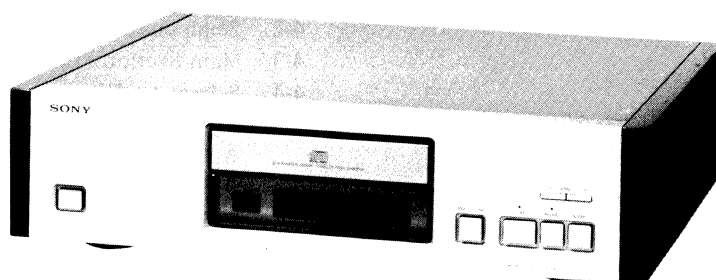


CDP-R1

SERVICE MANUAL

*US Model
West Germany Model*



SPECIFICATIONS

CDP-R1 Compact Disc Player Unit

System	Compact disc digital audio system
Disc	Compact Disc
Data read system	Non-contact optical reading (using a semiconductor laser)
Laser	GaAlAs dual hetero-diode (λ (wavelength) = 780 nm)
Spindle speed	Approx. 200 rpm — 500 rpm (CLV)
Error correction	Sony Super Strategy, Cross Interleave Reed Solomon code

Interface

	Shape of jack	Usage
TWIN LINK	TWIN LINK jack	Exclusively for the DAS-R1
COAXIAL (EIAJ format)	RCA-type pin jack (75 Ω ms, 0.5 Vp-p)	For digital component conforming with the EIAJ coaxial format

* EIAJ: Electronic Industry Association of Japan

RM-A1 Remote Commander (supplied)

Remote control system	Infrared control
Power requirements	3 V DC (with two R6 (size AA) batteries)
Dimensions	67 × 20 × 175 mm (w/h/d) (2 $\frac{3}{4}$ × 1 $\frac{1}{16}$ × 7 inches)
Weight	110 g (4 oz) (including batteries)

Supplied accessories

Twin Link optical cable (SOC-10) × 1
Remote control unit (RM-A1) × 1
Sony SUM-3 (NS) battery × 2
Screwdriver × 1

General

Power requirements	US model: AC 120 V, 60 Hz West Germany model: AC 220, 240 V, 50/60 Hz
RAM memory storage	Held for more than a month (after turning the power OFF).
Power consumption	13 watts
Dimensions (w/h/d)	470 × 125 × 410 mm (18 $\frac{5}{8}$ × 5 × 16 $\frac{1}{4}$ inches) (Including projecting parts and controls)
Weight:	17 kg (37 lb)



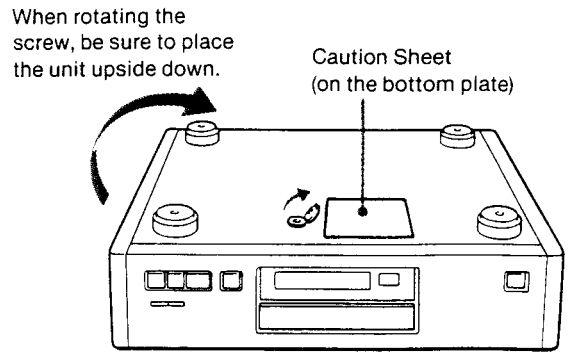
COMPACT DISC PLAYER
SONY®



TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>	<u>Section</u>	<u>Title</u>	<u>Page</u>
	Specifications	1	4. DIAGRAMS		
	Note on Transit Screw	2	4-1. Block Diagram		11
1. SERVICING NOTES			4-2. Semiconductor Lead Layouts		14
Model Identification		3	4-3. Main Section Printed Wiring Boards		15
Safety Check-out		3	4-4. Schematic Diagram		19
Protection of Eyes from Laser Beam During Servicing		4	4-5. BU-10 (Base unit) Section Printed Wiring Boards		25
Notes on Handling the Optical Pick-up Block or Base Unit		5	5. EXPLODED VIEWS AND PARTS LIST		27
Notes on Laser Diode Emission Check		5	6. ELECTRICAL PARTS LIST		33
Laser Diode and Focus Search Operation Check		5	Troubleshooting Guide		38
2. GENERAL					
Features		6			
Location of Controls		7			
3. ELECTRICAL ADJUSTMENTS		9			

Before Use (Transportation Screw)

Before starting any operation, be sure to release the transportation screw (for protection of the laser pickup and internal mechanism) located on the bottom of the unit. Turn this screw in the direction of the arrow, following the Caution Sheet attached to the bottom plate. To release the transportation screw, open the cap and turn the screw counterclockwise 180 degrees using the provided screwdriver. Be careful not to turn the screw too far, as it could damage the internal mechanism or cause a malfunction. Before transporting this unit, tighten the screw firmly.

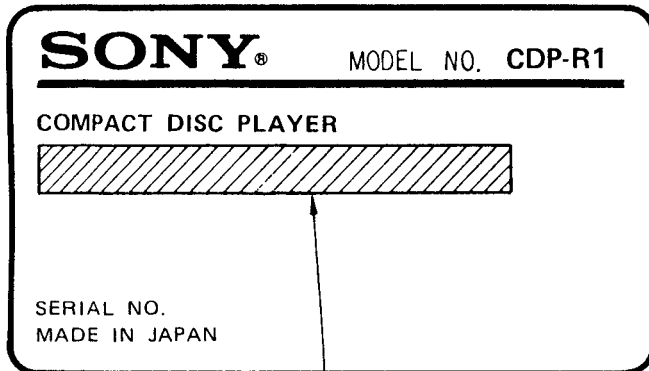


SAFETY-RELATED COMPONENT WARNING!!
COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1 SERVICING NOTES

MODEL IDENTIFICATION

— Specification Labels —



US model: AC: 120 V ~ 60 Hz 13 W

West Germany model: AC: 220 V ~ 50/60 Hz 13 W

SAFETY CHECK-OUT

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

Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

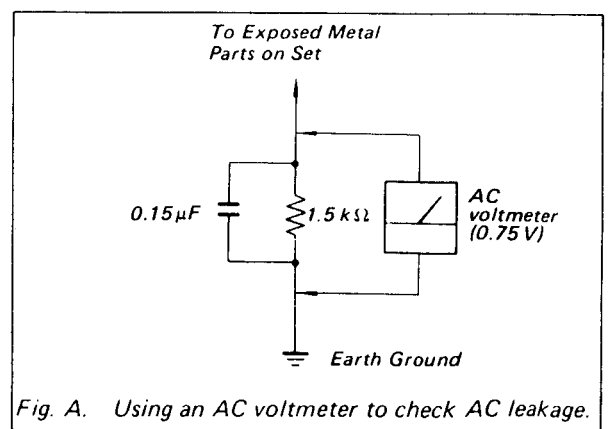


Fig. A. Using an AC voltmeter to check AC leakage.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

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

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

1. Laser Diode Properties

- Material: GaAlAs
- Wavelength: 780 nm
- Emission Duration: continuous
- Laser Output: max. 44.6 μ W*

* This output is the value measured at a distance of about 200 mm from the objective lens surface on the Optical Pick-up Block.

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).

BESKYTTELSE AF ØJNE MOD LASERSTRÅLING UNDER SERVICE

I dette apparat anvendes laserlys. Derfor skal nedenstående instruktioner nøje følges under service.

Følg iverigt instruktionerne i servicemanualen.

ADVARSEL!!

Under service må øjnene ikke komme nær objektiv-linsen på den optiske pick-up enhed. I tilfælde af at det er nødvendigt at kontrollere udsendelsen af laserlys, skal det ske i en afstand af mere end 25 cm fra den optiske pick-up.

1. Laser-dioe data

- Materiale: GaAlAs
- Bølgelængde: 780 nm
- Udstråling: Kontinuerlig
- Laseroutput: Max. 0,4 mW*

* Målt i 1,6 mm afstand fra overfladen af objektiv-linsen på den optiske pick-up enhed.

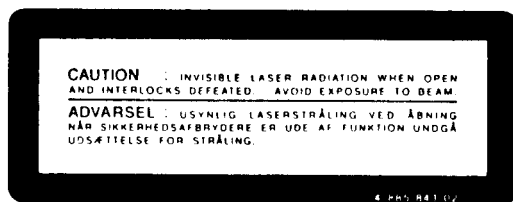
- Klassifikation: Klasse IIIb.

2. Adskil aldrig den optiske pick-up enhed under service, og juster ikke APC kredsløbet (Automatic Power Control). Hvis APC kredsløbet (incl. laser-dioden) bryder ned, skal hele den optiske pick-up enhed (incl. APC printkortet) udskiftes.

LASER ADVARSEL MÆRKNING

Følgende mærkning findes indvendig i apparatet:

1. Advarsel Mærkning



VAROITUS: Laite sisältää, laserdiodin, joka lähettää (näkyvätöntä) silmille vaarallista lasersäteilyä.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.

During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.

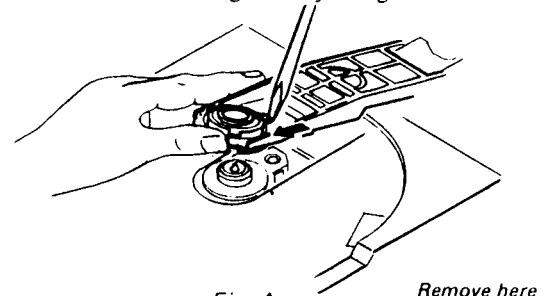
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

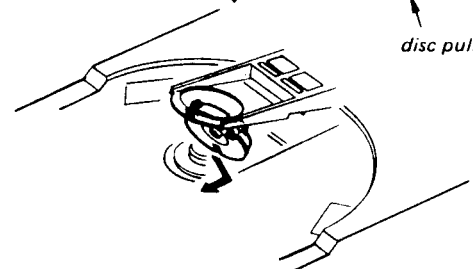
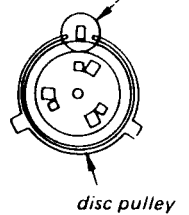
The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe more than 25 cm away from the objective lens.

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

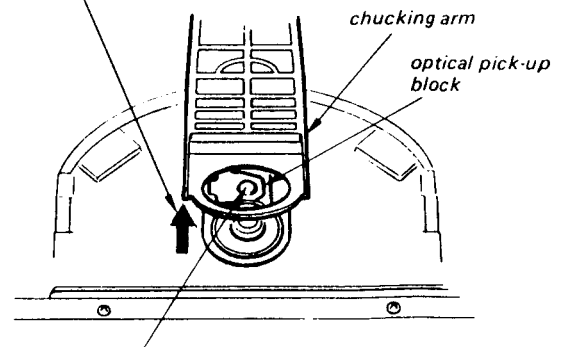
1. Remove disc pulley by lifting up chucking arm by hand. (Fig. A, B)
2. Make POWER switch on with no disc inserted and disc table closed.
3. Confirm that the operation indicated in Fig. C is performed while observing the objecting lens.



Remove here at first.



Lift up chucking arm by hand in the direction of arrow.



- ① Confirm that laser beam is spread.
- ② Up and down motion of the objective lens. (3 times)

Fig. C

SECTION 2

GENERAL

Features

The CDP-R1 is a Compact Disc Player Unit exclusively for use in the Separate CD Player System. In conjunction with a separate D/A Converter Unit, it is used to extract the maximum possible performance from Compact Disc digital audio sources. With a separate CD player system, since any noise or vibrations generated by the servo or digital circuits when picking up the signal from the disc are completely separated from the analog circuits processing the audio signal, the maximum possible sound reproduction quality is obtained.

Twin Linkage System for no loss in the reference phase components

The Twin Linkage system uses a bi-directional linkage, in which a cable is used to transmit the sync signal from the D/A Converter Unit to the CD Player Unit, in addition to the normal data line. With this system, the crystal oscillator that is located in the CD player unit in the conventional separate system can be mounted close to the D/A converter section in the D/A Converter Unit. In this way, no fluctuation occurs in the phase components of the audio signal which is output from the D/A Converter Unit, resulting in extremely enriched reproduced sound response.

Superior quality silica glass optical fiber

The optical fiber used in the Twin Linkage system is a highly reliable plastic clad silica glass core optical fiber. Since it has low-loss superb light transmission characteristics, its signal transmission ability extends over 100 meters.

TS Servo System* for super silent high-accuracy tracing

In the servo system incorporated in the CDP-R1, a specially designed TS compensator is used in series with the conventional servo LSIs so that the servo circuit does not function too much in response to minute scratches or other minor imperfections on the disc surface. With this new servo system, tracking noise during play, which could interfere with comfortable listening, is greatly reduced. At the same time, since the servo current required for tracing is reduced, interference introduced into the audio circuits is also reduced, resulting in even more pure sound quality.

High-versatility CD playing ability

The full array of CD playing functions is available with the CDP-R1. The highly versatile remote control unit lets you play only a specified selection, or the entire disc, continuously. It also allows program play, letting you designate any desired selections on the disc to be played in a required order, shuffle play, letting you play the selections on the disc in a random order, six types of repeat play, etc.

Program Bank Memory

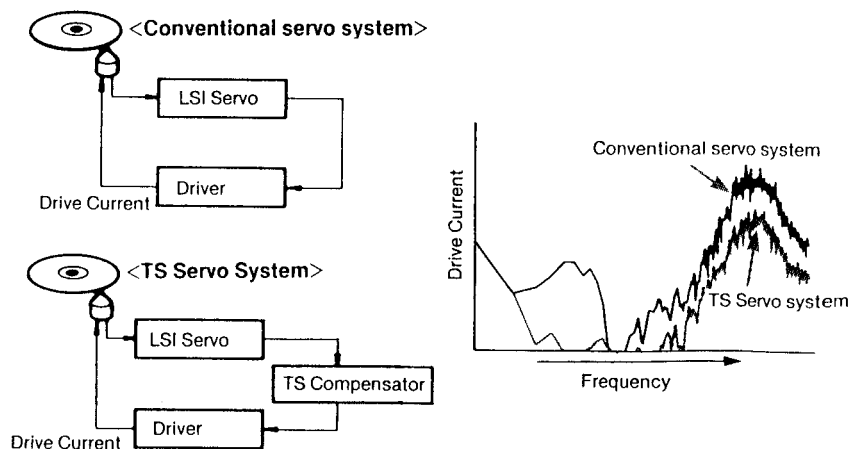
After programming the selections on a disc, the program order can be stored in a memory specified for that disc. With this feature, you can play only the programmed selections, in the programmed order, whenever that disc is loaded.

Custom Index Memory

You can mark Index points at any position you want on a disc. These points allow you to easily access a specified position on the disc during play, or to play the segment between Custom Index points repeatedly.

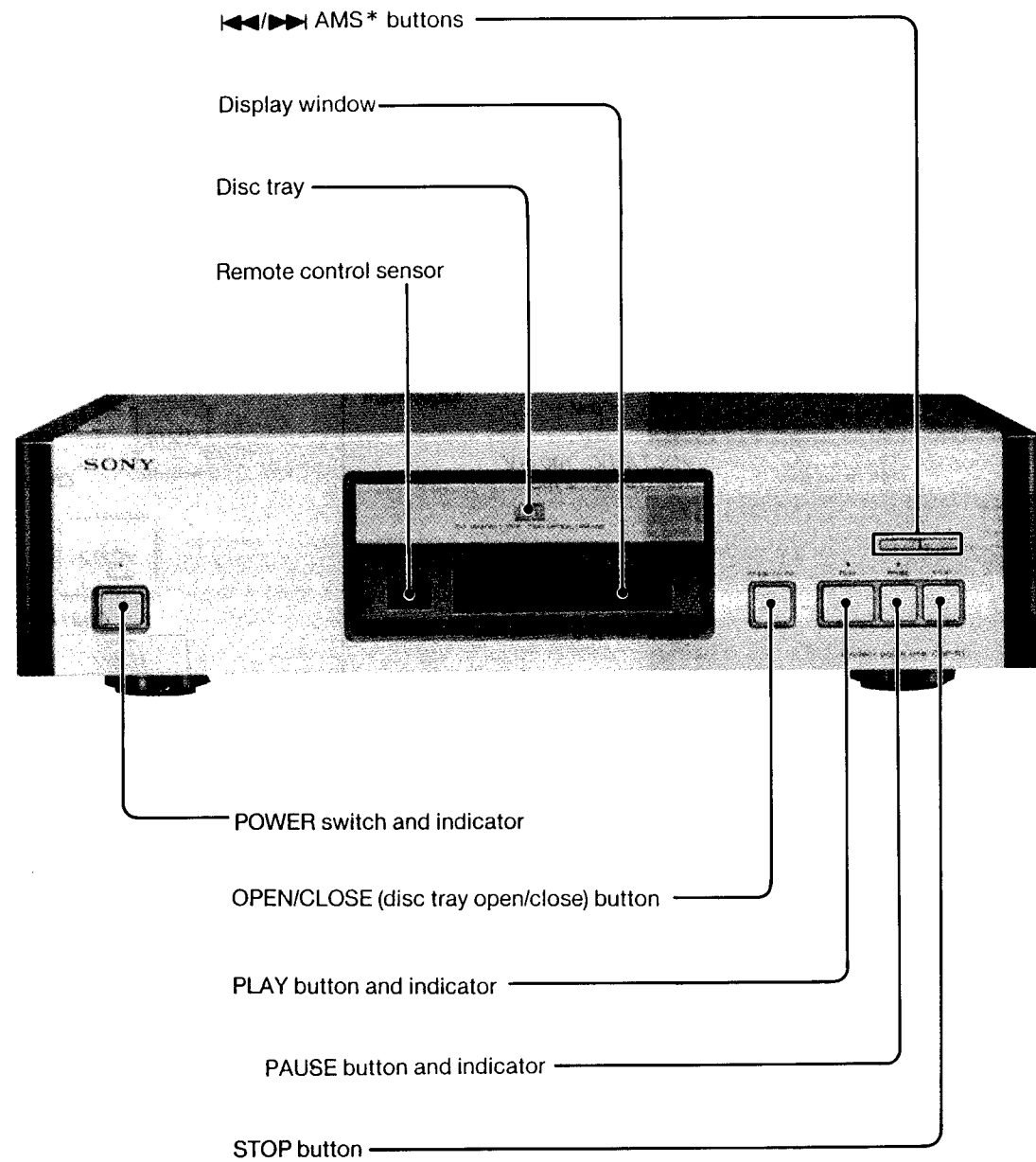
* TS Servo System

The CDP-R1's servo system has been developed based on Sony's enriched experience, to create CD players which intend to set a new direction for the servo system in state-of-the-art CD players. It was designed so that the optical system does not excessively respond to vibrations, the minute unevenness due to scratches on a disc, or any other disturbance. We call this the "TS Servo", from its silent movement. In its circuitry, a specially designed "TS Compensator" is added to the conventional servo LSIs. This "TS Compensator" is used to continuously observe the drift of the pit rows on the disc, so that any unnatural fluctuation or discontinuity in the pit rows can be removed. With this system, it is difficult for the laser pickup to skip at a scratch on the disc, and after passing over the scratch, it recovers the correct pit row quickly and exactly. Due to this, as the data picked up from the disc is increased, the purity of the music signals is greatly improved. And, since the servo current required for tracing the correct pit row is reduced, power supply fluctuation is also reduced, thus highly-stable power can be supplied. This also improves the total quality of the reproduced sound.



Location of Controls

Main Unit



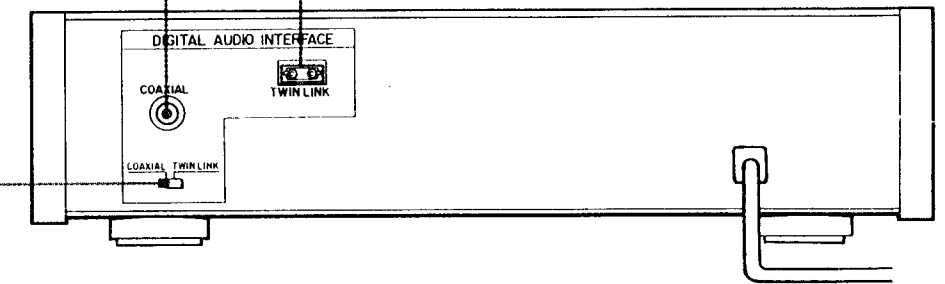
* AMS stands for Automatic Music Sensor.

Rear Panel

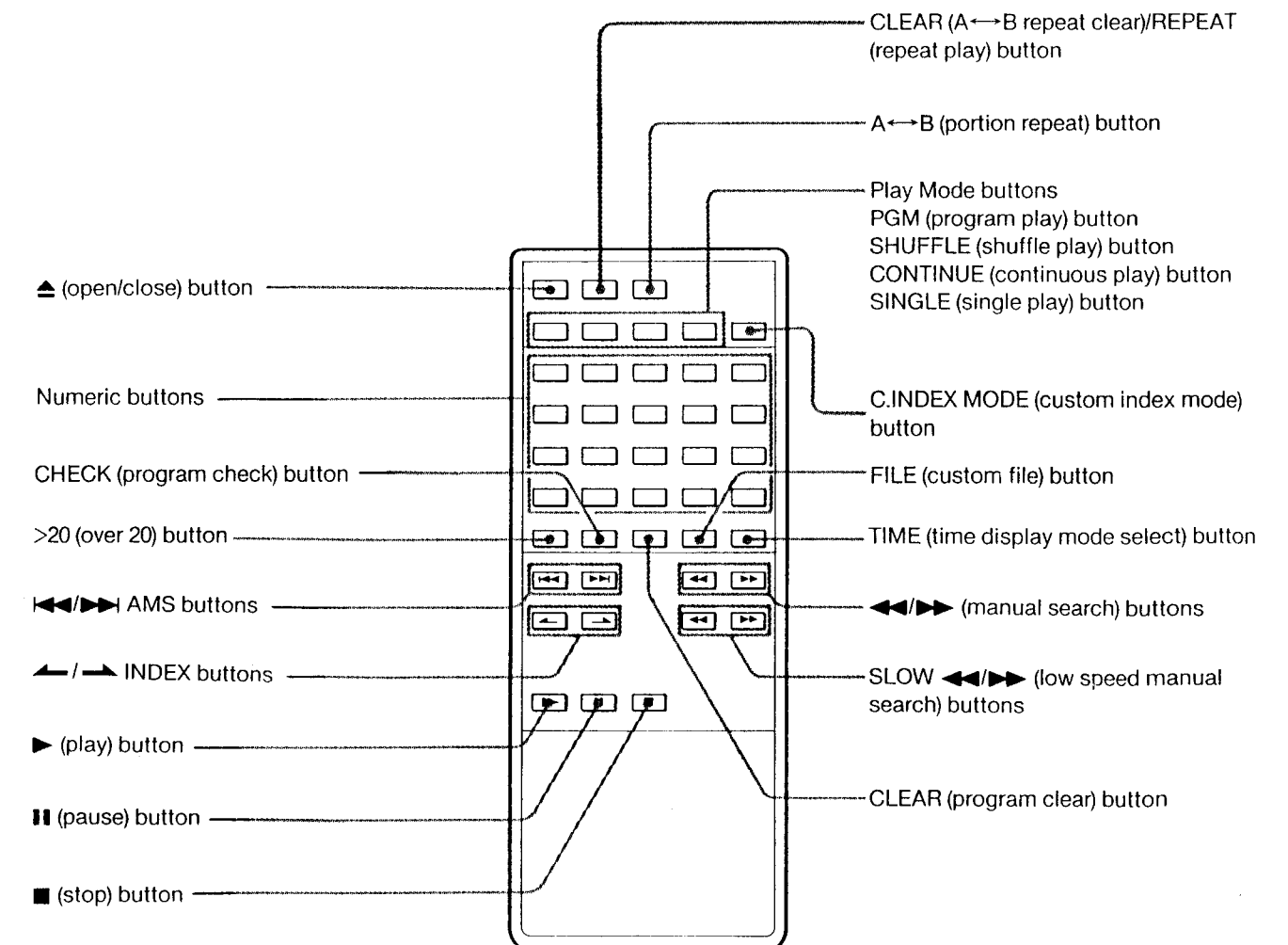
TWIN LINK (exclusive optical cable) connector
Using the exclusive Twin Link optical cable provided, connect the TWIN LINK connector of the DAS-R1 D/A Converter Unit to this connector.

COAXIAL digital output jack
Connect to the digital input jack of an amplifier having a built-in D/A converter, or an outboard D/A converter unit.

Output selector
TWIN LINK: Set to this position when the TWIN LINK optical cable is used.
COAXIAL: Set to this position when the COAXIAL jack is used.



Remote Commander



SECTION 3 ELECTRICAL ADJUSTMENTS

1. Perform adjustments in the order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10 MΩ impedance.

Adjustment Mode

1. Connect CN217 (3) (ADJ) and TP (GND) on servo board.
(This makes microcomputer IC227 pin (8) low and keeps the RF signal outputting even though pits can not be read.)
2. Turn POWER switch on.
(To reset microcomputer.)
After adjustment, remove the lead wire connected CN217 (3) (ADJ) and TP (GND).

RF PLL Adjustment

Procedure:

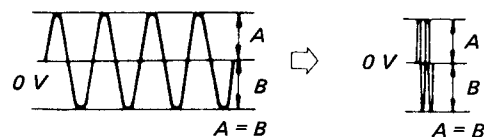
1. Connect test point TP (ASY) and TP (GND) on servo board.
2. Connect the frequency counter to CN220 (2) (PLCK) and (9) (GND) on servo board.
3. Turn POWER switch ON (stop mode).
4. Adjust RV206 on servo board so that the reading on frequency counter is 4.3218 MHz ± 20 kHz.
5. Remove the lead wire connected in step 1.
6. Put disc (YEDS-18) in and press ▷ PLAY button.
7. Confirm that reading on frequency counter is 4.3218 MHz.

E-F Balance/Focus Bias Adjustment

Procedure:

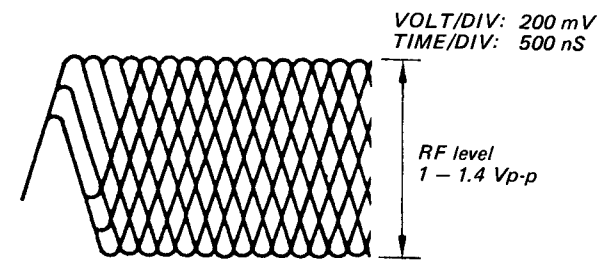
1. Put set into adjustment mode.
2. Connect test point TP (TS) and TP (GND) on servo board.
3. Connect oscilloscope to test point TP (TEO) and TP (GND) on servo board.
4. Turn POWER switch on (stop mode).
5. Put disc (YEDS-18) in and play back.
6. Adjust RV203 on servo board so that the oscilloscope waveform is symmetrical on the top and bottom in relation to 0 V. (E-F balance adjustment)

Note: Take sweep time as long as possible to obtain best waveform.



7. Connect oscilloscope to test point TP (RF) and TP (RFG) on servo board.
8. Remove the lead wire connect in step 2.
(Servo is on and eye pattern can be observed.)
9. Adjust RV202 on servo board for an optimum waveform eye pattern or so that the peak is maximum. Optimum eye pattern means that shape "◇" can be clearly distinguished at the center of the waveform. (focus bias adjustment)
10. After adjustment, confirm RF level and cancel adjustment mode.

RF Signal Reference Waveform (eye pattern)



When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensitivity.

REFERENCE

Focus/Tracking Gain Adjustment

A frequency response analyzer is necessary in order to perform this adjustment exactly.

However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perform this adjustment.

Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when the 2-axis device operate.

However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is raised, the noise when the 2-axis device operates increases.
- When gain is lowered, mechanical shock and skipping occurs more easily.
- When gain adjustment is off, the symptoms below appear.

Symptoms	Gain	Focus	Tracking
• The time until music starts becomes longer for STOP → ▷ PLAY or automatic selection (◀◀, ▶▶ buttons pressed.) (Normally takes about 1 seconds.)		low	low or high
• Music does not start and disc continues to rotate for STOP → ▷ PLAY or automatic selection. (◀◀, ▶▶ buttons pressed.)		—	low
• Disc table opens shortly after STOP → ▷ PLAY.		low or high	—
• Sound is interrupted during PLAY. Or time counter display stops progressing.		—	low
• More noise during 2-axis device operation.		high	high

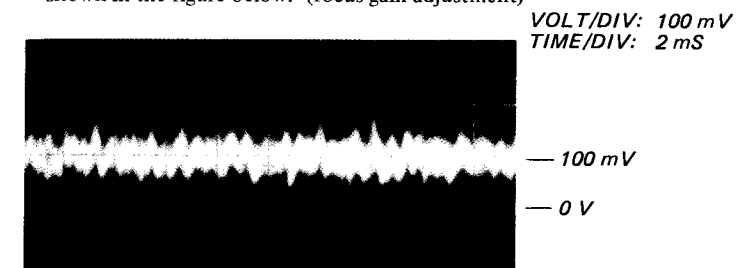
The following is a simple adjustment method.

— Primary Adjustment —

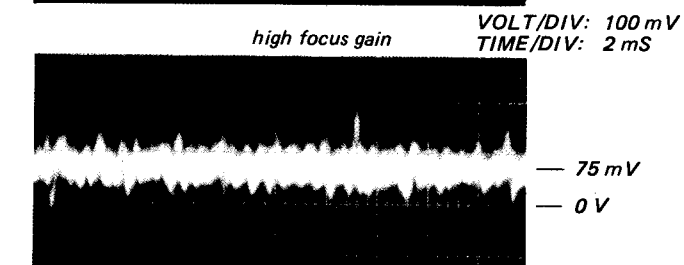
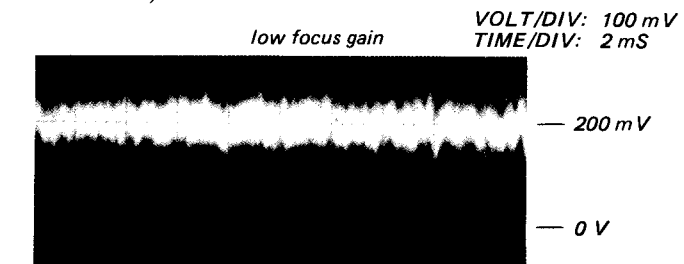
Note: Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment. If the positions after the primary adjustment are only a little different, return the controls to the original position. And tracking primary adjustment cannot be performed. Be careful not to move RV204 (tracking gain volume).

Procedure:

1. Keep the set horizontal.
(If the set is not horizontal, this adjustment cannot be performed due to the gravity against the 2-axis device.)
2. Put set into adjustment mode.
3. Insert disc (YEDS-18) and press ▷ PLAY button.
4. Connect oscilloscope to TP (FEO) on servo board.
5. Adjustment RV205 on servo board so that the waveform is as shown in the figure below. (focus gain adjustment)



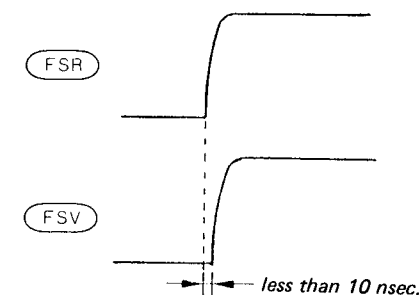
- Incorrect Examples (DC level changes more than on adjusted waveform)



Interface Phase Adjustment

Procedure:

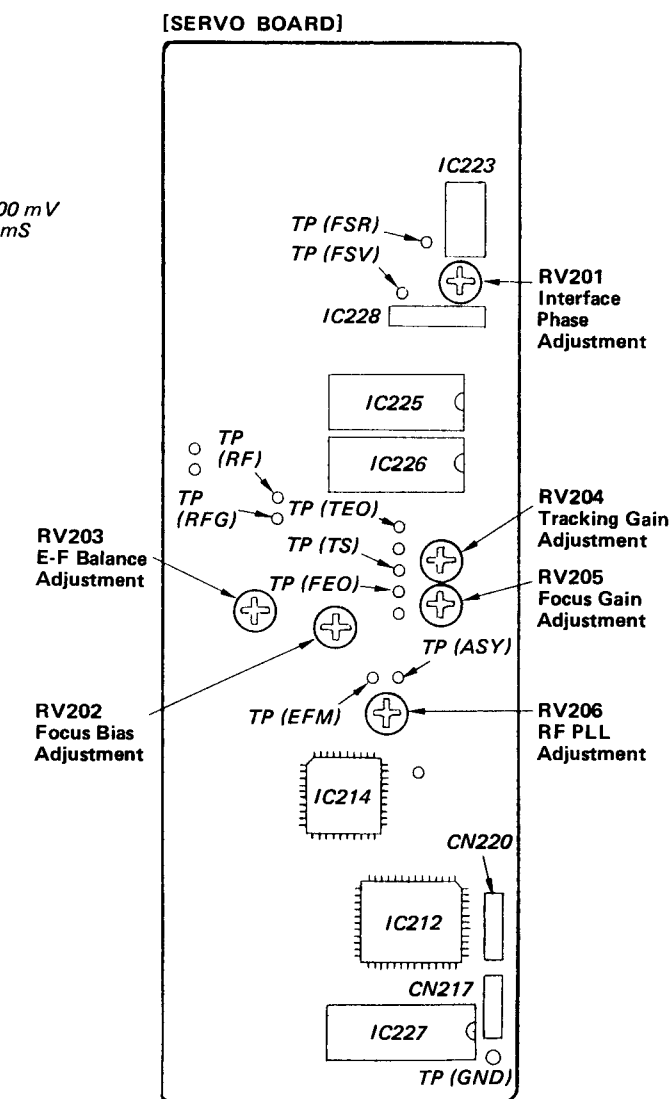
1. Connect oscilloscope to test point TP (FSV), TP (GND) and TP (FSR), TP (GND) on servo board.
2. Adjust RV201 on servo board so that difference between rising edges of two waveforms is less than 10 nsec.



Note:

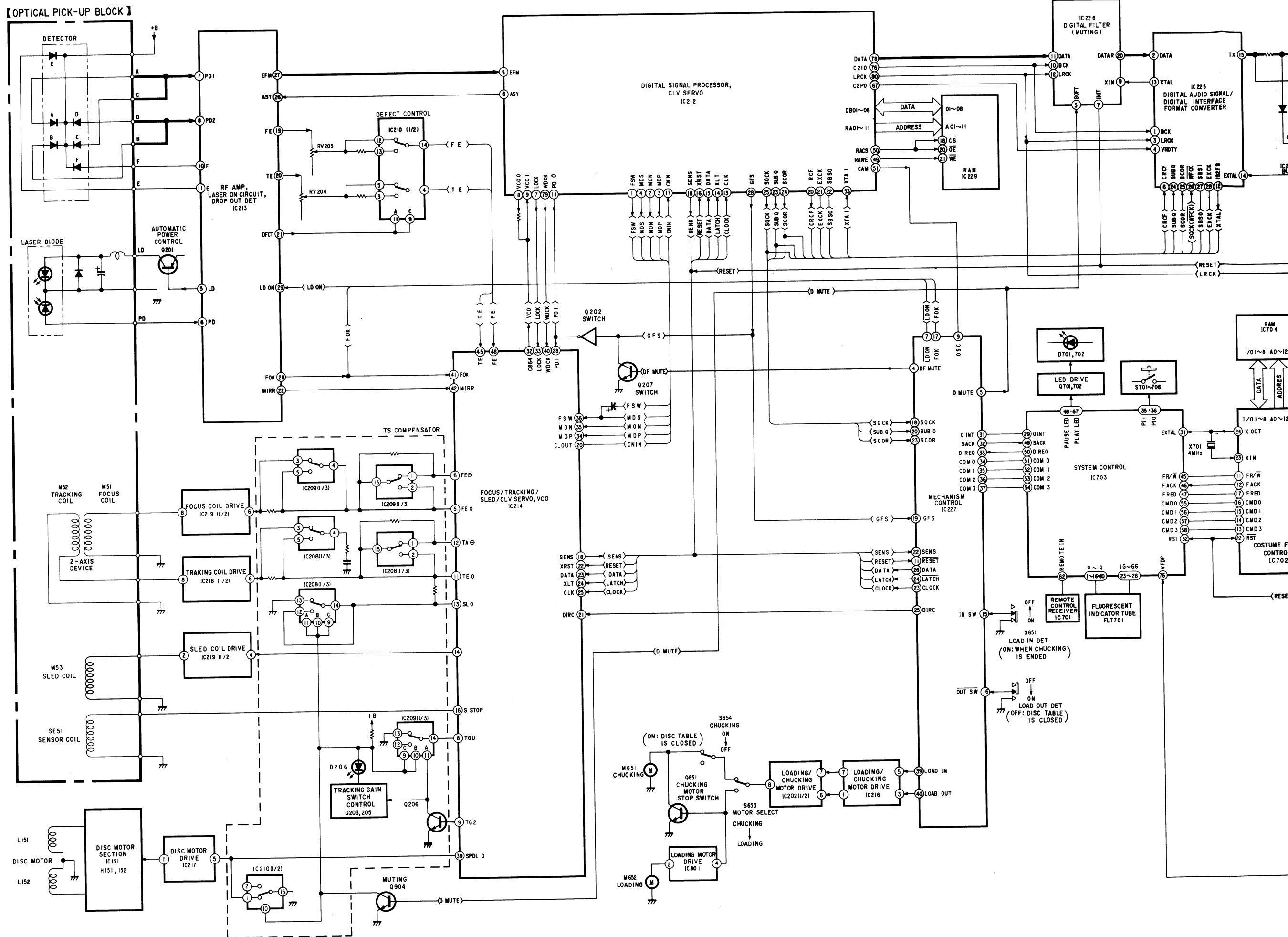
- Use oscilloscope which has more than 100 MHz band-width.
- Use two equal probes.

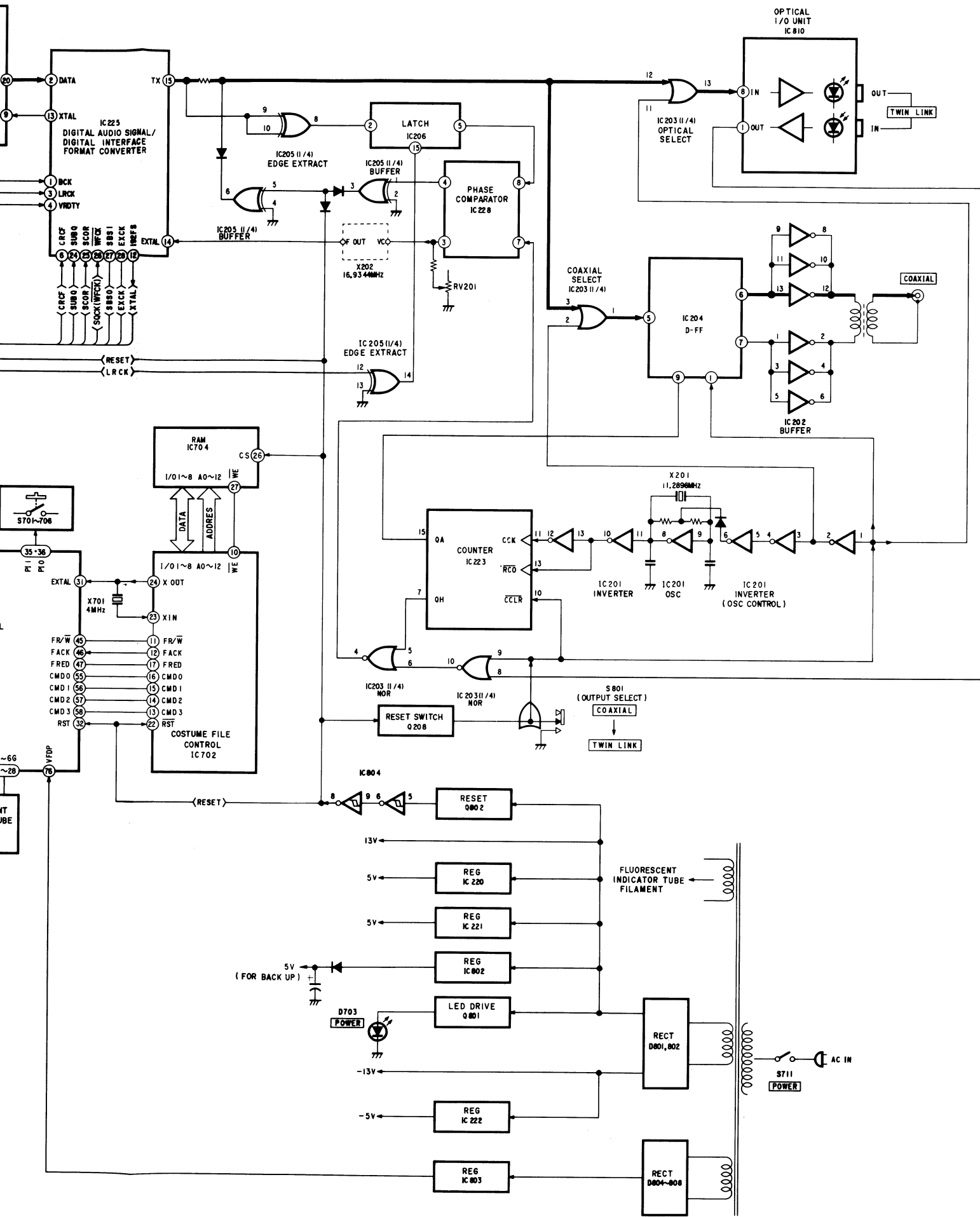
Adjustment Location



SECTION 4 DIAGRAMS

4-1. BLOCK DIAGRAM





4-2. SEMICONDUCTOR LEAD LAYOUTS

CXA1081M (Top view)	MSM6408-33SS (Top view)	TC74HC14P (Top view)	C10P20FU anode cathode	SEL2510C long anode short cathode
CXA1082AQ (Top view)	M5F7805 IN GND OUT	TC74HC123F TC74HC175F (Top view)	C10P20FUR cathode anode cathode	SEL2910A-C long anode short cathode
CXD1075P CXD1144AP TC5564PL-15 (Top view)	M5F7905 μPC7924H COMMON IN OUT	TL082CP (Top view)	HZS7C2L cathode anode	
CXD1125Q CXP5058H-071Q MARKING SIDE VIEW	M50740A-424SP TOP VIEW	μPC78L05 OUT GND IN	THS103A 1 2 3 4 1+ 2+ 3+ 4+	
CXK5816M-10L (Top view)	TA7256P 1 2 3 4 5 6 7 8 9 10	DTA144ES DTC114ES DTC144ES 2SC634SP C E B	1SS97-1 1SS132 10E2 cathode anode	
TC74HC590P TC4053BF (Top view)	TC5081AP 1 2 3 4 5 6 7 8 9	2SB1013 E C B	21DQ05 cathode anode	
TC74HCU04F TC74HC02F TC74HC86F (TOP VIEW)	2SD774 E C B			

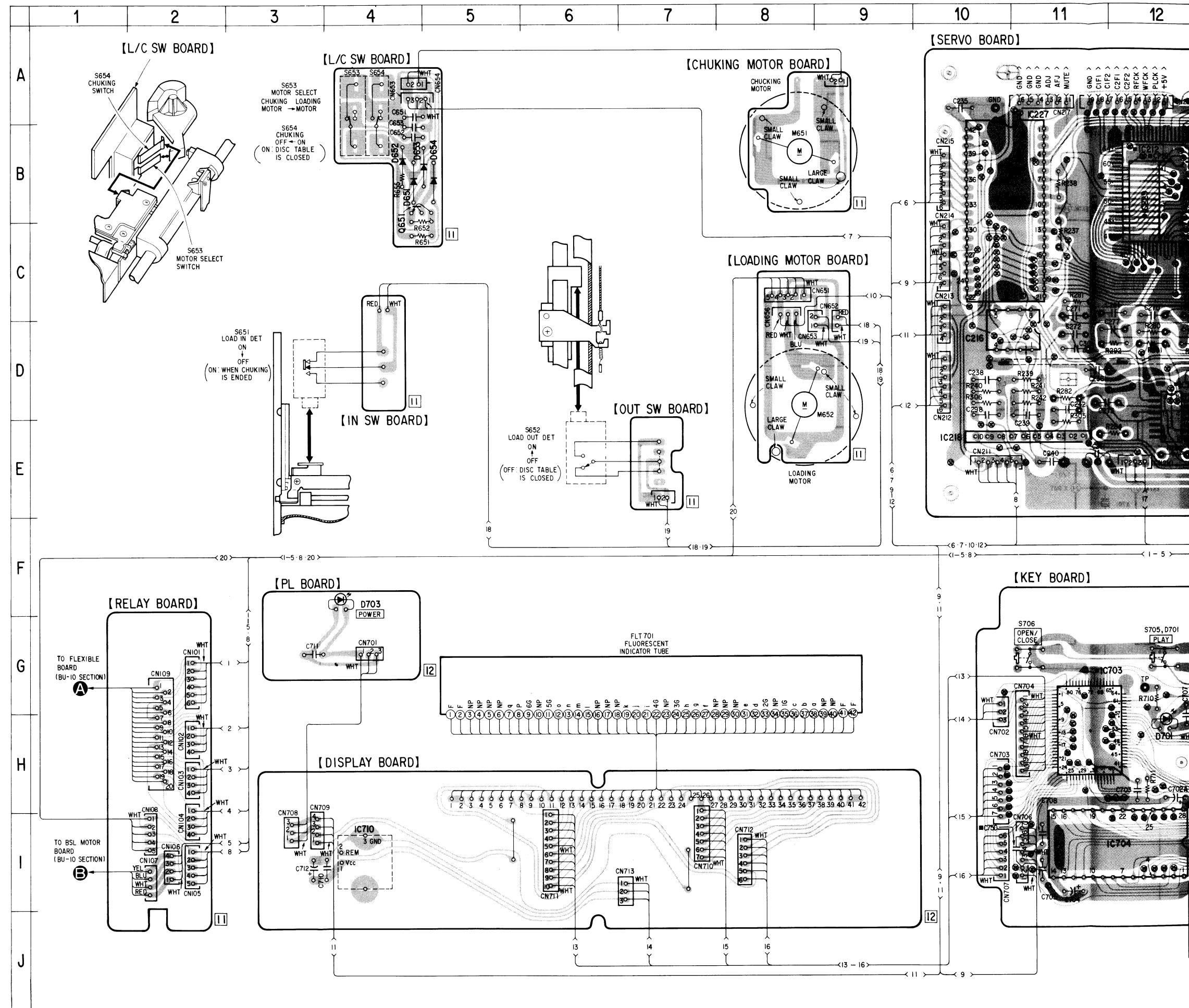
4-3. MAIN SECTION PRINTED WIRING BOARDS

Note:

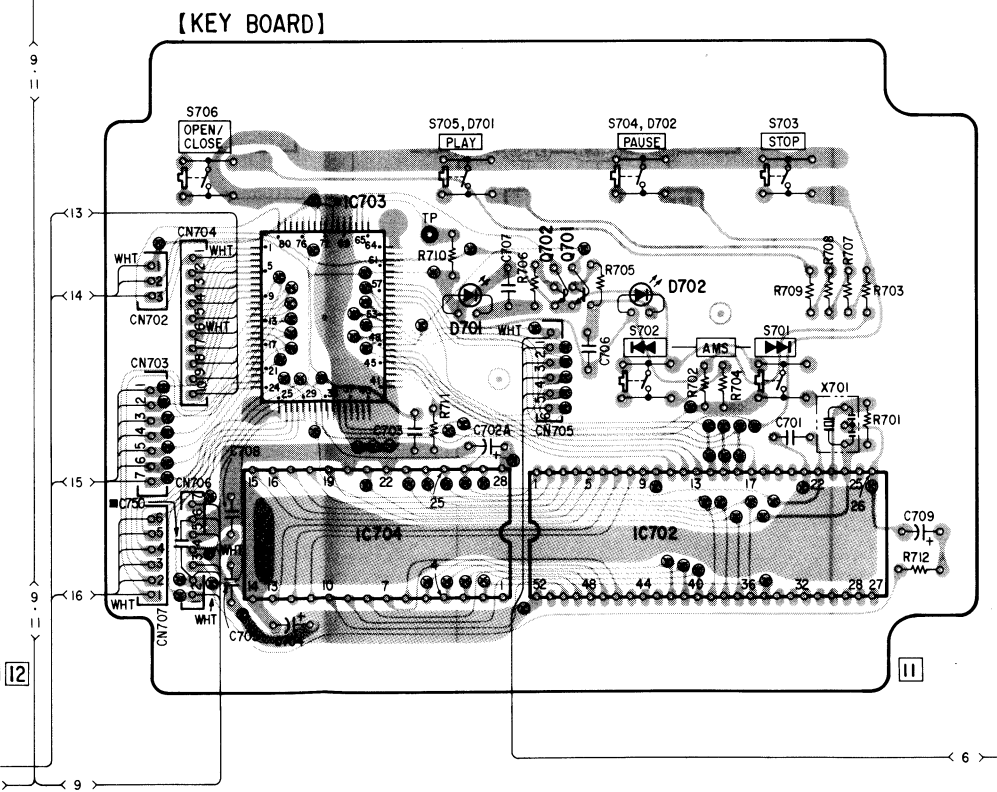
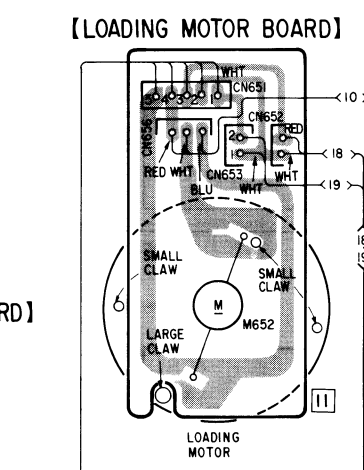
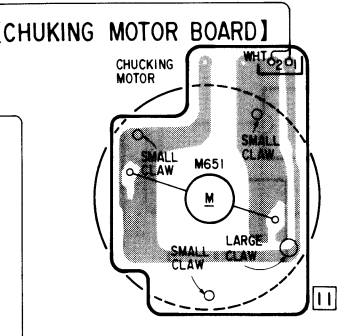
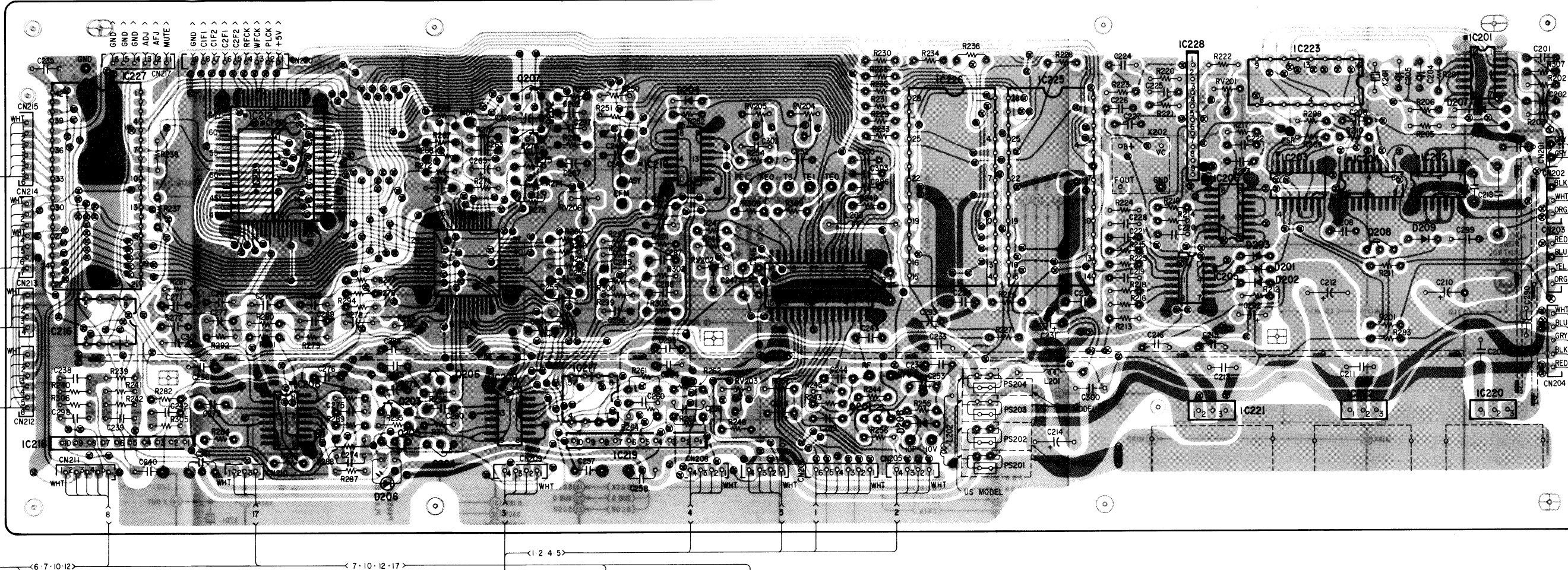
- : parts extracted from the component side.
- : parts mounted on the conductor side.
- ⊗ : Through hole.
- ▨ : Pattern on the side which is seen.
- ▩ : Pattern of the rear side.
- : parts mounted on the rear side.
- WG model: West Germany model

● **Semiconductor Location**

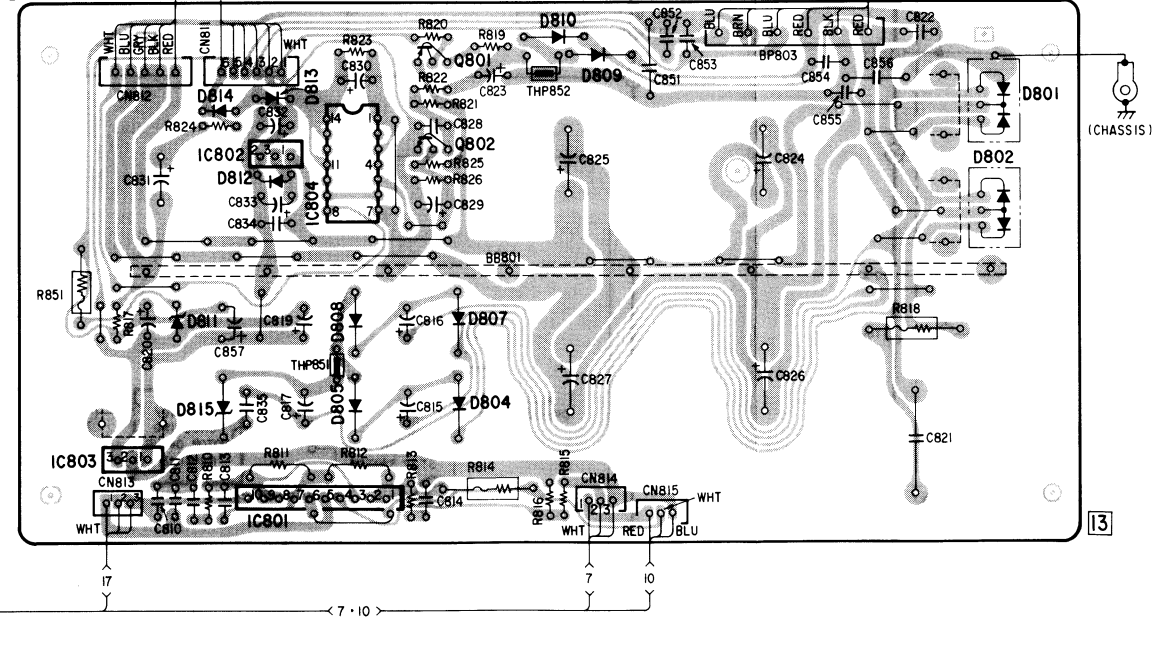
Ref. No.	Location	Ref. No.	Location
D201	C-21	IC213	C-17
D202	C-21	IC214	D-14
D203	C-21	IC216	D-10
D204	B-16	IC217	D-15
D206	E-13	IC218	E-10
D207	B-23	IC219	E-15
D208	E-18	IC220	D-23
D209	C-22	IC221	D-21
D651	B-4	IC222	D-22
D652	B-4	IC223	A-21
D653	B-4	IC225	A-19
D654	B-5	IC226	A-18
D701	H-12	IC227	A-11
D702	H-13	IC228	A-20
D703	F-4	IC229	B-12
D801	G-21	IC710	I-4
D802	H-20	IC702	I-13
D804	I-18	IC703	G-11
D805	I-17	IC704	I-12
D807	H-18	IC801	J-17
D808	I-17	IC802	H-16
D809	G-18	IC803	I-16
D810	G-18	IC804	H-17
D811	H-16	IC810	D-25
D812	H-16		
D813	G-17	Q201	D-17
D814	G-16	Q202	B-14
D815	I-16	Q203	D-13
		Q204	E-14
		Q205	E-13
IC201	A-23	Q206	D-14
IC202	B-22	Q207	A-14
IC203	B-21	Q208	C-22
IC204	B-22	Q651	B-4
IC205	C-21	Q701	G-13
IC206	B-21	Q702	G-12
IC208	D-12	Q801	G-18
IC209	D-14	Q802	H-18
IC210	B-15		
IC212	B-12		



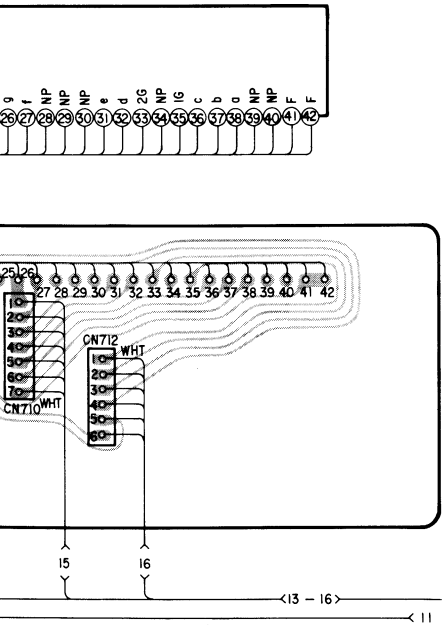
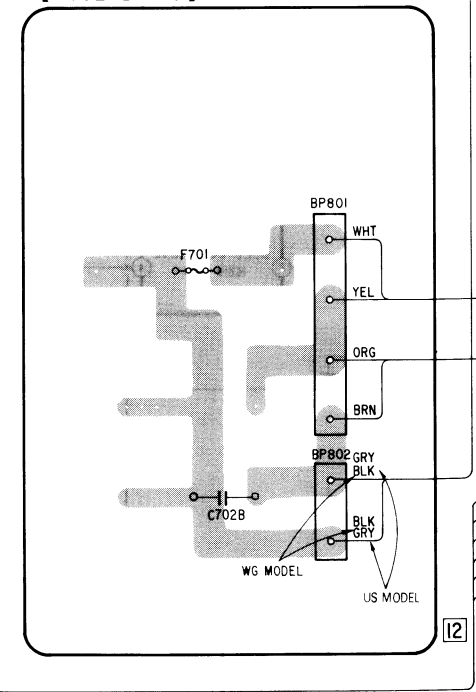
[SERVO BOARD]



[POWER BOARD]

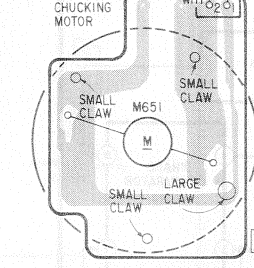


[FUSE BOARD]

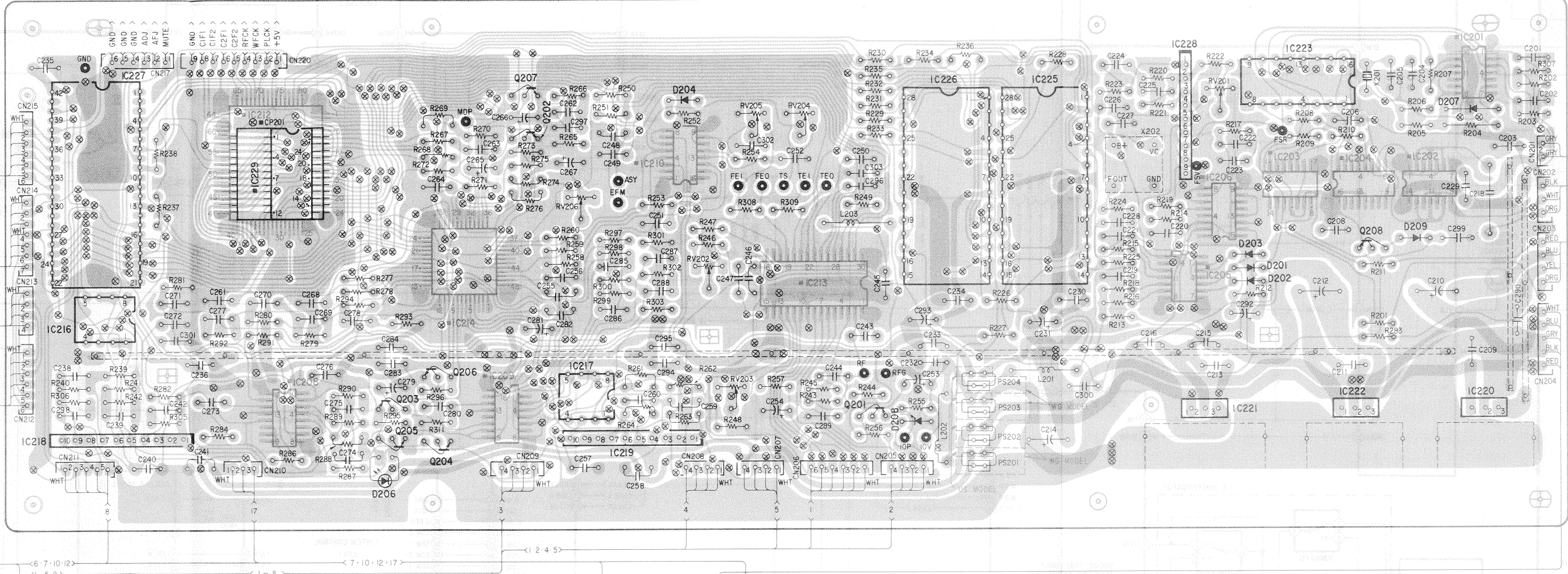
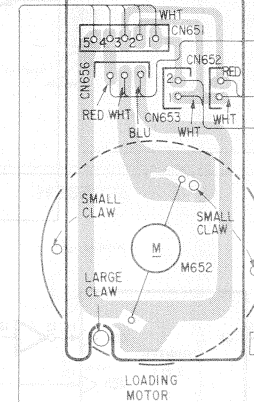


[SERVO BOARD]

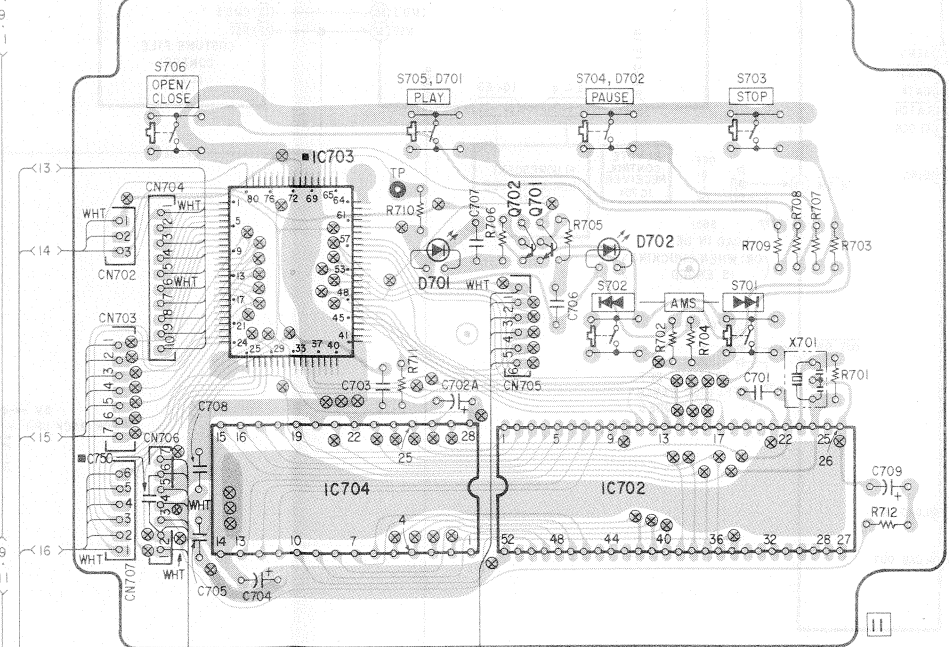
[CHUCKING MOTOR BOARD]



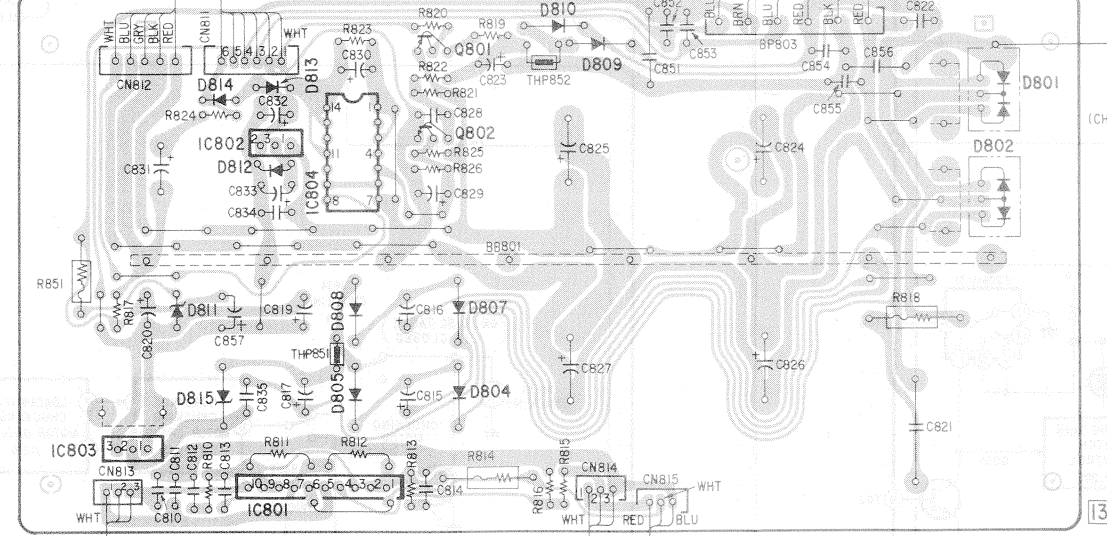
[LOADING MOTOR BOARD]



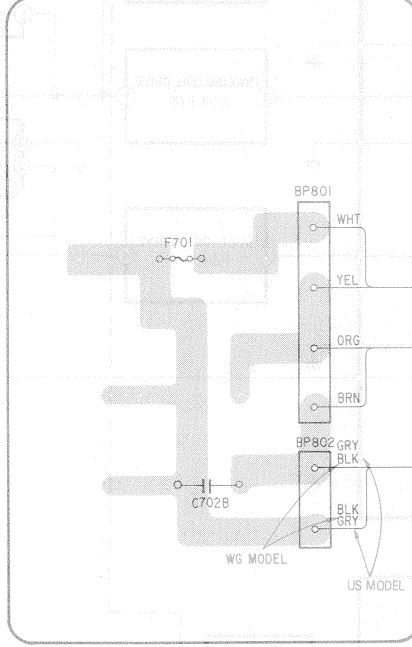
[KEY BOARD]

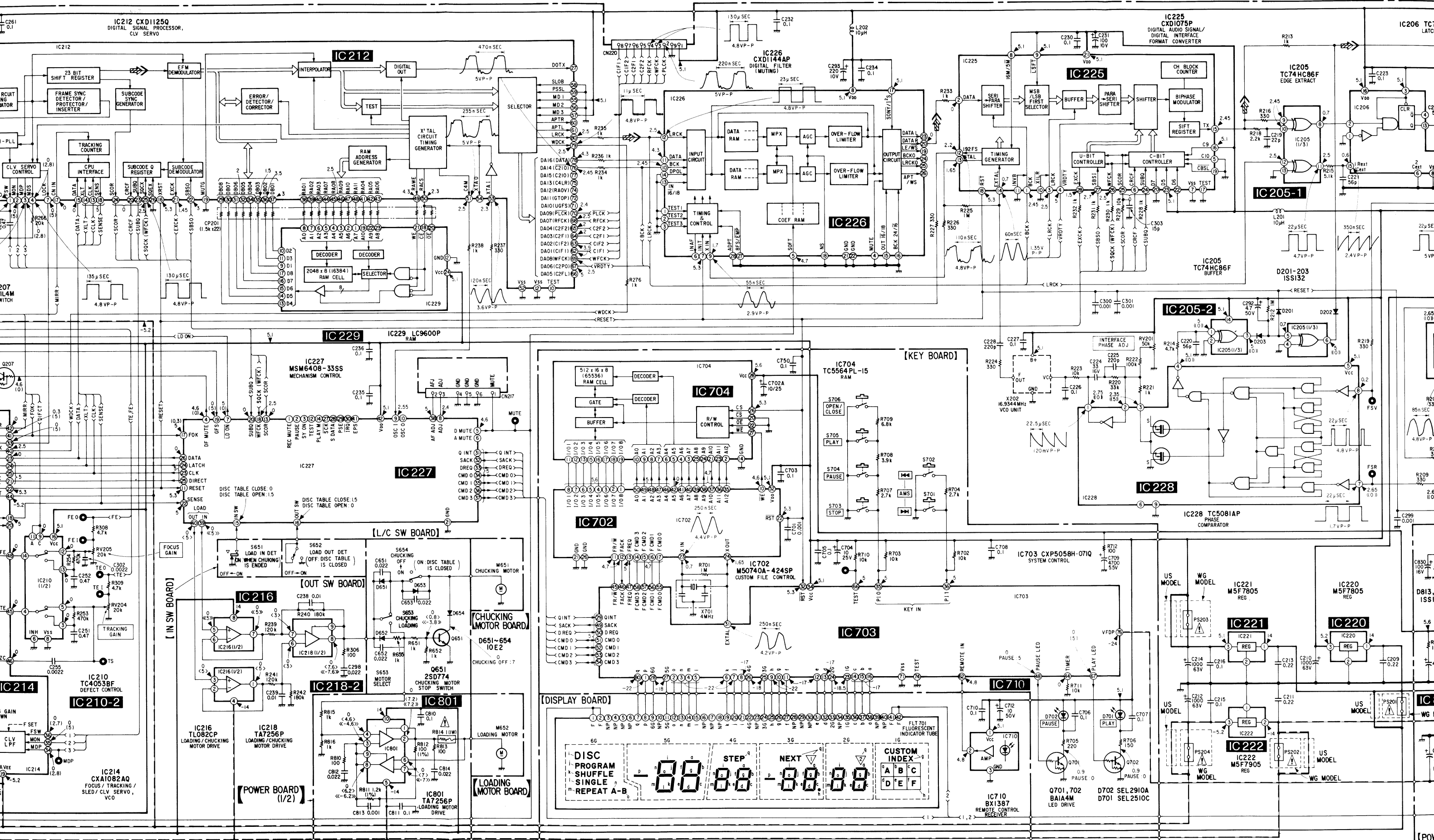


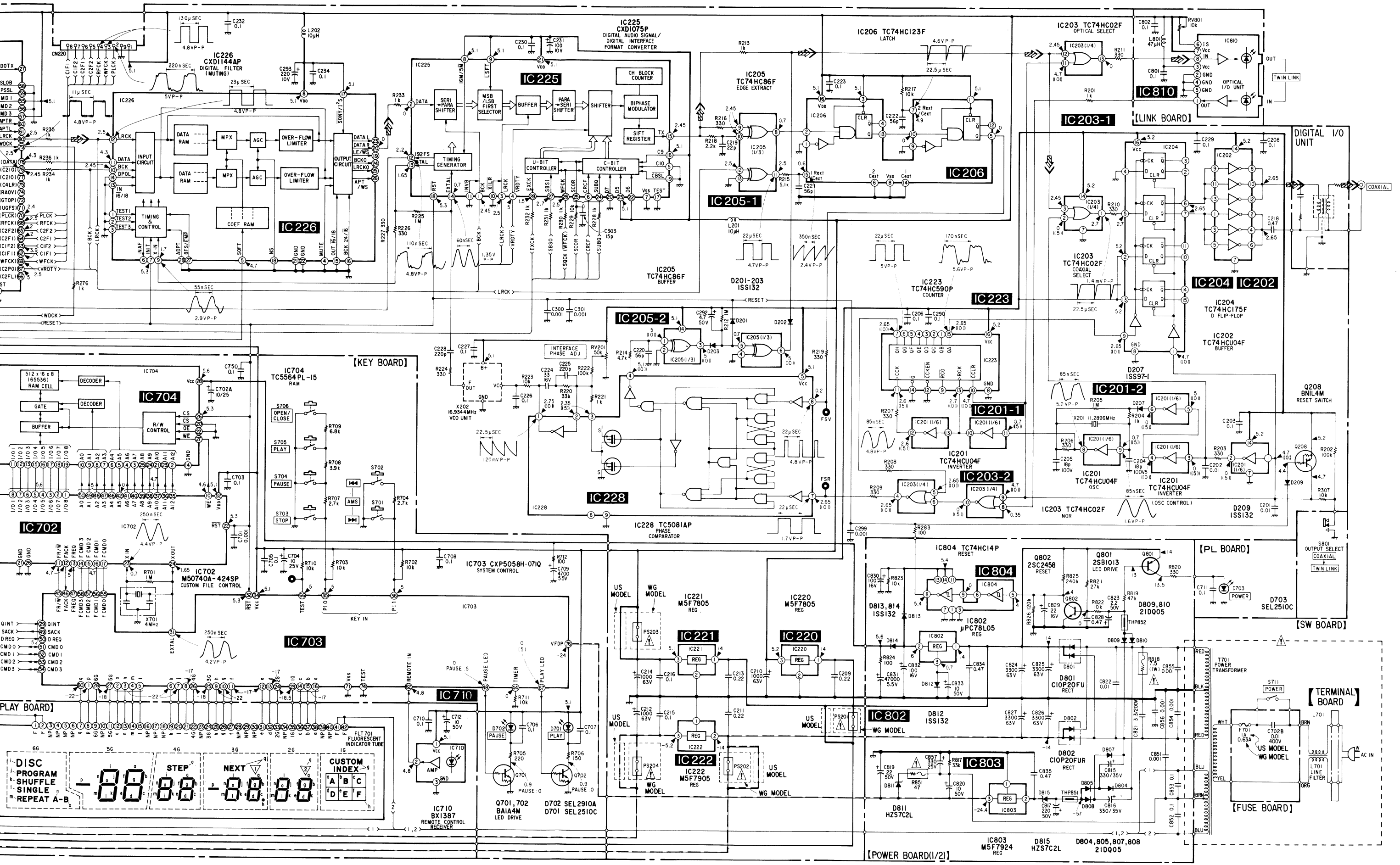
[POWER BOARD]



[FUSE BOARD]







A
B
C
D
E
F
G
H
I
J

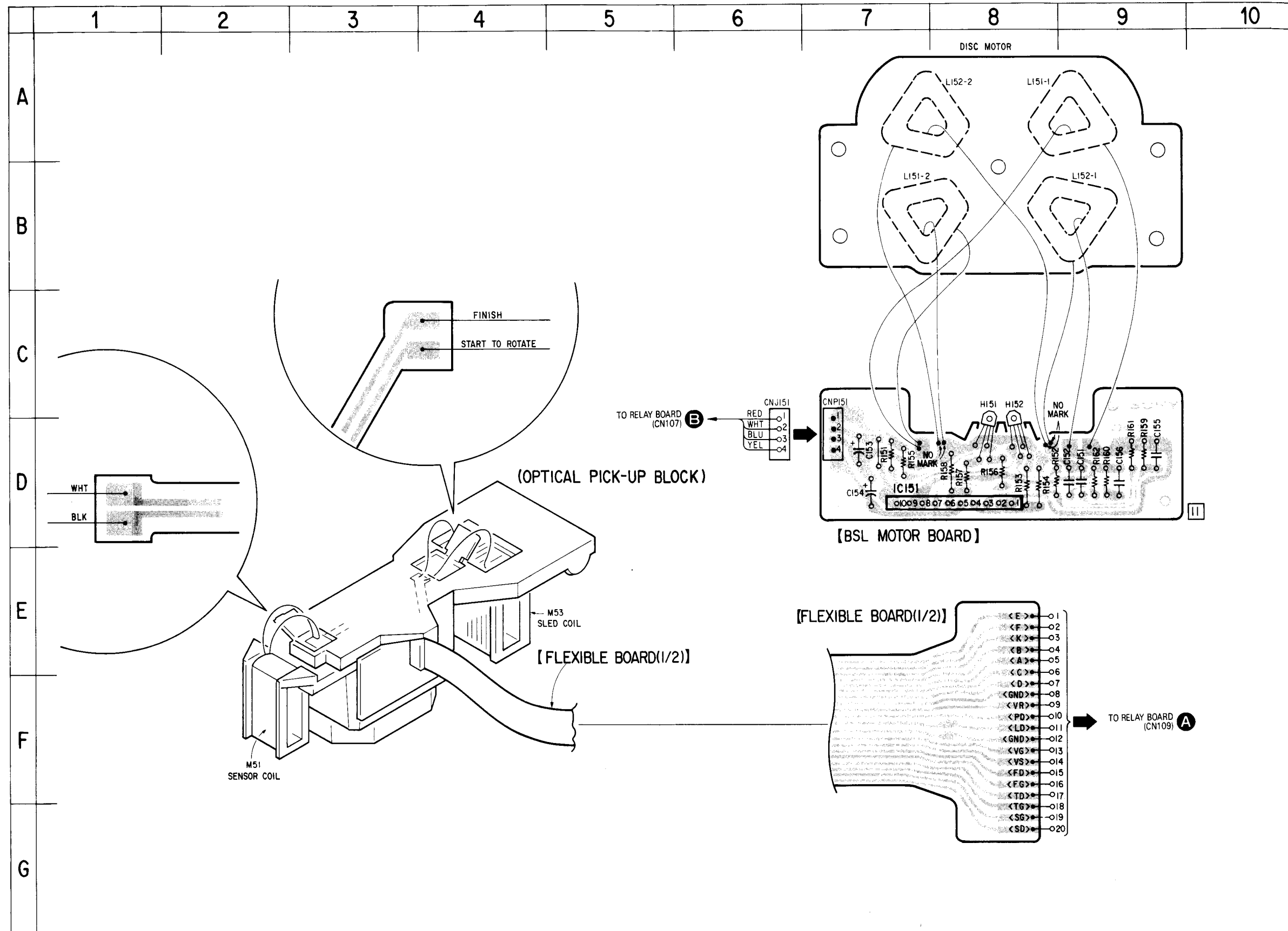
Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF : $\mu\mu\text{F}$ 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.
- % : indicates tolerance.
- : fusible resistor.
- : B+ Line
- : B- Line
- : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
no mark: STOP mode
(): PLAY mode
< >: When LOAD OUT operates
(| |): When LOAD IN operates
<< >>: When OUTPUT select switch to TWIN LINK
- Voltages are taken with a VOM (50 k Ω /V).
Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope.
Voltage variations may be noted due to normal production tolerances.
- Signal path.
 : digital out
- WG model: West Germany model

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

Ref. No.	Switch	Position
S651	LOAD IN DET	ON
S652	LOAD OUT DET	OFF
S653	MOTOR SELECT	CHUKING MOTOR
S654	CHUKING	ON
S701	AMS	OFF
S702	AMS	OFF
S703	STOP	OFF
S704	PHUSE	OFF
S705	PLAY	OFF
S706	OPEN/CLOSE	OFF
S711	POWER	OFF
S801	OUTPUT SELECT	COAXIAL

4-5. BU-10 (Base Unit) PRINTED WIRING BOARDS





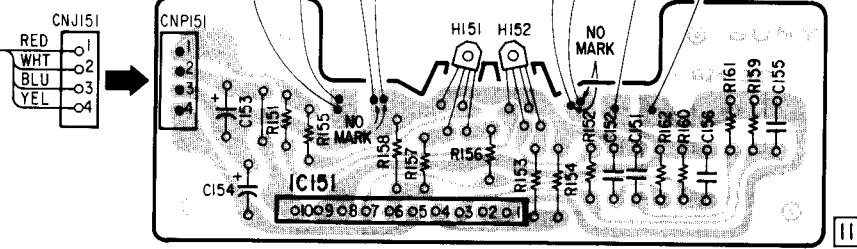
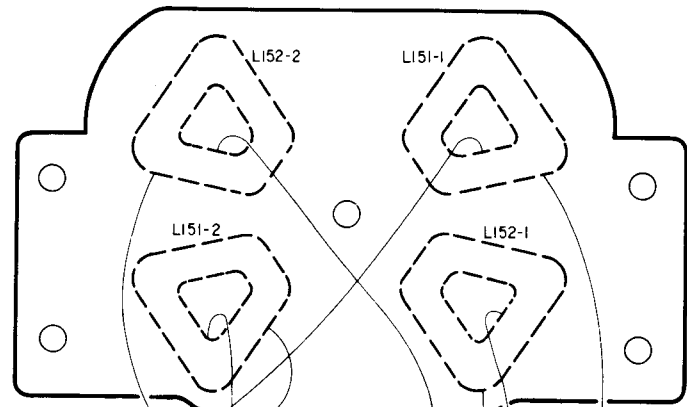
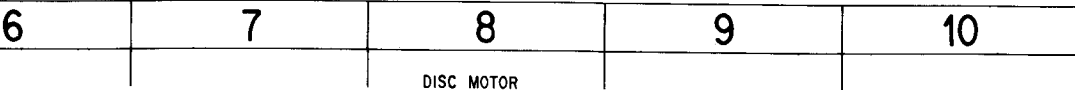
SECTION 5 EXPLODED VIEWS

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.

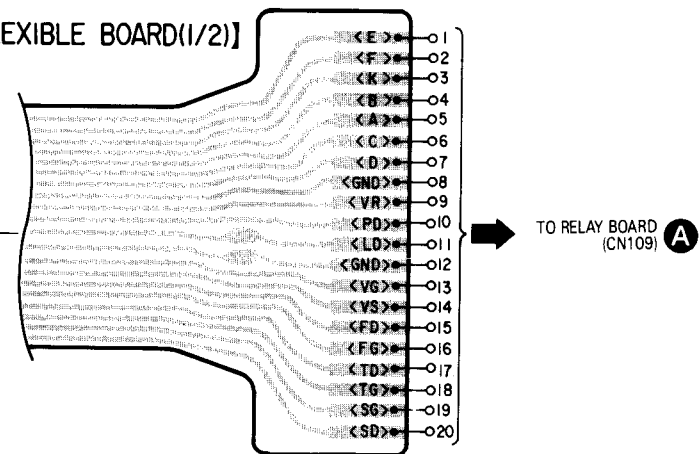
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts Example:
(RED) ... KNOB, BALANCE (WHITE)
↑ Cabinet's Color ↑ Parts Color


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

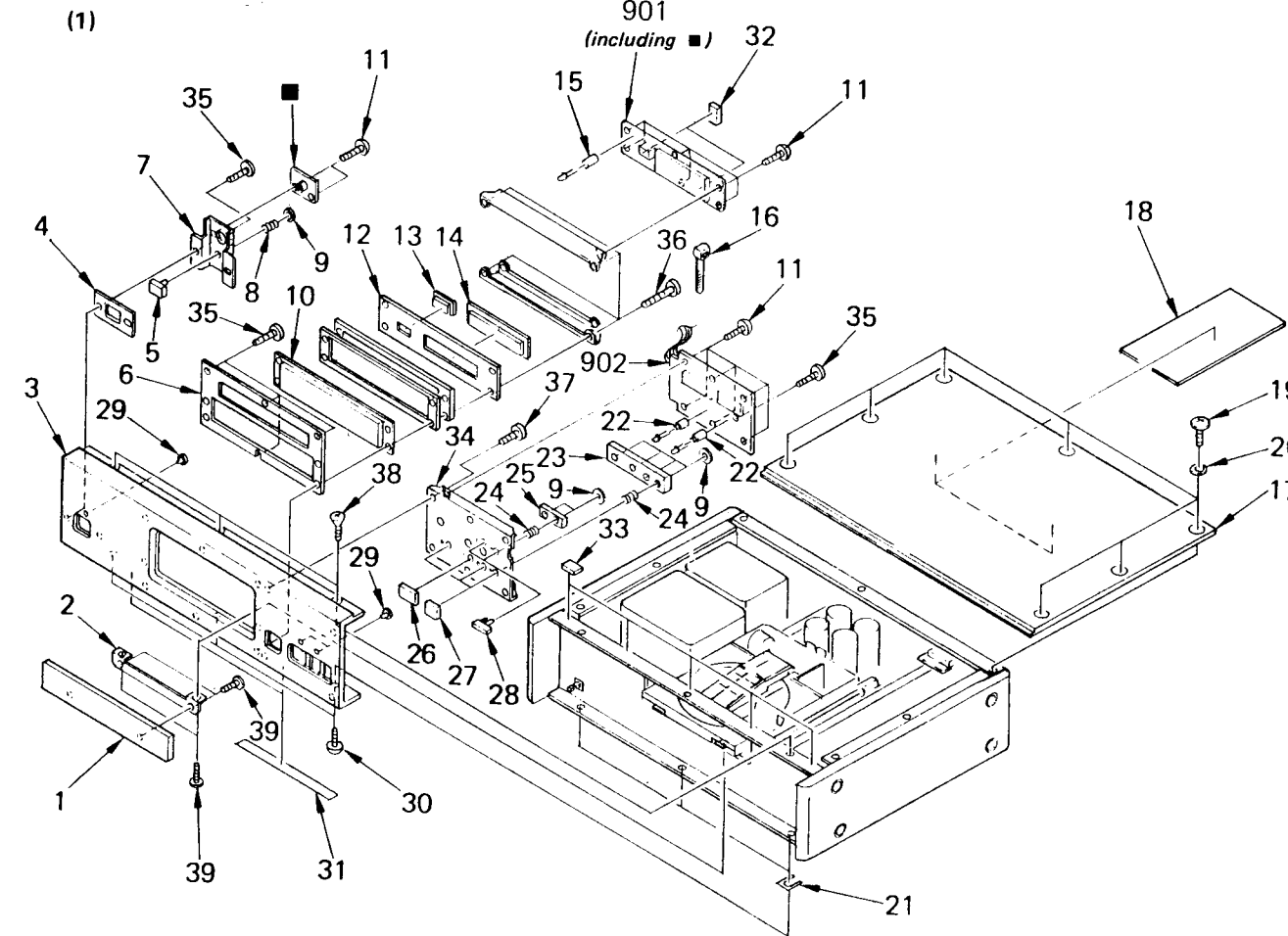


[BSL MOTOR BOARD]

[FLEXIBLE BOARD(1/2)]



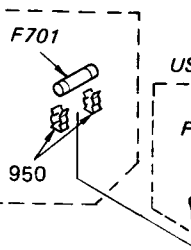
TO RELAY BOARD (CN109) 



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
1	4-924-234-02	PLATE (D), ORNAMENTAL		21	3-544-028-11	SPACER	
2	*4-924-235-01	JOINT (B)		22	*4-924-227-01	HOLDER (C), LED	
3	4-924-214-01	PANEL, FRONT		23	*4-924-243-01	DAMPER (A)	
4	*4-924-245-01	PLATE (E), ORNAMENTAL		24	4-915-427-01	SPRING, COMPRESSION	
5	X-4924-201-1	KNOB (A) ASSY		25	*4-924-244-01	DAMPER (B)	
6	4-924-228-01	PLATE (A), ORNAMENTAL		26	X-4924-205-1	BUTTON (C) ASSY	
7	*X-4924-202-1	BRACKET (E) ASSY		27	X-4924-203-1	BUTTON (A) ASSY	
8	4-880-426-00	SPRING, COMPRESSION		28	X-4924-204-1	BUTTON (B) ASSY	
9	4-862-338-00	RING, STOPPER		29	4-924-233-01	INDICATOR	
10	4-924-229-01	WINDOW (A)		30	3-703-685-21	SCREW (+BV 3X8)	
11	7-682-548-09	SCREW (3X8)		31	*4-923-409-01	SPACER	
12	4-924-230-01	PLATE (C), ORNAMENTAL		32	9-911-843-XX	CUSHION, FLYWHEEL	
13	4-924-246-01	WINDOW (C)		33	9-911-840-XX	CUSHION, RUBBER	
14	4-924-231-01	WINDOW (B)		34	*X-4924-206-1	BRACKET (D) ASSY	
15	*4-924-218-01	HOLDER (A), LED		35	7-682-546-09	SCREW +B 3X5	
16	3-655-653-21	BAND (TAITON), BINDING		36	7-682-550-09	SCREW +B 3X12	
17	4-924-236-01	PANEL		37	7-682-545-04	SCREW +B 3X4	
18	*4-924-265-01	ABSORBENT (A), ACOUSTIC		38	7-682-246-04	SCREW +K 3X5	
19	4-924-242-01	SCREW (MBX6), FLAT HEAD		39	7-621-775-10	SCREW +B 2.6X4	
20	4-924-237-01	ESCUTCHEON (A)		901	*1-625-213-11	PC BOARD, PL DISPLAY	
				902	*1-625-212-11	PC BOARD, KEY	

(2)

West Germany Model



No.	Part No.	Description
51	*4-924-238-01	PLATE
52	3-701-449-11	WASH
53	3-701-449-21	WASH
54	X-4924-207-1	FOOT
55	*4-923-409-01	SPACER
56	4-924-239-01	PLATE
57	4-924-241-01	ESCU
58	7-682-548-09	SCREW
59	4-924-211-01	COLL
60	*4-888-798-00	BUSH
61	*4-924-210-01	CUSH
62	*4-924-209-01	CUSH
63	*4-924-266-01	DAMP
64	*4-027-606-01	HEAT
65	9-911-863-XX	SPAC
66	3-655-653-21	BAND
67	3-704-208-01	BAND
68	*4-363-146-00	HEAT
69	*4-921-402-01	HEAT
70	7-682-566-09	SCREW
71	4-924-240-01	PLATE
72	3-703-685-21	SCREW
73	*4-922-553-01	PLATE
74	7-682-547-09	SCREW
75	7-683-425-04	BOLT
76	7-682-563-09	SCREW
77	7-621-773-87	SCREW
79	7-682-148-15	SCREW

SECTION 5 EXPLODED VIEWS

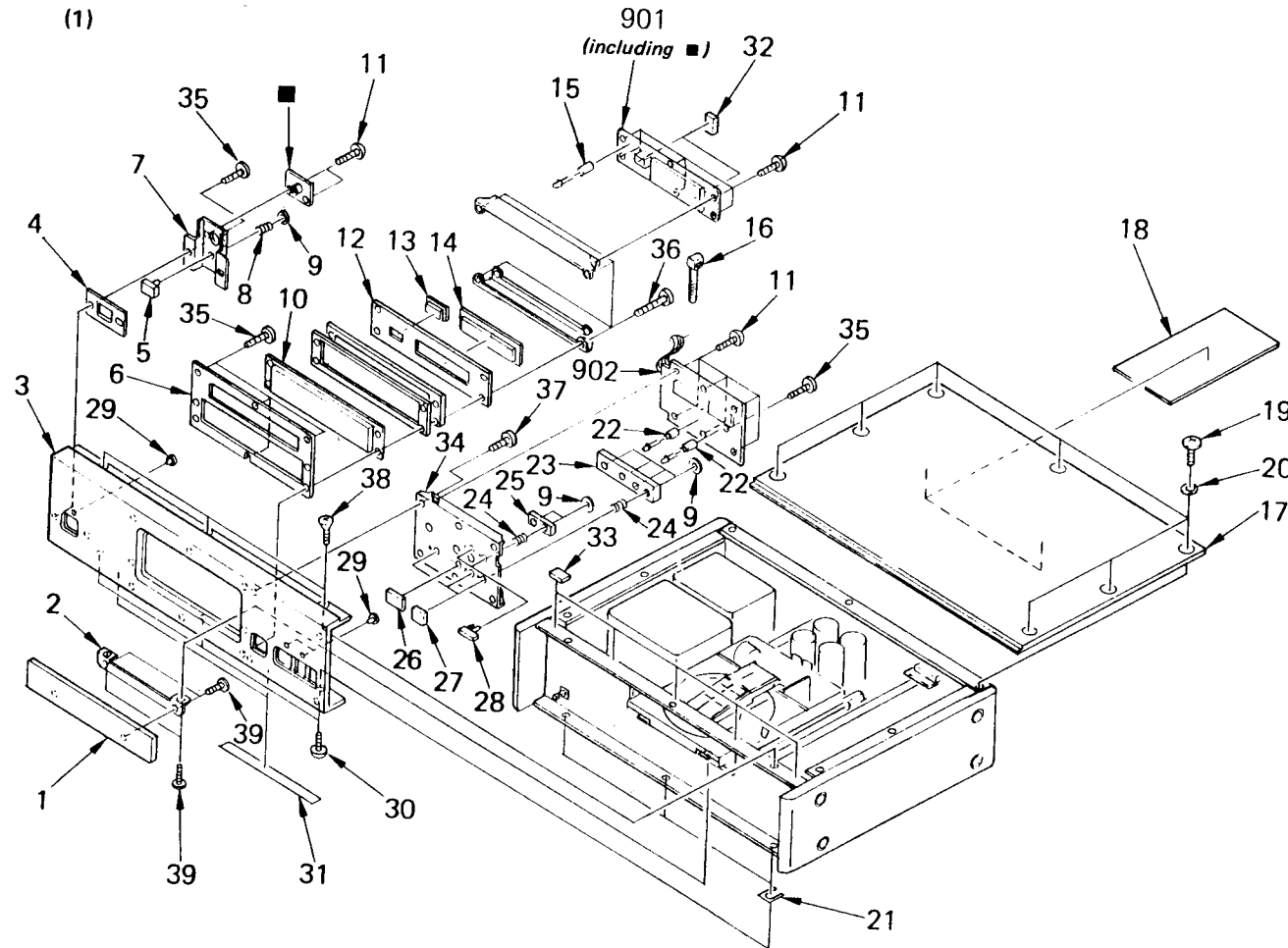
NOTE:

- 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.

- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts
Example:
(RED) ... KNOB, BALANCE (WHITE)
↑ Cabinet's Color ↑ Parts Color

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

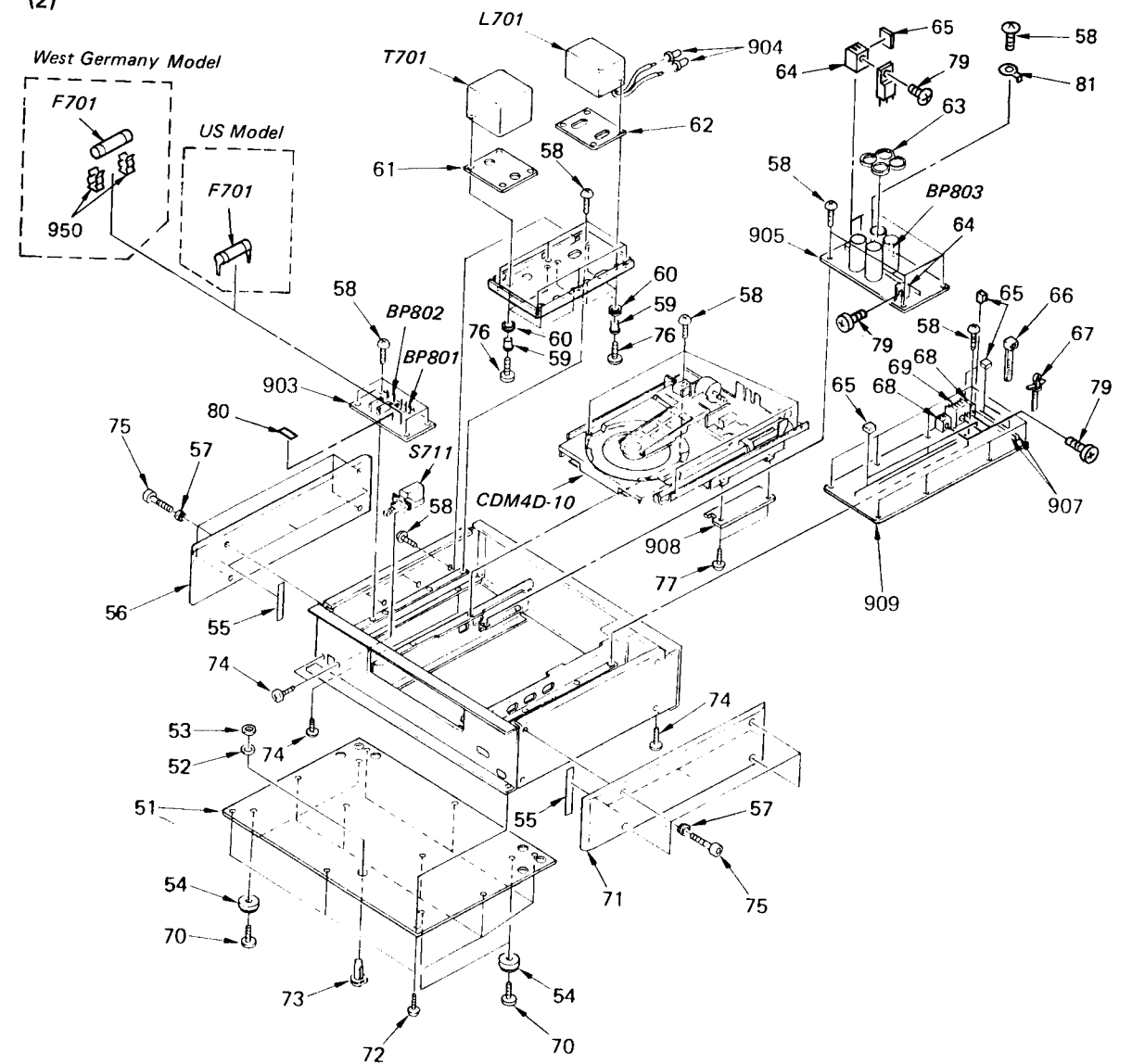
(1)



No.	Part No.	Description
1	4-924-234-02	PLATE (D), ORNAMENTAL
2	*4-924-235-01	JOINT (B)
3	4-924-214-01	PANEL, FRONT
4	*4-924-245-01	PLATE (E), ORNAMENTAL
5	X-4924-201-1	KNOB (A) ASSY
6	4-924-228-01	PLATE (A), ORNAMENTAL
7	*X-4924-202-1	BRACKET (E) ASSY
8	4-880-426-00	SPRING, COMPRESSION
9	4-862-338-00	RING, STOPPER
10	4-924-229-01	WINDOW (A)
11	7-682-548-09	SCREW (3X8)
12	4-924-230-01	PLATE (C), ORNAMENTAL
13	4-924-246-01	WINDOW (C)
14	4-924-231-01	WINDOW (B)
15	*4-924-218-01	HOLDER (A), LED
16	3-655-653-21	BAND (TAITON), BINDING
17	4-924-236-01	PANEL
18	*4-924-265-01	ABSORBENT (A), ACOUSTIC
19	4-924-242-01	SCREW (M3X6), FLAT HEAD
20	4-924-237-01	ESCUTCHEON (A)

No.	Part No.	Description
21	3-544-028-11	SPACER
22	*4-924-227-01	HOLDER (C), LED
23	*4-924-243-01	DAMPER (A)
24	4-915-427-01	SPRING, COMPRESSION
25	*4-924-244-01	DAMPER (B)
26	X-4924-205-1	BUTTON (C) ASSY
27	X-4924-203-1	BUTTON (A) ASSY
28	X-4924-204-1	BUTTON (B) ASSY
29	4-924-233-01	INDICATOR
30	3-703-685-21	SCREW (+BV 3X8)
31	*4-923-409-01	SPACER
32	9-911-843-XX	CUSHION, FLYWHEEL
33	9-911-840-XX	CUSHION, RUBBER
34	*X-4924-206-1	BRACKET (D) ASSY
35	7-682-546-09	SCREW +B 3X5
36	7-682-550-09	SCREW +B 3X12
37	7-682-545-04	SCREW +B 3X4
38	7-682-246-04	SCREW +K 3X5
39	7-621-775-10	SCREW +B 2.6X4
901	*1-625-213-11	PC BOARD, PL DISPLAY
902	*1-625-212-11	PC BOARD, KEY

(2)

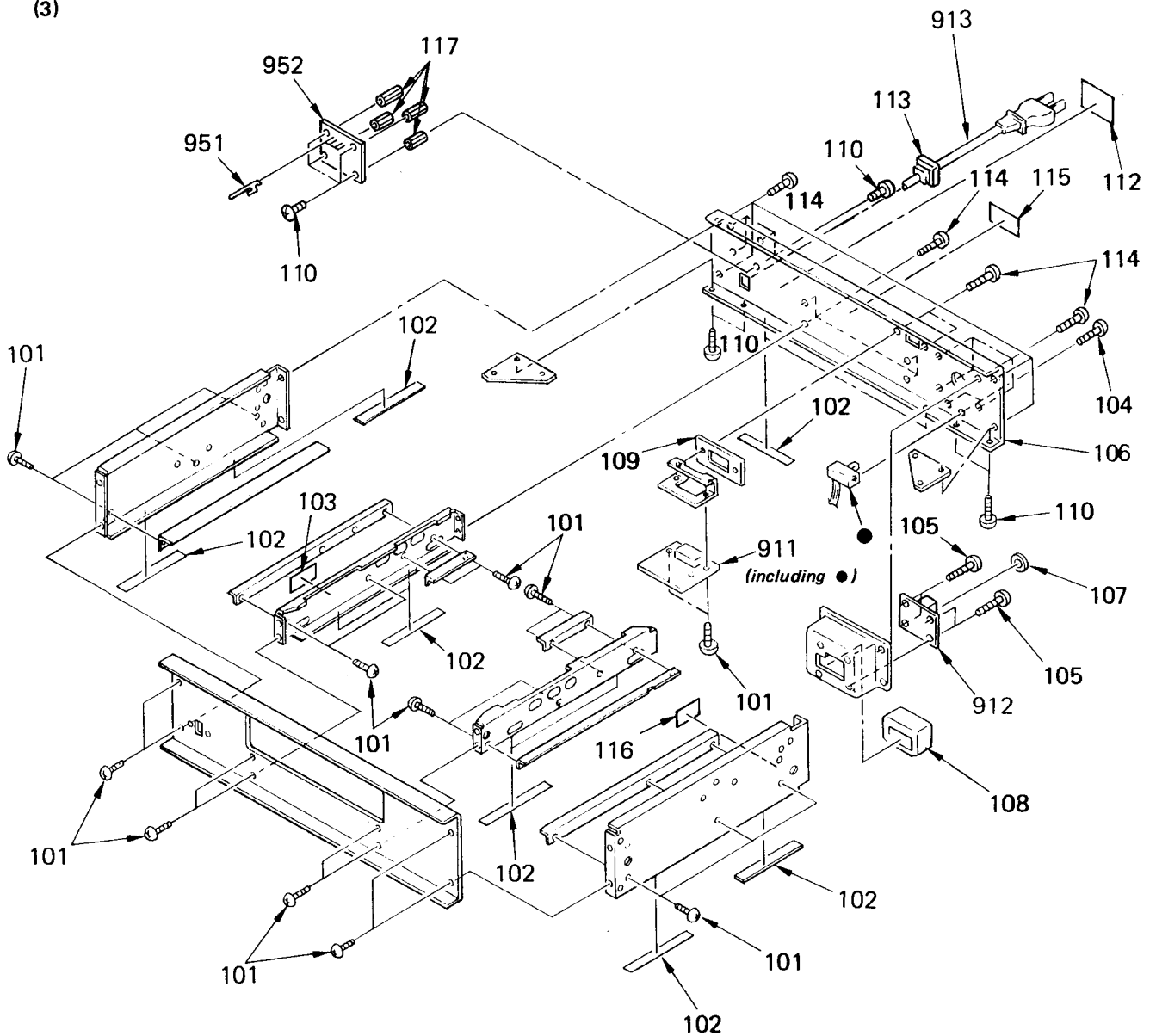


No.	Part No.	Description
51	*4-924-238-01	PLATE, BOTTOM
52	3-701-449-11	WASHER, 15
53	3-701-449-21	WASHER, 15
54	X-4924-207-1	FOOT ASSY
55	*4-923-409-01	SPACER
56	4-924-239-01	PLATE (LEFT), SIDE, ORNAMENTAL
57	4-924-241-01	ESCUTCHEON (B)
58	7-682-548-09	SCREW (3X8)
59	4-924-211-01	COLLAR
60	*4-888-798-00	BUSHING, RUBBER
61	*4-924-210-01	CUSHION (B)
62	*4-924-209-01	CUSHION (A)
63	*4-924-266-01	DAMPER (D)
64	*4-027-606-01	HEAT SINK (T0-220 TYPE)
65	9-911-863-XX	SPACER
66	3-655-653-21	BAND (TAITON), BINDING
67	3-704-208-01	BAND, BINDING
68	*4-363-146-00	HEAT SINK, V.OUT
69	*4-921-402-01	HEAT SINK
70	7-682-566-09	SCREW +B 4X20
71	4-924-240-01	PLATE (RIGHT), SIDE, ORNAMENTAL
72	3-703-685-21	SCREW (+BV 3X8)
73	*4-922-553-01	PLATE, LOCK, TRANSPORT
74	7-682-547-09	SCREW +B 3X6
75	7-683-425-04	BOLT, HEXAGON SOCKET 4X20
76	7-682-563-09	SCREW +B 4X12
77	7-621-773-87	SCREW +BVTT 2.6X10 (S)
79	7-682-148-15	SCREW, TR

Remarks	No.	Part No.	Description	Remarks
	80	*3-701-946-10 *3-701-948-12	(US).....LABEL, FUSE (West Germany)...LABEL, FUSE	
	81	4-870-539-00	PLATE, GROUND	
	903	*1-625-216-11	PC BOARD, FUSE	
	904	1-565-045-11	CONNECTOR	
	905	*A-4613-067-A	MOUNTED PCB, POWER	
	907	*1-560-242-11	BUS BAR 3P	
	908	*1-625-219-11	PC BOARD, TRANSLATION	
	909	*A-4615-070-A *A-4615-076-A	(West Germany)...MOUNTED PCB, SERVO (US).....MOUNTED PCB, SERVO	
	950	1-533-183-11	(West Germany)...HOLDER, FUSE	
	BP801	*1-535-141-00	BASE POST 22MM (10MM PITCH) 4P	
	BP802	*1-535-139-00	BASE POST 19MM (10MM PITCH) 2P	
	BP803	*1-535-119-00	TERMINAL 6P	
	F701	△.1-532-265-XX	(US).....FUSE, GLASS TUBE (1A)	
	F701	△.1-532-284-00	(West Germany)...FUSE, TIMR LAG (0.63A)	
	L701	△.1-424-048-11	(US).....COIL, LINE FILTER	
	L701	△.1-424-048-21	(West Germany)...COIL, LINE FILTER	
	S711	△.1-571-250-11	SWITCH, PUSH (AC POWER)(1 KEY)(POWER)	
	T701	△.1-449-431-11	(US).....TRANSFORMER, POWER	
	T701	△.1-449-449-11	(West Germany)...TRANSFORMER, POWER	

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

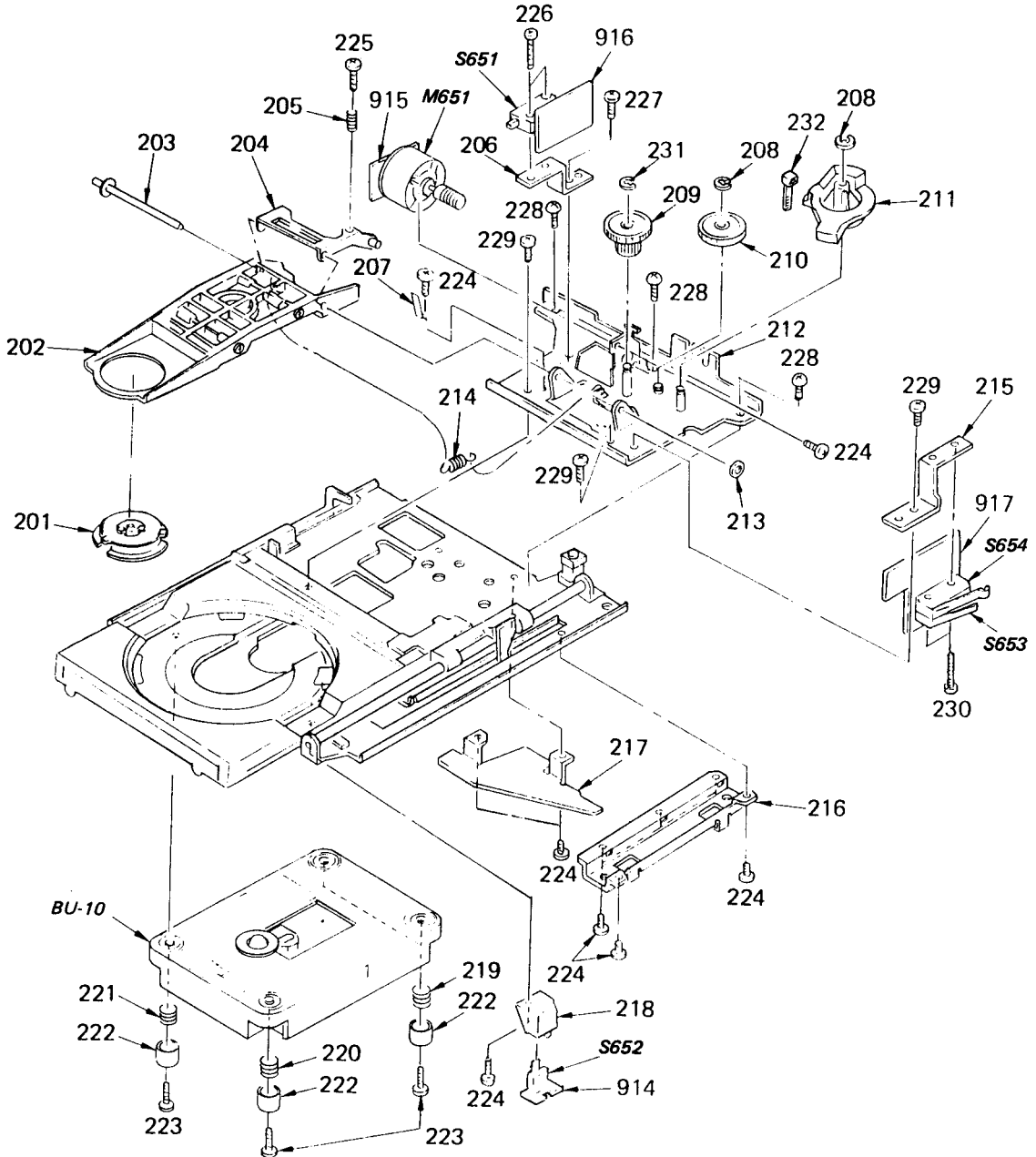
(3)



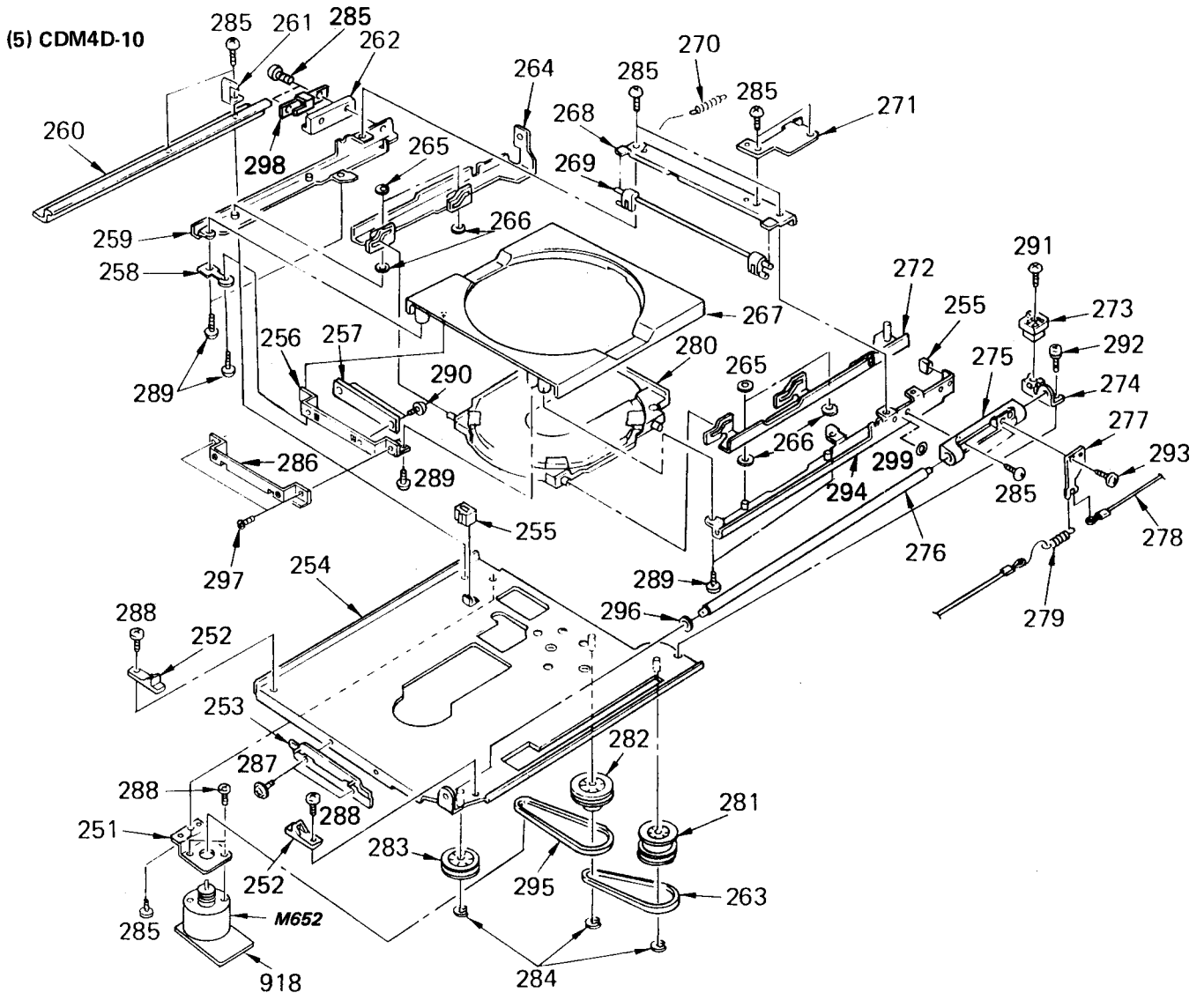
No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
101	7-682-548-09	SCREW (3X8)		115	3-703-845-01	(US)...LABEL (N) (U/C), MAIN CAUTION	
102	*4-923-409-01	SPACER			*4-885-838-01	(West Germany).....LABEL,CLASS 1	
103	*4-885-843-02	(West Germany)...LABEL, CAUTION, LASER		116	*3-701-030-00	LABEL, SERIAL NUMBER	
104	7-621-775-20	SCREW +B 2.6X5		117	*4-924-280-01	BOSS (E)	
105	7-685-870-09	SCREW +BVTT 3X5 (S)		911	*1-625-217-11	PC BOARD, SWITCH LINK	
106	*4-924-279-01	PANEL (C), BACK		912	1-464-905-11	I/O UNIT, DIGITAL	
107	4-908-991-01	ESCUTCHEON		913	▲ 1-559-271-11	(West Germany)...CORD, POWER	
108	*4-918-529-02	CUSHION (CD1)			▲ 1-559-479-11	(US).....CORD, POWER	
109	*4-924-226-01	PLATE (L), ORNAMENTAL		951	*1-535-476-11	TERMINAL	
110	7-682-547-09	SCREW +B 3X6		952	*1-628-489-11	PC BOARD, TERMINAL	
112	*4-924-281-01	(US).....LABEL, MODEL NUMBER (U2)					
	*4-924-282-01	(West Germany)...LABEL, MODEL NUMBER (AE4)					
113	4-916-783-01	BUSHING, CORD					
114	3-703-685-21	SCREW (+BV 3X8)					

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

(4) CDM4D-10

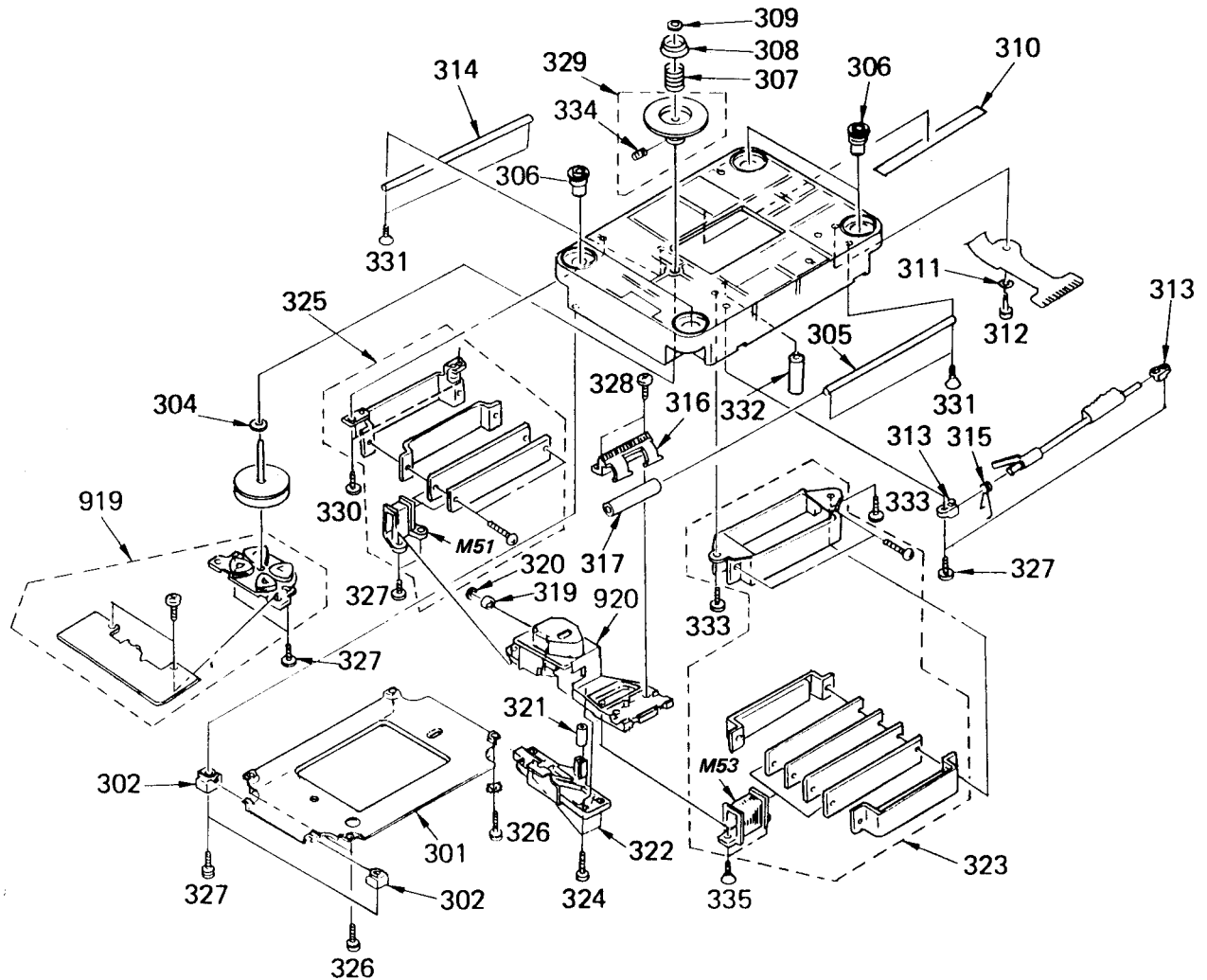


No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
201	A-4675-235-A	PULLEY ASSY, PRESS		223	7-682-548-09	SCREW +B 3X8	
202	*X-4912-509-1	ARM ASSY, C		224	7-621-775-00	SCREW +B 2.6X3	
203	4-908-513-01	SHAFT, FULCRUM, C ARM		225	7-621-775-80	SCREW +B 2.6X16	
204	X-4908-513-1	PLATE ASSY, ADJUSTMENT, ARM		226	7-621-773-87	SCREW +BVTT 2.6X10 (S)	
205	4-908-559-01	SPRING, COMPRESSION		227	7-682-646-09	SCREW +PS 3X5	
206	*4-912-543-01	BRACKET (D), SWITCH		228	7-685-870-01	SCREW +BVTT 3X5 (S)	
207	*4-912-569-11	PLATE (B), GROUND		229	7-682-544-09	SCREW +B 3X3	
208	7-624-106-04	STOP RING 3.0, TYPE -E		230	7-621-257-85	SCREW +P 2.3X14	
209	4-912-514-01	GEAR (A)		231	7-624-109-04	STOP RING 5.0, TYPE -E	
210	4-912-525-01	GEAR (B)		232	3-655-653-21	BAND (TAITON), BINDING	
211	4-912-528-01	GEAR, CAM		914	*1-624-378-11	PC BOARD, OUT SW	
212	*X-4912-503-1	CHASSIS ASSY, SUB		915	*1-624-379-11	PC BOARD, C.MOTOR	
213	3-558-708-21	WASHER, STOPPER		916	*1-624-377-11	PC BOARD, IN SW	
214	4-908-555-01	SPRING, TENSION (C ARM)		917	*1-624-375-11	PC BOARD, L/C SW	
215	*4-912-524-01	BRACKET (A), SWITCH		M651	X-4902-019-1	MOTOR ASSY, CHUCKING	
216	*4-912-580-01	COVER, ROPE		M652	A-4608-303-A	MOTOR ASSY, LOADING	
217	*4-908-597-01	COVER, BELT		S651	1-554-205-00	SWITCH, PUSH	
218	*4-912-588-01	HOLDER (OUT SW)		S652	1-571-300-11	SWITCH, ROTARY (LOAD OUT DET)	
219	4-912-577-01	SPRING (H), COMPRESSION		S653	1-553-636-00	SWITCH, MICRO (MOTOR SELECT)	
220	4-912-575-01	SPRING (F), COMPRESSION		S654	1-570-447-11	SWITCH, MICRO (CHUCKING)	
221	4-912-576-01	SPRING (C), COMPRESSION					
222	4-912-578-01	HOLDER, SP					





No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
251	*4-908-523-01	BRACKET, MOTOR		276	4-912-521-11	SHAFT (RIGHT), GUIDE	
252	4-908-540-01	GUIDE, ASSIST		277	*4-912-520-01	BRACKET, ROPE	
253	*X-4912-508-1	BRACKET ASSY, TABLE		278	4-912-517-01	ROPE	
254	*X-4912-516-1	CHASSIS ASSY, MECHANICAL		279	4-908-553-01	SPRING, COMPRESSION (ROPE)	
255	4-887-175-00	RUBBER, STOPPER		280	*X-4912-515-1	PLATE ASSY, DISK	
256	*4-912-540-01	BRACKET (A), L PANEL		281	4-908-525-01	PULLEY (C)	
257	*4-912-544-01	PLATE, FIXED		282	4-908-519-01	PULLEY (A)	
258	*4-912-568-01	PLATE (A), GROUND		283	4-908-524-01	PULLEY (B)	
259	*X-4912-504-1	BRACKET (LEFT) ASSY, TABLE		284	7-624-106-04	STOP RING 3.0, TYPE -E	
260	*4-912-529-01	GUIDE, LOADING		285	7-685-870-01	SCREW +BVTT 3X5 (S)	
261	*4-912-527-01	RETAINER, TABLE		286	*4-912-545-01	BRACKET (B), L PANEL	
262	*4-912-534-01	GUIDE, SUB		287	7-628-254-20	+PSW, 2.6X8	
263	3-671-077-00	BELT, FF		288	7-621-775-80	SCREW +B 2.6X16	
264	*4-912-583-01	SLIDER (CAM LEFT)		289	7-685-646-79	SCREW +BVTP 3X8 TYPE2 SLIT	
265	3-558-708-21	WASHER, STOPPER		290	7-621-770-87	SCREW +BVTT 2.6X5 (S)	
266	3-701-439-11	WASHER		291	7-682-552-04	SCREW +BVTT 3X16 (S)	
267	*4-912-585-01	TABLE, DISK		292	7-682-646-09	SCREW +PS 3X5	
268	*4-912-532-01	REINFORCEMENT, TABLE		293	7-685-132-19	SCREW +BTP 2.6X5 TYPE2 N-S	
269	4-908-534-01	LEVER, FUNCTION		294	*X-4912-505-1	BRACKET (RIGHT) ASSY, TABLE	
270	4-912-516-01	SPRING (DISK CAM), TENSION		295	4-908-591-01	BELT, DRIVING	
271	*4-912-522-01	PLATE, SW		296	*4-912-587-01	CUSHION	
272	*X-4912-514-1	SLIDER (CAM RIGHT) ASSY		297	7-621-775-10	SCREW +B 2.6X4	
273	*4-912-513-01	STOPPER, TABLE		298	4-912-594-01	SPRING	
274	*4-912-519-01	RETAINER (RIGHT), SHAFT		299	4-912-593-01	WASHER	
275	4-912-538-01	BEARING (RIGHT), GUIDE		918	*1-624-376-11	PC BOARD, L.MOTOR	

(6) BU-10



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
301	*4-921-829-01	COVER, MECHANICAL BASE		321	*4-921-819-01	TUBE, RUBBER	
302	*4-921-823-01	HOLDER		322	4-921-827-01	COVER, SLIDE BASE	
303	7-623-421-07	LW 2.6, TYPE B		323	A-4608-347-A	MOTOR ASSY	
304	4-921-853-01	WASHER		324	7-621-255-10	SCREW +P 2X3	
305	4-921-821-01	SHAFT (B), SLIDE		325	A-4675-229-A	SENSOR ASSY	
306	4-921-816-01	INSULATOR		326	7-621-773-95	SCREW +P 2.6X6	
307	4-908-213-01	SPRING, COMPRESSION		327	7-621-775-60	SCREW +P 2.6X8	
308	4-915-217-01	CAP, CENTERING		328	7-621-775-10	SCREW +B 2.6X4	
309	3-558-708-21	WASHER, STOPPER		329	*X-4908-219-1	PULLEY ASSY, DISK	
310	9-911-888-XX	CUSHION		330	7-682-545-09	SCREW +B 3X4	
311	7-688-001-01	W 2, SMALL		331	7-682-248-09	SCREW +K 3X8	
312	7-628-253-10	SCREW +PS 2X5		332	*X-4908-221-1	CAM ASSY, LOCK	
313	4-908-220-01	HOLDER, ROD		333	7-682-546-09	SCREW +B 3X5	
314	4-921-822-01	SHAFT (A), SLIDE		334	7-621-734-09	SET-SCT, HEX. 2.6X3	
315	4-921-817-01	SPRING		335	7-621-559-30	SCREW +K 2.6X5	
316	4-921-826-01	HOLDER, BEARING		919	A-4675-231-A	STATOR ASSY	
317	4-908-221-01	BEARING		920	△, 8-848-088-01	PICKUP, OPTICAL KSS-190A	
318	7-621-773-95	SCREW +R 2.6X6		M51	1-422-198-21	COIL (SENSOR)	
319	4-908-208-01	BEARING (NO-FLANGE), BALL		M53	1-422-197-21	COIL (DRIVE)	
320	7-624-105-04	STOP RING 2.3, TYPE -E					

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

SECTION 6 ELECTRICAL PARTS LIST

NOTE:

- 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.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:

MF: μ F, PF: μ μF.

RESISTORS

- All resistors are in ohms.
- F: nonflammable

COILS

- MMH: mH, UH: μ H

SEMICONDUCTORS

In each case, U: μ , for example:
 UA...: μ A..., UPA...: μ PA...,
 UPC...: μ PC, UPD...: μ PD...

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	Ref.No.	Part No.	Description			
901	*1-625-213-11	PC BOARD, PL DISPLAY	C214	1-123-378-00	ELECT	1000MF	20%	63V
902	*1-625-212-11	PC BOARD, KEY	C215	1-162-179-11	CERAMIC	0.1MF		50V
903	*1-625-216-11	PC BOARD, FUSE	C216	1-162-179-11	CERAMIC	0.1MF		50V
904	1-565-045-11	CONNECTOR	C218	1-136-580-11	FILM	0.47MF	10%	200V
905	*A-4613-067-A	MOUNTED PCB, POWER	C219	1-162-207-31	CERAMIC	22PF	5%	50V
907	*1-560-242-11	BUS BAR 3P	C220	1-162-217-31	CERAMIC	56PF	5%	50V
908	*1-625-219-11	PC BOARD, TRANSLATION	C221	1-162-217-31	CERAMIC	56PF	5%	50V
909	*A-4615-070-A	(West Germany)...MOUNTED PCB, SERVO	C222	1-162-217-31	CERAMIC	56PF	5%	50V
	*A-4615-076-A	(US).....MOUNTED PCB, SERVO	C223	1-162-179-11	CERAMIC	0.1MF		50V
911	*1-625-217-11	PC BOARD, SWITCH LINK	C224	1-124-242-00	ELECT	33MF	20%	16V
912	1-464-905-11	I/O UNIT, DIGITAL	C225	1-162-286-31	CERAMIC	220PF	10%	50V
913	Δ 1-559-271-11	(West Germany)...CORD, POWER	C226	1-162-179-11	CERAMIC	0.1MF		50V
	Δ 1-559-479-11	(US).....CORD, POWER	C227	1-162-179-11	CERAMIC	0.1MF		50V
914	*1-624-378-11	PC BOARD, OUT SW	C228	1-162-286-31	CERAMIC	220PF	10%	50V
915	*1-624-379-11	PC BOARD, C.MOTOR	C229	1-162-179-11	CERAMIC	0.1MF		50V
916	*1-624-377-11	PC BOARD, IN SW	C230	1-162-179-11	CERAMIC	0.1MF		50V
917	*1-624-375-11	PC BOARD, L/C SW	C231	1-126-101-11	ELECT	100MF	20%	10V
918	*1-624-376-11	PC BOARD, L.MOTOR	C232	1-162-179-11	CERAMIC	0.1MF		50V
919	A-4675-231-A	STATOR ASSY	C233	1-162-179-11	CERAMIC	0.1MF		50V
920	Δ 8-848-083-01	PICKUP, OPTICAL KSS-190A	C234	1-162-179-11	CERAMIC	0.1MF		50V
950	1-533-183-11	(West Germany)...HOLDER, FUSE	C235	1-162-179-11	CERAMIC	0.1MF		50V
951	*1-535-476-11	TERMINAL	C236	1-162-179-11	CERAMIC	0.1MF		50V
952	*1-628-489-11	PC BOARD, TERMINAL	C238	1-161-379-00	CERAMIC	0.01MF	20%	16V
			C239	1-161-379-00	CERAMIC	0.01MF	20%	16V
BB801	*1-560-242-81	BUS BAR 8P	C240	1-136-153-00	FILM	0.01MF	5%	50V
BP801	*1-535-141-00	BASE POST 22MM (10MM PITCH) 4P	C241	1-136-153-00	FILM	0.01MF	5%	50V
BP802	*1-535-139-00	BASE POST 19MM (10MM PITCH) 2P	C242	1-161-494-00	CERAMIC	0.022MF		25V
BP803	*1-535-119-00	TERMINAL 6P	C243	1-161-375-00	CERAMIC	0.0022MF	20%	16V
C151	1-161-494-00	CERAMIC	C244	1-162-187-31	CERAMIC	1PF	20%	50V
C152	1-161-494-00	CERAMIC	C245	1-162-179-11	CERAMIC	0.1MF		50V
C153	1-124-477-11	ELECT	C246	1-162-179-11	CERAMIC	0.1MF		50V
C154	1-124-477-11	ELECT	C247	1-136-159-00	FILM	0.033MF	5%	50V
C155	1-161-375-00	CERAMIC	C248	1-136-153-00	FILM	0.01MF	5%	50V
C156	1-161-375-00	CERAMIC	C249	1-136-173-00	FILM	0.47MF	5%	50V
C201	1-161-379-00	CERAMIC	C250	1-136-159-00	FILM	0.033MF	5%	50V
C202	1-161-379-00	CERAMIC	C251	1-136-173-00	FILM	0.47MF	5%	50V
C203	1-162-179-11	CERAMIC	C252	1-136-173-00	FILM	0.47MF	5%	50V
C204	1-109-824-91	MICA	C253	1-123-332-00	ELECT	47MF	20%	16V
C205	1-109-824-91	MICA	C254	1-123-332-00	ELECT	47MF	20%	16V
C206	1-162-179-11	CERAMIC	C255	1-161-375-00	CERAMIC	0.0022MF	20%	16V
C208	1-162-179-11	CERAMIC	C256	1-161-327-00	CERAMIC	0.0033MF	30%	16V
C209	1-136-169-00	FILM	C257	1-136-153-00	FILM	0.01MF	5%	50V
C210	1-123-378-00	ELECT	C258	1-136-153-00	FILM	0.01MF	5%	50V
C211	1-136-169-00	FILM	C259	1-161-494-00	CERAMIC	0.022MF		25V
C212	1-123-378-00	ELECT	C260	1-161-494-00	CERAMIC	0.022MF		25V
C213	1-136-169-00	FILM						

Ref.No.	Part No.	Description				Ref.No.	Part No.	Description			
C261	1-162-179-11	CERAMIC	0.1MF		50V	C801	1-162-179-11	CERAMIC	0.1MF		50V
C262	1-136-173-00	FILM	0.47MF	5%	50V	C802	1-162-179-11	CERAMIC	0.1MF		50V
C263	1-162-294-31	CERAMIC	0.001MF	10%	50V	C810	1-162-179-11	CERAMIC	0.1MF		50V
C264	1-162-179-11	CERAMIC	0.1MF		50V	C811	1-162-179-11	CERAMIC	0.1MF		50V
C265	1-123-369-00	ELECT	4.7MF	20%	50V	C812	1-161-494-00	CERAMIC	0.022MF		25V
C266	1-123-380-00	ELECT	1MF	20%	50V	C813	1-162-294-31	CERAMIC	0.001MF	10%	50V
C267	1-123-330-00	ELECT	22MF	20%	16V	C814	1-161-494-00	CERAMIC	0.022MF		25V
C268	1-130-479-00	MYLAR	0.0047MF	5%	50V	C815	1-124-580-11	ELECT	330MF	20%	35V
C269	1-130-481-00	MYLAR	0.0068MF	5%	50V	C816	1-124-580-11	ELECT	330MF	20%	35V
C270	1-136-168-00	FILM	0.18MF	5%	50V	C817	1-123-361-00	ELECT	220MF	20%	50V
C271	1-136-159-00	FILM	0.033MF	5%	50V	C819	1-123-357-00	ELECT	22MF	20%	50V
C272	1-136-169-00	FILM	0.22MF	5%	50V	C820	1-126-059-11	ELECT	10MF	20%	50V
C273	1-124-011-00	ELECT	220MF	20%	16V	C821	1-136-586-11	FILM	3.3MF	10%	200V
C275	1-162-294-31	CERAMIC	0.001MF	10%	50V	C822	1-136-153-00	FILM	0.01MF	5%	50V
C276	1-136-167-00	FILM	0.15MF	5%	50V	C823	1-123-381-00	ELECT	2.2MF	20%	50V
C277	1-130-471-00	MYLAR	0.001MF	5%	50V	C824	1-125-510-11	ELECT	3300MF	20%	63V
C278	1-136-162-00	FILM	0.056MF	5%	50V	C825	1-125-510-11	ELECT	3300MF	20%	63V
C279	1-123-381-00	ELECT	2.2MF	20%	50V	C826	1-125-510-11	ELECT	3300MF	20%	63V
C280	1-136-167-00	FILM	0.15MF	5%	50V	C827	1-125-510-11	ELECT	3300MF	20%	63V
C281	1-131-350-00	TANTALUM	3.3MF	10%	35V	C828	1-136-173-00	FILM	0.47MF	5%	50V
C282	1-136-165-00	FILM	0.1MF	5%	50V	C829	1-123-330-00	ELECT	22MF	20%	16V
C283	1-162-179-11	CERAMIC	0.1MF		50V	C830	1-123-333-00	ELECT	100MF	20%	16V
C284	1-162-179-11	CERAMIC	0.1MF		50V	C831	1-126-244-51	ELECT	47000MF		5.5V
C285	1-162-288-31	CERAMIC	330PF	10%	50V	C832	1-123-333-00	ELECT	100MF	20%	16V
C286	1-136-168-00	FILM	0.18MF	5%	50V	C833	1-126-059-11	ELECT	10MF	20%	50V
C287	1-136-167-00	FILM	0.15MF	5%	50V	C834	1-136-173-00	FILM	0.47MF	5%	50V
C288	1-136-153-00	FILM	0.01MF	5%	50V	C835	1-136-173-00	FILM	0.47MF	5%	50V
C289	1-162-198-31	CERAMIC	8.2PF	10%	50V	C851	1-162-294-31	CERAMIC	0.001MF	10%	50V
C290	1-162-179-11	CERAMIC	0.1MF		50V	C852	1-136-165-00	FILM	0.1MF	5%	50V
C292	1-123-369-00	ELECT	4.7MF	20%	50V	C853	1-136-165-00	FILM	0.1MF	5%	50V
C293	1-126-335-11	ELECT	220MF	20%	10V	C854	1-162-294-31	CERAMIC	0.001MF	10%	50V
C294	1-162-179-11	CERAMIC	0.1MF		50V	C855	1-162-294-31	CERAMIC	0.001MF	10%	50V
C295	1-162-179-11	CERAMIC	0.1MF		50V	C856	1-162-294-31	CERAMIC	0.001MF	10%	50V
C296	1-136-153-00	FILM	0.01MF	5%	50V	C857	1-124-700-11	ELECT	330MF	20%	25V
C297	1-136-159-00	FILM	0.033MF	5%	50V	CN107	*1-564-706-31	PIN, CONNECTOR (SMALL TYPE) 4P			
C298	1-161-494-00	CERAMIC	0.022MF		25V	CN108	*1-554-339-00	PIN, CONNECTOR 5P			
C299	1-162-294-31	CERAMIC	0.001MF	10%	50V	CN109	*1-562-888-11	SOCKET, CONNECTOR 20P			
C300	1-162-294-31	CERAMIC	0.001MF	10%	50V	CN201	*1-564-505-11	PLUG, CONNECTOR 2P			
C301	1-162-294-31	CERAMIC	0.001MF	10%	50V	CN202	*1-564-506-11	PLUG, CONNECTOR 3P			
C302	1-161-375-00	CERAMIC	0.0022MF	20%	16V	CN203	*1-564-507-11	PLUG, CONNECTOR 4P			
C303	1-162-203-31	CERAMIC	15PF	5%	50V	CN204	*1-564-508-11	PLUG, CONNECTOR 5P			
C651	1-136-157-00	FILM	0.022MF	5%	50V	CN205	*1-564-338-00	PIN, CONNECTOR 4P			
C652	1-136-157-00	FILM	0.022MF	5%	50V	CN206	*1-564-340-00	PIN, CONNECTOR 6P			
C653	1-136-157-00	FILM	0.022MF	5%	50V	CN207	*1-564-338-71	PIN, CONNECTOR 4P			
C701	1-162-294-31	CERAMIC	0.001MF	10%	50V	CN208	*1-564-338-00	PIN, CONNECTOR 4P			
C702A	1-131-522-11	TANTALUM	10MF	20%	25V	CN209	*1-564-338-61	PIN, CONNECTOR 4P			
C702BA	1-161-744-00	CERAMIC	0.01MF		400V	CN210	*1-564-337-00	PIN, CONNECTOR 3P			
C703	1-162-179-11	CERAMIC	0.1MF		50V	CN211	*1-564-339-00	PIN, CONNECTOR 5P			
C704	1-131-522-11	TANTALUM	10MF	20%	25V	CN212	*1-564-340-00	PIN, CONNECTOR 6P			
C705	1-162-179-11	CERAMIC	0.1MF		50V	CN213	*1-564-338-00	PIN, CONNECTOR 4P			
C706	1-162-179-11	CERAMIC	0.1MF		50V	CN214	*1-564-341-11	PIN, CONNECTOR 7P			
C707	1-162-179-11	CERAMIC	0.1MF		50V	CN215	*1-564-340-00	PIN, CONNECTOR 6P			
C708	1-162-179-11	CERAMIC	0.1MF		50V	CN217	*1-564-340-00	PIN, CONNECTOR 6P			
C709	1-124-936-11	ELECT	4700MF		5.5V	CN220	*1-506-503-11	PIN, CONNECTOR 9P			
C710	1-162-179-11	CERAMIC	0.1MF		50V	CN702	*1-564-337-00	PIN, CONNECTOR 3P			
C711	1-162-179-11	CERAMIC	0.1MF		50V	CN703	*1-564-341-11	PIN, CONNECTOR 7P			
C712	1-126-059-11	ELECT	10MF	20%	50V	CN704	*1-564-666-11	PIN, CONNECTOR 10P			
C750	1-162-179-11	CERAMIC	0.1MF		50V	CN705	*1-564-340-00	PIN, CONNECTOR 6P			

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

Ref.No.	Part No.	Description
CN706	*1-564-341-11	PIN, CONNECTOR 7P
CN707	*1-564-340-00	PIN, CONNECTOR 6P
CN708	*1-564-337-00	PIN, CONNECTOR 3P
CN709	*1-564-338-00	PIN, CONNECTOR 4P
CN811	*1-564-340-00	PIN, CONNECTOR 6P
CN812	*1-564-508-11	PLUG, CONNECTOR 5P
CN813	*1-564-496-11	PIN, CONNECTOR 3P
CN814	*1-564-337-00	PIN, CONNECTOR 3P
CN815	*1-564-337-81	PIN, CONNECTOR 3P
CN821	*1-564-505-11	PLUG, CONNECTOR 2P
CN822	*1-564-507-11	PLUG, CONNECTOR 4P
CNJ151	*1-564-706-31	PIN, CONNECTOR (SMALL TYPE) 4P
CNP652	*1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P
CNP653	*1-564-336-61	PIN, CONNECTOR 2P
CNP654	*1-564-336-71	PIN, CONNECTOR 2P
CNP656	*1-564-337-81	PIN, CONNECTOR 3P
CP201	1-233-163-11	COMPOSITION CIRCUIT BLOCK
D201	8-719-940-76	DIODE 1SS132
D202	8-719-940-76	DIODE 1SS132
D203	8-719-940-76	DIODE 1SS132
D204	8-719-940-76	DIODE 1SS132
D206	8-719-301-60	DIODE SEL2910A-C
D207	8-719-101-97	DIODE 1SS97-1
D208	8-719-940-76	DIODE 1SS132
D209	8-719-940-76	DIODE 1SS132
D651	8-719-200-02	DIODE 10E2
D652	8-719-200-02	DIODE 10E2
D653	8-719-200-02	DIODE 10E2
D654	8-719-200-02	DIODE 10E2
D701	8-719-303-00	DIODE SEL2510C
D702	8-719-301-60	DIODE SEL2910A-C
D703	8-719-303-00	DIODE SEL2510C
D801	8-719-200-68	DIODE C10P20FU
D802	8-719-200-69	DIODE C10P20FUR
D804	8-719-200-31	DIODE 21DQ05
D805	8-719-200-31	DIODE 21DQ05
D807	8-719-200-31	DIODE 21DQ05
D808	8-719-200-31	DIODE 21DQ05
D809	8-719-200-31	DIODE 21DQ05
D810	8-719-200-31	DIODE 21DQ05
D811	8-719-933-50	DIODE HZS7C2L
D812	8-719-940-76	DIODE 1SS132
D813	8-719-940-76	DIODE 1SS132
D814	8-719-940-76	DIODE 1SS132
D815	8-719-933-50	DIODE HZS7C2L
F701	△ 1-532-265-XX	(US).....FUSE, GLASS TUBE (1A)
F701	△ 1-532-284-00	(West Germany)...FUSE, TIMR LAG (0.63A)
FLT701	1-519-455-11	INDICATOR TUBE, FLUORESCENT
H151	8-719-800-18	DIODE THS103A-1
H152	8-719-800-18	DIODE THS103A-1
IC151	8-759-202-01	IC TA7256P
IC201	8-759-204-97	IC TC74HCU04F
IC202	8-759-204-97	IC TC74HCU04F
IC203	8-759-204-95	IC TC74HC02F
IC204	8-759-205-18	IC TC74HC175F
IC205	8-759-205-08	IC TC74HC86F

Ref.No.	Part No.	Description
IC206	8-759-206-28	IC TC74HC123F
IC208	8-759-200-81	IC TC4053BF
IC209	8-759-200-81	IC TC4053BF
IC210	8-759-200-81	IC TC4053BF
IC212	8-759-947-02	IC CXD1125Q
IC213	8-752-030-93	IC CXA1081M
IC214	8-752-031-65	IC CXA1082AQ
IC216	8-759-990-82	IC TLO82CP
IC217	8-759-990-82	IC TLO82CP
IC218	8-759-202-01	IC TA7256P
IC219	8-759-202-01	IC TA7256P
IC220	8-759-604-29	IC MSF7805
IC221	8-759-604-29	IC MSF7805
IC222	8-759-604-47	IC MSF7905
IC223	8-759-209-63	IC TC74HC590P
IC225	8-752-322-30	IC CXD1075P
IC226	8-752-327-29	IC CXD1144AP
IC227	8-759-972-50	IC MSM6408-33SS
IC228	8-759-250-81	IC TC5081AP
IC229	8-752-320-44	IC CXK5816M-10L
IC702	8-759-630-16	IC M50740A-424SP
IC703	8-752-804-03	IC CXP5058H-071Q
IC704	8-759-206-27	IC TC5564PL-15
IC710	8-741-138-70	IC BX-1387
IC801	8-759-202-01	IC TA7256P
IC802	8-759-178-05	IC UPC78L05
IC803	8-759-179-24	IC MSF7924
IC804	8-759-202-17	IC TC74HC14P
IC810	1-464-907-11	I/O UNIT, LIGHT
L201	1-408-117-00	INDUCTOR 10UH
L202	1-408-117-00	INDUCTOR 10UH
L203	1-408-117-00	INDUCTOR 10UH
L701	△ 1-424-048-11	(US).....COIL, LINE FILTER
L701	△ 1-424-048-21	(West Germany)...COIL, LINE FILTER
L801	1-408-072-00	INDUCTOR 47UH
M51	1-422-198-21	COIL (SENSOR)
M53	1-422-197-21	COIL (DRIVE)
M651	X-4902-019-1	MOTOR ASSY, CHUCKING
M652	A-4608-303-A	MOTOR ASSY, LOADING
PS201	△ 1-532-637-00	(West Germany)...LINK, IC
PS202	△ 1-532-637-00	(West Germany)...LINK, IC
PS203	△ 1-532-637-00	(West Germany)...LINK, IC
PS204	△ 1-532-637-00	(West Germany)...LINK, IC
Q201	8-729-801-88	TRANSISTOR 2SB1013
Q202	8-729-900-80	TRANSISTOR DTC114ES
Q203	8-729-900-65	TRANSISTOR DTA144ES
Q204	8-729-900-89	TRANSISTOR DTC144ES
Q205	8-729-900-89	TRANSISTOR DTC144ES
Q206	8-729-900-89	TRANSISTOR DTC144ES
Q207	8-729-900-89	TRANSISTOR DTC144ES
Q208	8-729-900-65	TRANSISTOR DTA144ES
Q651	8-729-177-43	TRANSISTOR 2SD774
Q701	8-729-900-80	TRANSISTOR DTC114ES
Q702	8-729-900-80	TRANSISTOR DTC114ES
Q801	8-729-801-88	TRANSISTOR 2SB1013
Q802	8-729-600-27	TRANSISTOR 2SC634SP

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				Ref.No.	Part No.	Description			
R201	1-259-428-11	CARBON	1K	5%	1/6W	R246	1-259-458-11	CARBON	18K	5%	1/6W
R202	1-259-476-11	CARBON	100K	5%	1/6W	R247	1-259-458-11	CARBON	18K	5%	1/6W
R203	1-259-416-11	CARBON	330	5%	1/6W	R248	1-259-450-11	CARBON	8.2K	5%	1/6W
R204	1-259-428-11	CARBON	1K	5%	1/6W	R249	1-259-428-11	CARBON	1K	5%	1/6W
R205	1-259-500-11	CARBON	1M	5%	1/6W	R250	1-259-452-11	CARBON	10K	5%	1/6W
R206	1-259-416-11	CARBON	330	5%	1/6W	R251	1-259-476-11	CARBON	100K	5%	1/6W
R151	1-249-417-11	CARBON	1K	5%	1/4W	R252	1-259-452-11	CARBON	10K	5%	1/6W
R152	1-249-417-11	CARBON	1K	5%	1/4W	R253	1-259-492-11	CARBON	470K	5%	1/6W
R153	1-249-417-11	CARBON	1K	5%	1/4W	R254	1-259-492-11	CARBON	470K	5%	1/6W
R154	1-247-887-00	CARBON	220K	5%	1/4W	R255	1-259-388-11	CARBON	22	5%	1/6W
R155	1-249-417-11	CARBON	1K	5%	1/4W	R256	1-259-403-11	CARBON	91	5%	1/6W
R156	1-249-417-11	CARBON	1K	5%	1/4W	R257	1-259-428-11	CARBON	1K	5%	1/6W
R157	1-249-417-11	CARBON	1K	5%	1/4W	R258	1-259-467-11	CARBON	43K	5%	1/6W
R158	1-247-887-00	CARBON	220K	5%	1/4W	R259	1-259-464-11	CARBON	33K	5%	1/6W
R159	1-247-887-00	CARBON	220K	5%	1/4W	R260	1-259-472-11	CARBON	68K	5%	1/6W
R160	1-247-887-00	CARBON	220K	5%	1/4W	R261	1-259-452-11	CARBON	10K	5%	1/6W
R161	1-249-405-11	CARBON	100	5%	1/4W	R262	1-259-452-11	CARBON	10K	5%	1/6W
R162	1-249-405-11	CARBON	100	5%	1/4W	R263	1-259-404-11	CARBON	100	5%	1/6W
R207	1-259-416-11	CARBON	330	5%	1/6W	R264	1-259-404-11	CARBON	100	5%	1/6W
R208	1-259-416-11	CARBON	330	5%	1/6W	R265	1-259-500-11	CARBON	1M	5%	1/6W
R209	1-259-416-11	CARBON	330	5%	1/6W	R266	1-259-459-11	CARBON	20K	5%	1/6W
R210	1-259-416-11	CARBON	330	5%	1/6W	R267	1-259-476-11	CARBON	100K	5%	1/6W
R211	1-259-416-11	CARBON	330	5%	1/6W	R268	1-259-452-11	CARBON	10K	5%	1/6W
R212	1-259-500-11	CARBON	1M	5%	1/6W	R269	1-215-469-00	METAL	100K	1%	1/6W
R213	1-259-428-11	CARBON	1K	5%	1/6W	R270	1-215-469-00	METAL	100K	1%	1/6W
R214	1-259-444-11	CARBON	4.7K	5%	1/6W	R271	1-259-422-11	CARBON	560	5%	1/6W
R215	1-259-445-11	CARBON	5.1K	5%	1/6W	R272	1-259-452-11	CARBON	10K	5%	1/6W
R216	1-259-416-11	CARBON	330	5%	1/6W	R273	1-259-460-11	CARBON	22K	5%	1/6W
R217	1-259-452-11	CARBON	10K	5%	1/6W	R274	1-259-442-11	CARBON	3.9K	5%	1/6W
R218	1-259-436-11	CARBON	2.2K	5%	1/6W	R275	1-259-478-11	CARBON	120K	5%	1/6W
R219	1-259-416-11	CARBON	330	5%	1/6W	R276	1-259-428-11	CARBON	1K	5%	1/6W
R220	1-259-464-11	CARBON	33K	5%	1/6W	R277	1-259-493-11	CARBON	510K	5%	1/6W
R221	1-259-428-11	CARBON	1K	5%	1/6W	R278	1-259-444-11	CARBON	4.7K	5%	1/6W
R222	1-259-476-11	CARBON	100K	5%	1/6W	R279	1-259-498-11	CARBON	820K	5%	1/6W
R223	1-259-452-11	CARBON	10K	5%	1/6W	R280	1-259-478-11	CARBON	120K	5%	1/6W
R224	1-259-416-11	CARBON	330	5%	1/6W	R281	1-259-476-11	CARBON	100K	5%	1/6W
R225	1-259-500-11	CARBON	1M	5%	1/6W	R282	1-259-456-11	CARBON	15K	5%	1/6W
R226	1-259-416-11	CARBON	330	5%	1/6W	R283	1-259-404-11	CARBON	100	5%	1/6W
R227	1-259-416-11	CARBON	330	5%	1/6W	R284	1-259-432-11	CARBON	1.5K	5%	1/6W
R228	1-259-428-11	CARBON	1K	5%	1/6W	R286	1-259-478-11	CARBON	120K	5%	1/6W
R229	1-259-452-11	CARBON	10K	5%	1/6W	R287	1-259-452-11	CARBON	10K	5%	1/6W
R230	1-259-428-11	CARBON	1K	5%	1/6W	R289	1-259-470-11	CARBON	56K	5%	1/6W
R231	1-259-428-11	CARBON	1K	5%	1/6W	R290	1-259-456-11	CARBON	15K	5%	1/6W
R232	1-259-428-11	CARBON	1K	5%	1/6W	R291	1-259-476-11	CARBON	100K	5%	1/6W
R233	1-259-428-11	CARBON	1K	5%	1/6W	R292	1-259-475-11	CARBON	91K	5%	1/6W
R234	1-259-428-11	CARBON	1K	5%	1/6W	R293	1-259-432-11	CARBON	1.5K	5%	1/6W
R235	1-259-428-11	CARBON	1K	5%	1/6W	R294	1-259-451-11	CARBON	9.1K	5%	1/6W
R236	1-259-428-11	CARBON	1K	5%	1/6W	R295	1-259-428-11	CARBON	1K	5%	1/6W
R237	1-259-416-11	CARBON	330	5%	1/6W	R296	1-259-476-11	CARBON	100K	5%	1/6W
R238	1-259-428-11	CARBON	1K	5%	1/6W	R297	1-259-475-11	CARBON	91K	5%	1/6W
R239	1-259-478-11	CARBON	120K	5%	1/6W	R298	1-259-475-11	CARBON	91K	5%	1/6W
R240	1-259-482-11	CARBON	180K	5%	1/6W	R299	1-259-442-11	CARBON	3.9K	5%	1/6W
R241	1-259-478-11	CARBON	120K	5%	1/6W	R300	1-259-433-11	CARBON	1.6K	5%	1/6W
R242	1-259-482-11	CARBON	180K	5%	1/6W	R301	1-259-452-11	CARBON	10K	5%	1/6W
R243	1-259-450-11	CARBON	8.2K	5%	1/6W	R302	1-259-456-11	CARBON	15K	5%	1/6W
R244	1-259-436-11	CARBON	2.2K	5%	1/6W	R303	1-259-461-11	CARBON	24K	5%	1/6W
R245	1-259-457-11	CARBON	16K	5%	1/6W	R305	1-259-404-11	CARBON	100	5%	1/6W

Ref.No.	Part No.	Description			
R306	1-259-404-11	CARBON	100	5%	1/6W
R307	1-259-452-11	CARBON	10K	5%	1/6W
R308	1-259-444-11	CARBON	4.7K	5%	1/6W
R309	1-259-444-11	CARBON	4.7K	5%	1/6W
R311	1-259-492-11	CARBON	470K	5%	1/6W
R651	1-249-417-11	CARBON	1K	5%	1/4W
R652	1-249-417-11	CARBON	1K	5%	1/4W
R655	1-249-417-11	CARBON	1K	5%	1/4W
R701	1-259-500-11	CARBON	1M	5%	1/6W
R702	1-259-452-11	CARBON	10K	5%	1/6W
R703	1-259-452-11	CARBON	10K	5%	1/6W
R704	1-259-438-11	CARBON	2.7K	5%	1/6W
R705	1-259-412-11	CARBON	220	5%	1/6W
R706	1-259-408-11	CARBON	150	5%	1/6W
R707	1-259-438-11	CARBON	2.7K	5%	1/6W
R708	1-259-442-11	CARBON	3.9K	5%	1/6W
R709	1-259-448-11	CARBON	6.8K	5%	1/6W
R710	1-259-452-11	CARBON	10K	5%	1/6W
R711	1-259-452-11	CARBON	10K	5%	1/6W
R712	1-259-404-11	CARBON	100	5%	1/6W
R810	1-259-404-11	CARBON	100	5%	1/6W
R811	1-247-714-11	CARBON	1.2K	1%	1/4W
R812	1-247-700-11	CARBON	100	1%	1/4W
R813	1-259-404-11	CARBON	100	5%	1/6W
R814	△ 1-217-469-00	FUSIBLE	1	5%	1W F
R815	1-259-428-11	CARBON	1K	5%	1/6W
R816	1-259-428-11	CARBON	1K	5%	1/6W
R817	1-259-464-11	CARBON	33K	5%	1/6W
R818	△ 1-213-057-11	FUSIBLE	7.5	5%	1W F
R819	1-259-468-11	CARBON	47K	5%	1/6W
R820	1-259-416-11	CARBON	330	5%	1/6W
R821	1-259-462-11	CARBON	27K	5%	1/6W
R822	1-259-452-11	CARBON	10K	5%	1/6W
R823	1-259-452-11	CARBON	10K	5%	1/6W
R824	1-259-404-11	CARBON	100	5%	1/6W
R825	1-259-485-11	CARBON	240K	5%	1/6W
R826	1-259-478-11	CARBON	120K	5%	1/6W
R851	△ 1-212-873-11	FUSIBLE	47	5%	1/4W F
RV201	1-237-461-21	RES, ADJ, CARBON 50K			
RV202	1-237-458-21	RES, ADJ, CARBON 5K			
RV203	1-237-460-21	RES, ADJ, CARBON 20K			
RV204	1-237-460-21	RES, ADJ, CARBON 20K			
RV205	1-237-460-21	RES, ADJ, CARBON 20K			
RV206	1-237-456-11	RES, ADJ, CARBON 1K			
RV801	1-237-459-11	RES, ADJ, CARBON 10K			

Ref.No.	Part No.	Description
S651	1-554-205-00	SWITCH, PUSH
S652	1-571-300-11	SWITCH, ROTARY (LOAD OUT DET)
S653	1-553-636-00	SWITCH, MICRO (MOTOR SELECT)
S654	1-570-447-11	SWITCH, MICRO (CHUCKING)
S701	1-553-856-00	SWITCH, KEY BOARD (AMS)
S702	1-553-856-00	SWITCH, KEY BOARD (AMS)
S703	1-554-980-11	SWITCH, KEY BOARD (STOP)
S704	1-554-980-11	SWITCH, KEY BOARD (PAUSE)
S705	1-554-980-11	SWITCH, KEY BOARD (PLAY)
S706	1-554-980-11	SWITCH, KEY BOARD (OPEN/CLOSE)
S711	△ 1-571-250-11	SWITCH, PUSH (AC POWER)(1 KEY)(POWER)
S801	1-571-083-31	SWITCH, SLIDE (COAXIAL/OPTICAL)
T701	△ 1-449-431-11	(US).....TRANSFORMER, POWER
T701	△ 1-449-449-11	(West Germany)...TRANSFORMER, POWER
THP851	1-202-850-00	THERMISTOR (POSITIVE)
THP852	1-202-850-00	THERMISTOR (POSITIVE)
X201	1-567-971-11	VIBRATOR, CRYSTAL (11.2896MHZ)
X202	1-464-906-11	OSCILLATION UNIT (16.9344MHZ)
X701	1-567-686-11	OSCILLATOR, CERAMIC (4MHZ)

ACCESSORY & PACKING MATERIAL

- 1-463-966-11 REMOTE COMMANDER (RM-A1)
- 1-559-685-11 CABLE, CONNECTION
- 2-394-123-11 COVER, BATTERY (for REMOTE COMMANDER)
- 3-769-749-11 (West Germany)...MANUAL, INSTRUCTION
- 3-769-749-21 MANUAL, INSTRUCTION
- *4-912-947-01 KEY, LOCK
- 4-915-880-01 SHEET, PROTECTION
- *4-924-262-01 CUSHION
- *4-924-276-11 INDIVIDUAL CARTON

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

Troubleshooting Guide

Symptom	Cause	Remedy
The disc tray comes out when the PLAY or ► button on the remote commander is pressed after loading a disc.	The disc is placed on a slant.	Set the disc horizontally.
Play does not start.	The disc is excessively dirty.	Clean the disc.
	The disc is loaded upside down.	Load the disc again, with the label side facing upward.
	The PAUSE button, or the button on the remote commander, is engaged.	Press the PAUSE button, or the button on the remote commander, to release pause mode.
	Moisture condensation has occurred in the player.	Turn the power ON and wait for about one hour before starting play.
No indication appears when the POWER switch is pressed to ON.	The power cord is disconnected.	Plug it into an AC outlet firmly.
The OPERATING indicator of the DAS-R1 D/A Converter Unit does not light. Or, no sound is heard from the speakers.	The connecting cord is disconnected.	Connect them firmly.
	The output selector is set to COAXIAL when the DAS-R1 is connected to this unit with Twin Link optical cable.	Set the output selector on the rear panel to the TWIN LINK position.
When connected to a D/A converter other than the DAS-R1, the connected unit does not function.	The power cord is disconnected.	Connect it firmly.
	The output selector is set to TWIN LINK.	Set it to the COAXIAL position.