC CHIP 56PF	5% 50V
R128	△ 1-212-875-00	FUSIBLE 56 5%	1/4W	F	C006	1-163-117-00	CERAMIC CHIP 100PF 5% 50V
R129	1-215-471-00	METAL 120K 1%	1/6W	C007	1-163-035-00	CERAMIC CHIP 0.047MF	50V
R131	1-215-453-00	METAL 22K 1%	1/6W	C008	1-126-154-11	ELECT 47MF	20% 6.3V
R134	1-215-455-00	METAL 27K 1%	1/6W	C009	1-163-035-00	CERAMIC CHIP 0.047MF	50V
R135	△ 1-217-259-00	WIREWOUND 6.8 10%	3W	F	C010	1-126-154-11	ELECT 47MF 20% 6.3V
R136	1-249-429-11	CARBON 10K 5%	1/4W	C011	1-163-125-00	CERAMIC CHIP 220PF	5% 50V
R137	1-249-429-11	CARBON 10K 5%	1/4W	C012	1-163-125-00	CERAMIC CHIP 220PF	5% 50V
R138	1-247-901-11	CARBON 820K 5%	1/4W	C013	1-163-015-00	CERAMIC CHIP 0.0033MF	10% 50V
R139	1-247-897-11	CARBON 560K 5%	1/4W	C014	1-163-141-00	CERAMIC CHIP 0.001MF	10% 50V
R140	△ 1-212-851-00	FUSIBLE 5.6 5%	1/4W	F	C015	1-163-125-00	CERAMIC CHIP 220PF 5% 50V
R143	1-249-421-11	CARBON 2.2K 5%	1/4W	C016	1-126-094-11	ELECT 4.7MF	20% 25V
R145	1-249-389-11	CARBON 4.7 5%	1/4W	C017	1-163-103-00	CERAMIC CHIP 27PF	5% 50V
R201	1-249-429-11	CARBON 10K 5%	1/4W	C018	1-163-093-00	CERAMIC CHIP 10PF	5% 50V
R202	1-249-441-11	CARBON 100K 5%	1/4W	C019	1-163-133-00	CERAMIC CHIP 470PF	5% 50V
R204	1-249-425-11	CARBON 4.7K 5%	1/4W	C020	1-163-105-00	CERAMIC CHIP 33PF	5% 50V
R205	1-249-425-11	CARBON 4.7K 5%	1/4W	C021	1-163-111-00	CERAMIC CHIP 56PF	5% 50V
R206	1-249-431-11	CARBON 15K 5%	1/4W	C022	1-163-021-00	CERAMIC CHIP 0.01MF	50V
R207	1-249-437-11	CARBON 4.7K 5%	1/4W	C023	1-126-157-11	ELECT 10MF	20% 16V
R208	1-249-429-11	CARBON 10K 5%	1/4W	C024	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V
R209	1-249-437-11	CARBON 4.7K 5%	1/4W	C025	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V
R210	1-249-427-11	CARBON 6.8K 5%	1/4W	C026	1-163-093-00	CERAMIC CHIP 10PF	5% 50V
R211	1-249-427-11	CARBON 6.8K 5%	1/4W	C027	1-163-097-00	CERAMIC CHIP 15PF	5% 50V
R212	1-249-431-11	CARBON 15K 5%	1/4W	C028	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
R213	1-249-431-11	CARBON 15K 5%	1/4W	C029	1-163-035-00	CERAMIC CHIP 0.047MF	50V
R214	1-249-433-11	CARBON 22K 5%	1/4W	C030	1-123-661-00	ELECT 100MF	20% 6.3V

When indicating parts by reference number, please include the board name.

Note: The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
C031	1-131-342-00	ELECT(SOLID) 0.15MF	5%	25V	C142	1-163-095-00	CERAMIC CHIP 12PF 5% 50V
C032	1-163-035-00	CERAMIC CHIP 0.047MF		50V	C143	1-126-157-11	ELECT 10MF 20% 16V
C033	1-163-035-00	CERAMIC CHIP 0.047MF		50V	C144	1-124-589-11	ELECT 47MF 20% 16V
C034	1-163-035-00	CERAMIC CHIP 0.047MF		50V	C145	1-163-035-00	CERAMIC CHIP 0.047MF 50V
C035	1-163-035-00	CERAMIC CHIP 0.047MF		50V	C146	1-124-589-11	ELECT 47MF 20% 16V
C036	1-163-035-00	CERAMIC CHIP 0.047MF		50V	C147	1-124-589-11	ELECT 47MF 20% 16V
C037	1-124-234-00	ELECT 22MF	20%	16V	C148	1-163-035-00	CERAMIC CHIP 0.047MF 50V
C038	1-163-113-00	CERAMIC CHIP 68PF	5%	50V	C150	1-126-157-11	ELECT 10MF 20% 16V
C039	1-163-035-00	CERAMIC CHIP 0.047MF		50V	C152	1-163-035-00	CERAMIC CHIP 0.047MF 50V
C040	1-163-035-00	CERAMIC CHIP 0.047MF		50V	C153	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C041	1-124-225-00	ELECT 100MF	20%	6.3V	C154	1-163-125-00	CERAMIC CHIP 220PF 5% 50V
C042	1-163-035-00	CERAMIC CHIP 0.047MF		50V	C155	1-126-157-11	ELECT 10MF 20% 16V
C043	1-163-035-00	CERAMIC CHIP 0.047MF		50V	C156	1-126-094-11	ELECT 4.7MF 20% 25V
C044	1-163-035-00	CERAMIC CHIP 0.047MF		50V	C157	1-163-133-00	CERAMIC CHIP 470PF 5% 50V
C045	1-163-035-00	CERAMIC CHIP 0.047MF		50V	C158	1-163-035-00	CERAMIC CHIP 0.047MF 50V
C046	1-163-035-00	CERAMIC CHIP 0.047MF		50V	C159	1-163-133-00	CERAMIC CHIP 470PF 5% 50V
C101	1-124-589-11	ELECT 47MF	20%	16V	C160	1-163-035-00	CERAMIC CHIP 0.047MF 50V
C102	1-163-035-00	CERAMIC CHIP 0.047MF		50V	C162	1-124-463-00	ELECT 0.1MF 20% 50V
C103	1-123-611-00	ELECT 1MF	20%	50V	C163	1-163-035-00	CERAMIC CHIP 0.047MF 50V
C104	1-163-035-00	CERAMIC CHIP 0.047MF		50V	C164	1-124-589-11	ELECT 47MF 20% 16V
C105	1-123-611-00	ELECT 1MF	20%	50V	C165	1-126-157-11	ELECT 10MF 20% 16V
C106	1-163-113-00	CERAMIC CHIP 68PF	5%	50V	C166	1-126-163-11	ELECT 4.7MF 20% 50V
C107	1-163-019-00	CERAMIC CHIP 0.0068MF	10%	50V	C167	1-123-661-00	ELECT 100MF 20% 6.3V
C108	1-163-131-00	CERAMIC CHIP 390PF	5%	50V	C168	1-124-589-11	ELECT 47MF 20% 16V
C109	1-163-035-00	CERAMIC CHIP 0.047MF		50V	C169	1-163-035-00	CERAMIC CHIP 0.047MF 50V
C111	1-163-121-00	CERAMIC CHIP 150PF	5%	50V	C170	1-124-589-11	ELECT 47MF 20% 16V
C112	1-163-101-00	CERAMIC CHIP 22PF	5%	50V	C171	1-124-589-11	ELECT 47MF 20% 16V
C113	1-163-035-00	CERAMIC CHIP 0.047MF		50V	C172	1-124-589-11	ELECT 47MF 20% 16V
C114	1-124-589-11	ELECT 47MF	20%	16V	C173	1-163-035-00	CERAMIC CHIP 0.047MF 50V
C115	1-126-157-11	ELECT 10MF	20%	16V	C174	1-163-097-00	CERAMIC CHIP 15PF 5% 50V
C116	1-126-157-11	ELECT 10MF	20%	16V	C175	1-163-035-00	CERAMIC CHIP 0.047MF 50V
C117	1-163-021-00	CERAMIC CHIP 0.01MF	10%	50V	C176	1-163-101-00	CERAMIC CHIP 22PF 5% 50V
C118	1-163-097-00	CERAMIC CHIP 15PF	5%	50V	C177	1-163-019-00	CERAMIC CHIP 0.0068MF 10% 50V
C119	1-124-120-11	ELECT 220MF	20%	16V	C178	1-163-035-00	CERAMIC CHIP 0.047MF 50V
C120	1-163-035-00	CERAMIC CHIP 0.047MF		50V	C179	1-163-035-00	CERAMIC CHIP 0.047MF 50V
C121	1-163-019-00	CERAMIC CHIP 0.0068MF	10%	50V	C180	1-124-589-11	ELECT 47MF 20% 16V
C122	1-163-019-00	CERAMIC CHIP 0.0068MF	10%	50V	C181	1-126-157-11	ELECT 10MF 20% 16V
C123	1-163-109-00	CERAMIC CHIP 47PF	5%	50V	C182	1-163-117-00	CERAMIC CHIP 100PF 5% 50V
C124	1-163-123-00	CERAMIC CHIP 180PF	5%	50V	C183	1-124-589-11	ELECT 47MF 20% 16V
C125	1-124-443-00	ELECT 100MF	20%	10V	C186	1-163-105-00	CERAMIC CHIP 33PF 5% 50V
C126	1-163-107-00	CERAMIC CHIP 39PF	5%	50V	C187	1-126-101-11	ELECT 100MF 20% 16V
C127	1-136-165-00	MYLAR 0.1MF	10%	50V	C188	1-163-035-00	CERAMIC CHIP 0.047MF 50V
C128	1-163-019-00	CERAMIC CHIP 0.0068MF	10%	50V	C189	1-163-111-00	CERAMIC CHIP 56PF 5% 50V
C129	1-163-038-00	CERAMIC CHIP 0.1MF		25V	C190	1-123-611-00	ELECT 1MF 20% 50V
C130	1-163-035-00	CERAMIC CHIP 0.047MF		50V	C191	1-163-117-00	CERAMIC CHIP 100PF 5% 50V
C131	1-126-157-11	ELECT 10MF	20%	16V	C192	1-124-443-00	ELECT 100MF 20% 10V
C133	1-124-589-11	ELECT 47MF	20%	16V	C193	1-163-035-00	CERAMIC CHIP 0.047MF 50V
C135	1-126-157-11	ELECT 10MF	20%	16V	C194	1-163-111-00	CERAMIC CHIP 56PF 5% 50V
C136	1-163-097-00	CERAMIC CHIP 15PF	5%	50V	C195	1-163-035-00	CERAMIC CHIP 0.047MF 50V
C137	1-163-113-00	CERAMIC CHIP 68PF	5%	50V	C196	1-163-035-00	CERAMIC CHIP 0.047MF 50V
C138	1-163-035-00	CERAMIC CHIP 0.047MF		50V	C197	1-126-157-11	ELECT 10MF 20% 16V
C140	1-124-589-11	ELECT 47MF	20%	16V	C198	1-124-464-11	ELECT 0.22MF 20% 50V
C141	1-163-095-00	CERAMIC CHIP 12PF	5%	50V	C200	1-163-109-00	CERAMIC CHIP 82PF 5% 50V

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
C201	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C257	1-163-105-00	CERAMIC CHIP 33PF	5%
C202	1-124-589-11	ELECT 47MF	20% 50V	C258	1-123-611-00	ELECT 1MF	20% 50V
C203	1-163-141-00	CERAMIC CHIP 0.001MF	10% 50V	C259	1-124-589-11	ELECT 47MF	20% 16V
C204	1-136-161-00	MYLAR 0.047MF	10% 50V	C260	1-163-021-00	CERAMIC CHIP 0.01MF	10% 50V
C205	1-123-611-00	ELECT 1MF	20% 50V	C261	1-124-589-11	ELECT 47MF	20% 16V
C206	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	C262	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C207	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	C263	1-163-097-00	CERAMIC CHIP 15PF	5% 50V
C208	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C264	1-163-115-00	CERAMIC CHIP 82PF	5% 50V
C209	1-163-019-00	CERAMIC CHIP 0.0068MF	10% 50V	C265	1-123-611-00	ELECT 1MF	20% 50V
C211	1-131-381-00	TANTALUM 47MF	10% 6.3V	C266	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C212	1-163-103-00	CERAMIC CHIP 27PF	5% 50V	C267	1-136-165-00	MYLAR 0.1MF	10% 50V
C213	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C269	1-123-661-00	ELECT 100MF	20% 6.3V
C214	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C401	1-124-499-11	ELECT 1MF	20% 50V
C216	1-136-153-00	MYLAR 0.01MF	10% 50V	C402	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V
C217	1-124-589-11	ELECT 47MF	20% 16V	C403	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C218	1-130-477-00	MYLAR 0.0033MF	10% 50V	C404	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C219	1-163-109-00	CERAMIC CHIP 47PF	5% 50V	C405	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C220	1-163-109-00	CERAMIC CHIP 47PF	5% 50V	C406	1-163-129-00	CERAMIC CHIP 330PF	5% 50V
C221	1-124-589-11	ELECT 47MF	20% 16V	C407	1-124-465-00	ELECT 0.47MF	20% 50V
C222	1-136-153-00	MYLAR 0.01MF	10% 50V	C408	1-163-141-00	CERAMIC CHIP 0.001MF	10% 50V
C223	1-136-153-00	MYLAR 0.01MF	10% 50V	C409	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C224	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C410	1-123-661-00	ELECT 100MF	20% 6.3V
C226	1-136-153-00	MYLAR 0.01MF	10% 50V	C411	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C227	1-163-111-00	CERAMIC CHIP 56PF	5% 50V	C412	1-123-661-00	ELECT 100MF	20% 6.3V
C228	1-124-589-11	ELECT 47MF	20% 16V	C413	1-163-093-00	CERAMIC CHIP 10PF	5% 50V
C229	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C414	1-163-105-00	CERAMIC CHIP 33PF	5% 50V
C230	1-130-490-11	MYLAR 0.039MF	5% 50V	C415	1-163-133-00	CERAMIC CHIP 470PF	5% 50V
C231	1-163-141-00	CERAMIC CHIP 0.001MF	10% 50V	C416	1-163-023-00	CERAMIC CHIP 0.015MF	10% 50V
C232	1-124-589-11	ELECT 47MF	20% 16V	C419	1-163-093-00	CERAMIC CHIP 10PF	5% 50V
C233	1-124-443-00	ELECT 100MF	20% 10V	C420	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V
C234	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C425	1-130-489-00	MYLAR 0.033MF	5% 50V
C235	1-124-443-00	ELECT 100MF	20% 10V	C426	1-130-491-00	MYLAR 0.047MF	5% 50V
C236	1-124-589-11	ELECT 47MF	20% 16V	C427	1-130-484-00	MYLAR 0.012MF	5% 50V
C237	1-163-113-00	CERAMIC CHIP 68PF	5% 50V	C428	1-130-485-00	MYLAR 0.015MF	5% 50V
C238	1-163-109-00	CERAMIC CHIP 47PF	5% 50V	C429	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
C239	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	C430	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V
C240	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V	C431	1-163-034-00	CERAMIC CHIP 0.033MF	50V
C241	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C434	1-124-284-00	ELECT 10MF	20% 16V
C242	1-163-129-00	CERAMIC CHIP 330PF	5% 50V	C435	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V
C243	1-124-589-11	ELECT 47MF	20% 16V	C436	1-130-495-00	MYLAR 0.1MF	5% 50V
C244	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C439	1-130-495-00	MYLAR 0.1MF	5% 50V
C245	1-163-019-00	CERAMIC CHIP 0.0068MF	10% 50V	C442	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C246	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C443	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C247	1-126-157-11	ELECT 10MF	20% 16V	C446	1-131-344-00	TANTALUM 0.33MF	10% 35V
C248	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C448	1-126-154-11	ELECT 47MF	20% 6.3V
C249	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C459	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C250	1-163-086-00	CERAMIC CHIP 3PF	0.25PF 50V	C460	1-163-141-00	CERAMIC CHIP 0.001MF	10% 50V
C251	1-163-115-00	CERAMIC CHIP 82PF	5% 50V	C461	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C252	1-163-103-00	CERAMIC CHIP 27PF	5% 50V	C462	1-124-589-11	ELECT 47MF	20% 16V
C253	1-163-095-00	CERAMIC CHIP 12PF	5% 50V	C463	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C254	1-163-103-00	CERAMIC CHIP 27PF	5% 50V	C464	1-124-247-00	ELECT 10MF	20% 25V
C255	1-163-101-00	CERAMIC CHIP 22PF	5% 50V	C465	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C256	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C466	1-124-247-00	ELECT 10MF	20% 25V

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
C467	1-163-038-00	CERAMIC CHIP 0.1MF	25V	CN002	*1-564-010-11	PIN, CONNECTOR 11P	
C468	1-163-986-00	CERAMIC CHIP 0.027MF	10% 25V	CN003	*1-564-001-11	PIN, CONNECTOR 2P	
C469	1-163-133-00	CERAMIC CHIP 470PF	5% 50V	CN004	*1-564-001-11	PIN, CONNECTOR 2P	
C470	1-136-155-00	MYLAR 0.015MF	10% 50V	CN005	*1-564-002-00	PIN, CONNECTOR 3P	
C471	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V	CN006	*1-564-002-00	PIN, CONNECTOR 3P	
C472	1-126-157-11	ELECT 10MF	20% 16V	CN007	*1-564-002-00	PIN, CONNECTOR 3P	
C473	1-130-528-00	MYLAR 0.1MF	5% 50V	CN008	*1-564-001-11	PIN, CONNECTOR 2P	
C474	1-163-035-00	CERAMIC CHIP 0.047MF	50V	CN009	*1-564-001-11	PIN, CONNECTOR 2P	
C475	1-163-035-00	CERAMIC CHIP 0.047MF	50V	CN010	*1-564-004-00	PIN, CONNECTOR 5P	
C476	1-163-141-00	CERAMIC CHIP 0.001MF	10% 50V	CN011	*1-564-001-11	PIN, CONNECTOR 2P	
C477	1-136-165-00	MYLAR 0.1MF	10% 50V	CN012	*1-564-011-11	PIN, CONNECTOR 12P	
C480	1-163-141-00	CERAMIC CHIP 0.001MF	10% 50V	CN013	*1-564-003-00	PIN, CONNECTOR 4P	
C481	1-163-035-00	CERAMIC CHIP 0.047MF	50V	CN014	*1-564-008-00	PIN, CONNECTOR 9P	
C482	1-163-035-00	CERAMIC CHIP 0.047MF	50V	CN015	*1-564-001-11	PIN, CONNECTOR 2P	
C483	1-163-018-00	CERAMIC CHIP 0.0056MF	10% 50V	CN101	*1-564-015-00	PIN, CONNECTOR 5P	
C550	1-123-661-00	ELECT 100MF	20% 6.3V	CN102	*1-564-003-00	PIN, CONNECTOR 4P	
C551	1-123-661-00	ELECT 100MF	20% 6.3V	CN103	*1-564-013-00	PIN, CONNECTOR 3P	
C552	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V	CN104	*1-560-894-00	PIN, CONNECTOR 6P	
C553	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V	CN401	1-566-939-11	CONNECTOR, F.P.C 24P	
C561	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V	CN402	*1-564-011-11	PIN, CONNECTOR 12P (CHECK PIN)	
C590	1-124-234-00	ELECT 22MF	20% 16V	CN403	*1-564-001-11	PIN, CONNECTOR 2P	
C591	1-124-589-11	ELECT 47MF	20% 16V	CN404	*1-564-004-00	PIN, CONNECTOR 5P	
C600	1-124-247-00	ELECT 10MF	20% 25V	CN600	*1-564-003-00	PIN, CONNECTOR 4P	
C601	1-124-247-00	ELECT 10MF	20% 25V	CN601	*1-564-001-11	PIN, CONNECTOR 2P	
C602	1-126-163-11	ELECT 4.7MF	20% 50V	CN602	*1-564-001-11	PIN, CONNECTOR 2P	
C603	1-163-015-00	CERAMIC CHIP 0.0033MF	10% 50V	CN603	*1-564-011-11	PIN, CONNECTOR 12P	
C604	1-163-117-00	CERAMIC CHIP 100PF	5% 50V				
C605	1-126-151-11	ELECT 4.7MF	20% 16V			<u>JACK</u>	
C606	1-124-589-11	ELECT 47MF	20% 16V	CNJ101	1-537-095-14	TERMINAL BOARD (CONTROL S)	
C607	1-163-117-00	CERAMIC CHIP 100PF	5% 50V			<u>TRIMMER</u>	
C608	1-124-589-11	ELECT 47MF	20% 16V	CV001	1-141-227-00	CAP, CERAMIC TRIMMER (INT SG CLOCK)	
C609	1-123-661-00	ELECT 100MF	20% 6.3V			<u>DIODE</u>	
C612	1-163-015-00	CERAMIC CHIP 0.0033MF	10% 50V	D001	8-719-907-19	DIODE FC52M-5	
C613	1-163-015-00	CERAMIC CHIP 0.0033MF	10% 50V	D002	8-719-109-99	DIODE RD7.5ES-B	
C614	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V	D003	8-719-921-20	DIODE 1SS119	
C640	1-124-268-00	ELECT 0.22MF	20% 50V	D004	8-719-109-99	DIODE RD7.5ES-B	
C641	1-163-038-00	CERAMIC CHIP 0.1MF	25V	D005	8-719-921-20	DIODE 1SS119	
C642	1-124-247-00	ELECT 10MF	20% 25V	D006	8-719-110-11	DIODE RD9.1ES-B	
C643	1-124-247-00	ELECT 10MF	20% 25V	D007	8-719-110-11	DIODE RD9.1ES-B	
C644	1-126-099-11	ELECT 2.2MF	20% 35V	D008	8-719-948-62	DIODE SLR-981A	
C660	1-136-169-00	MYLAR 0.22MF	10% 50V	D101	8-719-921-20	DIODE 1SS119	
C661	1-163-109-00	CERAMIC CHIP 47PF	5% 50V	D102	8-719-921-20	DIODE 1SS119	
C662	1-124-268-00	ELECT 0.22MF	20% 50V	D103	8-719-921-20	DIODE 1SS119	
C663	1-136-161-00	MYLAR 0.047MF	10% 50V	D104	8-719-921-20	DIODE 1SS119	
C664	1-163-038-00	CERAMIC CHIP 0.1MF	25V	D401	8-719-921-20	DIODE 1SS119	
C699	1-163-141-00	CERAMIC CHIP 0.001MF	10% 50V	D402	8-719-921-20	DIODE 1SS119	
		<u>FILTER</u>		D403	8-719-104-26	DIODE 1S2837	
CF101	1-567-657-11	FILTER, CERAMIC (SFS-MA TYPE) (3.75MHz)		D404	8-719-921-20	DIODE 1SS119	
		<u>CONNECTOR</u>		D405	8-719-921-20	DIODE 1SS119	
CN001	*1-560-896-00	PIN, CONNECTOR 8P		D406	8-719-119-70	DIODE RD2.7ES-L2	

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
D408	8-719-104-26	DIODE 1S2837		IC109	8-759-907-81	IC SN74LS221NS	
D409	8-719-104-22	DIODE 1SS123		IC110	8-752-006-10	IC CX20061	
D410	8-719-921-20	DIODE 1SS119		IC111	8-752-321-89	IC CXL5003P	
D411	8-719-921-20	DIODE 1SS119		IC112	8-759-927-56	IC BA7021	
D601	8-719-119-70	DIODE RD2.7ES-L2		IC401	8-759-700-43	IC NJM4558M	
D648	8-719-921-20	DIODE 1SS119		IC402	8-759-208-11	IC TC4053BFHB	
D666	8-719-921-20	DIODE 1SS119		IC403	8-759-804-85	IC LA9200NM	
<u>FUSE</u>				IC405	8-759-700-43	IC NJM4558M	
F001	△.1-576-026-11	FUSE, MICRO (F2A 125V)		IC406	8-759-805-19	IC LA6500S-LR	
F002	△.1-576-026-11	FUSE, MICRO (F2A 125V)		IC407	8-759-805-19	IC LA6500S-LR	
F003	△.1-576-026-11	FUSE, MICRO (F2A 125V)		IC408	8-759-700-07	IC NJM2903M	
F004	△.1-576-026-11	FUSE, MICRO (F2A 125V)		IC410	8-759-700-43	IC NJM4558M	
F005	△.1-576-026-11	FUSE, MICRO (F2A 125V)		IC411	8-759-208-11	IC TC4053BFHB	
F006	△.1-576-026-11	FUSE, MICRO (F2A 125V)		IC420	8-759-208-11	IC TC4053BFHB	
F007	△.1-576-026-11	FUSE, MICRO (F2A 125V)		IC421	8-759-700-43	IC NJM4558M	
F008	△.1-576-026-11	FUSE, MICRO (F2A 125V)		IC422	8-759-700-43	IC NJM4558M	
F009	△.1-576-026-11	FUSE, MICRO (F2A 125V)		IC423	8-759-208-11	IC TC4053BFHB	
F010	△.1-576-026-11	FUSE, MICRO (F2A 125V)		IC430	8-759-208-11	IC TC4053BFHB	
<u>FILTER</u>				IC431	8-759-208-11	IC TC4053BFHB	
FL001	1-421-927-21	FILTER, NOISE		IC432	8-759-201-61	IC TC40H004F	
FL002	1-421-927-21	FILTER, NOISE		IC433	8-759-700-43	IC NJM4558M	
FL101	1-236-262-11	FILTER, BAND PASS (7.5MHz)		IC550	8-759-103-79	IC UPC358G2	
FL102	1-236-264-11	FILTER, LOW PASS		IC552	8-759-700-43	IC NJM4558M	
FL103	1-415-515-11	DELAY LINE (200ns)		IC590	8-759-923-61	IC 1R3C02AN	
FL104	1-236-263-11	FILTER, LOW PASS		IC600	8-759-700-43	IC NJM4558M	
FL105	1-409-447-11	COIL, TRAP (4.43MHz)		IC601	8-759-932-54	IC BU4066BF	
FL106	1-424-031-11	FILTER, NOISE		IC602	8-759-208-11	IC TC4053BFHB	
<u>IC</u>				IC603	8-759-805-19	IC LA6500S-LR	
IC001	8-759-630-74	M50455-080FP		IC604	8-759-103-94	IC UPC324G2	
IC002	8-759-700-07	IC NJM2903M		IC605	8-759-208-11	IC TC4053BFHB	
IC003	8-759-902-88	IC SN74LS123NS		IC640	8-759-103-94	IC UPC324G2	
IC004	8-759-205-65	IC TC4081BF		IC641	8-759-805-19	IC LA6500S-LR	
IC005	8-759-207-28	4C TC9015P		IC642	8-759-208-11	IC TC4053BFHB	
IC006	8-759-973-90	IC MB89795-107		<u>COIL</u>			
IC007	8-759-605-16	IC M51953BL		L001	1-410-511-11	INDUCTOR	15UH
IC008	8-759-937-21	IC CXD1078M		L002	1-410-334-11	INDUCTOR	100UH
IC009	8-759-700-90	IC NJM2901M		L003	1-408-409-00	INDUCTOR	10UH
IC010	8-759-962-08	IC BA6208		L004	1-408-614-41	INDUCTOR	82UH
IC011	8-759-971-70	IC MB674172U		L005	1-424-033-21	FILTER, NOISE	
IC012	8-759-907-81	IC SN74LS221NS		L101	1-410-334-11	INDUCTOR	100UH
IC013	8-759-931-11	IC SN74LS373NS		L103	1-410-334-11	INDUCTOR	100UH
IC014	8-752-329-42	IC CXK38256-080P		L104	1-410-331-11	INDUCTOR	33UH
IC101	8-759-600-XX	IC M51481P		L105	1-410-334-11	INDUCTOR	100UH
IC102	8-752-321-89	IC CXL5003P		L108	1-410-333-31	INDUCTOR	68UH
IC103	8-759-204-96	IC TC74HC04F		L109	1-410-336-11	INDUCTOR	220UH
IC104	8-752-006-10	IC CX20061		L111	1-408-409-00	INDUCTOR	10UH
IC105	8-759-201-47	IC TA7357AP		L113	1-410-362-31	INDUCTOR	18UH
IC106	8-752-320-31	IC CXL1004P		L116	1-410-334-11	INDUCTOR	100UH
IC107	8-759-950-07	IC SN75107BN		L117	1-408-409-00	INDUCTOR	10UH
IC108	8-752-030-44	IC CXA1018S		L118	1-410-334-11	INDUCTOR	100UH
				L123	1-410-329-31	INDUCTOR	15UH
				L124	1-408-417-00	INDUCTOR	47UH

When indicating parts by reference number, please include the board name.

Note: The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
L125	1-408-409-00	INDUCTOR	10UH	Q127	8-729-102-72	TRANSISTOR	2SA812
L126	1-410-331-11	INDUCTOR	33UH	Q128	8-729-102-62	TRANSISTOR	2SC1623
L127	1-408-409-00	INDUCTOR	10UH	Q129	8-729-202-23	TRANSISTOR	2SK209G
L128	1-410-333-31	INDUCTOR	68UH	Q130	8-729-102-62	TRANSISTOR	2SC1623
L129	1-408-417-00	INDUCTOR	47UH	Q131	8-729-102-62	TRANSISTOR	2SC1623
L130	1-408-417-00	INDUCTOR	47UH	Q132	8-729-102-62	TRANSISTOR	2SC1623
L132	1-410-336-11	INDUCTOR	220UH	Q133	8-729-903-10	TRANSISTOR	FMW1
L133	1-410-334-11	INDUCTOR	100UH	Q134	8-729-903-10	TRANSISTOR	FMW1
L401	1-408-417-00	INDUCTOR	47UH	Q135	8-729-102-62	TRANSISTOR	2SC1623
L402	1-408-417-00	INDUCTOR	47UH	Q136	8-729-102-62	TRANSISTOR	2SC1623
L403	1-408-409-00	INDUCTOR	10UH	Q137	8-729-102-62	TRANSISTOR	2SC1623
L405	1-408-417-00	INDUCTOR	47UH	Q138	8-729-901-04	TRANSISTOR	DTA114EK
		<u>TRANSISTOR</u>		Q139	8-729-901-01	TRANSISTOR	DTC144EK
Q001	8-729-901-01	TRANSISTOR	DTC144EK	Q140	8-729-102-62	TRANSISTOR	2SC1623
Q002	8-729-102-62	TRANSISTOR	2SC1623	Q141	8-729-102-62	TRANSISTOR	2SC1623
Q003	8-729-901-01	TRANSISTOR	DTC144EK	Q142	8-729-102-62	TRANSISTOR	2SC1623
Q004	8-729-901-01	TRANSISTOR	DTC144EK	Q143	8-729-102-62	TRANSISTOR	2SC1623
Q005	8-729-901-01	TRANSISTOR	DTC144EK	Q144	8-729-901-01	TRANSISTOR	DTC144EK
Q006	8-729-901-01	TRANSISTOR	DTC144EK	Q145	8-729-901-06	TRANSISTOR	DTA144EK
Q007	8-729-901-06	TRANSISTOR	DTA144EK	Q146	8-729-901-01	TRANSISTOR	DTC144EK
Q008	8-729-102-83	TRANSISTOR	2SB624-BV4	Q147	8-729-102-72	TRANSISTOR	2SA812
Q009	8-729-901-01	TRANSISTOR	DTC144EK	Q148	8-729-102-62	TRANSISTOR	2SC1623
Q010	8-729-901-01	TRANSISTOR	DTC144EK	Q149	8-729-102-62	TRANSISTOR	2SC1623
Q011	8-729-901-01	TRANSISTOR	DTC144EK	Q150	8-729-102-62	TRANSISTOR	2SC1623
Q012	8-729-901-46	TRANSISTOR	DTA114YK	Q151	8-729-102-62	TRANSISTOR	2SC1623
Q013	8-729-901-46	TRANSISTOR	DTA114YK	Q152	8-729-102-62	TRANSISTOR	2SC1623
Q101	8-729-208-55	TRANSISTOR	2SC2878	Q153	8-729-102-62	TRANSISTOR	2SC1623
Q102	8-729-102-08	TRANSISTOR	2SC2223-F14	Q154	8-729-102-72	TRANSISTOR	2SA812
Q103	8-729-102-62	TRANSISTOR	2SC1623	Q155	8-729-102-62	TRANSISTOR	2SC1623
Q104	8-729-102-62	TRANSISTOR	2SC1623	Q156	8-729-102-62	TRANSISTOR	2SC1623
Q105	8-729-102-62	TRANSISTOR	2SC1623	Q157	8-729-102-62	TRANSISTOR	2SC1623
Q106	8-729-102-62	TRANSISTOR	2SC1623	Q158	8-729-102-62	TRANSISTOR	2SC1623
Q107	8-729-102-62	TRANSISTOR	2SC1623	Q159	8-729-102-62	TRANSISTOR	2SC1623
Q108	8-729-102-62	TRANSISTOR	2SC1623	Q160	8-729-102-62	TRANSISTOR	2SC1623
Q109	8-729-102-62	TRANSISTOR	2SC1623	Q161	8-729-901-05	TRANSISTOR	DTA124EK
Q110	8-729-102-62	TRANSISTOR	2SC1623	Q162	8-729-901-05	TRANSISTOR	DTA124EK
Q111	8-729-102-62	TRANSISTOR	2SC1623	Q163	8-729-102-62	TRANSISTOR	2SC1623
Q112	8-729-102-72	TRANSISTOR	2SA812	Q164	8-729-900-53	TRANSISTOR	DTC114EK
Q113	8-729-102-62	TRANSISTOR	2SC1623	Q401	8-729-901-01	TRANSISTOR	DTC144EK
Q114	8-729-901-01	TRANSISTOR	DTC144EK	Q403	8-729-901-06	TRANSISTOR	DTA144EK
Q115	8-729-102-62	TRANSISTOR	2SC1623	Q404	8-729-102-62	TRANSISTOR	2SC1623
Q116	8-729-102-62	TRANSISTOR	2SC1623	Q405	8-729-102-62	TRANSISTOR	2SC1623
Q117	8-729-102-62	TRANSISTOR	2SC1623	Q406	8-729-180-92	TRANSISTOR	2SD809-K
Q118	8-729-102-62	TRANSISTOR	2SC1623	Q407	8-729-901-01	TRANSISTOR	DTC144EK
Q119	8-729-102-62	TRANSISTOR	2SC1623	Q408	8-729-901-06	TRANSISTOR	DTA144EK
Q120	8-729-102-72	TRANSISTOR	2SA812	Q409	8-729-901-06	TRANSISTOR	DTA144EK
Q121	8-729-103-19	TRANSISTOR	2SA1206-K1	Q410	8-729-102-72	TRANSISTOR	2SA812
Q122	8-729-190-12	TRANSISTOR	2SC2901	Q411	8-729-102-62	TRANSISTOR	2SC1623
Q123	8-729-102-62	TRANSISTOR	2SC1623	Q414	8-729-901-01	TRANSISTOR	DTC144EK
Q124	8-729-102-62	TRANSISTOR	2SC1623	Q415	8-729-173-13	TRANSISTOR	2SB731
Q125	8-729-102-62	TRANSISTOR	2SC1623	Q416	8-729-901-06	TRANSISTOR	DTA144EK
Q126	8-729-102-62	TRANSISTOR	2SC1623	Q417	8-729-102-62	TRANSISTOR	2SC1623
				Q418	8-729-102-62	TRANSISTOR	2SC1623

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
Q421	8-729-901-01	TRANSISTOR DTC144EK		R033	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
Q430	8-729-102-62	TRANSISTOR 2SC1623		R034	1-216-041-00	METAL GLAZE 470 5%	1/10W
Q431	8-729-102-72	TRANSISTOR 2SA812		R035	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
Q432	8-729-102-73	TRANSISTOR 2SA812		R036	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
Q433	8-729-102-63	TRANSISTOR 2SC1623-L7		R037	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
Q434	8-729-903-10	TRANSISTOR FMW1		R038	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
Q602	8-729-901-06	TRANSISTOR DTA144EK		R039	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
Q603	8-729-901-01	TRANSISTOR DTC144EK		R040	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
Q604	8-729-901-06	TRANSISTOR DTA144EK		R041	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
Q640	8-729-901-06	TRANSISTOR DTA144EK		R042	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
Q641	8-729-901-01	TRANSISTOR DTC144EK		R043	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
Q642	8-729-901-06	TRANSISTOR DTA144EK		R044	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
Q643	8-729-901-01	TRANSISTOR DTC144EK		R045	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
Q644	8-729-901-06	TRANSISTOR DTA144EK		R046	1-216-025-00	METAL GLAZE 100 5%	1/10W
Q645	8-729-199-92	TRANSISTOR 2SD999		R047	1-216-033-00	METAL GLAZE 220 5%	1/10W
Q646	8-729-199-92	TRANSISTOR 2SD999		R048	1-216-049-00	METAL GLAZE 1K 5%	1/10W
Q648	8-729-901-46	TRANSISTOR DTA114YK		R049	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q649	8-729-901-01	TRANSISTOR DTC144EK		R050	1-216-121-00	METAL GLAZE 1M 5%	1/10W
Q666	8-729-901-01	TRANSISTOR DTC144EK		R051	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
				R052	1-216-049-00	METAL GLAZE 1K 5%	1/10W
		<u>RESISTOR</u>		R053	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R001	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W	R054	1-216-025-00	METAL GLAZE 100 5%	1/10W
R002	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R055	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R003	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R056	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R004	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R057	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R005	1-216-081-00	METAL GLAZE 22K 5%	1/10W	R058	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R006	1-216-063-00	METAL GLAZE 3.9K 5%	1/10W	R059	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R007	1-216-063-00	METAL GLAZE 3.9K 5%	1/10W	R060	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R008	1-216-097-00	METAL GLAZE 100K 5%	1/10W	R061	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R009	1-216-097-00	METAL GLAZE 100K 5%	1/10W	R062	1-247-733-11	CARBON 33 5%	1/2W
R010	1-216-081-00	METAL GLAZE 22K 5%	1/10W	R063	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R011	1-216-081-00	METAL GLAZE 22K 5%	1/10W	R064	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R012	1-216-113-00	METAL GLAZE 470K 5%	1/10W	R065	1-216-055-00	METAL GLAZE 1.8K 5%	1/10W
R013	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	R066	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R014	1-216-105-00	METAL GLAZE 220K 5%	1/10W	R067	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R015	1-216-095-00	METAL GLAZE 82K 5%	1/10W	R068	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R016	1-216-081-00	METAL GLAZE 22K 5%	1/10W	R069	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R017	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	R070	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R018	1-216-101-00	METAL GLAZE 150K 5%	1/10W	R071	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R019	1-216-025-00	METAL GLAZE 100 5%	1/10W	R072	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R020	1-216-081-00	METAL GLAZE 22K 5%	1/10W	R073	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R021	1-216-081-00	METAL GLAZE 22K 5%	1/10W	R074	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R022	1-216-081-00	METAL GLAZE 22K 5%	1/10W	R075	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R023	1-216-113-00	METAL GLAZE 470K 5%	1/10W	R076	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R024	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	R077	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R025	1-216-121-00	METAL GLAZE 1M 5%	1/10W	R078	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R026	1-216-097-00	METAL GLAZE 100K 5%	1/10W	R079	1-216-055-00	METAL GLAZE 1.8K 5%	1/10W
R027	1-216-121-00	METAL GLAZE 1M 5%	1/10W	R080	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R028	1-216-091-00	METAL GLAZE 56K 5%	1/10W	R081	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R029	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R082	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R030	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R083	1-216-121-00	METAL GLAZE 1M 5%	1/10W
R031	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	R084	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R032	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W	R085	1-216-073-00	METAL GLAZE 10K 5%	1/10W

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
R086	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R140	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R087	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R141	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R088	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R142	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R089	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R143	1-216-037-00	METAL GLAZE	330 5% 1/10W
R090	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R144	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R091	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R145	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R092	1-216-596-11	METAL GLAZE	2.7K 1% 1/10W	R146	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R093	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R147	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R094	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R148	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R095	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R149	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R096	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R150	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R097	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R151	1-216-748-11	METAL GLAZE	39K 5% 1/10W
R098	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R152	1-216-075-00	METAL GLAZE	12K 5% 1/10W
R099	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R153	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R101	1-216-025-00	METAL GLAZE	100 5% 1/10W	R154	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R102	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R155	1-216-043-00	METAL GLAZE	560 5% 1/10W
R103	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R156	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R104	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R157	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R105	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R158	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R106	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R160	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R107	1-216-295-00	METAL GLAZE	0 5% 1/10W	R161	1-216-099-00	METAL GLAZE	120K 5% 1/10W
R108	1-216-039-00	METAL GLAZE	390 5% 1/10W	R162	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R109	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R163	1-216-075-00	METAL GLAZE	12K 5% 1/10W
R110	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R164	1-216-095-00	METAL GLAZE	82K 5% 1/10W
R111	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	R165	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R112	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W	R166	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
R113	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W	R167	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R114	1-216-045-00	METAL GLAZE	680 5% 1/10W	R168	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R115	1-216-037-00	METAL GLAZE	330 5% 1/10W	R169	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R116	1-216-025-00	METAL GLAZE	100 5% 1/10W	R170	1-216-041-00	METAL GLAZE	470 5% 1/10W
R117	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R171	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R118	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R172	1-216-121-00	METAL GLAZE	1M 5% 1/10W
R119	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R173	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R120	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R174	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W
R121	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R175	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W
R122	1-249-409-11	CARBON	220 5% 1/4W	R176	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W
R123	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R177	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R124	1-216-035-00	METAL GLAZE	270 5% 1/10W	R178	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R125	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	R179	1-216-031-00	METAL GLAZE	180 5% 1/10W
R126	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R180	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R127	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W	R181	1-216-045-00	METAL GLAZE	680 5% 1/10W
R128	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	R182	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R129	1-216-043-00	METAL GLAZE	560 5% 1/10W	R183	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R130	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R184	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R131	1-216-079-00	METAL GLAZE	18K 5% 1/10W	R185	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R132	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R186	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R133	1-216-047-00	METAL GLAZE	820 5% 1/10W	R187	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W
R134	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R188	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R135	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R191	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
R136	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R192	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R137	1-216-121-00	METAL GLAZE	1M 5% 1/10W	R193	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R138	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R194	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R139	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R195	1-216-049-00	METAL GLAZE	1K 5% 1/10W

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
R196	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W	R250	1-216-109-00	METAL GLAZE 330K 5%	1/10W
R197	1-216-041-00	METAL GLAZE 470 5%	1/10W	R251	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R198	1-216-045-00	METAL GLAZE 680 5%	1/10W	R252	1-216-105-00	METAL GLAZE 220K 5%	1/10W
R199	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W	R253	1-249-404-00	CARBON 82 5%	1/4W
R200	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W	R254	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R201	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R255	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R202	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R256	1-216-748-11	METAL GLAZE 39K 5%	1/10W
R203	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W	R257	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R204	1-216-045-00	METAL GLAZE 680 5%	1/10W	R258	1-216-095-00	METAL GLAZE 82K 5%	1/10W
R205	1-216-091-00	METAL GLAZE 56K 5%	1/10W	R259	1-216-113-00	METAL GLAZE 470K 5%	1/10W
R206	1-216-063-00	METAL GLAZE 3.9K 5%	1/10W	R260	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R207	1-216-045-00	METAL GLAZE 680 5%	1/10W	R261	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R208	1-216-037-00	METAL GLAZE 330 5%	1/10W	R262	1-216-113-00	METAL GLAZE 470K 5%	1/10W
R209	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R263	1-216-083-00	METAL GLAZE 27K 5%	1/10W
R210	1-216-043-00	METAL GLAZE 560 5%	1/10W	R264	1-216-083-00	METAL GLAZE 27K 5%	1/10W
R211	1-216-031-00	METAL GLAZE 180 5%	1/10W	R265	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R212	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	R266	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R213	1-216-033-00	METAL GLAZE 220 5%	1/10W	R267	1-216-081-00	METAL GLAZE 22K 5%	1/10W
R214	1-216-033-00	METAL GLAZE 220 5%	1/10W	R268	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R215	1-216-059-00	METAL GLAZE 2.7K 5%	1/10W	R269	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R216	1-216-033-00	METAL GLAZE 220 5%	1/10W	R270	1-216-651-11	METAL CHIP 1K 0.50%	1/10W
R217	1-216-033-00	METAL GLAZE 220 5%	1/10W	R271	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R218	1-216-047-00	METAL GLAZE 820 5%	1/10W	R272	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R219	1-216-081-00	METAL GLAZE 22K 5%	1/10W	R273	1-216-067-00	METAL GLAZE 5.6K 5%	1/10W
R220	1-216-085-00	METAL GLAZE 33K 5%	1/10W	R275	1-249-409-11	CARBON 220 5%	1/4W
R221	1-216-063-00	METAL GLAZE 3.9K 5%	1/10W	R276	1-249-409-11	CARBON 220 5%	1/4W
R222	1-216-033-00	METAL GLAZE 220 5%	1/10W	R277	1-216-021-00	METAL GLAZE 68 5%	1/10W
R223	1-216-067-00	METAL GLAZE 5.6K 5%	1/10W	R278	1-216-031-00	METAL GLAZE 180 5%	1/10W
R224	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W	R279	1-216-031-00	METAL GLAZE 180 5%	1/10W
R225	1-216-041-00	METAL GLAZE 470 5%	1/10W	R280	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R226	1-216-079-00	METAL GLAZE 18K 5%	1/10W	R281	1-216-043-00	METAL GLAZE 560 5%	1/10W
R227	1-216-039-00	METAL GLAZE 390 5%	1/10W	R282	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R228	1-216-051-00	METAL GLAZE 1.2K 5%	1/10W	R283	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R229	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R284	1-216-051-00	METAL GLAZE 1.2K 5%	1/10W
R230	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R285	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R231	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W	R286	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
R232	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R287	1-216-039-00	METAL GLAZE 390 5%	1/10W
R233	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R288	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W
R234	1-216-067-00	METAL GLAZE 5.6K 5%	1/10W	R289	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W
R235	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R290	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R236	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R291	1-216-051-00	METAL GLAZE 1.2K 5%	1/10W
R238	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R292	1-216-069-00	METAL GLAZE 6.8K 5%	1/10W
R239	1-216-099-00	METAL GLAZE 120K 5%	1/10W	R293	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W
R240	1-216-109-00	METAL GLAZE 330K 5%	1/10W	R294	1-216-041-00	METAL GLAZE 470 5%	1/10W
R241	1-216-097-00	METAL GLAZE 100K 5%	1/10W	R295	1-216-037-00	METAL GLAZE 330 5%	1/10W
R242	1-216-097-00	METAL GLAZE 100K 5%	1/10W	R296	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W
R243	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R297	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W
R244	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R298	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R245	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W	R299	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R246	1-216-121-00	METAL GLAZE 1M 5%	1/10W	R300	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R247	1-216-091-00	METAL GLAZE 56K 5%	1/10W	R301	1-216-045-00	METAL GLAZE 680 5%	1/10W
R248	1-216-067-00	METAL GLAZE 5.6K 5%	1/10W	R302	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R249	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R303	1-216-049-00	METAL GLAZE 1K 5%	1/10W

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
R304	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W	R448	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R305	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	R449	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R306	1-215-475-00	METAL	180K 1% 1/6W	R450	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R307	1-215-481-00	METAL	330K 1% 1/6W	R451	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R308	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R452	1-216-103-00	METAL GLAZE	180K 5% 1/10W
R309	1-216-075-00	METAL GLAZE	12K 5% 1/10W	R453	△ 1-216-373-11	METAL OXIDE	2.2 5% 2W F
R310	1-216-021-00	METAL GLAZE	68 5% 1/10W	R454	1-249-405-11	CARBON	100 5% 1/4W
R311	1-249-416-11	CARBON	820 5% 1/4W	R455	1-249-405-11	CARBON	100 5% 1/4W
R401	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R456	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R402	1-216-075-00	METAL GLAZE	12K 5% 1/10W	R457	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R403	1-216-075-00	METAL GLAZE	12K 5% 1/10W	R458	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R404	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R459	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R405	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R460	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R406	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R461	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R407	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R462	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R408	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R463	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R409	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R464	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R410	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R465	1-216-093-00	METAL GLAZE	68K 5% 1/10W
R411	1-216-105-00	METAL GLAZE	220K 5% 1/10W	R466	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R412	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W	R467	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R413	1-216-075-00	METAL GLAZE	12K 5% 1/10W	R468	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R414	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R469	1-216-025-00	METAL GLAZE	100 5% 1/10W
R415	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R470	1-216-093-00	METAL GLAZE	68K 5% 1/10W
R416	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R471	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R417	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R472	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R418	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R473	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R420	1-216-101-00	METAL GLAZE	150K 5% 1/10W	R475	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R421	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R476	1-216-035-00	METAL GLAZE	270 5% 1/10W
R422	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R477	1-216-025-00	METAL GLAZE	100 5% 1/10W
R423	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R478	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R424	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R479	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R425	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R480	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R426	1-216-079-00	METAL GLAZE	18K 5% 1/10W	R481	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R427	1-216-748-11	METAL GLAZE	39K 5% 1/10W	R482	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R429	1-216-105-00	METAL GLAZE	220K 5% 1/10W	R483	△ 1-216-373-11	METAL OXIDE	2.2 5% 2W F
R430	1-216-105-00	METAL GLAZE	220K 5% 1/10W	R484	1-216-308-00	METAL GLAZE	4.7 5% 1/10W
R431	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R485	1-216-079-00	METAL GLAZE	18K 5% 1/10W
R432	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R486	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R433	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R487	1-216-238-00	METAL GLAZE	47K 5% 1/8W
R434	1-216-101-00	METAL GLAZE	150K 5% 1/10W	R488	1-216-115-00	METAL GLAZE	560K 5% 1/10W
R435	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R490	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R436	1-216-041-00	METAL GLAZE	470 5% 1/10W	R491	1-216-105-00	METAL GLAZE	220K 5% 1/10W
R437	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R492	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
R438	1-216-109-00	METAL GLAZE	330K 5% 1/10W	R493	1-216-119-00	METAL GLAZE	820K 5% 1/10W
R439	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R494	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R440	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R495	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W
R441	1-216-107-00	METAL GLAZE	270K 5% 1/10W	R496	1-216-093-00	METAL GLAZE	68K 5% 1/10W
R442	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R497	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R443	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R498	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R444	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R499	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R445	1-216-093-00	METAL GLAZE	68K 5% 1/10W	R500	1-216-119-00	METAL GLAZE	820K 5% 1/10W
R446	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R503	1-216-119-00	METAL GLAZE	820K 5% 1/10W
R447	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R507	1-216-049-00	METAL GLAZE	1K 5% 1/10W

When indicating parts by reference number, please include the board name.

Note: The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
R508	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R578	1-216-075-00	METAL GLAZE	12K 5% 1/10W
R509	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R592 ^Δ	1-247-731-11	CARBON	22 5% 1/2W F
R510	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R599	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R511	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R600	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R512	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R601	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R513	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R602	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R514	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W	R603	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R517	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R604	1-216-105-00	METAL GLAZE	220K 5% 1/10W
R518	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R605	1-216-091-00	METAL GLAZE	56K 5% 1/10W
R519	1-216-308-00	METAL GLAZE	4.7 5% 1/10W	R606	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R520	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R607	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R521	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R608	1-216-111-00	METAL GLAZE	390K 5% 1/10W
R522	1-216-093-00	METAL GLAZE	68K 5% 1/10W	R609	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R523	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R610	1-216-039-00	METAL GLAZE	390 5% 1/10W
R524	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R611	1-216-105-00	METAL GLAZE	220K 5% 1/10W
R525	1-216-025-00	METAL GLAZE	100 5% 1/10W	R612	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R526	1-216-025-00	METAL GLAZE	100 5% 1/10W	R613	1-216-105-00	METAL GLAZE	220K 5% 1/10W
R527	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R614	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R528	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R615	1-216-091-00	METAL GLAZE	56K 5% 1/10W
R529	1-216-039-00	METAL GLAZE	390 5% 1/10W	R617	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R530	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R618	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R531	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R619	1-216-105-00	METAL GLAZE	220K 5% 1/10W
R532	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R620	1-216-105-00	METAL GLAZE	220K 5% 1/10W
R533	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R621	1-216-105-00	METAL GLAZE	220K 5% 1/10W
R534	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R622	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R535	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R623	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R536	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R624	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R537	1-216-083-00	METAL GLAZE	27K 5% 1/10W	R625	1-216-101-00	METAL GLAZE	150K 5% 1/10W
R538	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R626	1-216-101-00	METAL GLAZE	150K 5% 1/10W
R539	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R627	1-216-121-00	METAL GLAZE	1M 5% 1/10W
R540	1-216-121-00	METAL GLAZE	1M 5% 1/10W	R628	1-216-121-00	METAL GLAZE	1M 5% 1/10W
R541	1-216-121-00	METAL GLAZE	1M 5% 1/10W	R629	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R542	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R630	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R543	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R638	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R544	1-216-079-00	METAL GLAZE	18K 5% 1/10W	R639	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R545	1-216-079-00	METAL GLAZE	18K 5% 1/10W	R640	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R546	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R641	1-216-115-00	METAL GLAZE	560K 5% 1/10W
R547	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R642	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R548	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R643	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R549	1-216-083-00	METAL GLAZE	27K 5% 1/10W	R644	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R550	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R645	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R551	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R646	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R552	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R647	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R554	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R648	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R556	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R649	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R557	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R650	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R558	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R651 ^Δ	1-215-884-11	METAL OXIDE	47 5% 2W F
R563	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R652 ^Δ	1-215-885-00	METAL OXIDE	68 5% 2W F
R565	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R655	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R566	1-249-405-11	CARBON	100 5% 1/4W	R656	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R573	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W	R657	1-216-025-00	METAL GLAZE	100 5% 1/10W
R574	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R658	1-216-025-00	METAL GLAZE	100 5% 1/10W
R576	1-216-039-00	METAL GLAZE	390 5% 1/10W	R659	1-216-073-00	METAL GLAZE	10K 5% 1/10W

When indicating parts by reference number, please include the board name.

Note: The components identified by mark ^Δ or dotted line with mark ^Δ are critical for safety. Replace only with part number specified.

Ref.No	Part No.	Description	Remark
R660	1-216-095-00	METAL GLAZE 82K 5%	1/10W
R661	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R662	1-216-107-00	METAL GLAZE 270K 5%	1/10W
R664	1-216-083-00	METAL GLAZE 27K 5%	1/10W
R665	1-216-091-00	METAL GLAZE 56K 5%	1/10W
R666	1-216-085-00	METAL GLAZE 33K 5%	1/10W
R667	1-216-308-00	METAL GLAZE 4.7 5%	1/10W
R670	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R676	1-216-025-00	METAL GLAZE 100 5%	1/10W
R678	1-216-105-00	METAL GLAZE 220K 5%	1/10W
R680	1-216-081-00	METAL GLAZE 22K 5%	1/10W
R681	1-216-308-00	METAL GLAZE 4.7 5%	1/10W
R682	1-216-085-00	METAL GLAZE 33K 5%	1/10W
R683	1-216-103-00	METAL GLAZE 180K 5%	1/10W
R684	1-216-103-00	METAL GLAZE 180K 5%	1/10W
R685	1-216-119-00	METAL GLAZE 820K 5%	1/10W
R686	1-216-111-00	METAL GLAZE 390K 5%	1/10W
R692	1-216-037-00	METAL GLAZE 330 5%	1/10W
R694	1-216-037-00	METAL GLAZE 330 5%	1/10W
R699	1-216-748-11	METAL GLAZE 39K 5%	1/10W
R900	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R901	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R902	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R903	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R904	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R905	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R906	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R907	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R908	1-216-075-00	METAL GLAZE 12K 5%	1/10W
R909	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R910	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R911	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R912	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R913	1-216-039-00	METAL GLAZE 390 5%	1/10W
R914	1-216-039-00	METAL GLAZE 390 5%	1/10W
R915	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R916	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R917	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R918	1-212-954-11	FUSIBLE 6.8 5%	1/2W F
R919	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R920	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R921	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R922	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R923	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R924	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
<u>VARIABLE RESISTOR</u>			
RV101	1-228-989-00	RES, ADJ, CARBON 470 (RF LEVEL)	
RV102	1-228-993-00	RES, ADJ, CARBON 4.7K (DOC ADJ 1)	
RV103	1-228-991-00	RES, ADJ, CARBON 2.2K (DOC ADJ 2)	
RV104	1-228-993-00	RES, ADJ, CARBON 4.7K (CD BIAS)	
RV105	1-228-991-00	RES, ADJ, CARBON 2.2K (TBC CLOCK)	
RV106	1-228-990-00	RES, ADJ, CARBON 1K (VIDEO OUTPUT LEVEL)	

Ref.No	Part No.	Description	Remark
RV107	1-228-995-00	RES, ADJ, CARBON 22K (TBC IF ADJ)	
RV108	1-228-993-00	RES, ADJ, CARBON 4.7K (CF CHROMA LEVEL 1)	
RV109	1-228-989-00	RES, ADJ, CARBON 470 (CF CHROMA LEVEL 2)	
RV110	1-228-989-00	RES, ADJ, CARBON 470 (CF Y LEVEL)	
RV401	1-228-997-00	RES, ADJ, CARBON 100K (CD TRKG OFFSET)	
RV403	1-228-996-00	RES, ADJ, CARBON 47K (CD FOCUS OFFSET)	
RV404	1-228-996-00	RES, ADJ, CARBON 47K (LD FOCUS OFFSET)	
RV405	1-228-997-00	RES, ADJ, CARBON 100K (LD TRKG OFFSET)	
RV406	1-228-994-00	RES, ADJ, CARBON 10K (LD FOCUS GAIN)	
RV407	1-228-996-00	RES, ADJ, CARBON 47K (LD TRKG GAIN)	
RV408	1-228-995-00	RES, ADJ, CARBON 22K (LD TRKG JUMP(STILL))	
RV409	1-228-996-00	RES, ADJ, CARBON 47K (LD TRKG JUMP(+X3))	
RV410	1-228-996-00	RES, ADJ, CARBON 47K (CD TRKG JUMP)	
RV411	1-228-997-00	RES, ADJ, CARBON 100K (CD TRKG GAIN)	
RV552	1-228-995-00	RES, ADJ, CARBON 22K (LD SKEW)	
<u>CRYSTAL</u>			
X001	1-567-733-11	VIBRATOR, CRYSTAL (17.734475MHz)	
X002	1-567-900-11	VIBRATOR, CRYSTAL (14.31MHz)	
X101	1-567-652-11	VIBRATOR, CRYSTAL (13.3MHz)	

*A-6421-230-A		DS-27 BOARD, COMPLETE (Ref.No. 3,000 Series)	
7-682-147-15		SCREW, TR	
*3-309-144-01		HEAT SINK	
<u>CAPACITOR</u>			
C801	1-163-022-00	CERAMIC CHIP 0.012MF	10% 50V
C813	1-130-491-00	MYLAR 0.047MF	5% 50V
C814	1-130-491-00	MYLAR 0.047MF	5% 50V
C815	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C816	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C818	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C819	1-123-661-00	ELECT 100MF	20% 6.3V
C820	1-163-133-00	CERAMIC CHIP 470PF	5% 50V
C821	1-163-020-00	CERAMIC CHIP 0.0082MF	10% 50V
C822	1-126-163-11	ELECT 4.7MF	20% 50V
C823	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C824	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
C825	1-163-021-00	CERAMIC CHIP 0.01MF	50V
C826	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C827	1-123-661-00	ELECT 100MF	20% 6.3V
C828	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C829	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V
C830	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C831	1-123-661-00	ELECT 100MF	20% 6.3V
C832	1-126-163-11	ELECT 4.7MF	20% 50V
C833	1-163-129-00	CERAMIC CHIP 330PF	5% 50V
C834	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C835	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C836	1-130-495-00	MYLAR 0.1MF	5% 50V

When indicating parts by reference number, please include the board name.

Note: The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

DS-27

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
C837	1-130-495-00	MYLAR 0.1MF	5%	50V	CN806	*1-564-011-11	PIN, CONNECTOR 12P
C838	1-163-035-00	CERAMIC CHIP 0.047MF		50V	CN807	*1-560-894-00	PIN, CONNECTOR 6P
C839	1-163-035-00	CERAMIC CHIP 0.047MF		50V	CN808	*1-564-002-00	PIN, CONNECTOR 3P
C840	1-124-277-11	ELECT 4.7MF	20%	35V	CN809	*1-564-005-00	PIN, CONNECTOR 6P
C841	1-124-499-11	ELECT 1MF	20%	50V	CN810	*1-564-002-00	PIN, CONNECTOR 3P
C842	1-124-270-11	ELECT 0.47MF	20%	50V	CN811	*1-564-002-00	PIN, CONNECTOR 3P
C843	1-163-106-00	CERAMIC CHIP 36PF	5%	50V			
C844	1-163-106-00	CERAMIC CHIP 36PF	5%	50V			
C845	1-163-035-00	CERAMIC CHIP 0.047MF		50V			
C846	1-123-661-00	ELECT 100MF	20%	6.3V			
C848	1-163-035-00	CERAMIC CHIP 0.047MF		50V			
C849	1-163-035-00	CERAMIC CHIP 0.047MF		50V			
C850	1-163-035-00	CERAMIC CHIP 0.047MF		50V			
C851	1-163-035-00	CERAMIC CHIP 0.047MF		50V			
C852	1-163-035-00	CERAMIC CHIP 0.047MF		50V			
C853	1-163-035-00	CERAMIC CHIP 0.047MF		50V			
C858	1-163-021-00	CERAMIC CHIP 0.01MF		50V			
C859	1-163-021-00	CERAMIC CHIP 0.01MF		50V			
C860	1-136-250-11	FILM 0.001MF	3%	100V			
C861	1-136-250-11	FILM 0.001MF	3%	100V			
C862	1-130-893-00	FILM 0.027MF	3%	100V			
C863	1-130-893-00	FILM 0.027MF	3%	100V			
C864	1-123-332-00	ELECT 47MF	20%	25V			
C865	1-123-332-00	ELECT 47MF	20%	25V			
C866	1-123-332-00	ELECT 47MF	20%	25V			
C867	1-123-332-00	ELECT 47MF	20%	25V			
C868	1-123-332-00	ELECT 47MF	20%	25V			
C869	1-123-332-00	ELECT 47MF	20%	25V			
C870	1-163-141-00	CERAMIC CHIP 0.001MF	10%	50V			
C871	1-136-250-11	FILM 0.001MF	3%	100V			
C872	1-136-250-11	FILM 0.001MF	3%	100V			
C873	1-163-141-00	CERAMIC CHIP 0.001MF	10%	50V			
C874	1-136-250-11	FILM 0.001MF	3%	100V			
C875	1-136-250-11	FILM 0.001MF	3%	100V			
C876	1-123-321-00	ELECT 220MF	20%	16V			
C877	1-123-321-00	ELECT 220MF	20%	16V			
C878	1-163-035-00	CERAMIC CHIP 0.047MF		50V			
C879	1-163-035-00	CERAMIC CHIP 0.047MF		50V			
C880	1-126-029-11	ELECT 3300MF	20%	25V			
C881	1-126-029-11	ELECT 3300MF	20%	25V			
C882	1-126-029-11	ELECT 3300MF	20%	25V			
C883	1-126-029-11	ELECT 3300MF	20%	25V			
C884	1-124-360-00	ELECT 1000MF	20%	16V			
C885	1-124-360-00	ELECT 1000MF	20%	16V			
C886	1-124-559-51	ELECT 1000MF	20%	10V			
C887	1-124-559-51	ELECT 1000MF	20%	10V			
CONNECTOR							
CN801	*1-560-891-00	PIN, CONNECTOR 3P					
CN802	*1-564-005-00	PIN, CONNECTOR 6P					
CN803	*1-564-001-11	PIN, CONNECTOR 2P					
CN804	*1-564-008-00	PIN, CONNECTOR 9P					
CN805	*1-564-011-11	PIN, CONNECTOR 12P					
D801	8-719-948-39	DIODE SVC211SP-CD					
D802	8-719-104-26	DIODE 1S2837					
D803	8-719-104-26	DIODE 1S2837					
D804	8-719-104-26	DIODE 1S2837					
D805	8-719-104-26	DIODE 1S2837					
D806	8-719-104-26	DIODE 1S2837					
D807	8-719-104-26	DIODE 1S2837					
D808	8-719-948-39	DIODE SVC211SP-CD					
D809	8-719-200-89	DIODE 31DF2					
D810	8-719-200-89	DIODE 31DF2					
D811	8-719-200-89	DIODE 31DF2					
D812	8-719-200-89	DIODE 31DF2					
D813	8-719-921-20	DIODE 1SS119					
FILTER							
FL801	1-424-031-11	FILTER, NOISE					
FL802	1-424-031-11	FILTER, NOISE					
FL803	1-424-031-11	FILTER, NOISE					
FL804	1-424-031-11	FILTER, NOISE					
FL805	1-424-031-11	FILTER, NOISE					
FL806	1-424-031-11	FILTER, NOISE					
FL807	1-424-031-11	FILTER, NOISE					
FL808	1-424-031-11	FILTER, NOISE					
FL809	1-424-031-11	FILTER, NOISE					
IC							
IC803	8-759-103-09	IC UPC4082G2					
IC804	8-759-201-61	IC TC40H004F					
IC805	8-759-804-84	IC LC7863A					
IC806	8-759-804-88	IC LC3517AML-15					
IC807	8-759-946-27	IC CXD1316DM					
IC808	8-759-103-09	IC UPC4082G2					
IC809	8-759-103-09	IC UPC4082G2					
IC810	8-759-204-94	IC TC74HC00F					
IC811	8-759-204-98	IC TC74HC08F					
IC813	8-759-938-46	IC PCM56P-JS					
IC814	8-759-938-46	IC PCM56P-JS					
IC815	8-759-900-72	IC NE5532P					
IC816	8-759-900-72	IC NE5532P					
IC817	8-759-900-72	IC NE5532P					
IC818	8-759-900-72	IC NE5532P					
IC819	8-759-708-12	IC UPC78L12					
IC820	8-759-700-69	IC NJM79L12A					
IC821	8-759-604-33	IC M5F7812					
IC822	8-759-604-29	IC M5F7805					

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
IC823	8-759-604-51	IC M5F7912		R825	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
IC824	8-759-604-47	IC M5F7905		R826	1-216-025-00	METAL GLAZE 100 5%	1/10W
		<u>COIL</u>		R827	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
L806	1-410-339-11	COIL, CHOKE 10UH		R828	1-216-097-00	METAL GLAZE 100K 5%	1/10W
L807	1-410-339-11	COIL, CHOKE 10UH		R829	1-216-089-00	METAL GLAZE 47K 5%	1/10W
L810	1-410-339-11	COIL, CHOKE 10UH		R830	1-216-089-00	METAL GLAZE 47K 5%	1/10W
L812	1-410-339-11	COIL, CHOKE 10UH		R831	1-216-085-00	METAL GLAZE 33K 5%	1/10W
		<u>VARIABLE COIL</u>		R832	1-216-085-00	METAL GLAZE 33K 5%	1/10W
LV801	1-426-330-11	COIL, RF (FREE RUN FREQ)		R833	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
		<u>TRANSISTOR</u>		R834	1-216-079-00	METAL GLAZE 18K 5%	1/10W
Q801	8-729-901-04	TRANSISTOR DTA114EK		R835	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W
Q802	8-729-901-01	TRANSISTOR DTC144EK		R836	1-216-089-00	METAL GLAZE 47K 5%	1/10W
Q803	8-729-901-01	TRANSISTOR DTC144EK		R837	1-216-058-00	METAL GLAZE 2.4K 5%	1/10W
Q804	8-729-901-06	TRANSISTOR DTA144EK		R838	1-216-081-00	METAL GLAZE 22K 5%	1/10W
Q805	8-729-202-23	TRANSISTOR 2SK209G		R839	1-216-033-00	METAL GLAZE 220 5%	1/10W
Q806	8-729-901-06	TRANSISTOR DTA144EK		R840	1-216-097-00	METAL GLAZE 100K 5%	1/10W
Q807	8-729-901-01	TRANSISTOR DTC144EK		R841	1-216-049-00	METAL GLAZE 1K 5%	1/10W
Q808	8-729-901-06	TRANSISTOR DTA144EK		R842	1-216-081-00	METAL GLAZE 22K 5%	1/10W
Q809	8-729-901-01	TRANSISTOR DTC144EK		R843	1-216-113-00	METAL GLAZE 470K 5%	1/10W
Q810	8-729-203-24	TRANSISTOR 2SC3326N		R844	1-216-077-00	METAL GLAZE 15K 5%	1/10W
Q811	8-729-203-24	TRANSISTOR 2SC3326N		R845	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q812	8-729-203-24	TRANSISTOR 2SC3326N		R846	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q813	8-729-203-24	TRANSISTOR 2SC3326N		R847	1-216-085-00	METAL GLAZE 33K 5%	1/10W
Q814	8-729-203-24	TRANSISTOR 2SC3326N		R848	1-216-105-00	METAL GLAZE 220K 5%	1/10W
Q815	8-729-203-24	TRANSISTOR 2SC3326N		R849	1-216-105-00	METAL GLAZE 220K 5%	1/10W
Q816	8-729-203-24	TRANSISTOR 2SC3326N		R850	1-216-119-00	METAL GLAZE 820K 5%	1/10W
Q817	8-729-203-24	TRANSISTOR 2SC3326N		R851	1-216-119-00	METAL GLAZE 820K 5%	1/10W
Q818	8-729-203-24	TRANSISTOR 2SC3326N		R852	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q819	8-729-203-24	TRANSISTOR 2SC3326N		R853	1-216-089-00	METAL GLAZE 47K 5%	1/10W
Q820	8-729-203-24	TRANSISTOR 2SC3326N		R854	1-216-099-00	METAL GLAZE 120K 5%	1/10W
Q821	8-729-203-24	TRANSISTOR 2SC3326N		R855	1-216-097-00	METAL GLAZE 100K 5%	1/10W
Q822	8-729-203-24	TRANSISTOR 2SC3326N		R856	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
Q823	8-729-203-24	TRANSISTOR 2SC3326N		R857	1-216-081-00	METAL GLAZE 22K 5%	1/10W
Q824	8-729-177-33	TRANSISTOR 2SD773-4		R858	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q825	8-729-113-33	TRANSISTOR 2SB733-4		R859	1-216-097-00	METAL GLAZE 100K 5%	1/10W
Q826	8-729-901-06	TRANSISTOR DTA144EK		R860	1-216-097-00	METAL GLAZE 100K 5%	1/10W
Q827	8-729-901-01	TRANSISTOR DTC144EK		R861	1-216-049-00	METAL GLAZE 1K 5%	1/10W
		<u>RESISTOR</u>		R862	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R801	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R863	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R802	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R864	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R817	1-216-077-00	METAL GLAZE 15K 5%	1/10W	R865	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R818	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R866	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R819	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W	R867	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R820	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R868	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R821	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W	R869	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R822	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R870	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R823	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W	R871	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R824	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R872	1-216-049-00	METAL GLAZE 1K 5%	1/10W
				R873	1-247-721-11	CARBON 4.7K 1%	1/4W
				R874	1-247-721-11	CARBON 4.7K 1%	1/4W
				R875	1-249-805-91	CARBON 1.3K 1%	1/2W
				R876	1-249-805-91	CARBON 1.3K 1%	1/2W
				R877	1-249-917-91	CARBON 560 1%	1/4W

When indicating parts by reference number, please include the board name.

DS-27

FP-142

FP-143

Ref.No	Part No.	Description	Remark
R878	1-249-917-91	CARBON 560 1%	1/4W
R879	1-246-545-00	CARBON 1M 1%	1/4W
R880	1-246-545-00	CARBON 1M 1%	1/4W
R881	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R882	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R883	1-216-041-00	METAL GLAZE 470 5%	1/10W
R884	1-216-041-00	METAL GLAZE 470 5%	1/10W
R885	1-247-747-11	CARBON 470 5%	1/2W
R886	1-247-747-11	CARBON 470 5%	1/2W
R887	1-247-747-11	CARBON 470 5%	1/2W
R888	1-247-747-11	CARBON 470 5%	1/2W
R889	1-216-041-00	METAL GLAZE 470 5%	1/10W
R890	1-216-041-00	METAL GLAZE 470 5%	1/10W
R891	1-247-747-11	CARBON 470 5%	1/2W
R892	1-247-747-11	CARBON 470 5%	1/2W
R893	1-247-747-11	CARBON 470 5%	1/2W
R894	1-247-747-11	CARBON 470 5%	1/2W
R895	1-216-109-00	METAL GLAZE 330K 5%	1/10W
R896	1-247-891-00	CARBON 330K 5%	1/4W
R897	1-247-891-00	CARBON 330K 5%	1/4W
R898	1-216-109-00	METAL GLAZE 330K 5%	1/10W
R899	1-247-891-00	CARBON 330K 5%	1/4W
R900	1-247-891-00	CARBON 330K 5%	1/4W
R901	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R902	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R903	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R904	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R905	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R906	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R907	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R908	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R909	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R910	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R911	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R912	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R913	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R914	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R915	1-216-037-00	METAL GLAZE 330 5%	1/10W
R916	1-249-661-11	CARBON 330 5%	1/2W
R917	1-249-661-11	CARBON 330 5%	1/2W
R918	1-216-037-00	METAL GLAZE 330 5%	1/10W
R919	1-249-661-11	CARBON 330 5%	1/2W
R920	1-249-661-11	CARBON 330 5%	1/2W
R921	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R922	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R923	1-216-081-00	METAL GLAZE 22K 5%	1/10W
R924	1-216-081-00	METAL GLAZE 22K 5%	1/10W
R925	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R926	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R927	△.1-212-849-00	FUSIBLE 4.7 5%	1/4W F
R928	△.1-212-849-00	FUSIBLE 4.7 5%	1/4W F
R929	1-216-081-00	METAL GLAZE 22K 5%	1/10W
R930	1-216-073-00	METAL GLAZE 10K 5%	1/10W

Ref.No	Part No.	Description	Remark
R931	1-216-081-00	METAL GLAZE 22K 5%	1/10W
R932	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
R933	1-216-115-00	METAL GLAZE 560K 5%	1/10W
R934	1-247-704-11	CARBON 220 5%	1/4W
R935	1-247-704-11	CARBON 220 5%	1/4W
R936	1-216-115-00	METAL GLAZE 560K 5%	1/10W
R937	1-216-079-00	METAL GLAZE 18K 5%	1/10W
R938	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R939	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R940	1-249-465-11	CARBON 47K 1%	1/4W
R941	1-249-465-11	CARBON 47K 1%	1/4W
<u>VARIABLE RESISTOR</u>			
RV801	1-226-773-11	RES, ADJ, METAL GLAZE 22K	(LINE OUT LEVEL 1L)
RV802	1-226-773-11	RES, ADJ, METAL GLAZE 22K	(LINE OUT LEVEL 1R)
<u>RELAY</u>			
RY801	1-515-622-11	RELAY	
<u>CRYSTAL</u>			
X801	1-577-210-11	VIBRATOR, CRYSTAL (VARIABLE)	

*A-6421-231-A FP-142 BOARD, COMPLETE (Ref.No. 4,000 Series)			
1-627-193-11 FP-143 BOARD			
*3-720-353-01 SPACER, LED			
3-721-216-01 REFLECTOR (A)			
*3-725-531-01 HOLDER (A)			
*3-725-532-01 HOLDER (B)			
<u>CAPACITOR</u>			
C001	1-126-233-11	ELECT 22MF	20% 25V
C002	1-161-494-00	CERAMIC 0.022MF	25V
C003	1-126-233-11	ELECT 22MF	20% 25V
C004	1-126-233-11	ELECT 22MF	20% 25V
C005	1-126-233-11	ELECT 22MF	20% 25V
C006	1-161-494-00	CERAMIC 0.022MF	25V
C007	1-161-494-00	CERAMIC 0.022MF	25V
<u>DIODE</u>			
D001	8-719-304-62	DIODE SEL3413E-D	
D002	8-719-908-50	DIODE PY5504S-1	
D003	8-719-908-55	DIODE SLR-54YC3	
D004	8-719-303-79	DIODE SEL4414G-D	
D005	8-719-303-79	DIODE SEL4414G-D	
D006	8-719-301-48	DIODE SEL2413E-D	
D010	8-719-800-56	DIODE TLUR164	
D011	8-719-800-56	DIODE TLUR164	

When indicating parts by reference number, please include the board name.

Note: The components identified by mark **△** or dotted line with mark **△** are critical for safety. Replace only with part number specified.

Ref.No	Part No.	Description	Remark
<u>INDICATOR TUBE</u>			
F001	1-519-434-11	INDICATOR TUBE, FLUORESCENT	
<u>IC</u>			
IC001	8-741-138-78	IC BX-1453	
IC002	8-752-805-72	IC CXP5016H-DCX224	
<u>COIL</u>			
L001	1-410-521-11	INDUCTOR 100UH	
L002	1-410-521-11	INDUCTOR 100UH	
<u>TRANSISTOR</u>			
Q001	8-729-900-61	TRANSISTOR DTA114ES	
Q002	8-729-900-61	TRANSISTOR DTA114ES	
Q003	8-729-900-61	TRANSISTOR DTA114ES	
Q004	8-729-900-61	TRANSISTOR DTA114ES	
Q005	8-729-900-61	TRANSISTOR DTA114ES	
Q006	8-729-900-61	TRANSISTOR DTA114ES	
Q010	8-729-178-54	TRANSISTOR 2SC2785	
<u>RESISTOR</u>			
R002	1-249-409-11	CARBON 220 5% 1/4W	
R003	1-249-409-11	CARBON 220 5% 1/4W	
R004	1-249-409-11	CARBON 220 5% 1/4W	
R005	1-249-409-11	CARBON 220 5% 1/4W	
R006	1-249-409-11	CARBON 220 5% 1/4W	
R007	1-249-437-11	CARBON 47K 5% 1/4W	
R011	1-249-409-11	CARBON 220 5% 1/4W	
R012	1-249-409-11	CARBON 220 5% 1/4W	
R013	1-249-409-11	CARBON 220 5% 1/4W	
R015	1-249-417-11	CARBON 1K 5% 1/4W	
R016	1-247-903-00	CARBON 1M 5% 1/4W	
R017	1-249-425-11	CARBON 4.7K 5% 1/4W	
R018	1-249-437-11	CARBON 47K 5% 1/4W	
R019	1-249-437-11	CARBON 47K 5% 1/4W	
R020	1-249-437-11	CARBON 47K 5% 1/4W	
R021	1-249-437-11	CARBON 47K 5% 1/4W	
R022	1-249-425-11	CARBON 4.7K 5% 1/4W	
R023	1-249-425-11	CARBON 4.7K 5% 1/4W	
R024	1-249-425-11	CARBON 4.7K 5% 1/4W	
R025	1-249-425-11	CARBON 4.7K 5% 1/4W	
R026	1-249-417-11	CARBON 1K 5% 1/4W	
R027	1-249-409-11	CARBON 220 5% 1/4W	
R028	1-249-409-11	CARBON 220 5% 1/4W	
R029	1-249-417-11	CARBON 1K 5% 1/4W	
R030	1-249-417-11	CARBON 1K 5% 1/4W	
R031	1-249-441-11	CARBON 100K 5% 1/4W	
R032	1-249-441-11	CARBON 100K 5% 1/4W	
R033	1-249-425-11	CARBON 4.7K 5% 1/4W	

Ref.No	Part No.	Description	Remark
<u>SWITCH</u>			
S001	1-554-303-21	SWITCH, KEY BOARD (OPEN)	
S002	1-554-303-21	SWITCH, KEY BOARD (CLOSE)	
S005	1-554-303-21	SWITCH, KEY BOARD (POWER)	
S006	1-554-303-21	SWITCH, KEY BOARD (STOP)	
S007	1-554-303-21	SWITCH, KEY BOARD (PLAY)	
S008	1-554-303-21	SWITCH, KEY BOARD (PAUSE)	
S009	1-554-303-21	SWITCH, KEY BOARD (F. AMS)	
S010	1-554-303-21	SWITCH, KEY BOARD (B. AMS)	
S011	1-554-303-21	SWITCH, KEY BOARD (F. SCAN)	
S012	1-554-303-21	SWITCH, KEY BOARD (B. SCAN)	
S016	1-554-303-21	SWITCH, KEY BOARD (CDV DIRECT)	
<u>CRYSTAL</u>			
X001	1-567-152-00	OSCILLATOR, CERAMIC (4MHz)	

	*A-6421-232-A	AF-49 BOARD, COMPLETE (Ref.No. 3,000Series)	
<u>CAPACITOR</u>			
C601	1-163-021-00	CERAMIC CHIP 0.01MF 10% 50V	
C602	1-163-121-00	CERAMIC CHIP 150PF 5% 50V	
C603	1-163-129-00	CERAMIC CHIP 330PF 5% 50V	
C604	1-163-021-00	CERAMIC CHIP 0.01MF 10% 50V	
C605	1-163-121-00	CERAMIC CHIP 150PF 5% 50V	
C606	1-163-021-00	CERAMIC CHIP 0.01MF 10% 50V	
C607	1-163-037-11	CERAMIC CHIP 0.022MF 10% 25V	
C608	1-163-024-00	CERAMIC CHIP 0.018MF 10% 50V	
C609	1-163-022-00	CERAMIC CHIP 0.012MF 10% 50V	
C610	1-163-121-00	CERAMIC CHIP 150PF 5% 50V	
C611	1-163-105-00	CERAMIC CHIP 33PF 5% 50V	
C612	1-164-161-11	CERAMIC CHIP 0.0022MF 10% 50V	
C613	1-163-088-00	CERAMIC CHIP 5PF 0.25PF 50V	
C614	1-163-088-00	CERAMIC CHIP 5PF 0.25PF 50V	
C615	1-163-035-00	CERAMIC CHIP 0.047MF 50V	
C616	1-163-035-00	CERAMIC CHIP 0.047MF 50V	
C617	1-163-021-00	CERAMIC CHIP 0.01MF 10% 50V	
C618	1-163-021-00	CERAMIC CHIP 0.01MF 10% 50V	
C619	1-163-021-00	CERAMIC CHIP 0.01MF 10% 50V	
C620	1-124-767-00	ELECT 2.2MF 20% 50V	
C621	1-163-037-11	CERAMIC CHIP 0.022MF 10% 25V	
C622	1-163-037-11	CERAMIC CHIP 0.022MF 10% 25V	
C623	1-163-037-11	CERAMIC CHIP 0.022MF 10% 25V	
C624	1-163-037-11	CERAMIC CHIP 0.022MF 10% 25V	
C625	1-163-037-11	CERAMIC CHIP 0.022MF 10% 25V	
C626	1-163-037-11	CERAMIC CHIP 0.022MF 10% 25V	
C627	1-163-105-00	CERAMIC CHIP 33PF 5% 50V	
C628	1-163-101-00	CERAMIC CHIP 22PF 5% 50V	
C629	1-163-021-00	CERAMIC CHIP 0.01MF 10% 50V	
C630	1-163-129-00	CERAMIC CHIP 330PF 5% 50V	

When indicating parts by reference number, please include the board name.

AF-49

FG-10

FG-11

CK-9

CL-10

AC-37

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
R621	1-216-069-00	METAL GLAZE	6.8K 5%				
R622	1-216-069-00	METAL GLAZE	6.8K 5%				
R623	1-216-025-00	METAL GLAZE	100 5%				
R624	1-216-025-00	METAL GLAZE	100 5%				
R625	1-216-073-00	METAL GLAZE	10K 5%				
R626	1-216-073-00	METAL GLAZE	10K 5%				
R627	1-216-073-00	METAL GLAZE	10K 5%				
R628	1-216-073-00	METAL GLAZE	10K 5%				
R629	1-216-047-00	METAL GLAZE	820 5%				
R630	1-216-047-00	METAL GLAZE	820 5%				
R631	1-216-049-00	METAL GLAZE	1K 5%				
R632	1-216-049-00	METAL GLAZE	1K 5%				
R633	1-216-049-00	METAL GLAZE	1K 5%				
R634	1-216-049-00	METAL GLAZE	1K 5%				
R635	1-216-049-00	METAL GLAZE	1K 5%				
R636	1-216-049-00	METAL GLAZE	1K 5%				
R637	1-216-059-00	METAL GLAZE	2.7K 5%				
R638	1-216-059-00	METAL GLAZE	2.7K 5%				
R639	1-216-023-00	METAL GLAZE	82 5%				
R640	1-216-065-00	METAL GLAZE	4.7K 5%				
R641	1-216-065-00	METAL GLAZE	4.7K 5%				
R642	1-216-065-00	METAL GLAZE	4.7K 5%				
R643	1-216-065-00	METAL GLAZE	4.7K 5%				
R644	1-216-053-00	METAL GLAZE	1.5K 5%				
R645	1-216-053-00	METAL GLAZE	1.5K 5%				
R646	1-216-041-00	METAL GLAZE	470 5%				
R647	1-216-041-00	METAL GLAZE	470 5%				
R648	1-216-049-00	METAL GLAZE	1K 5%				
R649	1-216-049-00	METAL GLAZE	1K 5%				
R650	1-249-749-00	CARBON	2.2M 5%				
R651	1-249-749-00	CARBON	2.2M 5%				
R652	1-216-097-00	METAL GLAZE	100K 5%				
R653	1-216-097-00	METAL GLAZE	100K 5%				
R654	1-216-057-00	METAL GLAZE	2.2K 5%				
R655	1-216-057-00	METAL GLAZE	2.2K 5%				
R656	1-216-063-00	METAL GLAZE	3.9K 5%				
R657	1-216-063-00	METAL GLAZE	3.9K 5%				
R658	1-216-065-00	METAL GLAZE	4.7K 5%				
R659	1-216-065-00	METAL GLAZE	4.7K 5%				
R660	1-216-065-00	METAL GLAZE	4.7K 5%				
R661	1-216-065-00	METAL GLAZE	4.7K 5%				
R662	1-216-096-00	METAL GLAZE	91K 5%				
R663	1-249-753-15	CARBON	4.7M 5%				
R664	1-216-096-00	METAL GLAZE	91K 5%				
R665	1-216-101-00	METAL GLAZE	150K 5%				
R666	1-216-101-00	METAL GLAZE	150K 5%				
R667	1-216-079-00	METAL GLAZE	18K 5%				
R668	1-216-079-00	METAL GLAZE	18K 5%				
R673	1-216-033-00	METAL GLAZE	220 5%				
R674	1-216-033-00	METAL GLAZE	220 5%				
						<u>VARIABLE RESISTOR</u>	
				RV601	1-228-995-00	RES, ADJ, CARBON 22K (AUDIO OUTPUT LEVEL L)	
				RV602	1-228-995-00	RES, ADJ, CARBON 22K (AUDIO OUTPUT LEVEL R)	

					1-623-790-11	FG-10 BOARD (Ref.No. ***** 2,000Series)	
					7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT	
						<u>DIODE</u>	
				D022	8-719-948-28	GP2S15S	

					*1-628-109-11	FG-11 BOARD (Ref.No. ***** 2,000Series)	
						<u>DIODE</u>	
				D031	8-719-939-05	GP1S54	
				D032	8-719-939-05	GP1S54	
						<u>RESISTOR</u>	
				R031	1-249-407-11	CARBON 150 5% 1/4W	
				R032	1-249-407-11	CARBON 150 5% 1/4W	

					*1-628-106-11	CK-9 BOARD *****	

					*1-628-113-11	CL-10 BOARD (Ref.No. ***** 1,000Series)	
						<u>CONNECTOR</u>	
				CN051	*1-564-002-00	PIN, CONNECTOR 3P	
				CN052	*1-564-002-00	PIN, CONNECTOR 3P	
						<u>JACK</u>	
				CNJ051	1-561-534-00	SOCKET 21P	

					*1-628-107-11	AC-37 BOARD (Ref.No. ***** 5,000Series)	
					△.*1-533-189-11	HOLDER, FUSE	
						<u>CAPACITOR</u>	
				C001	△.1-136-472-11	FILM 0.1MF 20% 250V	

When indicating parts by reference number, please include the board name.

Note: The components identified by mark **△** or dotted line with mark **△** are critical for safety. Replace only with part number specified.

AC-37**FG-12****DC-12****HP-44**

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
<u>CONNECTOR</u>				<u>RESISTOR</u>			
△CN001	*1-560-436-00	HORIZONTAL PIN ASSY 3P		R403	1-249-409-11	CARBON 220 5% 1/4W	
△CN002	.1-560-435-00	HORIZONTAL PIN ASSY 2P		R404	1-249-409-11	CARBON 220 5% 1/4W	
<u>FUSE</u>				R405	1-249-425-11	CARBON 4.7K 5% 1/4W	
F001	△.1-532-078-00	FUSE, TIME-LAG (T1A 250V)		R406	1-249-425-11	CARBON 4.7K 5% 1/4W	
<u>TRANSFORMER</u>				R407	1-249-431-11	CARBON 15K 5% 1/4W	
T001	△.1-421-765-11	FILTER, LINE		R408	1-249-431-11	CARBON 15K 5% 1/4W	
*****				R409	1-249-417-11	CARBON 1K 5% 1/4W	
	1-628-110-11	FG-12 BOARD (Ref.No. 2,000 Series)		R410	1-249-417-11	CARBON 1K 5% 1/4W	
<u>DIODE</u>				R411	1-249-409-11	CARBON 220 5% 1/4W	
D011	8-719-948-28	GP2S15S		R412	1-249-409-11	CARBON 220 5% 1/4W	
*****				R413	1-249-413-11	CARBON 470 5% 1/4W	
	1-628-111-11	DC-12 BOARD (Ref.No. 2,000 Series)		R414	1-249-413-11	CARBON 470 5% 1/4W	
<u>DIODE</u>				<u>VARIABLE RESISTOR</u>			
	*3-720-395-01	HOLDER, CD SENSOR		RV401	1-230-997-11	RES, VAR, CARBON 20K/20K (LEVEL)	
*****				*****			
<u>DIODE</u>				<u>MISCELLANEOUS</u>			
D041	8-729-906-62	PT420FI		*****			
*****					1-466-014-11	MODULATOR, RF (RFU-2007)	
	*1-627-194-21	HP-44 BOARD (Ref.No. 3,000 Series)		△.1-555-795-00	CORD, POWER, EULO PLUG		
<u>CAPACITOR</u>				*1-506-467-11	PIN, CONNECTOR 2P		
C401	1-124-589-11	ELECT 47MF 20% 16V		*1-506-470-11	PIN, CONNECTOR 5P		
C402	1-124-589-11	ELECT 47MF 20% 16V		△.8-848-090-11	DEVICE, OPTICAL KHS-110A		
C404	1-161-494-00	CERAMIC 0.022MF 25V		IC001	8-759-171-05	IC UPC7805H	
<u>CONNECTOR</u>				M901	X-3720-310-1	MOTOR ASSY, FEED (TILT)	
CN401	*1-564-005-00	PIN, CONNECTOR 6P		M902	A-6415-171-A	SPM SUB BLOCK ASSY, LD (LD SPINDLE)	
<u>IC</u>				M903	X-3720-302-1	MOTOR ASSY, L (THREAD)	
IC401	8-759-700-40	IC NJM4560S		M905	X-3720-305-1	MOTOR ASSY (CD FEED)	
<u>JACK</u>				S901	1-570-112-11	SWITCH, LEAF (LD IN LIMIT)	
J401	1-507-796-71	JACK (HEADPHONES)		S902	1-570-771-11	SWITCH (CD IN LIMIT)	
<u>COIL</u>				S903	1-570-679-11	SWITCH (DOOR)	
L401	1-424-033-21	FILTER, NOISE		S904	1-570-203-11	SWITCH, LEAF (TRANSFER) (CD SPINDLE)	
L402	1-424-033-21	FILTER, NOISE		S905	1-570-771-21	SWITCH (MISS CHUCK)	
L403	1-424-033-21	FILTER, NOISE		S906	1-571-189-11	SWITCH, ROTARY (ENCORDER)	
*****				T002	△.1-449-383-12	TRANSFORMER, POWER	
*****				*****			
				<u>ACCESSORIES AND PACKING MATERIALS</u>			

				<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	
				1-465-075-11	REMOTE COMMANDER (RMT-102)		
				1-551-513-00	CORD ASSY, COAXIAL		
				3-695-308-01	DRIVER, VOLUME		
				*3-694-922-01	SHEET, PROTECTION		
				*3-721-260-01	CUSHION (UPPER)		
				*3-721-261-01	CUSHION (LOWER)		
				*3-721-296-21	INDIVIDUAL CARTON		
				3-786-437-41	MANUAL, INSTRUCTION :ENGLISH (AEP/AUS MODEL)		

When indicating parts by reference number, please include the board name.

Note: The components identified by mark **△** or dotted line with mark **△** are critical for safety. Replace only with part number specified.

Part No.	Description	Remark
3-786-437-51	MANUAL, INSTRUCTION : GERMAN/FRENCH (AEP MODEL)	
3-786-437-61	MANUAL, INSTRUCTION : NETHERLANDISH/ITALIAN (AEP MODEL)	

Part No.	Description	Remark
7-624-108-04	STOP RING 4.0, TYPE -E	
	<u>STEEL BALL</u>	
7-671-112-11	BALL, STEEL	
7-671-113-02	BALL, STEEL 3	

HARDWARE LIST

SCREW

7-621-255-45 SCREW +P 2X6
7-621-259-35 SCREW +P 2.6X5
7-621-555-29 SCREW +K 2X4
7-628-254-00 +PSW, 2.6X5
7-621-759-45 +PSW, 2.6X6

7-621-772-30 SCREW +B 2X6
7-627-552-47 SCREW, PRECISION +P 1.7X4
7-628-253-90 SCREW +PS 2.6X4
7-628-254-10 SCREW +PS 2.6X6
7-628-254-20 SCREW +PS 2.6X8

7-682-144-01 SCREW +P 3X3
7-682-145-01 SCREW +P 3X4
7-682-146-09 SCREW +P 3X5
7-682-147-01 SCREW +P 3X6
7-682-149-09 SCREW +P 3X10

7-682-247-04 SCREW +K 3X6
7-682-553-09 SCREW +B 3X20
7-682-947-01 SCREW +PSW 3X6
7-682-948-01 SCREW +PSW 3X8
7-685-102-19 SCREW +P 2X4 TYPE 2 NON-SLIT

7-685-106-19 SCREW +P 2X10 TYPE 2 NON-SLIT
7-685-133-19 SCREW +P 2.6X6 TYPE 2 SLIT
7-685-132-19 SCREW +BTP 2.6X5 TYPE2 N-S
7-685-645-79 SCREW +BVTP 3X6 TYPE2 N-S
7-685-645-79 SCREW +BVTP 3X6 TYPE2 IT-3

7-685-646-79 SCREW +BVTP 3X8 TYPE2 N-S
7-685-646-79 SCREW +BVTP 3X8 TYPE2 IT-3
7-685-647-79 SCREW +BVTP 3X10 TYPE2 SLIT
7-685-648-79 SCREW +BVTP 3X12 TYPE2 SLIT
7-621-255-25 SCREW +BVTT 2X4 (S)

7-621-255-45 SCREW +BVTT 2X6 (S)
7-621-773-86 SCREW +BVTT 2.6X4 (S)
7-685-799-04 SCREW (1.7X2.5), TAPPING
7-685-870-01 SCREW +BVTT 3X5 (S)
7-682-147-01 SCREW +BVTT 3X6 (S)

WASHER

7-623-422-07 LW 3, TYPE B

LUG

7-623-507-01 LUG, 2.6

STOP RING

7-624-105-04 STOP RING 2.3, TYPE -E

When indicating parts by reference number, please include the board name.

SECTION 7

ELECTRICAL ADJUSTMENT

When adjusting, refer to the parts arrangement diagram for adjustments on page 132.

7-1. MEASURING INSTRUMENT JIG USED

- Oscilloscope
- Color monitor TV
- Digital voltmeter
- Audio level meter
- 5.4 MHz oscillation jig (J-6022-400-A)
 - Oscillator (5.0 MHz) (1-567-434-11)
 - Oscillator (5.5 MHz) (1-567-435-11)
- Frequency counter
- Remote controller (RMT-102)
- LD reference disc REF1P-12CAD (8-847-017-00)
- CD reference disc YEDS-18 (3-702-101-01)
- Servo checker jigs
 - Servo checker for LD (J-6166-370-A)
 - Servo checker for CD (J-6080-907-A)
- Connection harness for servo checker
 - 10P-12P for LD servo checker (J-6080-880-A)

7-2. PRECAUTIONS ON ADJUSTMENT

- Do not insert or eject disc while the unit is on its side (Do not press OPEN or CLOSE button).
- When setting the unit on its side, put the left side down and perform with the power ON.
- Perform adjustment of the servo system with the unit in the level position.
- Be sure that the unit is level for search. (Abnormal thread operation may occur when search is performed with the unit on its side.)

7-3. REFERENCE DISCS

7-3-1. LD Reference Disc

The reference disc for adjustment of this unit is REF1P-12CAD (8-847-017-00).

If there is a specific indication, follow that indication.

7-3-2. CD Reference Disc

The reference disc for adjustment of this unit is YEDS-18 (3-702-101-01)

7-4. SERVO CHECKER JIGS

7-4-1. Servo Checker for LD (J-6166-370-A)

1. Connections

- 1) Connect 10P connector of connecting harness to CN1 on rear panel of SERVO CHECKER jig.
- 2) Remove upper cover and connect 12P connector of connecting harness from jig to CN402 (Adjusting connector) on LP-3 board.

2. Respective terminals and switches

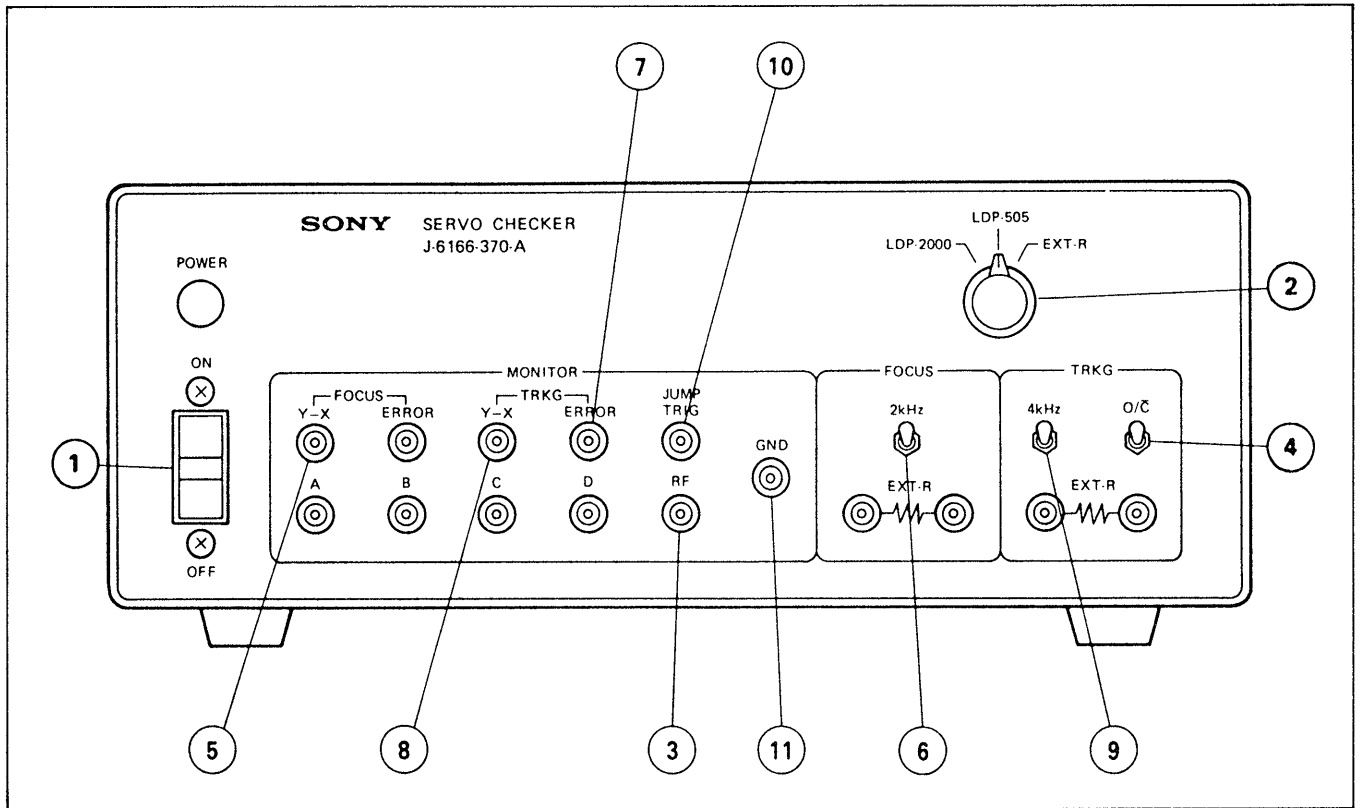


Fig. 7-1

- ① POWER switch
- ② Model selection switch Set to LDP-505 during adjustment.
- ③ RF terminal Connect oscilloscope during focus offset adjustment and to RF level adjustment.
- ④ TRKG O/ \bar{C} switch Set to O (open) only during tracking offset adjustment and to \bar{C} (close) during other adjustment.
- ⑤ FOCUS Y-X terminal Connect oscilloscope during focus gain adjustment.
- ⑥ FOCUS 2 kHz switch Turn ON switch during FOCUS gain adjustment and to OFF during other adjustments.
- ⑦ TRKG ERROR terminal Connect oscilloscope during tracking offset adjustment and track jump adjustment.
- ⑧ TRKG Y-X terminal Connect oscilloscope during tracking gain adjustment.
- ⑨ TRKG 4 kHz switch Turn ON switch during tracking gain adjustment and to OFF switch during other adjustments.
- ⑩ JUMP TRIG terminal Connect oscilloscope during track jump adjustment. (Triggers at TRKG jump)
- ⑪ GND terminal

7-4-2. Servo Checker for CD (J-6080-907-A)

1. Connections

- 1) Connect the servo checker connection harness to the INPUT connector on the rear panel of the servo checker.
- 2) Connect the 12-pin side of the connection harness to the CN402 on LP-3 board of this unit.

2. Names and functions of switches and terminals

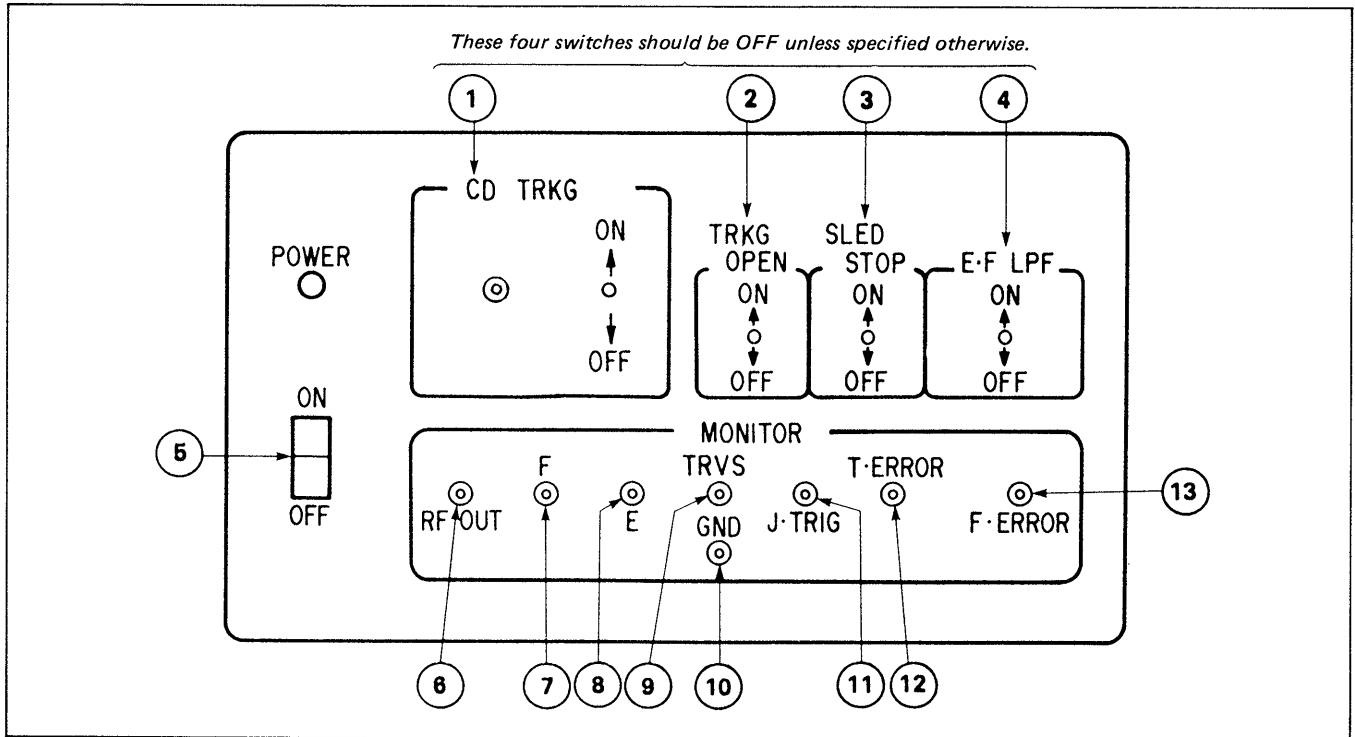


Fig. 7-2

- ① CD TRACKING switch ON for CD tracking gain adjustment.
CD TRACKING terminal Used for adjustment of CD tracking gain.
- ② TRACKING OPEN switch ON for adjustment of CD tracking offset.
- ③ SLED STOP switch
- ④ E-F LPF switch
- ⑤ Power switch
- ⑥ RF OUT terminal Used for LD/CD focus offset adjustment.
- ⑦ F terminal
- ⑧ E terminal
- ⑨ TRVS terminal Used for LD/CD track jump adjustment.
- ⑩ GND terminal Connected to GND of oscilloscope.
- ⑪ J-TRIG terminal Used for LD/CD track jump adjustment (external trigger terminal for oscilloscope).
- ⑫ T-ERROR terminal LD/CD tracking offset adjustment.
Used for LD/CD track jump adjustment.
- ⑬ F-ERROR terminal

7-5. POWER SUPPLY SECTION CHECK (PS-188 BOARD)

Mode	Stop
Measuring Instrument	Digital voltmeter
EVER +5 V check	
Measurement Point	Pin ⑦ of CN103
Specified Value	+5.0 ±0.25 V dc
REG +12 V check	
Measurement Point	Pin ① of CN103
Specified Value	+12.0 ±0.6 V dc
REG +9 V check	
Measurement Point	Pin ② of CN103
Specified Value	+9.0 ±0.45 V dc
REG +5 V check	
Measurement Point	Pin ③ of CN103
Specified Value	+5.0 ±0.25 V dc
REG -5 V check	
Measurement Point	Pin ⑤ of CN103
Specified Value	-5.0 ±0.25 V dc
UNREG +16 V check	
Measurement Point	Pin ① of CN102
Specified Value	+16 ±3 V dc
UNREG -16 V check	
Measurement Point	Pin ③ of CN102
Specified Value	-16 ±3 V dc
REG +9 V check	
Measurement Point	Pin ④ of CN102
Specified Value	+9.0 ±0.5 V dc
REG -9 V check	
Measurement Point	Pin ⑤ of CN102
Specified Value	-9.0 ±0.5 V dc
-30 V check	
Measurement Point	Pin ④ of CN104
Specified Value	-30 ±3 V dc
FLT Filament check	
Measurement Point	Pins ①, ② of CN104
Specified Value	4.5 ±1 Vrms

Checking method:

- 1) Make sure that each of the power supply voltages satisfies the specified value.

7-6. SYSTEM CONTROL SYSTEM ADJUSTMENT

7-6-1. Microcomputer Clock Adjustment (LP-3 Board)

Mode	Stop
Measurement Point	Pin ① of IC005
Measuring Instrument	Frequency counter
Adjusting Element	CV001
Specified Value	4433619 ±10 Hz

Adjusting method:

- 1) Adjust with CV001 so that it becomes 4433619 ±10 Hz.

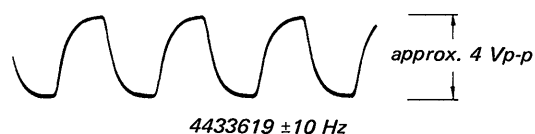


Fig. 7-3

7-7. SERVO SYSTEM ADJUSTMENT

Note the following points when adjusting the servo system.


- Perform adjustment with the LD servo checker connected.
- Adjustment of the CD servo system is performed with the CD servo checker connected.
- Be sure to perform adjustment with the unit in the level position.
- Perform adjustment of the CD servo system after adjustment of the digital audio system.
- After setting the tracking servo to the OPEN state, perform the following adjustment after setting to the STOP position.
- Perform adjustment in the following order when replacing the optical block.
 1. LD tracking offset adjustment (rough adjustment)
 - *Make adjustment at any section of the disc as this is rough adjustment.
 2. LD focus offset adjustment
 3. LD focus gain adjustment
 4. LD tracking offset adjustment
 5. LD tracking gain adjustment
 6. LD skew adjustment
 7. LD focus offset adjustment
 8. LD focus gain adjustment
 9. LD tracking jump adjustment
 10. CD focus offset adjustment
 11. CD tracking offset adjustment
 12. CD tracking gain adjustment
 13. CD tracking jump adjustment

7-7-1. LD System Servo Adjustment

1. LD focus offset adjustment (LP-3 board)

Mode	STILL
Signal	Frame 30001 (MULTI BURST), REF1P
Measurement Point	RF OUT terminal (servo checker)
Measuring Instrument	Oscilloscope
Adjusting Element	RV404
Specified Value	Maximum amplitude

Adjusting method:

- 1) Set to still (STILL: ) mode.
- 2) Search for frame 30001 (MULTI BURST).
- 3) Set the RF signal level to maximum using RV404.

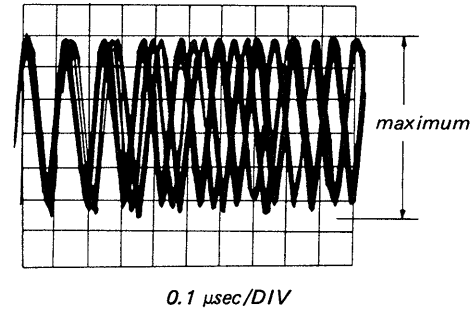



Fig. 7-4

2. LD focus gain adjustment (LP-3 board)

Mode	STILL
Signal	Frame 30001 (MULTI BURST)
Measurement Point	FOCUS Y-X terminal (servo checker)
Measuring Instrument	Oscilloscope (DC range)
Adjusting Element	RV406
Specified Value	-0.6 ± 0.4 V dc

Adjusting method:

- 1) Set to still (STILL: ) mode.
- 2) Search for frame 30001 (MULTI BURST).
- 3) Turn ON (upper position) the FOCUS 2 kHz switch of the servo checker.
- 4) Adjust the center level of the FOCUS Y-X signal to -0.6 ± 0.4 V dc (note) using RV406.
- 5) Turn OFF the FOCUS 2 kHz switch.

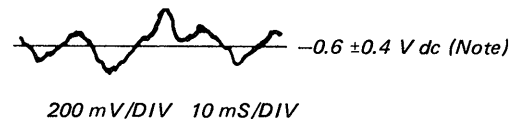


Fig. 7-5

3. LD tracking offset adjustment (LP-3 board)

Mode	STILL
Signal	Frame 30001
Measurement Point	Pin ⑪ of CN402 (TRVS)
Measuring Instrument	Oscilloscope (DC range)
Adjusting Element	RV405
Specified Value	Center voltage of tracking error signal is 0 ± 0.1 V dc

Adjusting method:

- 1) Set to still (STILL: \blacksquare) mode.
- 2) Search for frame 30001.
- 3) Turn OFF the thread servo. (Connect (short) the alligator clip and lug terminal of the connection harness.)
- 4) Set the tracking servo to the OPEN state. (Set TRKG O/C switch to upper position.)
- 5) Set the center voltage of the tracking error signal to 0 ± 0.1 V dc using RV405.
- 6) Set to the stop state (STOP: \blacksquare).
- 7) Return the tracking servo to the CLOSE state.
- 8) Turn ON the thread servo.

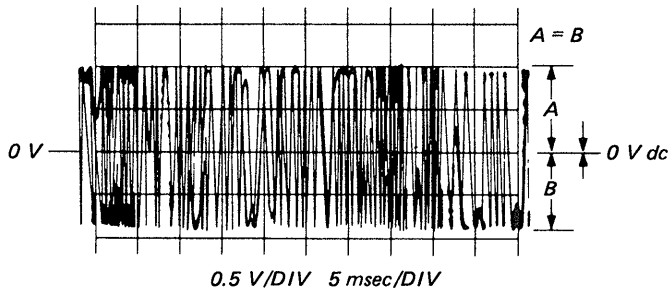


Fig. 7-6

4. LD tracking gain adjustment (LP-3 board)

Mode	STILL
Signal	Frame 30001 (MULTI BURST)
Measurement Point	TRKG Y-K terminal (servo checker)
Measuring Instrument	Oscilloscope (DC range)
Adjusting Element	RV407
Specified Value	+1.0 \pm 0.2 V dc (note)

Note: Be sure to perform "CD tracking gain adjustment" after performing this adjustment.

Adjusting method:

- 1) Set to still (STILL: \blacksquare) mode.
- 2) Search for frame 30001 (MULTI BURST).
- 3) Turn ON (upside position) the TRKG 4 kHz switch of the servo checker.
- 4) Set the center level of the TRKG Y-X signal to +1.0 \pm 0.2 V dc (note) using RV407.
- 5) Turn OFF the TRKG 4 kHz switch.

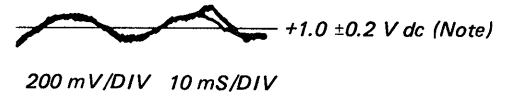


Fig. 7-7

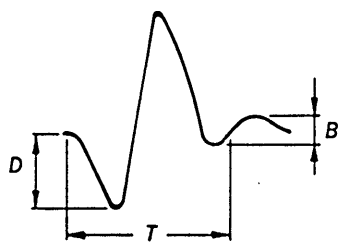
5. LD tracking jump adjustment (LP-3 board)

Mode	STILL and forward x3 playback
Signal	Chapter 13, 1, 39, REF1P
Measurement Point	CH1: Pin ⑪ of CN402 (TRVS) EXT TRIG: JUMP TRIG terminal (servo checker)
Measuring Instrument	Oscilloscope (Trigger slope: +, trigger source: EXT)
Adjusting Element	RV408 (STILL), RV409 (+x3)
Specified Value	Minimum amplitude of A and B section

Note: Before adjusting, confirm the rotational position of RV408 and if adjustment cannot be properly performed, return RV408 to its original position and readjust.

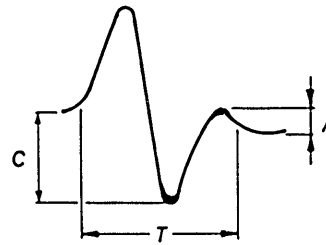
Adjusting method:

- 1) Set the TRKG O/ \bar{C} switch of the servo checker to \bar{C} (close) side.
- 2) Set to still (STILL: $\blacktriangleleft\blacktriangleright$) mode.
- 3) Search for chapter 13.
- 4) Adjust with RV408 so to minimize the section B of waveform, and also to make $B \leq D/4$, $T \leq 0.3$ msec.
- 5) Set to the forward x3 playback mode.
- 6) Adjust with RV409 so to minimize the section A of waveform, and also to make $A \leq C/4$, $T \leq 0.3$ msec.
- 7) When the specified value is not satisfied, repeat items 3) to 6).
- 8) Search for chapter 1.
- 9) Confirm the waveforms on still and forward x3 playback modes. (Checking of inner circumference of track jump.)
- 10) Search for chapter 39.
- 11) Confirm the waveforms on still and forward x3 playback modes. (Checking of outer circumference of track jump.)



500mV/DIV 50 μ S/DIV
Waveform in STILL state

Fig. 7-8



500mV/DIV 50 μ S/DIV

Waveform in x3 speed FWD state

Adjust with RV408 and RV409 so that A and B become minimum in waveform in the STILL and x3 speed FWD states.
Confirm that $A \leq C/4$: x3 speed FWD waveform
 $B \leq D/4$: $T \leq 0.3$ msec

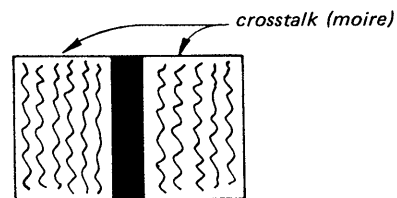
Fig. 7-9

6. LD skew adjustment (LP-3 board)

Mode	STILL
Signal	Frame 2 (vertical bar), REF1P
Measurement Point	Monitor TV
Measuring Instrument	Monitor TV
Adjusting Element	RV552
Specified Value	Minimum crosstalk (moire)

Adjusting method:

- 1) Set to still (STILL: $\blacktriangleleft\blacktriangleright$) mode.
- 2) Search for frame 2 to display vertical bars.
- 3) Adjust RV552 for minimum crosstalk (moire).



Adjust so that the levels of the crosstalk appearing on the left and right is the same and that there is minimum crosstalk.

Fig. 7-10

7-7-2. CD System Servo Adjustment

1. CD focus offset adjustment (LP-3 board)

Mode	Playback
Signal	Track number 1, YEDS-18
Measurement Point	RF OUT terminal (servo checker)
Measuring Instrument	Oscilloscope
Adjusting Element	RV403
Specified Value	Maximum amplitude

Adjusting method:

- 1) Playback track number 1.
- 2) Adjust RV403 so that the RF signal level is maximum.

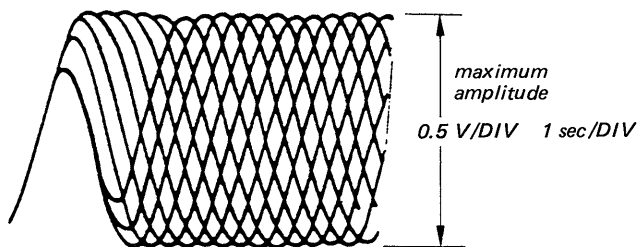


Fig. 7-11

2. CD tracking offset adjustment (LP-3 board)

Mode	Playback
Signal	Arbitrary position on disc, YEDS-18
Measurement Point	Pin ① of CN402 (TRVS)
Measuring Instrument	Oscilloscope (DC range)
Adjusting Element	RV401
Specified Value	Center voltage of output level: 0 ± 10 mV dc

Adjusting method:

- 1) Set to the playback mode.
- 2) Press the PAUSE (**||**) button.
- 3) Turn ON the TRACKING OPEN switch of the servo checker.
- 4) Adjust RV401 so that the center voltage of the tracking error signal is 0 ± 10 mV dc.
- 5) Turn OFF the TRACKING OPEN switch.

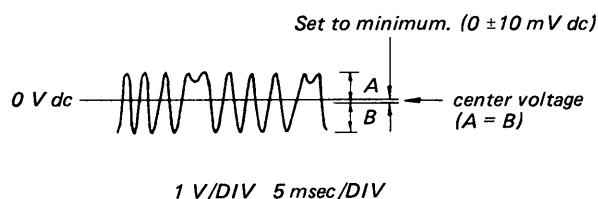


Fig. 7-12

3. CD tracking gain adjustment (LP-3 board)

Mode	Playback
Signal	Track number 1, YEDS-18
Measurement Point	CD TRKG terminal (servo checker)
Measuring Instrument	Oscilloscope (DC range)
Adjusting Element	RV411
Specified Value	-300 ± 50 mV dc

Adjusting method:

- 1) Playback track number 1.
- 2) Turn ON the CD TRKG switch of the servo checker.
- 3) Adjust RV411 so that the center level of the CD TRKG signal is -300 ± 50 mV dc.
- 4) Turn OFF the CD TRKG switch of the servo checker.

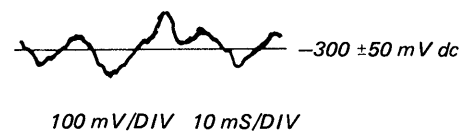


Fig. 7-13

4. CD tracking jump adjustment (LP-3 board)

Mode	Pause
Signal	Track number 1, YEDS-18
Measurement Point	CH1: J TRIG terminal (servo checker) CH2: TRVS terminal (servo checker) or Pin ⑪ of CN402
Measuring Instrument	Oscilloscope (Trigger slope: +, Trigger source: EXT, DC range)
Adjusting Element	RV410
Specified Value	Minimum amplitude in A section

Note: Turn ON the E-F LPF switch of the servo checker. (Connect the LPF shown below when connecting an oscilloscope to Pin ⑪ of CN402.)

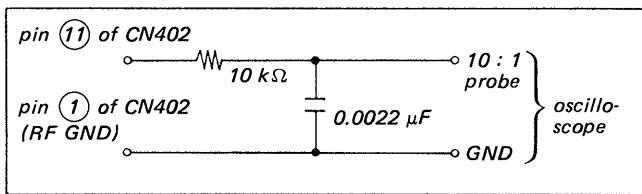


Fig. 7-14

Adjusting method:

- 1) Playback track number 1.
- 2) Press the PAUSE (||) button.
- 3) Adjust RV410 for minimum amplitude in the A section.

Note: When the optimum tracking error waveform cannot be obtained, perform CD tracking jump adjustment again after readjusting CD tracking gain with a specified value of -400 ± 50 mV dc.

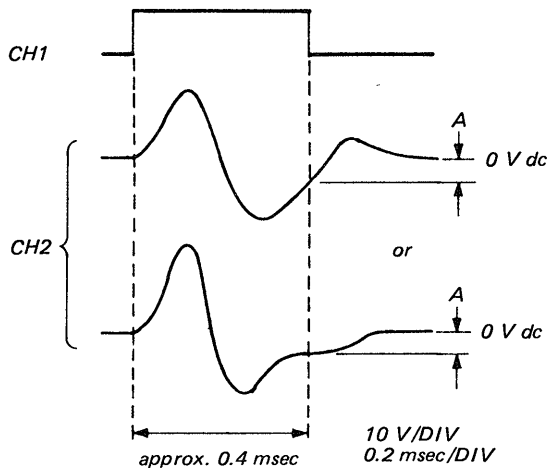


Fig. 7-15

7-8. VIDEO SYSTEM ADJUSTMENT

7-8-1. RF Level Adjustment (LP-3 Board)

Mode	STILL
Signal	Frame 29000 (gray screen)
Measurement Point	Q103 (E)
Measuring Instrument	Oscilloscope
Adjusting Element	RV101
Specified Value	1.0 ± 0.1 Vp-p

Adjusting method:

- 1) Set to the STILL mode.
- 2) Search for frame 29000.
- 3) Adjust with RV101 to 1.0 ± 0.1 Vp-p.

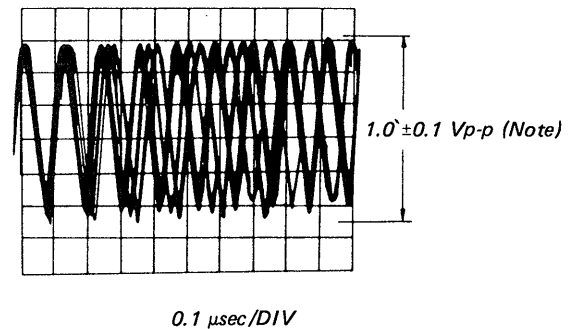


Fig. 7-16

7-8-2. DOC Adjustment (1) (LP-3 Board)

Mode	Stop
Signal	The oscillation element of the 5.4 MHz oscillation jig (J-6022-400-A) is changed and the following signals are input to the base of Q102. (See Fig. 7-17.) 1. 5.0 MHz, 1 Vp-p sine wave 2. 5.5 MHz, 1 Vp-p sine wave
Measurement Point	Pin ① of IC101
Measuring Instrument	Oscilloscope
Adjusting Element	RV102
Specified Value	“H” at 5.0 MHz (approx. 4 V dc) 4 V dc) “L” at 5.5 MHz (approx. 0 V dc)

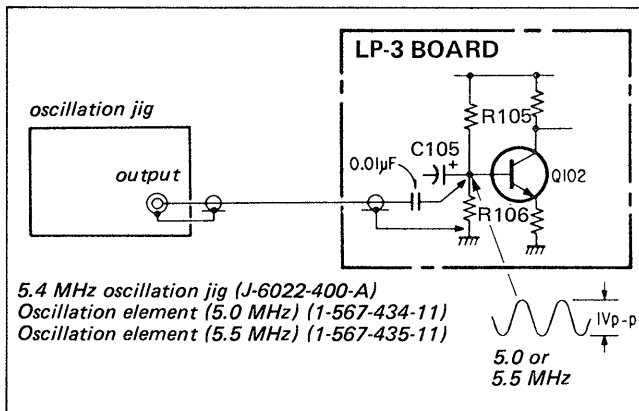


Fig. 7-17

Adjusting method:

- 1) Input a 5.0 MHz, 1 Vp-p sine wave from the oscillation jig to the base of Q102.
- 2) Rotate RV102 until a 4 Vp-p random pulse is output from Pin ① of IC101, and remember the rotational position of RV102 at this time.
- 3) Change the input signal from the oscillation jig to 5.5 MHz, 1 Vp-p sine wave.
- 4) Rotate RV102 until a 4 Vp-p random pulse is output from Pin ① of IC101, and remember the rotational position of RV102 at this time.
- 5) Set RV102 to a center position between the positions noted in 2) and 4).
- 6) Confirm that the level at Pin ① of IC101 is “L” (approx. 0 V dc).
- 7) Change the input signal from the oscillation jig to 5.0 MHz, 1 Vp-p sine wave.
- 8) Confirm that the level at Pin ① of IC101 is “H” (approx. 4 V dc).

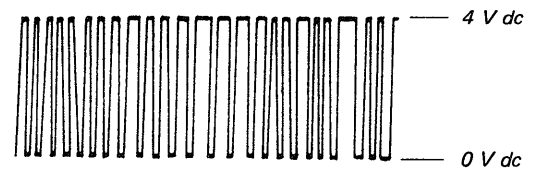


Fig. 7-18

7-8-3. DOC Adjustment (2) (LP-3 Board)

Mode	Playback
Signal	Frame 37000 (color bars), REF1P
Measurement Point	CH1: Pin ② of IC104 CH2: Pin ⑦ of IC104
Measuring Instrument	Oscilloscope
Adjusting Element	RV103
Specified Value	A = B

Adjusting method:

- 1) Search for frame 37000, and playback the color bars.
- 2) Adjust with RV103 to Y level A = B.
- 3) Confirm that there is no chroma signal Pin ②.

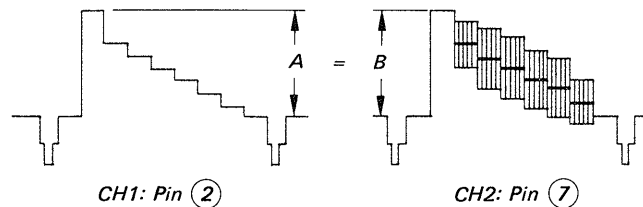


Fig. 7-19

7-8-4. TBC Clock (Lower Limit) Adjustment (LP-3 Board)

Mode	Playback
Signal	Arbitrary position, REF1P
Measurement Point	Pin ⑭ of IC106
Measuring Instrument	Oscilloscope
Adjusting Element	RV105
Specified Value	13.6 ±0.2 MHz

Adjusting method:

- 1) Connect Pin ⑯ of IC108 to GND using a jumper.
- 2) Playback an arbitrary position.
- 3) Adjust with RV105 so that it becomes 13.6 ±0.2 MHz.

7-8-5. TBC Clock (Upper Limit) Check (LP-3 Board)

Mode	Stop
Measurement Point	Pin ⑭ of IC106
Measuring Instrument	Frequency counter
Specified Value	$26 \pm_{-1.5}^{+2.5}$ MHz

Adjusting method:

- 1) Connect Pin ⑰ of IC108 to GND using a jumper wire.
- 2) Confirm that the TBC clock frequency is 26.5 MHz (within range of 28.5 to 24.5 MHz).
- 3) If not within this specification, adjust to specified value by RV105 and confirm lower limiter.
- 4) Remove the jumper wire.

7-8-6. CCD Bias Adjustment (LP-3 Board)

Mode	STILL
Signal	Frame 37000 (color bar)
Measurement Point	Q118 emitter
Measuring Instrument	Oscilloscope (DC range)
Adjusting Element	RV104
Specified Value	Sync tip level: 2.1 ± 0.1 V dc

Adjusting method:

- 1) Set to the still mode.
- 2) Search for frame 37000 to display color bars.
- 3) Adjust RV104 so that the DC level of the sync tips is 2.1 ± 0.1 V dc.

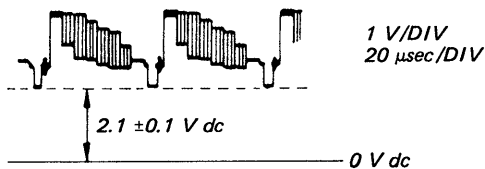


Fig. 7-20

7-8-7. TBC IC Adjustment (LP-3 Board)

Mode	Playback
Signal	Frame 37000 (color bar), REF1P
Measurement Point	Pin ⑳ of IC108
Measuring Instrument	Oscilloscope
Adjusting Element	RV107
Specified Value	5.0 ± 0.3 μsec

Adjusting method:

- 1) Adjust with RV107 so that width of output pulse becomes 5.0 ± 0.3 μsec.

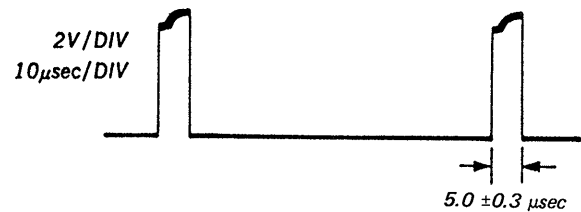


Fig. 7-21

7-8-8. Color Framing Y Level (LP-3 Board)

Mode	Playback
Signal	Frame 37000 (color bar)
Measurement Point	CH1: Pin ① of IC112 CH2: Pin ⑥ of IC112
Measuring Instrument	Oscilloscope
Adjusting Element	RV110
Specified Value	A = B

Adjusting method:

- 1) Search for frame 37000.
- 2) Equalize with RV110 Y levels on Pins ① and ⑥.

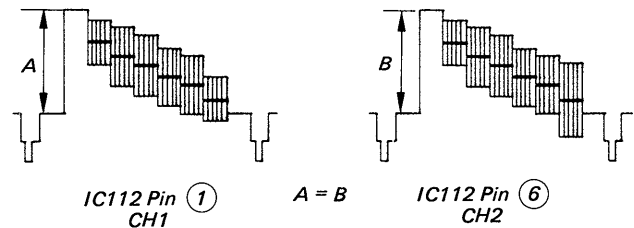


Fig. 7-22

7-8-9. Color Framing Chroma Level I Adjustment (LP-3 Board)

Mode	Playback
Signal	Frame 37000 (color bar), STILL
Measurement Point	Pin ⑥ of IC112
Measuring Instrument	Oscilloscope
Adjusting Element	RV108
Specified Value	A-B: minimum

Adjusting method:

- 1) Minimize with RV108 the shaking of blue portion.

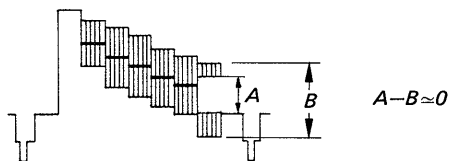


Fig. 7-23

7-8-10. Color Framing Chroma Level II Adjustment (LP-3 Board)

Mode	Playback
Signal	Frame 37000 (color bar), STILL
Measurement Point	CH1: Pin ① of IC112 CH2: Pin ⑥ of IC112
Measuring Instrument	Oscilloscope
Adjusting Element	RV109
Specified Value	A = B

Adjusting method:

- 1) Equalize with RV109 blue levels on CH1 and CH2.

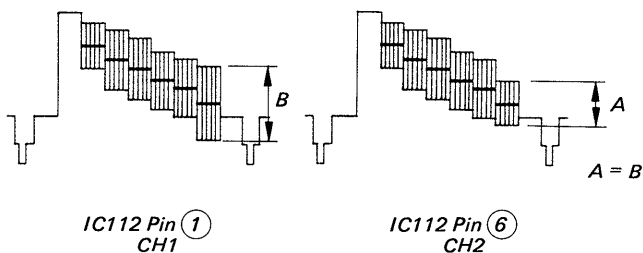


Fig. 7-24

7-8-11. Video Output Level Adjustment (LP-3 Board)

Mode	STILL
Signal	Frame 32500 (color bar)
Measurement Point	Q148 emitter
Measuring Instrument	Oscilloscope
Adjusting Element	RV106
Specified Value	2.0 ± 0.1 Vp-p

Adjusting method:

- 1) Set the CAV MODE switch on the front panel to the NORMAL position.
- 2) Set to the still mode.
- 3) Search for frame 32500 to display color bars.
- 4) Adjust with RV106 to 2.0 ± 0.1 Vp-p.



Fig. 7-25

7-9. AUDIO SYSTEM ADJUSTMENTS

7-9-1. Analog Audio System Adjustment

1. Audio output level adjustment (AF-49 board)

Note: The adjusting element for 2/right channel is shown in [].

Mode	Playback
Signal	Chapter 6 (1 kHz), REF1P
Measurement Point	1/left [2/right] terminal of audio line output 2
Measuring Instrument	Audio level meter or oscilloscope
Adjusting Element	RV601 [RV602]
Specified Value	Audio level meter: -3.8 ±0.8 dBs (500 ±15 mVrms) Oscilloscope: 1.48 ±0.04 Vp-p

Adjusting method:

- 1) Search for chapter 6.
- 2) Turn OFF [CX] with the remote control.
(Confirm that indication on all panels disappears.)
- 3) Adjust to -3.8 ±0.3 dBs (500 ±15 mVrms) or 1.48 ±0.04 Vp-p with RV601 [RV602].

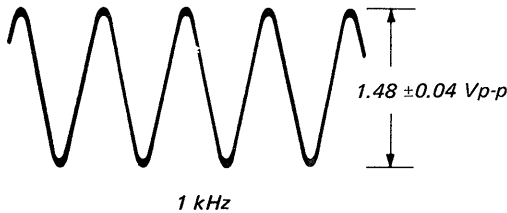


Fig. 7-26

7-9-2. Digital Audio System Adjustments

1. Power supply voltage check (DS-27 board)

Mode	Stop
Measuring Instrument	Digital voltmeter
-12 V check	
Measurement Point	Pin ④ of IC809
Specified Value	-12 ±0.5 V dc
+12 V check	
Measurement Point	Pin ⑧ of IC809
Specified Value	+12 ±0.5 V dc
+12 V check	
Measurement Point	Pin ⑧ of IC815
Specified Value	+12 ±0.5 V dc
+5 V check	
Measurement Point	Pin ⑩ of IC813
Specified Value	+5 ±0.25 V dc
-12 V check	
Measurement Point	Pin ④ of IC815
Specified Value	-12 ±0.5 V dc
-5 V check	
Measurement Point	Pin ① of IC813
Specified Value	-5 ±0.5 V dc

Checking method:

- 1) Make sure that each of the voltages satisfies the specified value.

2. RF PLL free run frequency adjustment (DS-27 board)

Mode	Stop
Measurement Point	D804 anode (Pin ⑱ of IC805)
Measuring Instrument	Frequency counter
Adjusting Element	LV801
Specified Value	4.321 ±0.02 MHz

Adjusting method:

- 1) Connect between Pin ⑧ of IC805 (EFM IN) and GND with a 1 μF/50 V component.
- 2) Adjust to 4.321 ±0.02 MHz with LV801.

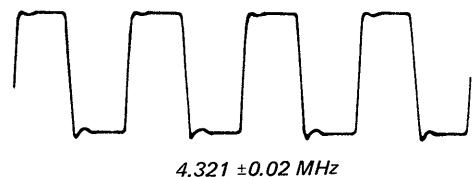


Fig. 7-27

Note: Use a ceramic driver as fluctuation in the value is liable to occur with a metallic driver.

7-10. E-F LITHARGE WAVEFORM ADJUSTMENT

Mode	Playback
Signal	Track number 1, YEDS-18
Measurement Point	CH1: E terminal (servo checker) CH2: F terminal (servo checker)
Measuring Instrument	Oscilloscope (X-Y mode)
Adjusting Element	Eccentric pin
Specified Value	A : B = 1 : 2

- Note:**
- 1) Before adjustment, loosen the locking screw.
After adjustment, tighten the locking screw and apply locking compound to the screw and the eccentric pin.
 - 2) Repairs of the CD feed base block and the optical block need this adjustment.

Adjusting method:

- 1) Playback track number 1.
- 2) Turn ON the TRKG OPEN, SLED STOP, and EF LPF switches of the servo checker.
- 3) Adjust the eccentric pin so that the A : B is 1 : 2.
- 4) Turn OFF the TRKG OPEN, SLED STOP, and EF LPF switches.

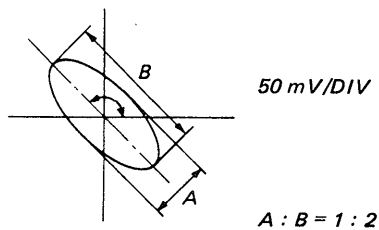


Fig. 7-28-1

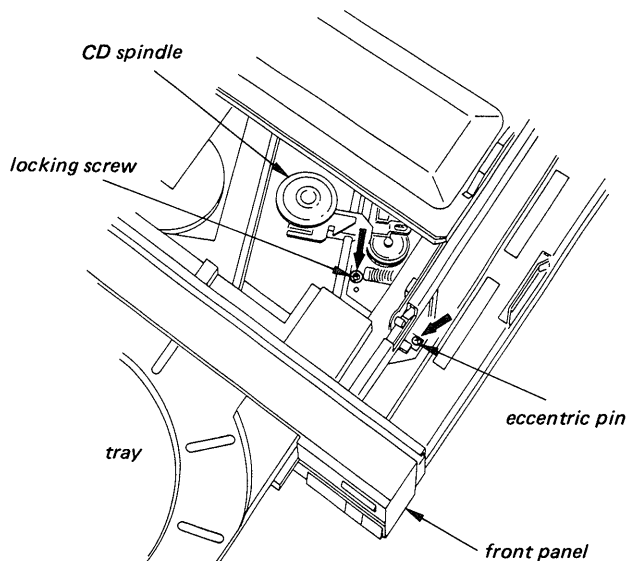
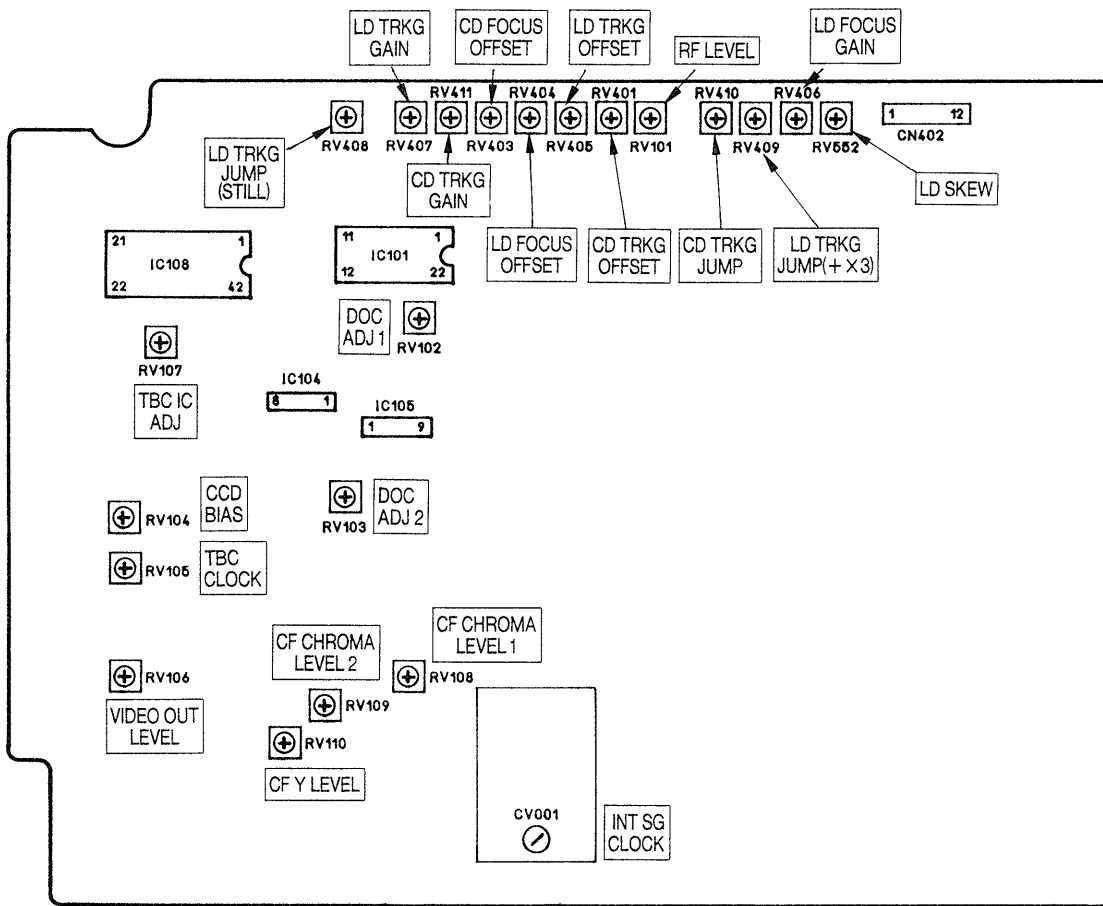


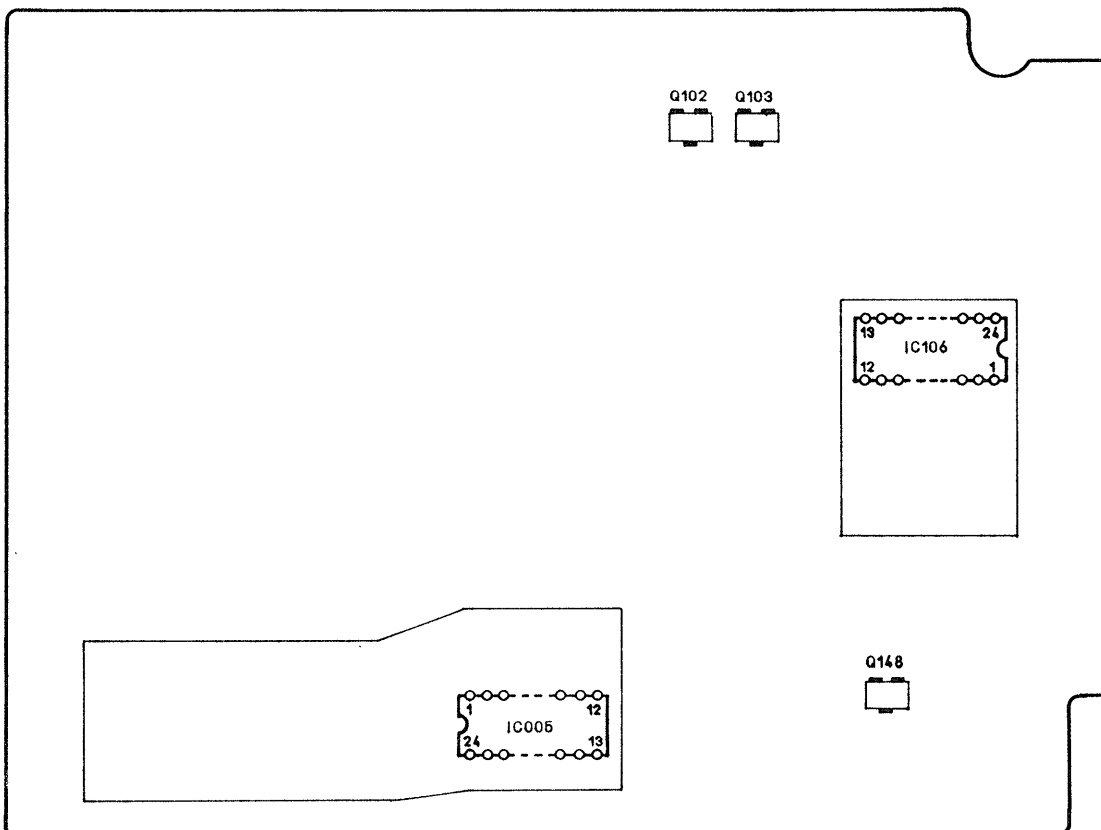
Fig. 7-28-2

7-11. PARTS ARRANGEMENT DIAGRAM FOR ADJUSTMENTS

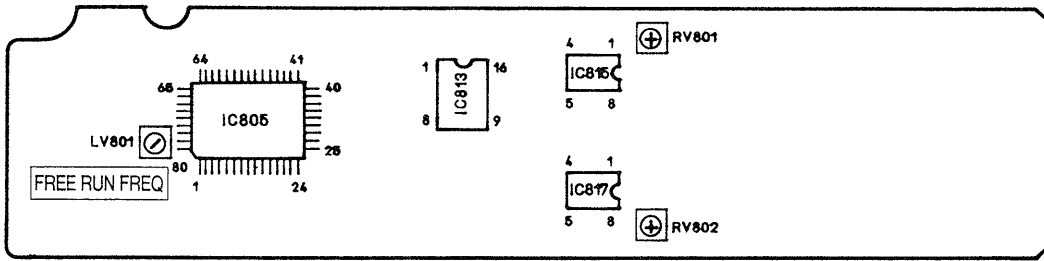
LP-3 BOARD (COMPONENT SIDE)



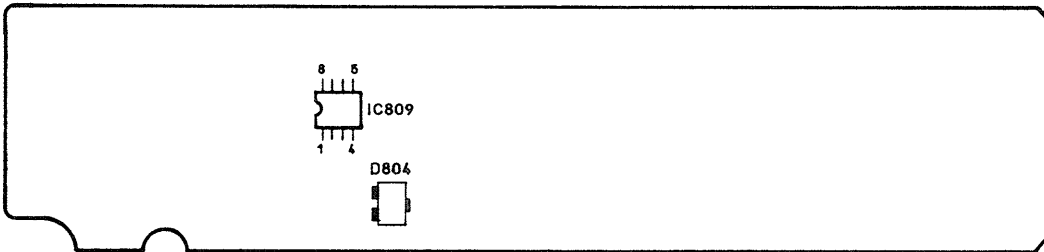
LP-3 BOARD (CONDUCTOR SIDE)



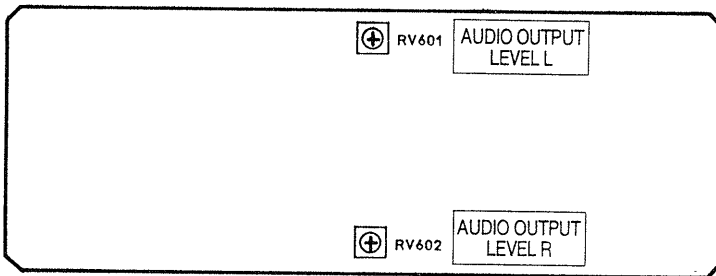
DS-27 BOARD (COMPONENT SIDE)



DS-27 BOARD (CONDUCTOR SIDE)



AF-49 BOARD (COMPONENT SIDE)



PS-188 BOARD (CONDUCTOR SIDE)

