DENON

Hi-Fi Component

SERVICE MANUAL

STEREO CD PLAYER

MODEL DCD-1520

NIPPON COLUMBIA CO., LTD.

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FEATURES

The DCD-1520 compact laser disc player utilizes a unique DENON Super Liner Converter which prevents deterioration of sound quality in the PCM playback system, assuring accurate reproduction of sound record on compact laser discs, in the studio or in live sound production areas. The parts for this high performance disc player have been selected with careful discrimination, to produce high quality, realistic playback of the full musical production.

SPECIFICATIONS

AUDIO	
No. of Channels:	2 channels
Frequency Response:	2 ~ 20,000 Hz
Dynamic Range:	100 dB
Signal-to-noise Ratio:	115 dB
Harmonic Distortion:	0.0025% (1 kHz)
Separation:	103 dB (1 kHz)
Wow & Flutter:	Below measurable limit: (±0.001% W.peak)
Output Voltage:	2.0 V, VARIABLE 0~2.0 V
DISCS	Compact Disc format
GENERAL CHARACTERISTICS	
Power Supply:	50/60 Hz, voltage is shown on rating label
Power Consumption:	22 W
Dimensions:	434 (17.1 in) W × 135 (5.3 in) H × 350 (13.8 in) D mm
Weight:	10.7 kg
FUNCTIONS AND DISPLAY	
Functions:	Direct selection, automatic search, programmed playback, repeat playback, manual search, auto space, time mode, auto edit, emphasis feature
Display:	Track number, time, music calendar, and engaged modes
Others:	Headphones jack
REMOTE CONTROL UNIT	RC-216
Remote Control System:	Infrared pulse system
Power Supply:	3 V DC; two SUM-4 (standard size AAA) dry cell batteries
External Dimensions:	60 (2.4 in) W × 165 (6.5 in) H × 17 (0.7 in) D mm
Weight:	95 g (including batteries)
SUPPLIED ACCESSORIES	Pin-plug connection cord, mini screwdriver.

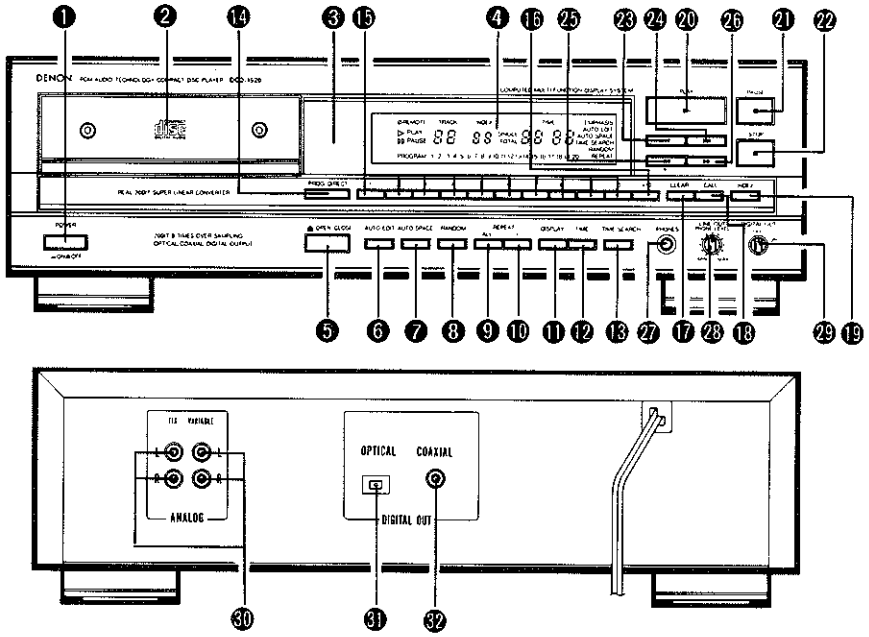
* Design and specifications are subject to change without notice in the course of product improvement.

VAROITUS: SUOJAKOTELOA EI SAA AVATA. LAITE SISÄLTÄÄ LASER-DIODIN, JOKA LÄHETTÄÄ NÄKYMÄTÖNTÄ SILMÄLLE VAARALLISTA LASER-SÄTEILYÄ.

ADVARSEL: USYNLIG LASERSTRALING VED ABNING NAR SIKKERHEDSAFBRYDERE EU UDE AF FUNKTION. UNDGA UDSAETTELSE FOR STRALING. "CLASS I LASER PRODUCT"

VARNING: OSYNLIG LASERSTRÄLNING VID AVLÄGSNANDE AV APPARATENS HÖLJE. UNDVIK EXPONERING AV LASERSTRÄLNING.

NAMES AND FUNCTIONS OF PARTS



❶ Power Switch (POWER)

- When the power is turned on, "(00)" appears on the TRACK NO. display, and if no disc is loaded, "(00:00:00)" appears on the digital display and the calendar lights after a few seconds.
- If the power is turned on with a disc already loaded, the total number of tracks on the disc is displayed on the TRACK NO. display, the total time is displayed on the TIME display, the numbers on the music calendar light up to the number of tracks on the disc, and playback begins.

❷ Disc Holder

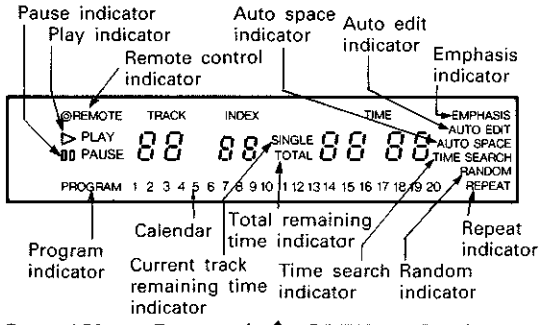
- Place the disc on the disc holder with the label facing up.
- Use the open/close button (⏏ OPEN/CLOSE) ❺ to open and close the disc holder.
- The disc holder may also be closed by pressing the play button (▶ PLAY) ⓴ or pause button (❚❚ PAUSE) ㉑.

❸ Remote Control Sensor

- This sensor receives the infrared light transmitted from the wireless remote control unit.
- For remote control, point the supplied remote control unit RC-216 towards this sensor.
- When a signal is transmitted from the remote control unit, the remote control indicator in the display ❹ will light up briefly.

❹ Display

- The digital display is divided into sections, such as displays for track number, index, playback time and calendar, as shown below.



❺ Open/Close Button (⏏ OPEN/CLOSE)

- The disc holder is opened and closed by pressing this button.
- Press this button once to open the disc holder, and once again to close it.
- When the disc holder is closed with a disc loaded, the disc will rotate for a couple of seconds while the disc contents are read. The number of tracks and total playback time on the disc are then displayed on the digital display ❹.

❻ Auto Edit Button (AUTO EDIT)

- The tracks on the CD are automatically split into two halves, Side A and Side B, like an analog disc, with the division at the place between tracks which is closest to 1/2 the total playing time.
- When this button is pressed in the stop mode, the [AUTO EDIT] indicator lights, and the total playing time for the first half and the track numbers on the calendar are displayed for approximately 2 seconds. Next, the same is done for the second half, after which the unit is automatically set to the pause mode at the beginning of the first track. When the PLAY or PAUSE button is pressed, playback begins, and the unit is automatically set to the pause mode at the beginning of the first track of the second half which was previously displayed. When the PLAY or PAUSE button is pressed again, playback resumes, and the unit is automatically set to the stop mode at the end of the last track on the disc, at which time the [AUTO EDIT] indicator turns off.
- This function will only work for discs with a total of 20 tracks or less. Also, when this function is used the mode is automatically set to the program mode, so direct search is not possible.
- The [AUTO EDIT] indicator turns off and the auto edit function is cleared when the OPEN/CLOSE, STOP or PROG/DIRECT button is pressed.
- The data for the total playing time recorded on the disc and the actual total playing time of the tracks differ, so there may be a difference between the time displayed in the stop mode (the total playing time) and the total of the times of the first and second halves in the auto edit mode (about 2 seconds).

❼ Auto Space Button (AUTO SPACE)

- Pressing this button will cause the [AUTO SPACE] indicator to light and a blank space of approximately 4 seconds is inserted between tracks during CD playback. Pressing the button once more, the [AUTO SPACE] indicator goes out and the Auto Space feature is cancelled.
- When one of the track search buttons (⏮ or ⏭) is pressed, the Auto Space function will not operate.
- The Auto Space function will work during normal playback as well as programmed playback.
- Although 4-second blanks are inserted between tracks, this additional time is not reflected by the indication on the time remaining display or time display when the Auto Edit function is engaged.

❽ Random Play Button (RANDOM)

- Press this button to play the tracks on the disc in random order.

❾ Repeat All Tracks Button (ALL)

- Press this button to repeat playback of all tracks.

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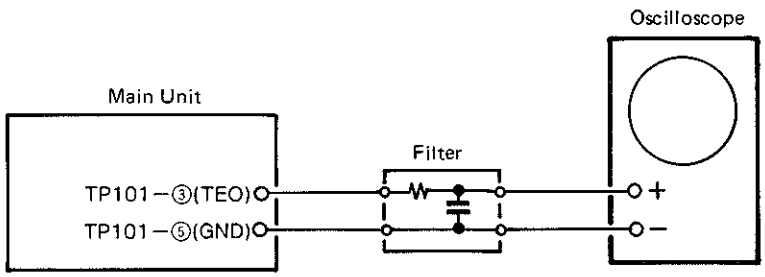
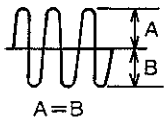
6. Tracking offset

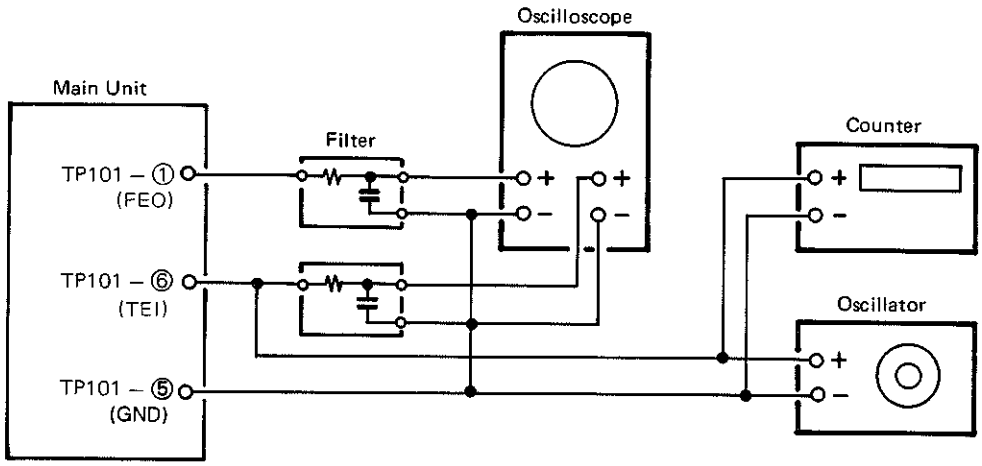
Connection



Oscilloscope (DC range)		Adjust	Check	Step
V	H	(Volume)	(Oscilloscope)	1. Push [▲ OPEN/CLOSE] and load disc holder reference disk. 2. Push [▲ OPEN/CLOSE] and close disc holder. 3. Push [▶ PLAY] to turn disc. 4. Short (+) (-) of oscilloscope and check the base line. 5. Adjust VR14 [T-OFFSET] to equalizer upper and lower amplitude of the waveform.
0.1V/div	1~2 ms/div	VR14	 A=B	

7. Focus gain

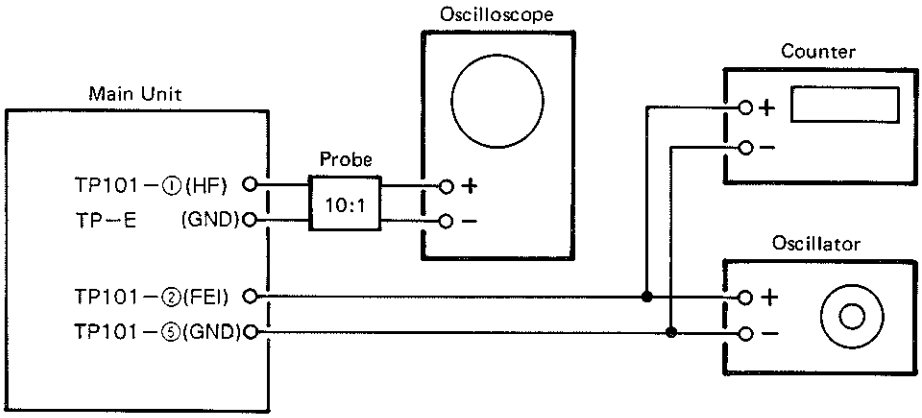
Connection

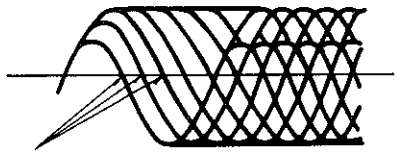
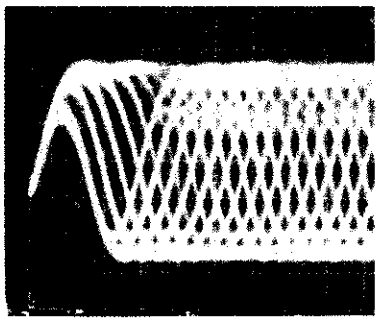


Oscillator	Counter	Oscilloscope V	Oscilloscope H	Adjust	Check	Step
				(Volume)	(Oscilloscope)	
690 Hz 1 Vp-p (±0.1 V) (Note 630 Hz CA1094 disc used)	690 Hz (Note 630 Hz CA1094 disc used)	• DC range • X-Y mode		VR13	Y axis / X axis / Phase 90° Waveform not right / X axis / Y axis X axis / Y axis	1. Push [II PAUSE]. 2. Set oscillator to 690 Hz/1 Vp-p. 3. Switch oscilloscope input to X-Y mode. 4. Adjust VR13 [F-GAIN] to symmetrize Lissajous figures to X and Y axes. • If the tracking gain is not properly adjusted, the waveform becomes as per the left figure.

8. Focus offset

Connection



Oscillator	Counter	Oscilloscope		Adjust	Check
		V	H	(Volume)	(Oscilloscope)
690 Hz 1 Vp-p (±0.1 V)	690 Hz	50 mV/div or 20 mV/div	0.2 μs/div or 0.5 μs/div	VR15	 Adjust to minimize pattern jitter.  Pattern
		• Set input mode to ALTERNATE or CHOPPER.			

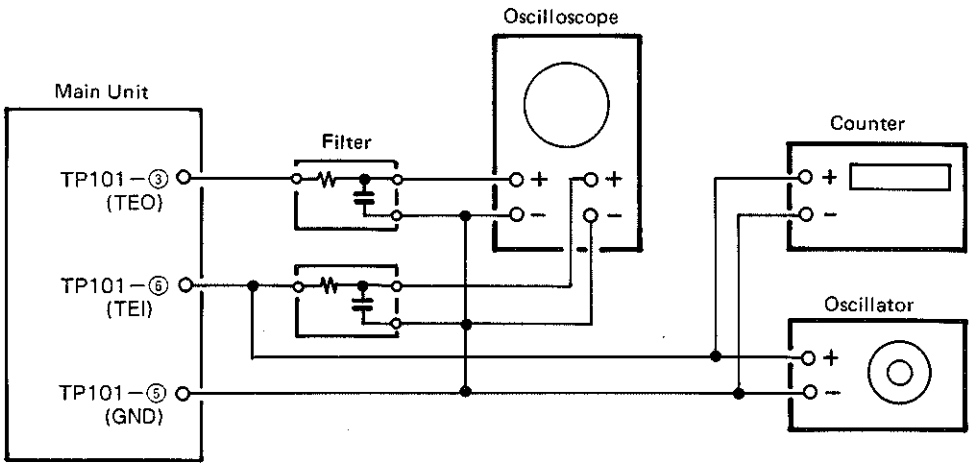
Step

1. Push [II PAUSE].
2. Set oscillator to 690 Hz, 1 Vp-p (±0.5 V).
3. VR15 [F-OFFSET] to minimize pattern jitter.

- If the focus offset is not properly adjust, causing the increase of jitter amount thus producing the intermittent sound may occur.

9. Tracking gain

Connection



• Caution: Connect oscillator after [II PAUSE] pushed and servo function started.

Oscillator	Counter	Oscilloscope V	Oscilloscope H	Adjust	Check	Step
		V	H	(Volume)	(Oscilloscope)	1. Push [II PAUSE].
• 1.7 kHz (±120 Hz) • 2 Vp-p (±0.1V) (1.45 kHz CA1094 disc used)	1.7 kHz (±120 Hz) (1.45 kHz CA1094 disc used)	• DC range • X-Y mode		VR12	Y axis / X axis Phase 90° Waveform not right X axis / Y axis X axis / Y axis	2. Connect oscillator. 3. Set oscillator to 1.7 kHz/2 Vp-p. 4. Switch oscilloscope input to X-Y mode. 5. Adjust VR12 [T-GAIN] to symmetrize Lisaajous figures to X-Y axes. • If the focus gain is not properly adjusted, the waveform becomes as per the left figure.

10. Tracking offset adjustment check

(1) Adjust tracking offset again.
(2) Push [■STOP] and stop disc.
(3) Push [▶PLAY] and check disc turns.
Note: If disk does not turn, push [▶PLAY] again and check track number 02 is displayed.
(4) Check oscilloscope waveform upper and lower amplitued are same to base line. (Difference of vertical amplitude should be within the range of 5 % to the base line.)
(5) In case the height of waveform differs adjust the with the VR14.
(6) Push [■STOP] and stop disc.
(7) Push [▲OPEN/CLOSE] and remove the reference disc.

HEAT RUN MODE FUNCTION

Heat Run Mode

1) To activate

While hold pushing 4, 5, 6 and 7 keys of the 10-KEY simultaneously, turn the unit power on. The remote control sensor indicator will light to show that the unit is shifted in Heat Run mode.
Be sure to load the disc previously.
Press the disc holder open/close button (▲OPEN/CLOSE) to cancel Heat Run mode.
Never push the PAUSE button.

2) Operation

During the Heat Run mode to shift the unit in Play mode makes the unit replays from the first music after opens the loader once and re-closes it when finish playing the last track (comes into lead out).
Hereafter, operates open/close of loader, servo on, reading of TOC, and playing repeatedly. For a disc with more than 30 tracks, repeat playing the two tracks; the first and the last ones.

3) Error Message

When the system error occurs while in Heat Run mode, the following error message will display on the Track No. indicator and stops operation.

1. E1
   At the time of Focus Servo does not activate.
2. E2
   When unable to detect synchronous pattern however the disc is in rotating. (GFS does not drive.)
3. E3
   No synchronous pattern can be detected while in Play mode. (No GFS drives.)
4. E4
   When TOC is unreadable in despite of servo is activated.
5. E5
   In case of loader malfunctions. (Unable to turn on the switch.)
6. E6
   The inner circle switch of Pick-up does not turn off.
7. E7
   The inner circle switch of Pick-up does not turn on.

★ Also, displays the number of operation up to this time on the Time (Min.) indicator. (16th numeration system.)

Decimal system	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16th numeration system	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
16th unmeration system indiaction	0	1	2	3	4	5	6	7	8	9	-	[	]	o (Lower part of 8)	E	(No indication)

IC TERMINAL FUNCTION LIST

- **Remote Control IC (LU59001) Terminal Function List**

Terminal No.	Function	Terminal No.	Function
1	Serial Data Output	11	Remote Control Code Input
2	+5 V		Input Code for Remote Control out of QH3031
3	Shift Clock Input	12	System Address GND Earth
4	RDY Output	13	System Address GND Earth
5	+5 V	14	System Address GND Earth
6	455 kHz OSC	15	System Address GND Earth
7	455 kHz OSC	16	GND
8	– GND Earth	17	+5 V
9	ACL Input	18	System Address +5 V
10	GND	19	+5 V
		20	VDD +5 V

PARTS LIST OF P.W. BOARD

2U-1657A/1718 SERVO & SIGNAL UNIT

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTOR GROUP			
IC10~12	2630257001	M5218P	
IC13	2620842002	CXA-1081S	
IC14	2621008007	CXA-1182S	
IC15	2621028003	M50957-102SP	
IC16	2630423000	M51953B	
IC17	2620729002	HD74HC08P	
IC18	2630257001	M5218P	
IC19	2621094008	SM5813	
IC20,21	2621014004	HG61H04B22P	
IC22,23	2621027004	PCM64-1	
IC24,25	2630257001	M5218P	
IC26,27	2630568004	TC74HC4066	
IC28,29	2620891008	CD74HC4053	
IC30,31	2630292008	NE5534N	
IC32~35	2630360008	NE5532	
IC36	—	—	
IC37	2620419008	HD14053BP	
IC38	2630198005	NJM4556D	
IC39	2630507007	NJM78M15FA	
IC40	2630508006	NJM79M15FA	
IC41	2630254004	NJM78M05A	
IC42	2680047009	NJM7805A	
IC43	2630501003	NJM79M05FA	
IC44	2630508006	NJM79M15FA	
IC45,46	2630432004	NJM78L05A	
IC47,48	2680074904	JCP-N20T	
TR10,14, 24	2720085002	2SB941A (Q)/(P)	
TR11,15, 25	2740123009	2SD1985 (P/Q)	
TR12,19 21,26	2720025004	2SB562 (C)	
TR13,22, 27	2740036002	2SD468 (C)	
TR16,18, 20	2730178022	2SC1740 (R/S)	
TR17	2690038901	RN1210 (4.7K--)T	
TR23,33	2690025901	RN1202 (10K-10K)T	
TR28~31 34,35	2730253015	2SC2878 (A/B)	
TR32	2690026900	RN2202 (10K-10K)T	
TR36	2710101022	2SA933 (Q)	
D15	2760049011	1S2076A	
D16	2760220005	HZ24	
D17	2760303003	HZ6C-2	
D18,19	2760433009	DSM1A2 TYPE2	
D20,21	2760405008	S1WB (A)10	
D28~32	2760460904	HZS5C-1 TD	
D40	2760432000	1SS270A	
RESISTOR GROUP			
VR10	2116064019	V06PB473	47KΩ
VR11	2116064064	V06PB102	1KΩ
VR12~14	2116064051	V06PB203	20KΩ
VR15	2116064006	V06PB103	10KΩ
VR16,17	2116075008	V06PB104	100KΩ
VR18	2110544001	V1620V25FA103M	10KΩ
R903	2442051042	RS14B3A010JF (S)	1Ω/1W

Ref. No.	Part No.	Part Name	Remarks
RA11,12	2462056001	RK==300KP8	30Ω×8
RA13~18	2462055002	RK==300KP4	30Ω×4
CAPACITOR GROUP			
C18,50 51,106	2533603008	CC45SL1H100D	10pF/50V
C35,59,63 113,180 181,187	2533627000	CC45SL1H101J	100pF/50V
C37	2533645008	CC45SL1H561J	560pF/50V
C54,172	2533617007	CC45SL1H390J	39pF/50V
C69,188	2533643000	CC45SL1H471J	470pF/50V
C182	2533599002	CC45SL1H060D	6pF/50V
C11~13, 29,30,45, 57,61,62, 70,74~76 103~105 112,114, 115,152, 153,158 159,168, 174,176, 183,184	2539036006	CK45=1E104Z	0.1μF/25V
C32,175	2531004007	CK45B1H102K	0.001μF/50V
C46,68, 166,167, 177,186	2531024003	CK45F1H103Z	0.01μF/50V
C90,91 116~119 124~127 130~133	2531184901	CK93E1H104MT (TCD)	0.1μF/50V
C16,17	2544260058	CE04W1H2R2M (SME)	2.2μF/50V
C20,21,56	2544260061	CE04W1H3R3M (SME)	3.3μF/50V
C22,23,33, 43	2544254019	CE04W1C220M (SME)	22μF/16V
C28,60, 107	2544260045	CE04W1H010M (SME)	1μF/50V
C47	2544260032	CE04W1HR47M (SME)	0.47μF/50V
C55	2544254048	CE04W1C101M (SME)	100μF/16V
C64	2544260016	CE04W1HR22M (SME)	0.22μF/50V
C67,111	2544252037	CE04W1A101M (SME)	100μF/10V
C73	2544262946	CE04W1J470M (SME)	47μF/63V
C81	2544261028	CE04W1H101M (SME)	100μF/50V
C100	2544261028	CE04W1H101M (SME)	100μF/50V

Ref. No.	Part No.	Part Name	Remarks
C108,109, 44	2544261002	CE04W1H330M (SME)	33μF/50V
C110	2544254064	CE04W1C331M (SME)	330μF/16V
C122,123 146,147	2544313918	CE04W1H100M (ASF)	10μF/50V
C128,129	2544313905	CE04W1H3R3M (ASF)	3.3μF/50V
C165	2544256059	CE04W1E221M (SME)	220μF/25V
C185	2544254006	CE04W1C100M (SME)	10μF/16V
C14	2551121041	CQ93M1H153J	0.015μF/50V
C19	2551120097	CQ93M1H562J	0.0056μF/50V
C24,36,49	2551120068	CQ93M1H332J	0.0033μF/50V
C27	2551120084	CQ93M1H472J	0.0047μF/50V
C31,38,48, 83	2551121025	CQ93M1H103J	0.01μF/50V
C34	2551120000	CQ93M1H102J	0.001μF/50V
C39	2551120042	CQ93M1H222J	0.0022μF/50V
C40	2551121067	CQ93M1H223J	0.022μF/50V
C53	2551120055	CQ93M1H272J	0.0027μF/50V
C142,143	2554210069	CQ09P1H331J	330pF/50V
C98,99	2556167000	CQ09S2B103K (B)	0.01μF/125V
C138,139	2554232005	CQ93P2A821J (NH)	820pF/100V
C140,141	2554232018	CQ93P2A181J (NH)	180pF/100V
C144,145	2554232047	CQ93P2A182J (NH)	0.0018μF/100V
C148,149	2554232050	CQ93P2A472J (NH)	0.0047μF/100V
C78,80	2544288001	CE04W1E101M (AWF)	100μF/25V
C84,85	2544289783	CE04W1H222MC (AWF)	2200μF/50V
C86,87	2544319789	CE04W1E332MC (ASF)	3300μF/25V
C92~95	2544289738	CE04W1H101MC (AWF)	100μF/50V
C96,97	2544289767	CE04W1H471MC (AWF)	470μF/50V
C120,121 150,151	2544289725	CE04W1H470MC (AWF)	47μF/50V
C134~137	2544289738	CE04W1H101MC (AWF)	100μF/50V
C164	2544289725	CE04W1H470MC (AWF)	47μF/50V
C65	2544254022	CE04W1C330M (SME)	33μF/16V
C15	2561034047	CF93A1H563J	0.056μF/50V
C41,52	2561034018	CF93A1H333J	0.033μF/50V
C42	2561034050	CF93A1H683J	0.068μF/50V
C58	2561034092	CF93A1H154J	0.15μF/50V
C82	2561034076	CF93A1H104J	0.1μF/50V
C88,89	2561033718	CF93B2A105KC (GU)	1μF/100V
OTHER PARTS			
FB12~15 17~19	2350049900	BEAD INDUCTOR	
	2690052000	TOTX 172	
	2318060002	PULSE TRANSFORMER	
	2048256005	1P PINJACK	
	2048265009	4P RCA PINJACK	
SW10	2124700006	ROTARY SWITCH	

Ref. No.	Part No.	Part Name	Remarks
	2350061001	LPF COIL	
	2048271006	HEADPHONE JACK (AU)	
FB12,901	2350049007	BEAD INDUCTOR	
TP101,102	2050190065	6P NH CONN. BASE	
TP103	2050190036	3P NH CONN. BASE	
CB101	2050321083	8P CONN. BASE (RED)	
CB102	2050343045	4P CONN. BASE (KR-PH)	
CB103	2050343087	8P CONN. BASE	
CB104	2050323036	3P CONN. BASE (BLACK)	
CB105	2050322037	3P CONN. BASE (BLUE)	
CB201	2050343032	3P CONN. BASE (KR-PH)	
CB202	2050321038	3P CONN. BASE (RED)	
CB203,204	2050343032	3P CONN. BASE (KR-PH)	
CB301	2050298093	30P FFC CONN. BASE	
CB401	2050343032	3P CONN. BASE (KR-PH)	
CB402	2050343045	4P CONN. BASE	
CB403	2050343061	6P CONN. BASE	
CB501	2050343090	9P CONN. BASE	
	2350048008	EMI FILTER	
KU-5866 DIGITAL SIG. PRO. UNIT			
SEMICONDUCTOR GROUP			
IC1	2620736008	CXD1125	
IC2	2620673006	HM6116FP/LFP-4/3/2	
CAPACITOR GROUP			
C1,2	2533605006	CC45SL1H120J	12pF/50V
C3	2531024003	CK45F1H103Z	0.01μF/50V
C4	2544254051	CE04W1C221M (SME)	220μF/16V
OTHER PARTS			
X1	3990036013	CRYSTAL (16,9344MHz)	
	4770096007	PUSH RIVET	
	4140493007	SHIELD SHEET	

2U-1739A POWER SUPPLY UNIT (U.S.A./Canada)

	Ref. No.	Part No.	Part Name	Remarks
⚠	L900	2398019002	LINE FILTER COIL	
		4150299000	CONDENSER COVER	
⚠	C900~902	2538014003	CK45F2GAC103M	0.01 μF 400V
⚠	SW900	2124697009	POWER SWITCH	
⚠	CC500	2042294005	9P PH-SAN CONN CORD	

2U-1739C POWER SUPPLY UNIT (Europe)

	Ref. No.	Part No.	Part Name	Remarks
⚠	L900	2398019002	LINE FILTER COIL	
		4150299000	CONDENSER COVER	
⚠	C900~902	2538014003	CK45F2GAC103M	0.01 μF 400V
⚠		2020022008	FUSE HOLDER	
⚠	F1	2061029002	FUSE(0.2AT)	
⚠	SW900	2124697009	POWER SWITCH	
⚠	CC500	2042294005	9P PH-SAN CONN CORD	

2U-1739D POWER SUPPLY UNIT (Australia/U.K.)

	Ref. No.	Part No.	Part Name	Remarks
⚠	L900	2398019002	LINE FILTER COIL	
		4150299000	CONDENSER COVER	
⚠	C900~902	2538014003	CK45F2GAC103M	0.01 μF 400V
⚠		2020022008	FUSE HOLDER	
⚠	F1	2061029002	FUSE(0.2AT)	
⚠	SW900	2124697009	POWER SWITCH	
⚠	CC500	2042294005	9P PH-SAN CONN CORD	
⚠	F2,3	2061015003	FUSE(500 MAT)	

2U-1739E POWER SUPPLY UNIT (Asia)

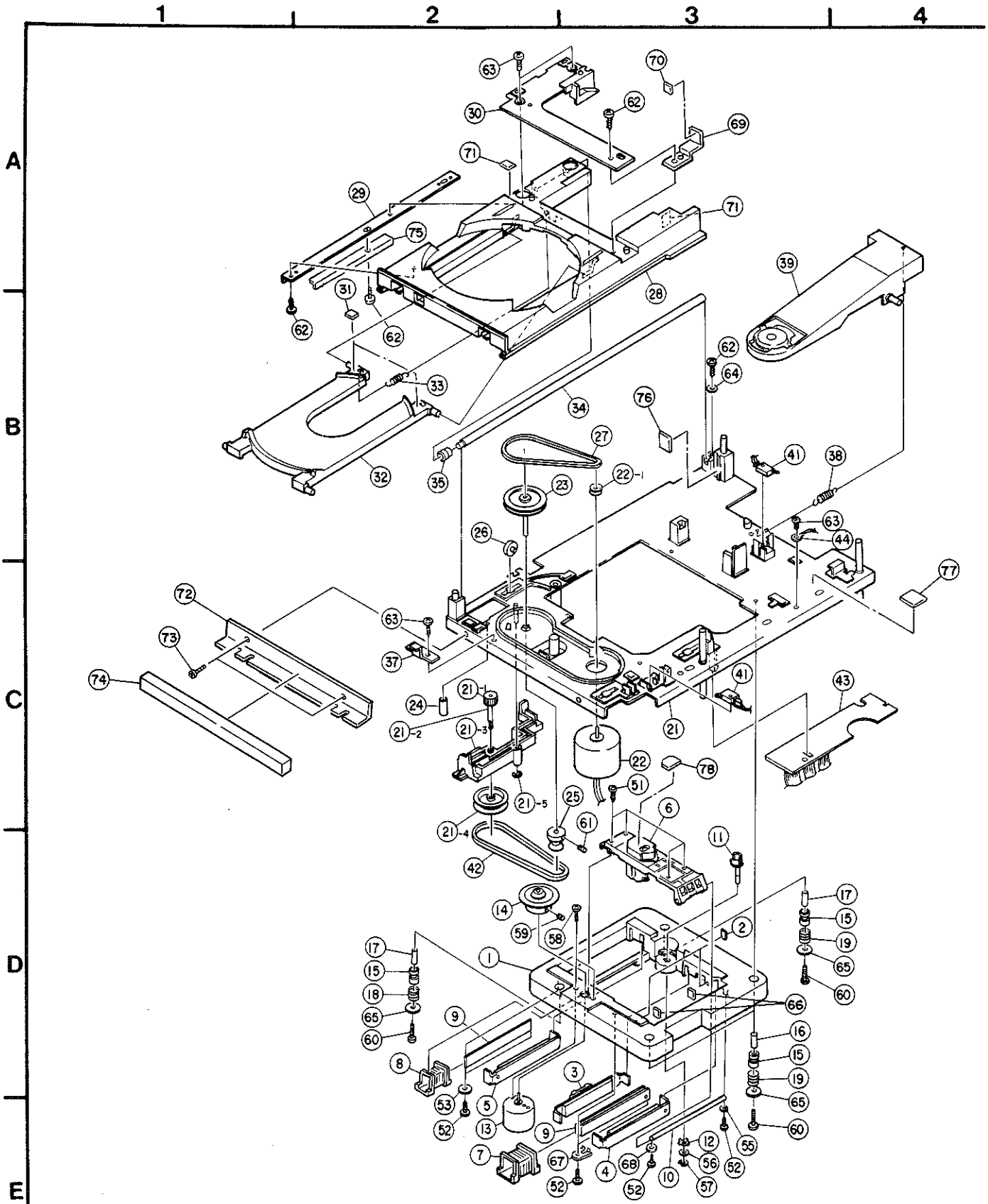
	Ref. No.	Part No.	Part Name	Remarks
⚠	L900	2398019002	LINE FILTER COIL	
		4150299000	CONDENSER COVER	
⚠	C900~902	2538014003	CK45F2GAC103M	0.01 μF 400V
⚠		2020022008	FUSE HOLDER	
⚠	F1	2061029002	FUSE(0.2AT)	
⚠		2124698008	VOLTAGE SELECTOR(D)	
⚠	SW900	2124697009	POWER SWITCH	
⚠	CC500	2042294005	9P PH-SAN CONN CORD	

2U-1658 KEY & DISPLAY UNIT

Ref. No.	Part No.	Part Name	Remarks
D300~307	2760432000	1SS270A	
	2124388907	TACT SWITCH	
	4990088002	QH3031HO	
	3934059001	F1P11BJM7	
	2050298093	30P FFC CONN. BASE	

WARNING:
Parts marked with ⚠ and/or shading have special characteristics important to safety.
Be sure to use the specified parts for replacement.

EXPLODED VIEW OF FG-611 MECHA UNIT



PARTS LIST OF FG-611 MECHANISM UNIT

Ref. No.	Part No.	Part Name	Remarks
1	3150338108	P.U. HOUSING	
2	4610336005	STOPPER	
3	PM01A15	MAGNET SUB ASS'Y	
4	PM01A20	MAGNET SUB ASS'Y	
5	PM01A21	MAGNET SUB ASS'Y (C)	
6	4990078009	PICK-UP KSS151A	
7	2390014209	M. COIL ASS'Y	
8	2390015208	G. COIL ASS'Y	
9	4330480008	YOKE (B)	
10	4430617302	P.U SHAFT	
11	4210431203	STOPPER COLLAR	
12	3158451003	FRICTION WASHER	
13	2170159009	SPINDLE MOTOR	
14	4210423208	TURN TABLE	
15	4620083005	H. DAMPER	
16	4330484004	COLLAR (A)	
17	4330485100	COLLAR (B)	
18	4630514001	COIL SPRING (C)	
19	4630515000	COIL SPRING (D)	
21	4110813002	BASE PLATE ASS'Y	
21-1	—	DRIVE GEAR	
21-2	—	GEAR SHAFT	
21-3	—	LOCK ARM	
21-4	—	GEAR PULLEY	
21-5	4761001001	2E RING	
22	PL01A34	LOADING M. SUB ASS'Y	
22-1	—	MOTOR PULLEY	
23	4210439108	GEAR PULLEY ASS'Y	
24	4620084017	TUBE	
25	4210425002	MOTOR PULLEY	
26	4250170003	SLIDER ROLLER	
27	4230046102	BELT (A)	
28	4310267306	LOADER FRAME	
29	4122177105	LOADER BRACKET	
30	4110664400	LOADER GUIDE	
31	1220117083	HIMERON SHEET	
32	4310265201	DISC TRAY	
33	4630574009	DISC TRAY SPRING	
34	4430621000	LOADER RAIL	
35	4620084004	TUBE	
36	—	—	
37	4122512003	BRACKET	
38	4630598001	CLAMPER SPRING	
39	PC01A37	CLAMPER ARM ASS'Y	
40	—	—	
41	2124650004	LEAF SW	
42	4230047004	BELT (B)	
43	2U-1461A	TERMINAL UNIT	
44	2030241060	1P CONTACT ASS'Y	

Ref. No.	Part No.	Part Name	Remarks
51	4738010009	M1.7x4 #D(W)ZNB	
52	4738014005	3x8CBTS(H-L)ZND	
53	4751106042	3 WASHER	
54	—	—	
55	4751106042	WASHER	
56	4751005017	4W BKNI	
57	4410856002	G-RING	
58	4713103025	2x6 CBS BK	
59	4744300004	2.6x4BSS(A)	
60	4711807022	3x18 CPS BK	
61	4744300033	2.6x6BSS(A)	
62	4737508017	3x10CBTS(P)-B	
63	4757002005	3x6CBTS(S)-Z	
64	4751005004	4W	
65	4122296002	F-COVER	
66	4411002004	SPACER	
67	4410993004	YOKE HOLDER	
68	4410857001	P-RING	
69	4410994003	STOPPER BRACKET	
70	4610336005	STOPER	
71	1220163001	SPACER (M)	
72	4410992005	FRONT BRACKET	
73	4737016020	2.6x5 CBTS(S)-B	
74	4610437001	FRONT CUSHION	
75	4122689007	LOADER SPACER	
76	4411001005	SPACER	
77	1250019028	SPACER	
78	4410997000	PU PLATE	

PARTS LIST OF EXPLODED VIEW

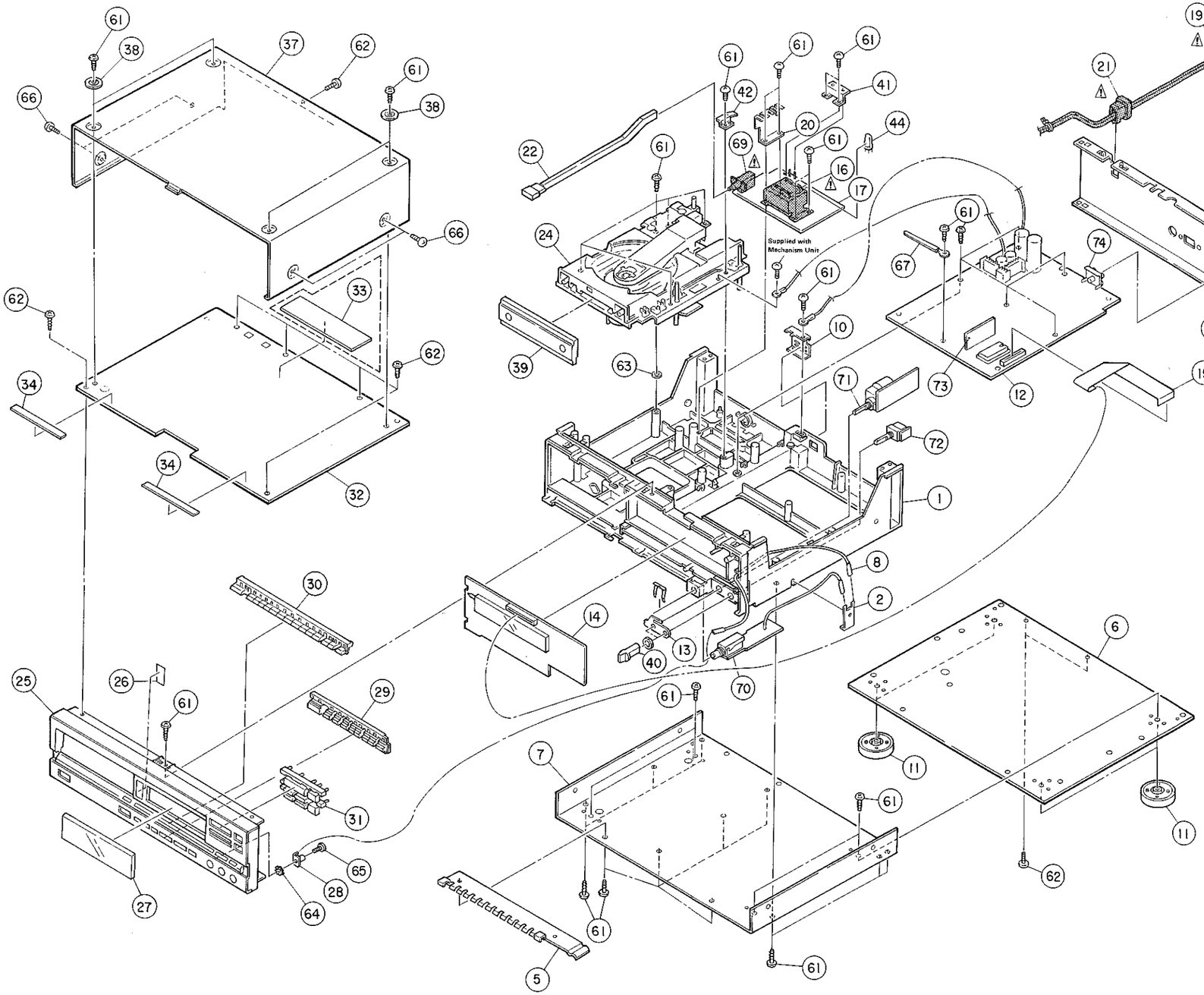
Ref. No.	Part No.	Part Name	Remarks
1	1031108404	CHASSIS	
1	1031108417	CHASSIS	U.S.A
2	4122570003	EARTH PLATE (C)	
3	–	–	
4	–	–	
5	4122585108	EARTH PLATE	
6	1050780201	BOTTOM COVER (A)	
7	1050781307	BOTTOM COVER (B)	
8	2030358005	EARTH WIRE (C)	
9	1050782403	BACK PANEL	
10	4122584109	EARTH BRACKET (B)	
11	1040180109	FOOT ASS'Y	
12	2U-1657A	SERVO SIG. UNIT	Europe Asia, U.K., Australia
12	2U-1718	SERVO SIG. UNIT	U.S.A. Canada
13	4122569001	EARTH PLATE (V)	
14	2U-1658	KEY/DISPLAY UNIT	
15	0090013007	30P FFC	
⚠ 16	2335686003	POWER TRANS	Europe, Australia, U.K.
⚠ 16	2335684005	POWER TRANS	U.S.A., Canada
⚠ 16	2335700002	POWER TRANS	Asia
⚠ 17	2U-1739A	POWER S. UNIT	U.S.A. Canada
⚠ 17	2U-1739C	POWER S. UNIT	Europe
⚠ 17	2U-1739D	POWER S. UNIT	Australia, U.K.
⚠ 17	2U-1739E	POWER S. UNIT	Asia
18	–	–	
⚠ 19	2062063009	AC CORD	Europe
⚠ 19	2062061001	AC CORD	U.S.A., Canada
⚠ 19	2062025005	AC CORD	Australia
⚠ 19	2062024006	AC CORD	U.K.
⚠ 19	2006031026	AC CORD	Asia
20	4122568002	EARTH PLATE (T)	
21	4450056008	CORD BUSH	
22	1131067209	P. SW. LEVER ASS'Y	
23	–	–	
24	FG611	CD MECH. UNIT	
25	1460973815	FRONT PANEL ASS'Y	
26	1430563006	REMOTE SHEET	
27	1430554206	WINDOW	
28	4122571002	EARTH PLATE (K)	
29	1131070102	KNOB SERIES	
30	1131069100	TENKEY KNOB	
31	1131071208	FUNCTION KNOB ASS'Y	
32	1020339200	TOP COVER (C)	
(33	4610401008	DUMPER (A))	
34	4610426009	DUMPER (B)	
35	–	–	
36	–	–	
37	1020340008	TOP COVER (A)	
38	1460772003	TOP COVER WASHER	
39	1460974128	LOADER PANEL	
40	1120475006	H/P KNOB	
61	4737508017	3×10 CBTS (P)-B	
62	4737015018	3×8 CBTS (S)-B	
63	4770231024	4W (S)	
64	4753201000	3TWB	
65	4737500002	3×6 CBTS (P)-Z	
66	4737503038	4×10CTTS(P)-B	
67	EP6214	CORD HOLDER	
68	4122657104	LODER SPRING	
⚠ 69	2124697009	POWER SWITCH	
70	2048271006	HEAD PHONE JACK(AU)	
71	2124700006	ROTARY SWITCH	
72	2110544001	V1620V25FA103M	
73	KU-5866	DIGTAL SIG.PRO.UNIT	
74	2048265009	4P RCA PIN JACK	

WARNING:
Parts marked with ⚠ and/or shading have special characteristics important to safety.
Be sure to use the specified parts for replacement.

PARTS LIST OF PACKING & ACCESSORIES

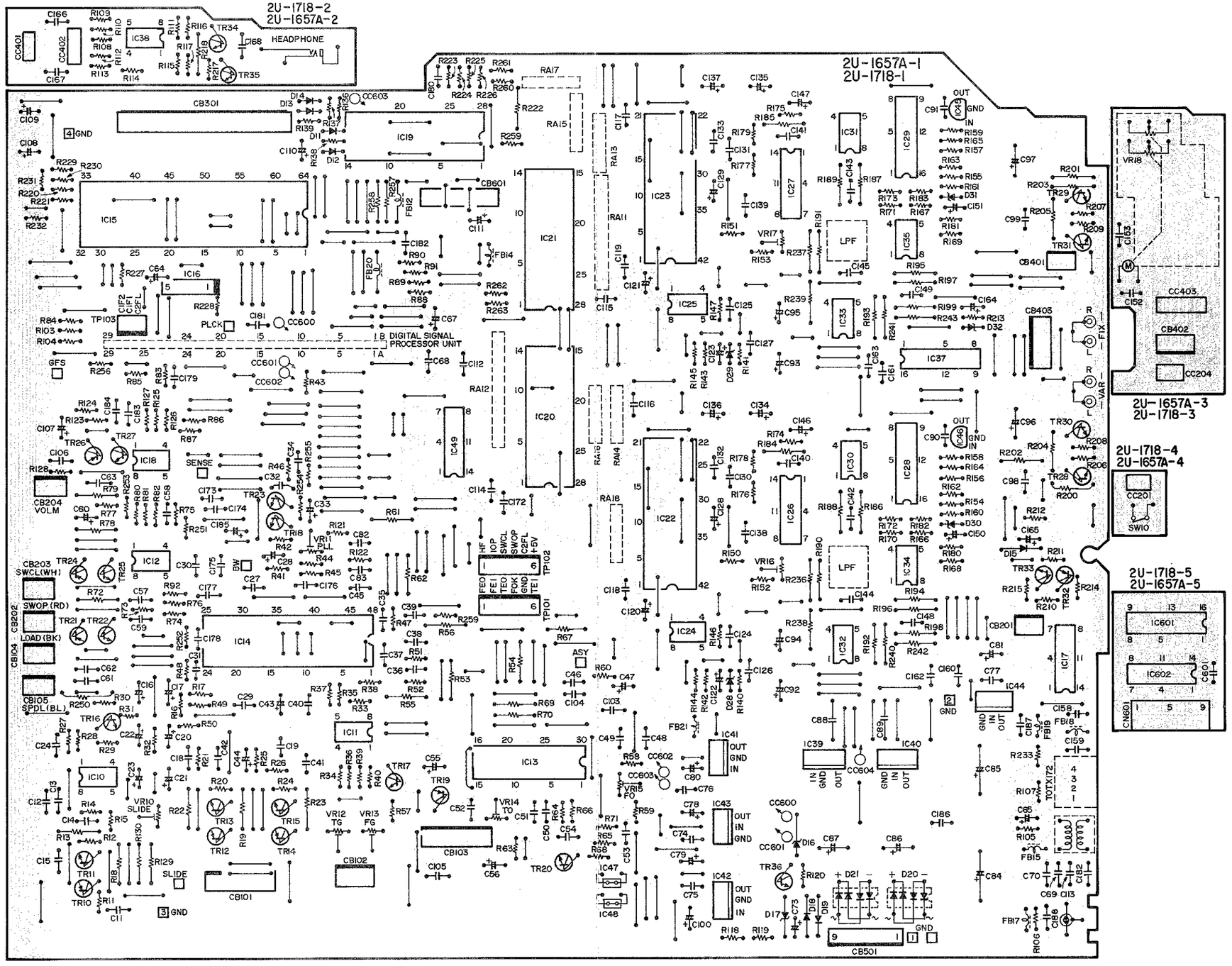
Ref. No.	Part No.	Part Name	Remarks
	5050131076	CABINET COVER	
	5030698102	CUSHION (L)	
	5030699101	CUSHION (R)	
	5011270222	CARTION CASE	
	5050038030	POLY COVER	
	5111698005	INST MANUAL(E2)	European, U.K. Asia, Australia, Canada
	5111699004	SWEDISH INST MANUAL	European, Asia, Canada
	2048121004	2P PIN CORD	
	5290073004	MINI DRIVER	
	4990117009	RC-216	
	5131338002	CONTROL CARD BASE	
	5131349004	THERMAL CARBON FILM	
	2033667007	PLUG ADAPTER	Asia
	5130985003	INST LABEL	
	5131220000	CAUTION LABEL	
	5138294000	VDE LABEL	
	5111694006	INST MANUAL (EU)	U.S.A.
	5158030008	PRESET LABEL	Asia
	5150359004	CAUTION SHEET	Asia
	5150418107	DAI WARRANTY HOME	U.S.A
	5150439102	SAFETY INSTRUCTION	U.S.A.
	5150388004	DCI WARRANTY	Canada

EXPLODED VIEW

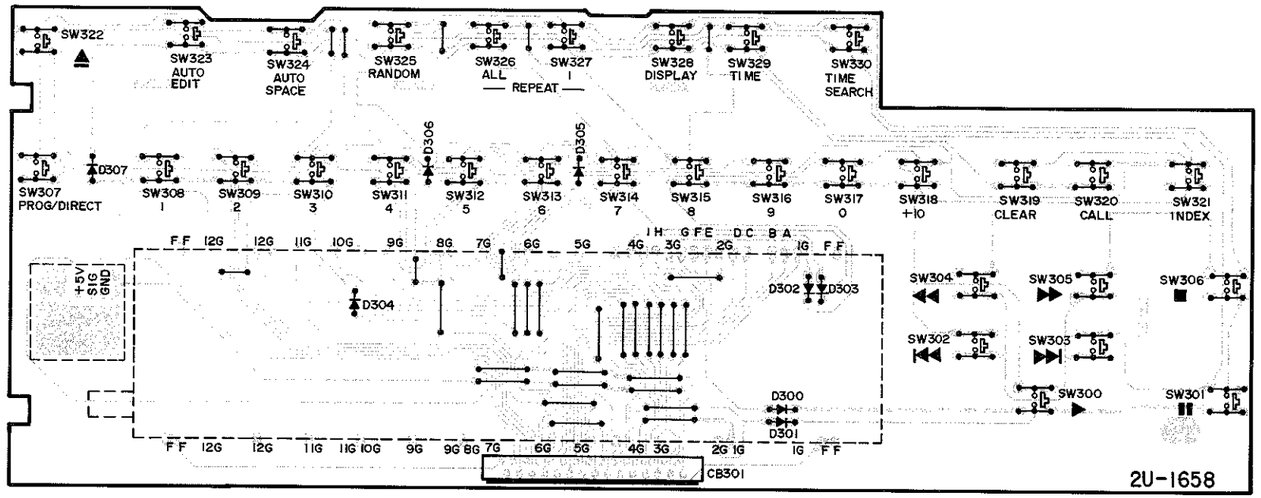


P.W. BOARD

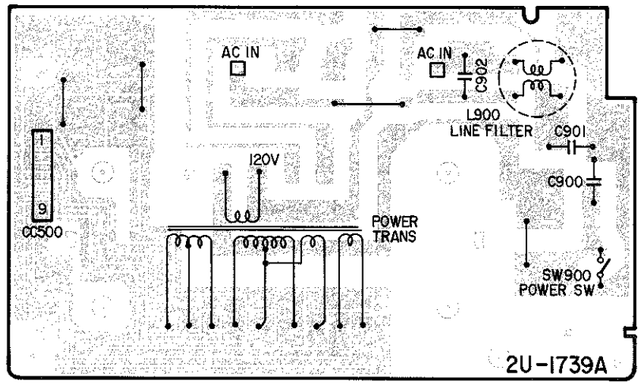
2U-1657A/1718 SERVO & SIGNAL UNIT



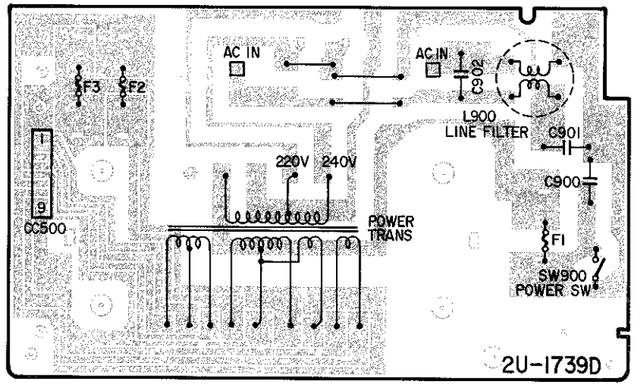
2U-1658 KEY & DISPLAY UNIT



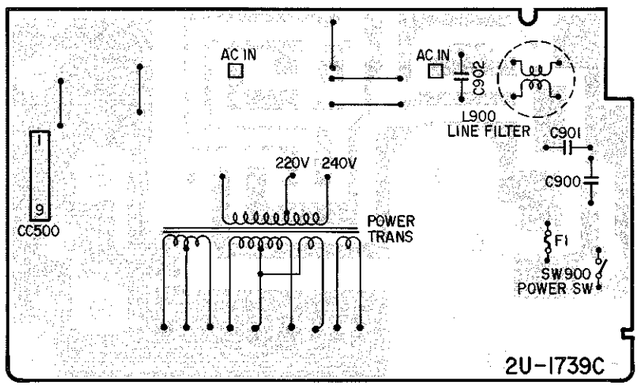
2U-1739A POWER SUPPLY UNIT (U.S.A. & Canada models)



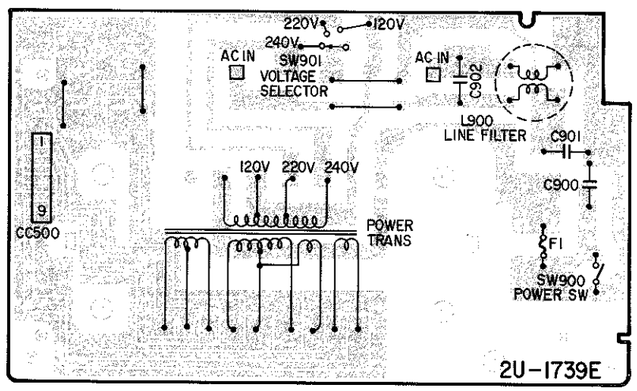
2U-1739D POWER SUPPLY UNIT (Australia & UK models)



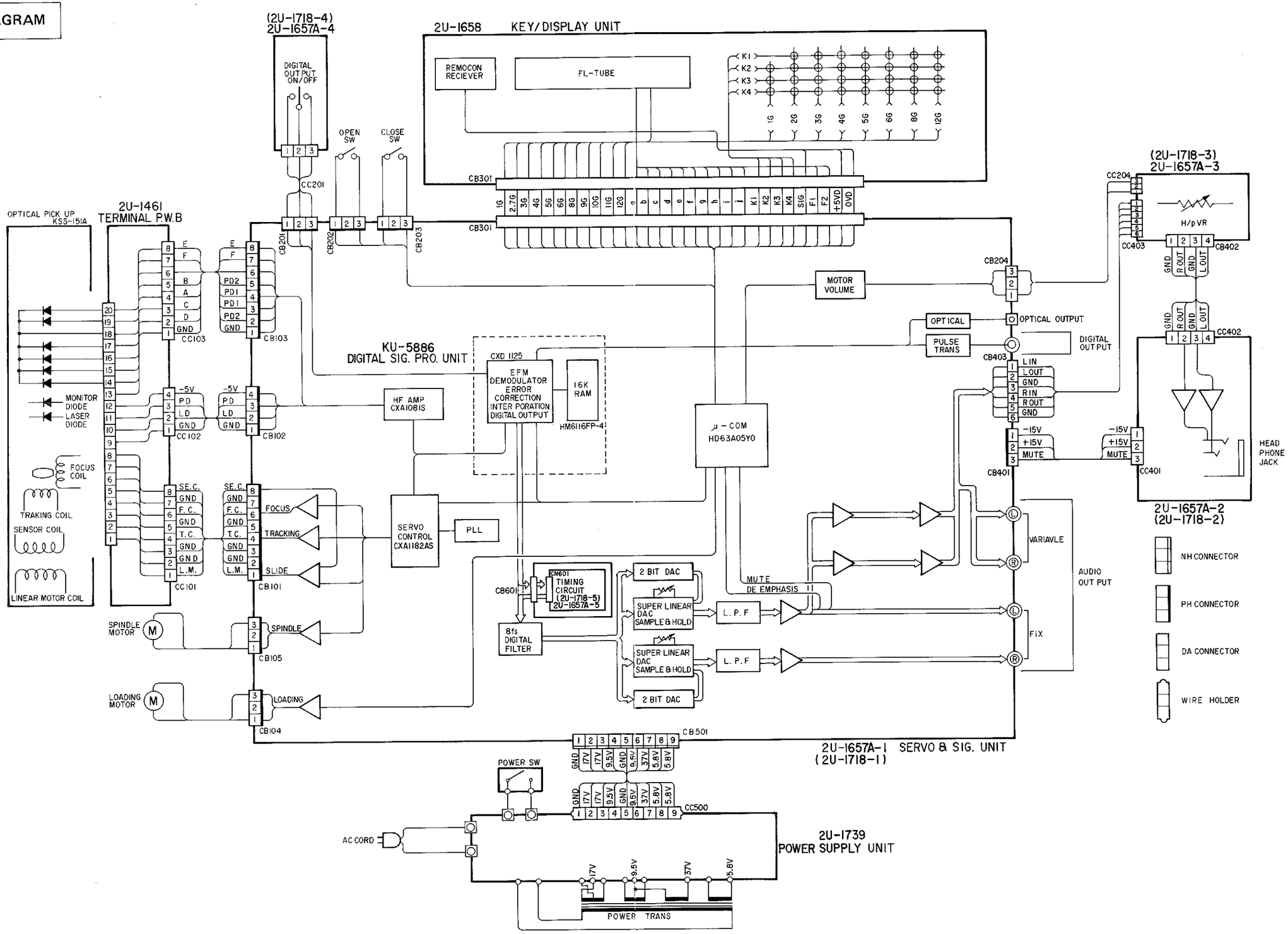
2U-1739C POWER SUPPLY UNIT (Europe model)



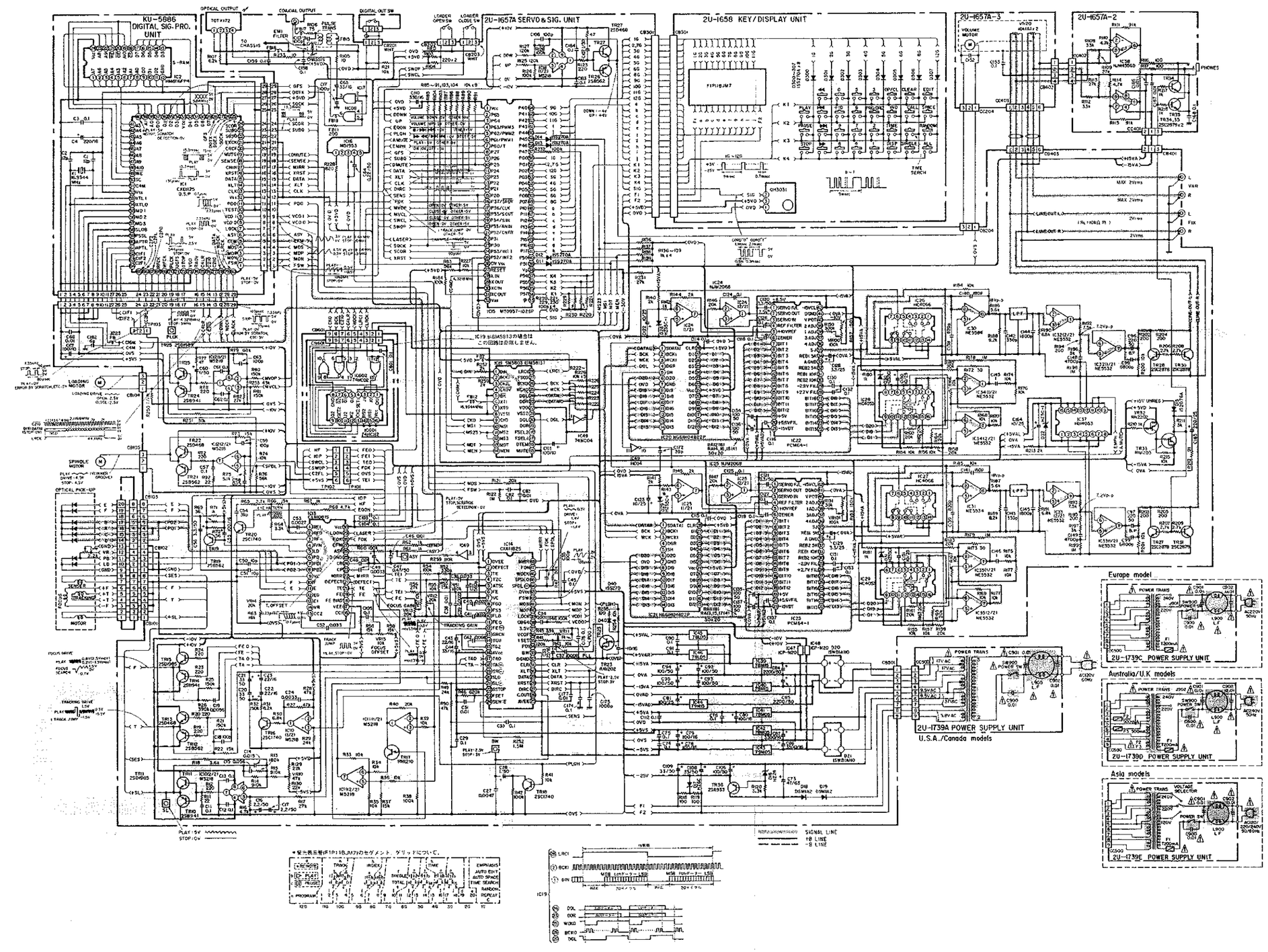
2U-1739E POWER SUPPLY UNIT (Asia model)



WIRING DIAGRAM



SCHEMATIC DIAGRAM



NOTES:
ALL RESISTANCE VALUES IN OHM, K = 1,000 OHM, M = 1,000,000 OHM.
ALL CAPACITANCE VALUES IN MICROFARAD, P = MICRO-MICRO FARAD.
EVERY VOLTAGES AND CURRENTS IS MEASURED AT NO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

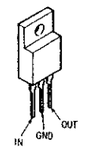
WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 240 k ohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

SEMICONDUCTORS

• IC



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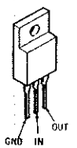
NJM78M15FA
NJM7805A



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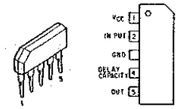
NJM79M15FA

NJM78L05A



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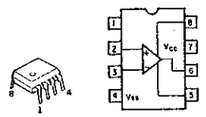

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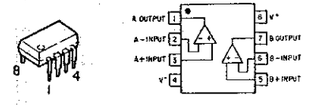

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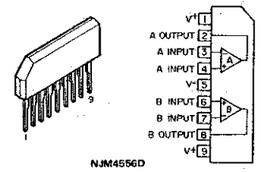
M5218P



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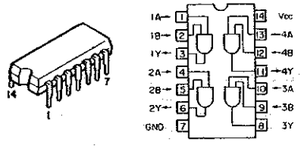

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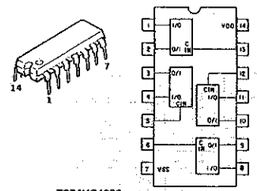

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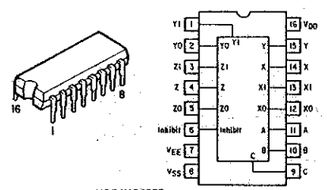
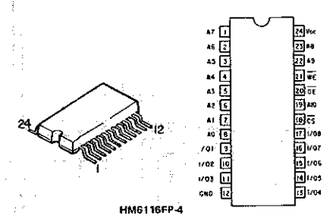
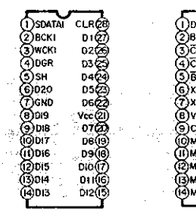
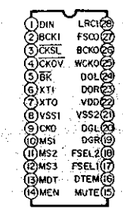
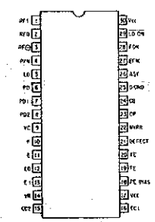
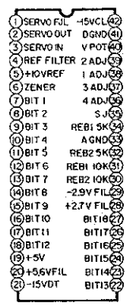


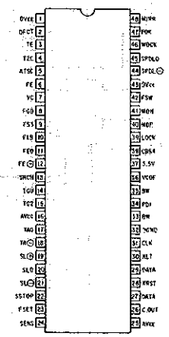


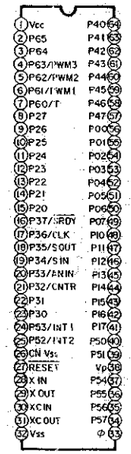




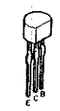






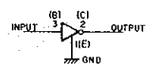


• TRANSISTORS



2SA933(Q)
2SC1740(R/S)
2SC2878(A/B)

2SB562(C)
2SD468(C)



RN1202(10K-10K) NPN
RN2202(10K-10K) PNP
RN1210(4.7K - - -) NPN

• DIODES

1S2076
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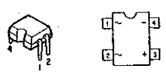
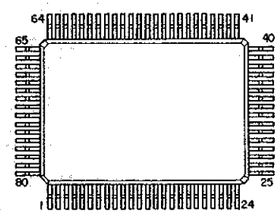
DSM1A2

HZS5C-1
HZ6C-2
HZ24



• IC PROTECTOR

ICP-F20



CXD1125

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MINATO-KU, TOKYO 107 JAPAN
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