



AIWA[®]

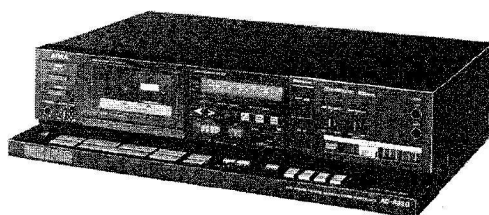
SERVICE MANUAL

S/M Code No. 84-005
DATA OF ISSUE 2/1984

MODEL NO.

AD-R550

STEREO CASSETTE DECK

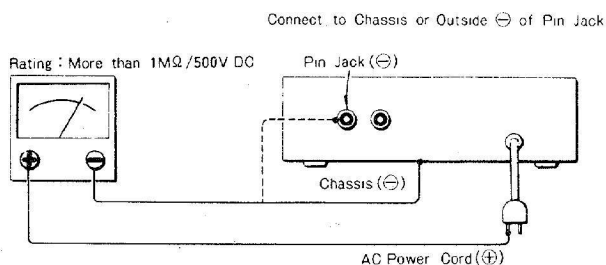


TYPE. H,U,E,K,G

Follow the instructions carefully, which will allow the user to optimise the products' performance and give many years of service.

1. No scratch and melting shall be made to covered lead-wires of an a.c. primary circuit including mains leads.
2. No illegibility shall be given to the specification plate, the caution labels, the fuse labels and others.
3. When, on pattern sides of circuit boards, additional repair-parts have been made up, the parts shall be firmly glued to circuit boards or other components, unless the parts can be attached firmly.
4. The following matters shall be maintained as they are, when repairing.
 - 1) Soldering of lead-wire ends
* Care should be taken of the space distance in an a.c. primary circuit as well as soldering.
 - 2) Wiring and holding of lead-wires with wire-clips and binders
 - 3) Materials of lead-wires
* e.g.: For UL models, lead-wires to be used shall be approved or accepted by the UL.
 - 4) Location of all kinds of insulators
 - 5) Setting of voltage selector switch
* Set the Voltage Selector Switch to 240V, 220V, or 120V, According to your Local Voltage.
5. After repaired, the insulation resistance or leakage current shall be measured with $500 \pm 5V$ D.C and shall be not less than $1M\Omega$.
6. General instructions for mechanism repair
 - 1) The heads, capstan and pinch roller shall be cleaned of good quality alcohol after repaired, because dirty heads shall cause distorted sounds while dirty capstan and pinch roller shall occur wow/flutter and take-up fault.
 - 2) Lubricants been stained the surfaces of transmitting portion of the belts, idlers, capstan and pinch roller shall be removed, because slippery and faulty tape travel shall be caused.
 - 3) When oiling, only one or two drops shall be applied so as not to run over and be dispersed. Note should be taken of the metal fitting for the capstan and rotating portions of the idlers and pinch roller, especially.
 - 4) E-rings and poly slider washers shall be replaced with new ones, if once those have been removed. — No re-utilization due to unreliability.
 - 5) Regular spare-parts shall always be used for repair, because using irregular parts and tampering with the products shall cause deterioration, malfunction and damage.

Measuring Point

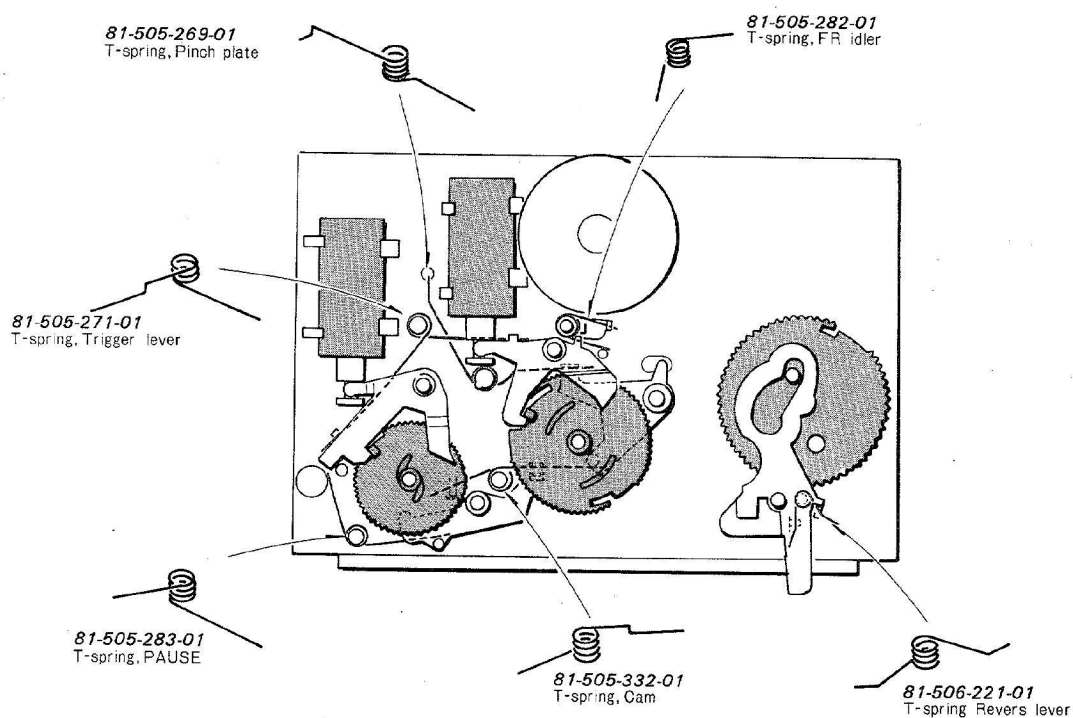
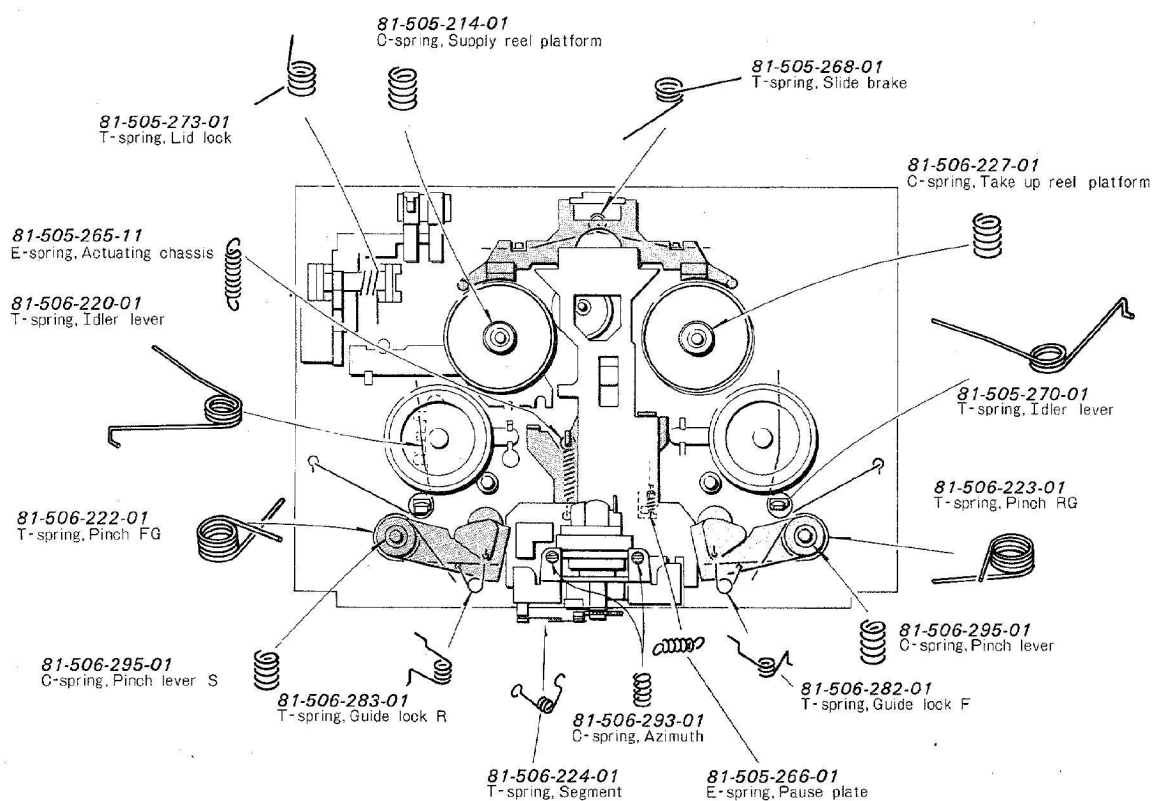


SPECIFICATIONS

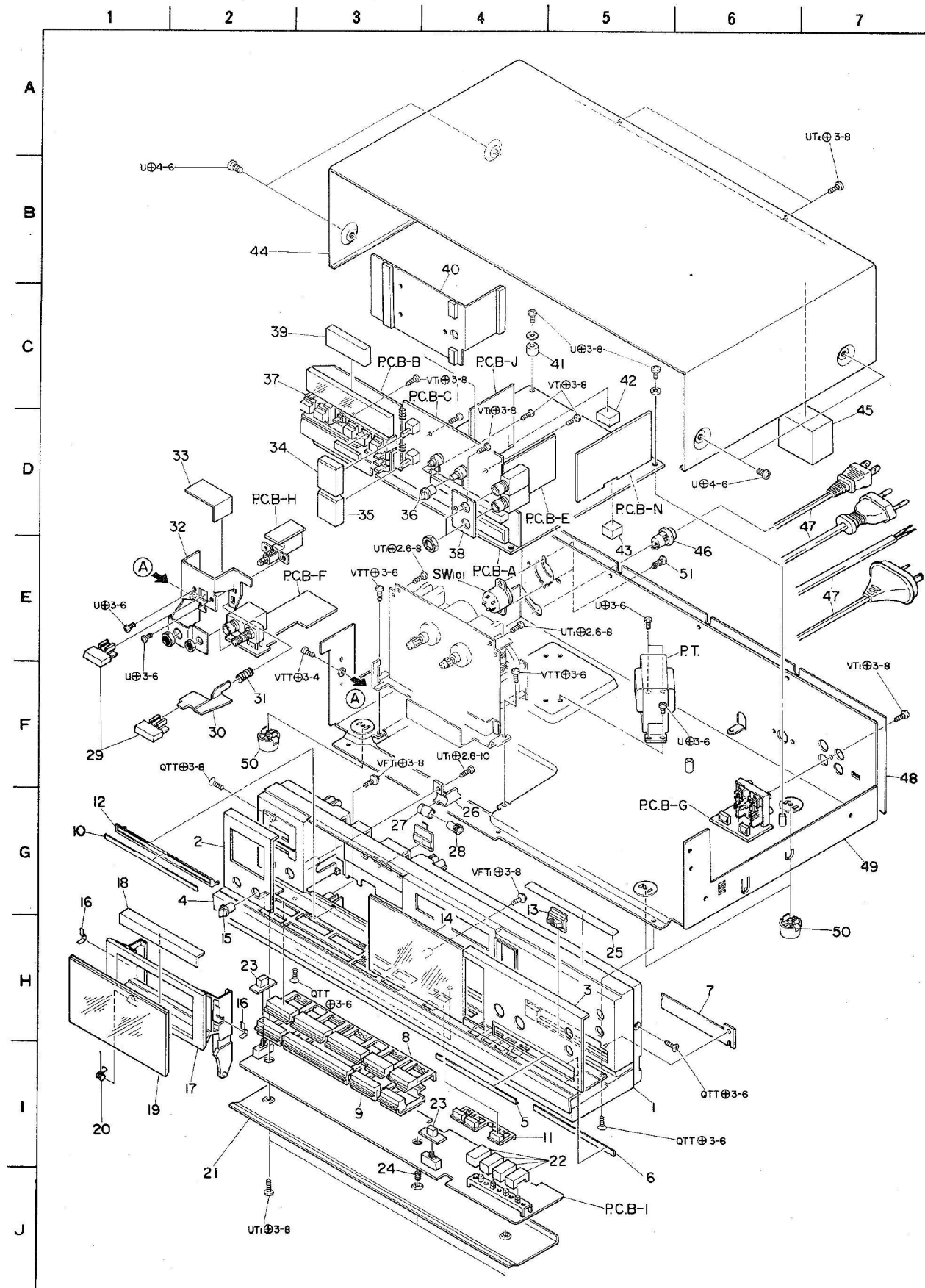
Power supply:	H model AC 120V/220V/240V switchable 50/60Hz U model AC 120V, 50/60Hz E model AC 220V, 50/60Hz K, G models AC 240V, 50/60Hz H, E, K, G models 15W	WTD-A	More than 61/68 dB (METAL DOLBY NR B/C) More than 60/67 dB (CrO2 DOLBY NR B/C) More than 58/66 dB (NORMAL, DOLBY NR B/C) More than 35 dB
Power consumption:	U model 23W	Channel separation: (1 kHz, OVU) Cross talk: (1 kHz, OVU) Erasing ratio: (125 Hz, OVU + 10dB, METAL) Level drift: (10 KHz) Level indication error:	More than 60 dB More than 60 dB ± 1 dB
Dimensions:	420(W) $\times$ 110(H) $\times$ 300(D)mm [16-1/2" $\times$ 4-3/8" $\times$ 11-7/8"]	Bias frequency:	(-20VU) $\pm$ 4dB (-10VU) $\pm$ 3dB (-OVU) $\pm$ 1dB (+1 $\sim$ +6VU) $\pm$ 2dB 100KHz
Weight:	5.2kg (11.45 lbs)	Frequency response:	METAL : 20 $\sim$ 18.000Hz CrO2 : 20 $\sim$ 17.000Hz NORMAL: 20 $\sim$ 16.000Hz
Track type:	4 tracks 2 channels	Motor:	DC Servomotor DC motor
Tape speed:	4.8cm/s (1-7/8ips)	Head:	DX Combination head (for REC/PB) Double gap Sendust head (for erase)
Wow & flutter:	0.038% (WRMS) According to DIN 45500 0.1%	Inputs:	MIC maximum input sensitivity: 0.3mV (200 Ω -10K Ω matched) LINE IN maximum input Sensitivity: 50 mV (more than 50k Ω) LINE OUT/PLAY standard output level 0.38V (OVU); Suitable load impedance: more than 50K Ω ; Headphones: 1.5mW/8 Ω
Automatic Stop System	: Full auto stop	Outputs:	METAL TTA-119MX NORMAL TTA-119J CrO2 TTA-119G
Automatic shut-off action time:	4 ⁺¹ _{-0.5} s.	Test tape:	
Pinch roller pressure:	225 $\pm$ 25g (2.2 $\pm$ 0.25N)		
Take-up torque:	35 ⁺¹⁵ ₋₇ g-cm(3.4 ^{+1.5} _{-0.69} mN $\cdot$ m)		
FF & rewind torque:	160 $\pm$ 40g-cm (15.7 $\pm$ 3.92mN $\cdot$ m)		
FF & rewind time:	65 $\pm$ 10s. (C-60)		
Counter indication error:	0 $\pm$ 2 digit (C-60) 490 $\pm$ 20mV (LINE)		
Playback output:	(TTA-161) REC/PB output: (1kHz, OVU) REC/PB distortion:		
	OVU $\pm$ 40mV(LINE) Less than 1.5% (METAL) Less than 2.0% (CrO2) Less than 1.5% (NORMAL)		
Playback noise:	Less than 3.2mV (NPMAL 120 μ s DOLBY NR OFF) Less than 1.5 mV (CrO2 70 μ s DOLBY NR B ON) Less than 2.2mV (METAL 70 μ s DOLBY NR OFF)		
REC/PB SN ratio:	More than 50dB (METAL DOLBY-NR OFF) More than 49 dB (CrO2, DOLBY-NR OFF) More than 48 dB (NORMAL, DOLBY-NR OFF)		

- Specifications and external appearance are subject to change without due to product improvement.
- Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.
- Dolby and the $\square$ symbol are trademarks of Dolby laboratories licensing corporation.
- HX professional originated by BANG & OLUFSEN

SPRING APPLICATION POSITION



EXPLODED VIEW-1



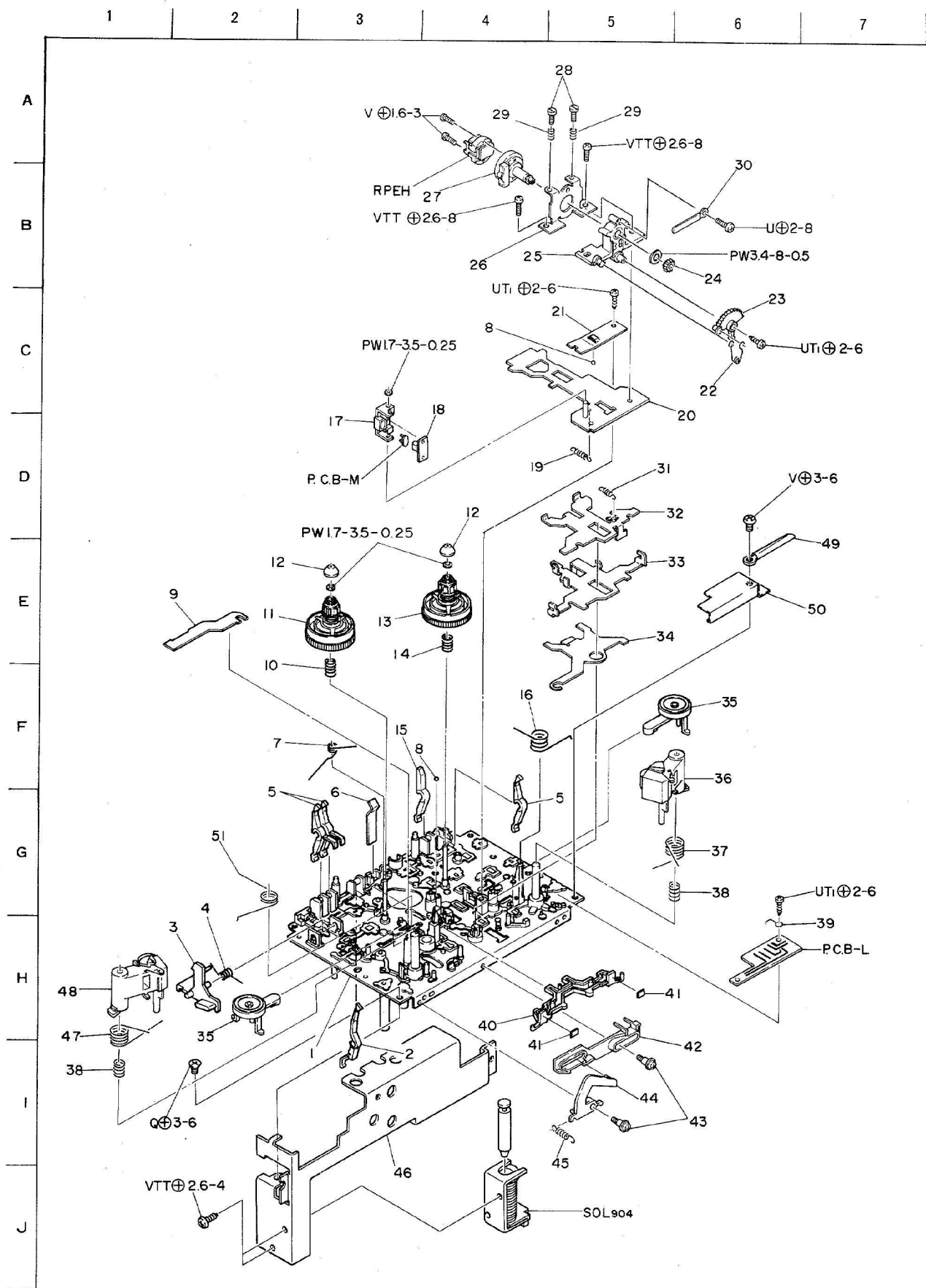
PARTS LIST

MECHANICAL PARTS

■ mark in the part list shows exclusive part.
■ "★★★" shows unavailable Repair Part.

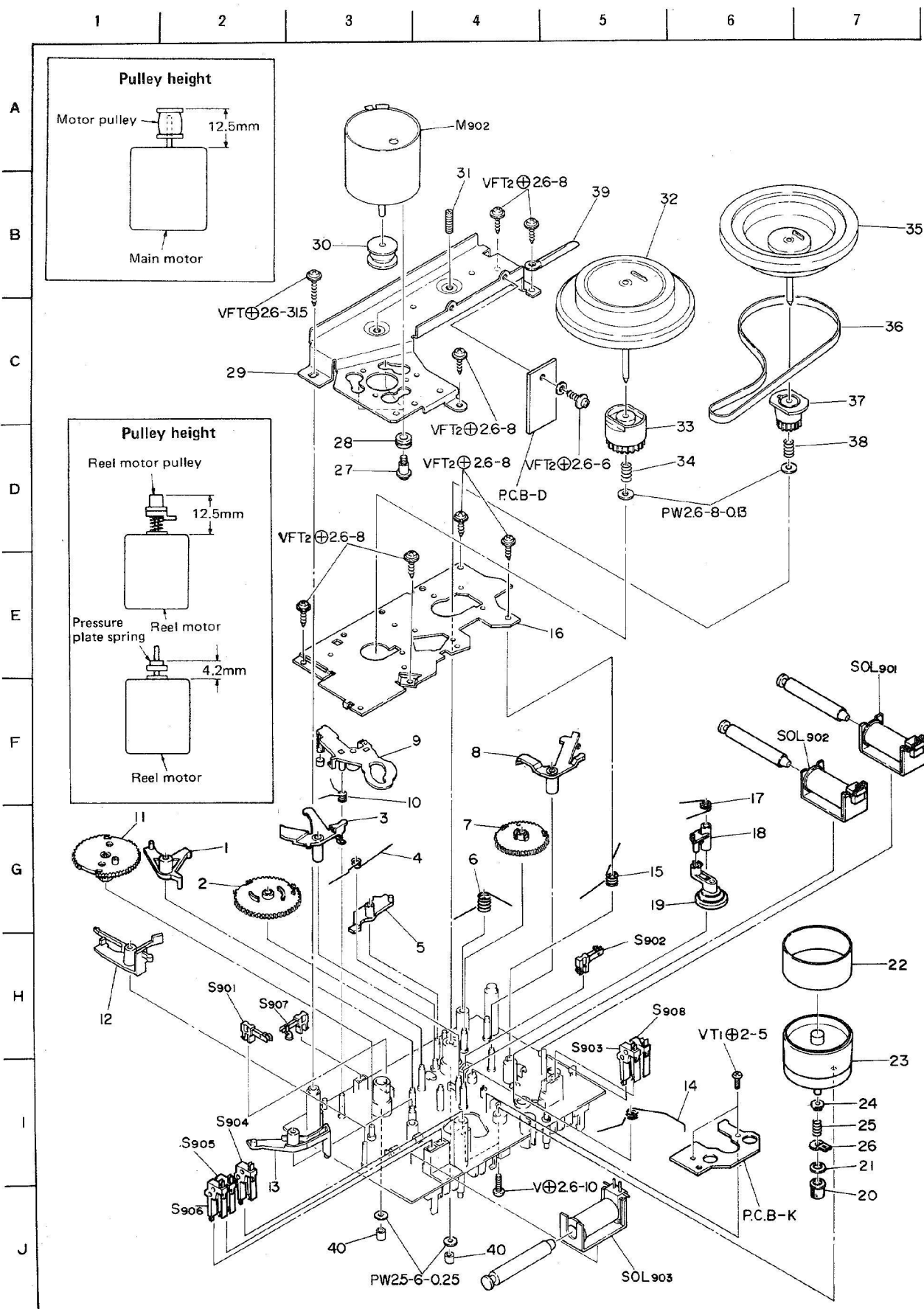
Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty	Remark
1- 1 ~13	82-199-025-01		Front cabinet ass'y	※	1	
1- 1	82-199-002-11		Cabinet, Front	※	1	★★★
1- 2	82-199-003-01		Panel L, Front	※	1	★★★
1- 3	82-199-004-01		Panel R, Front	※	1	★★★
1- 4	82-199-026-01		Panel F, Front	※	1	★★★
1- 5	82-199-006-01		Name plate, REC	※	1	★★★
1- 6	82-199-221-01		Sheet, Volume	※	2	★★★
1- 7	82-199-008-01		Plate B	※	1	★★★
1- 8	82-199-009-01		Touch-key, PLAY	※	1	
1- 9	82-199-010-01		Touch-key, STOP	※	1	
1-10	82-199-022-01		Plate, Attachment	※	1	★★★
1-11	82-199-023-01		Touch-key, Synchro 2	※	1	
1-12	82-199-029-01		Attachment B	※	1	★★★
1-13	82-199-034-11		Knob, Volume	※	1	
1-14	82-199-007-11		Window, Meter	※	1	
1-15	82-785-026-01		Knob	CX-50	1	
1-16 ~19	82-199-013-11		Cassette box ass'y	※	1	
1-16	82-192-218-01		P-spring, Cassette holder	FX-30	2	
1-17	82-197-008-01		Box, Cassette	FX-90	1	★★★
1-18	82-199-011-11		Plate, Cassette	※	1	★★★
1-19	82-199-014-01		Window, Cassette	※	1	★★★
1-20	82-197-207-01		T-spring, EJECT	FX-90	1	
1-21	82-199-019-01		Cabinet, Bottom	※	1	★★★
1-22	82-199-017-01		Push-button, Direction	※	4	
1-23	82-199-018-01		Knob, Slide switch	※	2	
1-24	82-197-212-01		C-spring, Earth	FX-90	1	
1-25	82-197-026-01		Sheet, Bias	FX-90	1	★★★
1-26	82-175-210-11		Holder, Oil-damp	AD-3500	1	
1-27	82-175-207-11		Shaft bearing, Oil-damp	AD-3500	1	
1-28	82-534-264-01		Gear, Oil-damp		1	
1-29	82-188-012-01		Knob, POWER	AD-F990	2	
1-30	82-199-203-01		Eject lever	※	1	★★★
1-31	82-199-215-01		C-spring, Eject	※	1	
1-32	82-199-202-01		Holder, POWER	※	1	★★★
1-33	82-199-210-01		Insulation sheet	※	1	★★★
1-34	82-199-015-01		Push-button, DOLBY A	※	1	
1-35	82-199-016-01		Push-button, DOLBY B	※	1	
1-36	82-199-024-01		Knob, Bias	※	2	
1-37	82-199-211-11		Guide, LED	※	1	★★★
1-38	82-199-204-01		Holder R, Circuit board	※	1	★★★
1-39	82-199-208-01		G cushion A	※	1	★★★
1-40	82-199-651-11		Shield sheet ass'y	※	1	★★★
1-41	82-199-231-01		Cushion, Main circuit board	※	1	★★★
1-42	82-197-219-01		G cushion, Circuit board	FX-90	1	★★★
1-43	82-199-219-01		G cushion	※	1	★★★
1-44	82-199-012-01		Cabinet, Steel	※	1	★★★
1-45	82-199-230-01		Cushion, Steel cabinet	※	1	★★★
1-46	87-085-184-01		Cord bushing (H, U models only)		1	
	87-085-185-01		Cord bushing (E, K, G models only)		1	
1-47	87-034-958-01		AC power cord (H models only)		1	
	87-034-951-01		AC power cord (U model only)		1	
	87-034-877-01		AC power cord (E model only)		1	
	87-034-975-01		AC power cord (K model only)		1	
	87-034-892-01		AC power cord (G model only)		1	
1-48	82-199-038-01		Sheet, Jack (H model only)	※	1	★★★
	82-199-027-01		Sheet, Jack (U model only)	※	1	★★★
	82-199-035-01		Sheet, Jack (E model only)	※	1	★★★
	82-199-037-01		Sheet, Jack (K model only)	※	1	★★★
	82-199-040-01		Sheet, Jack (G model only)	※	1	★★★
1-49	82-199-226-01		Amp. chassis ass'y (H model only)	※	1	★★★
	82-199-207-11		Amp. chassis ass'y (U, E, K, G models only)	※	1	★★★
1-50	87-055-055-01		Foot		4	
1-51	87-085-090-01		Nylon rivet 3-6.5 (H model only)		2	

EXPLODED VIEW-2



Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty	Remark
2- 1	81-506-201-21		Outsert chassis ass'y		1	***
2- 2	81-505-242-11		Lever, Metal		1	
2- 3	81-505-239-01		Eject lever		1	
2- 4	81-505-273-01		T-spring, Lid lock		1	
2- 5	81-505-241-21		REC blocking lever		3	
2- 6	81-505-260-01		P-spring, Cassette holder		1	
2- 7	81-505-268-01		T-spring, Slide brake		1	
2- 8	87-073-005-01		Steel ball		2	
2- 9	81-505-238-01		Blocking plate, Eject		1	***
2-10	81-505-274-01		C-spring, Supply reel platform		1	
2-11	81-506-239-11		Supply reel platform R ass'y		1	
2-12	82-303-398-01		Cap, Tack-up reel platform		2	
2-13	81-506-240-21		Take-up reel platform F ass'y		1	
2-14	81-506-227-01		C-spring, Take-up reel platform		1	
2-15	81-505-240-21		Lever, Cassette sensor		1	
2-16	81-505-270-01		T-spring, Idler lever		1	
2-17	81-506-236-01		Guide, Tape		1	
2-18	81-506-274-01		Guide, Light		1	
2-19	81-505-265-11		E-spring, Actuating chassis		1	
2-10	81-506-238-11		Actuating chassis ass'y		1	***
2-21	81-507-224-01		P-spring, Actuating chassis		1	
2-22	81-506-224-01		T-spring, Segment		1	
2-23	81-506-219-01		Gear, Segment		1	
2-24	81-506-237-01		Gear, Head housing		1	
2-25	81-506-209-01		Head base ass'y		1	
2-26	81-506-204-01		Holder, Azimuth screw		1	***
2-27	81-506-208-01		Head housing ass'y		1	
2-28	81-506-230-01		Adjust screw, Azimuth		2	
2-29	81-506-293-01		C-spring, Azimuth		2	
2-30	87-038-056-01		Wire binder		1	***
2-31	81-505-266-01		E-spring, PAUSE plate		1	
2-32	81-506-301-01		Plate, PAUSE		1	
2-33	81-506-281-01		Plate, Pinch lever R		1	
2-34	81-506-203-01		Select lever, Pinch roller		1	***
2-35	81-505-216-31		Idler lever ass'y		2	
2-36	81-506-275-11		Pinch lever FG ass'y		1	
2-37	81-506-222-01		T-spring, Pinch FG		1	
2-38	81-506-295-01		C-spring, Pinch lever		2	
2-39	81-506-305-11		T-spring, Earth		1	
2-40	81-505-236-11		Lever, Slide brake		1	
2-41	81-505-237-01		Felt		2	
2-42	81-506-244-11		Head select lever E		1	
2-43	87-081-483-01		Moter screw, M2.6		2	
2-44	81-506-245-01		Lever, EDIT		1	
2-45	82-197-217-01		E-spring, EDIT	FX-90	1	
2-46	82-197-203-01		Holder, Mechanism	FX-90	1	***
2-47	81-506-223-01		T-spring, Pinch RG		1	
2-48	81-506-276-11		Pinch lever RG ass'y		1	
2-49	87-038-039-01		Wire binder		1	***
2-50	82-198-214-01		Shield plate, Relay		1	***
2-51	81-506-220-01		T-spring, Idler lever R		1	

EXPLODED VIEW-3



Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty	Remark
3- 1	81-505-230-01		Lever. PLAY		1	
3- 2	81-505-234-11		Gear. PLAY cam		1	
3- 3	81-505-231-01		Trigger lever, PLAY		1	
3- 4	81-505-272-01		T-spring, Cam		1	
3- 5	81-505-232-01		Lever. PAUSE		1	
3- 6	81-505-283-01		T-spring. PAUSE lever		1	
3- 7	81-505-235-01		Gear. PAUSE cam		1	
3- 8	81-505-233-01		Trigger lever, PAUSE		1	
3- 9	81-506-214-01		Lever, Reverse		1	
3-10	81-506-221-01		T-spring, Reverse		1	
3-11	81-506-241-01		Gear, Reverse		1	
3-12	81-506-242-11		Trigger lever, Reverse		1	
3-13	81-506-216-01		Lever		1	
3-14	81-505-269-01		T-spring, Pinch plate		1	
3-15	81-505-271-01		T-spring, Trigger lever		1	
3-16	81-505-204-11		Chassis B. Mechanism		1	***
3-17	81-505-282-01		T-spring, FR idler		1	
3-18	81-505-254-11		Lever FR A. idler		1	
3-19	81-505-301-11		FR idler ass'y		1	
3-20 ~26	09-047-198-01		Reel motor ass'y		1	
3-20	81-505-257-01		Pulley, Reel motor		1	***
3-21	81-505-328-01		Felt 4.5-7.2-10		1	
3-22	81-505-606-01		Shield plate		1	***
3-23	81-505-604-11		Reel motor		1	***
3-24	81-505-289-01		Pressure plate spring		1	***
3-25	81-505-290-01		C-spring, FR idler		1	
3-26	81-505-287-11		FR lever C. Idler		1	
3-27	87-081-483-01		Motor screw, M2.6		3	
3-28	87-087-029-01		Rubber cushion		3	***
3-29	81-506-202-01		Holder, Motor		1	***
3-30	82-565-334-01		Pulley, Motor		1	
3-31	81-565-373-01		Screw, Thrust		2	***
3-32	81-506-287-21		Flywheel RB ass'y		1	
3-33	81-506-243-01		Gear, Flywheel		1	
3-34	81-506-228-01		C-spring, Flywheel R		1	
3-35	81-506-205-21		Flywheel F ass'y		1	
3-36	81-506-229-01		Rubber belt		1	
3-37	81-505-225-01		Gear, Flywheel		1	
3-38	81-505-261-01		C-spring, Flywheel F		1	
3-39	87-038-039-01		Wire binder		1	***
3-40	81-505-246-11		Rubber, Drive		2	

S/M Code No. 84-005

Symbol No.	Part No.	Description	Remark
<MAIN CIRCUIT BOARD>			
PCB-A	82-199-601-1	PCB-A	***
PCB-B	82-199-602-1	PCB-B	***
PCB-C	82-199-603-1	PCB-C	***
PCB-D	82-199-604-1	PCB-D	***
PCB-E	82-199-605-1	PCB-E	***
PCB-F	82-199-606-1	PCB-F	***
PCB-G	82-199-607-1	PCB-G	***
PCB-H	82-199-608-1	PCB-H	***
PCB-I	82-199-609-1	PCB-I	***
PCB-J	82-199-610-1	PCB-J	***
PCB-K	82-199-611-1	PCB-K	***
PCB-L	82-199-612-1	PCB-L	***
PCB-M	82-199-613-1	PCB-M	***
PCB-N	82-199-614-1	PCB-N	***
PCB-O	82-199-615-1	PCB-O	***
PCB-P	82-199-616-1	PCB-P	***
PCB-Q	82-199-617-1	PCB-Q	***
PCB-R	82-199-618-1	PCB-R	***
PCB-S	82-199-619-1	PCB-S	***
PCB-T	82-199-620-1	PCB-T	***
PCB-U	82-199-621-1	PCB-U	***
PCB-V	82-199-622-1	PCB-V	***
PCB-W	82-199-623-1	PCB-W	***
PCB-X	82-199-624-1	PCB-X	***
PCB-Y	82-199-625-1	PCB-Y	***
PCB-Z	82-199-626-1	PCB-Z	***
PCB-AA	82-199-627-1	PCB-AA	***
PCB-AB	82-199-628-1	PCB-AB	***
PCB-AC	82-199-629-1	PCB-AC	***
PCB-AD	82-199-630-1	PCB-AD	***
PCB-AE	82-199-631-1	PCB-AE	***
PCB-AF	82-199-632-1	PCB-AF	***
PCB-AG	82-199-633-1	PCB-AG	***
PCB-AH	82-199-634-1	PCB-AH	***
PCB-AI	82-199-635-1	PCB-AI	***
PCB-AJ	82-199-636-1	PCB-AJ	***
PCB-AL	82-199-637-1	PCB-AL	***
PCB-AM	82-199-638-1	PCB-AM	***
PCB-AN	82-199-639-1	PCB-AN	***
PCB-AO	82-199-640-1	PCB-AO	***
PCB-AP	82-199-641-1	PCB-AP	***
PCB-AQ	82-199-642-1	PCB-AQ	***
PCB-AR	82-199-643-1	PCB-AR	***
PCB-AS	82-199-644-1	PCB-AS	***
PCB-AT	82-199-645-1	PCB-AT	***
PCB-AU	82-199-646-1	PCB-AU	***
PCB-AV	82-199-647-1	PCB-AV	***
PCB-AW	82-199-648-1	PCB-AW	***
PCB-AX	82-199-649-1	PCB-AX	***
PCB-AY	82-199-650-1	PCB-AY	***
PCB-AZ	82-199-651-1	PCB-AZ	***
PCB-BA	82-199-652-1	PCB-BA	***
PCB-BB	82-199-653-1	PCB-BB	***
PCB-BC	82-199-654-1	PCB-BC	***
PCB-BD	82-199-655-1	PCB-BD	***
PCB-BE	82-199-656-1	PCB-BE	***
PCB-BF	82-199-657-1	PCB-BF	***
PCB-BG	82-199-658-1	PCB-BG	***
PCB-BH	82-199-659-1	PCB-BH	***
PCB-BI	82-199-660-1	PCB-BI	***
PCB-BJ	82-199-661-1	PCB-BJ	***
PCB-BK	82-199-662-1	PCB-BK	***
PCB-BL	82-199-663-1	PCB-BL	***
PCB-BM	82-199-664-1	PCB-BM	***
PCB-BN	82-199-665-1	PCB-BN	***
PCB-BO	82-199-666-1	PCB-BO	***
PCB-BP	82-199-667-1	PCB-BP	***
PCB-BQ	82-199-668-1	PCB-BQ	***
PCB-BR	82-199-669-1	PCB-BR	***
PCB-BS	82-199-670-1	PCB-BS	***
PCB-BT	82-199-671-1	PCB-BT	***
PCB-BU	82-199-672-1	PCB-BU	***
PCB-BV	82-199-673-1	PCB-BV	***
PCB-BW	82-199-674-1	PCB-BW	***
PCB-BX	82-199-675-1	PCB-BX	***
PCB-BY	82-199-676-1	PCB-BY	***
PCB-BZ	82-199-677-1	PCB-BZ	***
PCB-CA	82-199-678-1	PCB-CA	***
PCB-CB	82-199-679-1	PCB-CB	***
PCB-CC	82-199-680-1	PCB-CC	***
PCB-CD	82-199-681-1	PCB-CD	***
PCB-CE	82-199-682-1	PCB-CE	***
PCB-CE	82-199-683-1	PCB-CE	***
PCB-CE	82-199-684-1	PCB-CE	***
PCB-CE	82-199-685-1	PCB-CE	***
PCB-CE	82-199-686-1	PCB-CE	***
PCB-CE	82-199-687-1	PCB-CE	***
PCB-CE	82-199-688-1	PCB-CE	***
PCB-CE	82-199-689-1	PCB-CE	***
PCB-CE	82-199-690-1	PCB-CE	***
PCB-CE	82-199-691-1	PCB-CE	***
PCB-CE	82-199-692-1	PCB-CE	***
PCB-CE	82-199-693-1	PCB-CE	***
PCB-CE	82-199-694-1	PCB-CE	***
PCB-CE	82-199-695-1	PCB-CE	***
PCB-CE	82-199-696-1	PCB-CE	***
PCB-CE	82-199-697-1	PCB-CE	***
PCB-CE	82-199-698-1	PCB-CE	***
PCB-CE	82-199-699-1	PCB-CE	***
PCB-CE	82-199-700-1	PCB-CE	***
PCB-CE	82-199-701-1	PCB-CE	***
PCB-CE	82-199-702-1	PCB-CE	***
PCB-CE	82-199-703-1	PCB-CE	***
PCB-CE	82-199-704-1	PCB-CE	***
PCB-CE	82-199-705-1	PCB-CE	***
PCB-CE	82-199-706-1	PCB-CE	***
PCB-CE	82-199-707-1	PCB-CE	***
PCB-CE	82-199-708-1	PCB-CE	***
PCB-CE	82-199-709-1	PCB-CE	***
PCB-CE	82-199-710-1	PCB-CE	***
PCB-CE	82-199-711-1	PCB-CE	***
PCB-CE	82-199-712-1	PCB-CE	***
PCB-CE	82-199-713-1	PCB-CE	***
PCB-CE	82-199-714-1	PCB-CE	***
PCB-CE	82-199-715-1	PCB-CE	***
PCB-CE	82-199-716-1	PCB-CE	***
PCB-CE	82-199-717-1	PCB-CE	***
PCB-CE	82-199-718-1	PCB-CE	***
PCB-CE	82-199-719-1	PCB-CE	***
PCB-CE	82-199-720-1	PCB-CE	***
PCB-CE	82-199-721-1	PCB-CE	***
PCB-CE	82-199-722-1	PCB-CE	***
PCB-CE	82-199-723-1	PCB-CE	***
PCB-CE	82-199-724-1	PCB-CE	***
PCB-CE	82-199-725-1	PCB-CE	***
PCB-CE	82-199-726-1	PCB-CE	***
PCB-CE	82-199-727-1	PCB-CE	***
PCB-CE	82-199-728-1	PCB-CE	***
PCB-CE	82-199-729-1	PCB-CE	***
PCB-CE	82-199-730-1	PCB-CE	***
PCB-CE	82-199-731-1	PCB-CE	***
PCB-CE	82-199-732-1	PCB-CE	***
PCB-CE	82-199-733-1	PCB-CE	***
PCB-CE	82-199-734-1	PCB-CE	***
PCB-CE	82-199-735-1	PCB-CE	***
PCB-CE	82-199-736-1	PCB-CE	***
PCB-CE	82-199-737-1	PCB-CE	***
PCB-CE	82-199-738-1	PCB-CE	***
PCB-CE	82-199-739-1	PCB-CE	***
PCB-CE	82-199-740-1	PCB-CE	***
PCB-CE	82-199-741-1	PCB-CE	***
PCB-CE	82-199-742-1	PCB-CE	***
PCB-CE	82-199-743-1	PCB-CE	***
PCB-CE	82-199-744-1	PCB-CE	***
PCB-CE	82-199-745-1	PCB-CE	***
PCB-CE	82-199-746-1	PCB-CE	***
PCB-CE	82-199-747-1	PCB-CE	***
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PCB-CE	82-199-749-1	PCB-CE	***
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PCB-CE	82-199-752-1	PCB-CE	***
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PCB-CE	82-199-754-1	PCB-CE	***
PCB-CE	82-199-755-1	PCB-CE	***
PCB-CE	82-199-756-1	PCB-CE	***
PCB-CE	82-199-757-1	PCB-CE	***
PCB-CE	82-199-758-1	PCB-CE	***
PCB-CE	82-199-759-1	PCB-CE	***
PCB-CE	82-199-760-1	PCB-CE	***
PCB-CE	82-199-761-1	PCB-CE	***
PCB-CE	82-199-762-1	PCB-CE	***
PCB-CE	82-199-763-1	PCB-CE	***
PCB-CE	82-199-764-1	PCB-CE	***
PCB-CE	82-199-765-1	PCB-CE	***
PCB-CE	82-199-766-1	PCB-CE	***
PCB-CE	82-199-767-1	PCB-CE	***
PCB-CE	82-199-768-1	PCB-CE	***
PCB-CE	82-199-769-1	PCB-CE	***
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PCB-CE	82-199-772-1	PCB-CE	***
PCB-CE	82-199-773-1	PCB-CE	***
PCB-CE	82-199-774-1	PCB-CE	***
PCB-CE	82-199-775-1	PCB-CE	***
PCB-CE	82-199-776-1	PCB-CE	***
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PCB-CE	82-199-783-1	PCB-CE	***
PCB-CE	82-199-784-1	PCB-CE	***
PCB-CE	82-199-785-1	PCB-CE	***
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PCB-CE	82-199-787-1	PCB-CE	***
PCB-CE	82-199-788-1	PCB-CE	***
PCB-CE	82-199-789-1	PCB-CE	***
PCB-CE	82-199-790-1	PCB-CE	***
PCB-CE	82-199-791-1	PCB-CE	***
PCB-CE	82-199-792-1	PCB-CE	***
PCB-CE	82-199-793-1	PCB-CE	***
PCB-CE	82-199-794-1	PCB-CE	***
PCB-CE	82-199-795-1	PCB-CE	***
PCB-CE	82-199-796-1	PCB-CE	***
PCB-CE	82-199-797-1	PCB-CE	***
PCB-CE	82-199-798-1	PCB-CE	***
PCB-CE	82-199-799-1	PCB-CE	***
PCB-CE	82-199-800-1	PCB-CE	***
PCB-CE	82-199-801-1	PCB-CE	***
PCB-CE	82-199-802-1	PCB-CE	***
PCB-CE	82-199-803-1	PCB-CE	***
PCB-CE	82-199-804-1	PCB-CE	***
PCB-CE	82-199-805-1	PCB-CE	***
PCB-CE	82-199-806-1	PCB-CE	***
PCB-CE	82-199-807-1	PCB-CE	***
PCB-CE	82-199-808-1	PCB-CE	***
PCB-CE	82-199-809-1	PCB-CE	***
PCB-CE	82-199-810-1	PCB-CE	***
PCB-CE	82-199-811-1	PCB-CE	***
PCB-CE	82-199-812-1	PCB-CE	***
PCB-CE	82-199-813-1	PCB-CE	***
PCB-CE	82-199-814-1	PCB-CE	***
PCB-CE	82-199-815-1	PCB-CE	***
PCB-CE	82-199-816-1	PCB-CE	***
PCB-CE	82-199-817-1	PCB-CE	***
PCB-CE	82-199-818-1	PCB-CE	***
PCB-CE	82-199-819-1	PCB-CE	***
PCB-CE	82-199-820-1	PCB-CE	***
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PCB-CE	82-199-822-1	PCB-CE	***
PCB-CE	82-199-823-1	PCB-CE	***
PCB-CE	82-199-824-1	PCB-CE	***
PCB-CE	82-199-825-1	PCB-CE	***
PCB-CE	82-199-826-1	PCB-CE	***
PCB-CE	82-199-827-1	PCB-CE	***
PCB-CE	82-199-828-1	PCB-CE	***
PCB-CE	82-199-829-1	PCB-CE	***
PCB-CE	82-199-830-1	PCB-CE	***
PCB-CE	82-199-831-1	PCB-CE	***
PCB-CE	82-199-832-1	PCB-CE	***
PCB-CE	82-199-833-1	PCB-CE	***
PCB-CE	82-199-834-1	PCB-CE	***
PCB-CE	82-199-835-1	PCB-CE	***
PCB-CE	82-199-836-1	PCB-CE	***
PCB-CE	82-199-837-1	PCB-CE	***
PCB-CE	82-199-838-1	PCB-CE	***
PCB-CE	82-199-839-1	PCB-CE	***
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PCB-CE	82-199-843-1	PCB-CE	***
PCB-CE	82-199-844-1	PCB-CE	***
PCB-CE	82-199-845-1	PCB-CE	***
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PCB-CE	82-199-847-1	PCB-CE	***
PCB-CE	82-199-848-1	PCB-CE	***
PCB-CE	82-199-849-1	PCB-CE	***
PCB-CE	82-199-850-1	PCB-CE	***
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PCB-CE	82-199-858-1	PCB-CE	***
PCB-CE	82-199-859-1	PCB-CE	***
PCB-CE	82-199-860-1	PCB-CE	***
PCB-CE	82-199-861-1	PCB-CE	***
PCB-CE	82-199-862-1	PCB-CE	***
PCB-CE	82-199-863-1	PCB-CE	***
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PCB-CE	82-199-866-1	PCB-CE	***
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PCB-CE	82-199-868-1	PCB-CE	***
PCB-CE	82-199-869-1	PCB-CE	***
PCB-CE	82-199-870-1	PCB-CE	***
PCB-CE	82-199-871-1	PCB-CE	***
PCB-CE	82-199-872-1	PCB-CE	***
PCB-CE	82-199-873-1	PCB-CE	***
PCB-CE	82-199-874-1	PCB-CE	***
PCB-CE	82-199-875-1	PCB-CE	***
PCB-CE			

The ICs on the electrical parts which are indicated by an G-MOS IC symbol mark ($\text{\textcircled{G}}$).



1-2 Terminal description

Pin No.	Terminal Symbol	Function
1	PHONO SYNC	None used
2	DC SYNC	
3	IR-APD	
4	HS S1G	Used for HS output to input. Goes "1" after level. Needs at least "1" level.
5	END SYNC	Using the tape and output inputs, source descending in 8 seconds after the unit enters the PLAY and REC PLAY modes. LCH pulse is input at tape end.
6	REC-PLAY	Using the rotation pulses input of a take-up reel, used for the auto stop detection, tape counter and so on.
7	1-REEL	The IRU is set at "1" level with a delay of 10 time constant from the power supply (V_{DD}).
19	RESET	Goes "1" only when the data flag through flag are output to S1D through S13 at the time of data transmission to the microcomputer.
24	FL D ₁	Used for the data flag output. The data flag is "1" in level. The mode is set at "1" level. The data flag is output to the spot mode with the valid LED display.
25	FL CLE	Data clock transmitted to the shift register.
26	SRE CLK	8-bit serial data output transmitted to the shift register.
27	SRE DATA	Goes "1" for canceling of setting by the REC mode output. If the mechanism is stabilized in the REC PLAY mode, hushed until the mechanism is stabilized at the time of head reverse-rotation.
28	0-REEL	Goes "1" only in the REC PLAY (PAUSE) mode by the REC/PG selection output. Goes "1" until the mechanism is stabilized at the time of head reverse-rotation.
29	0-REC	Mechanism is stabilized at the time of head reverse-rotation.

File No.	Terminal Symbol	Function
30	O-RT	Goes "H" for cancelling of mating by the play mate output. If the mechanism is stabilized in the (REC) PLAY, QIE and REV modes, biased until the mechanism is stabilized at the time of head reverse-rotation.
31	R-MOT	Used to control the main motor. The motor rotates at "H" level. Goes "L" only in the STOP state.
32	O-REV	Goes "H" only in the FF and QIE modes by the submotor forward-rotation output.
33	O-REV	Goes "H" only in the RMD and REV modes by the submotor reverse-rotation output.
34	S-PAUSE	Goes "H" only in the PAUSE, QIE, REV and (REC) PLAY PHASE modes by the pause plunger output.
35	S-PLAY	Goes "H" only in the (REC) PLAY, (REC) PLAY PHASE, QIE and REV modes by the play plunger output.
36	S-SPW	Goes "H" for film sec. at the time of head reverse-rotation and editing start/end by the reverse plunger output.
37	S-DIT1	Goes "H" in the edit mode by the edit plunger output.
41	DIRP PNC	Use used

Table 1-1

Pin No.	Terminal Number Signal Name	Function		
		Input mode	When DOO is "H"	Output mode
7	D80	Counter-in Gauss	When DO2 is "H" Counter "0000" REPLAY key input	FL DISPLAY DATA RVS PLAY display
8	D81	Front REC proof key input	Reverse mode from +rear	RVS PLAY display FWD PLAY display
9	D82	Rear REC proof key input	Reverse mode rear-front	PAUSE display
10	D83	Head direction -41 key input	Blank skip key input	REWRITE display
11	D84	NC	PHOTO REC key input	NC
12	D85	NC	NS set key input	NC
13	D86	NC	NC	REC display
14	D87	Counter memory key input	Counter reset key input EDIT key input	NC

Table. 1-2

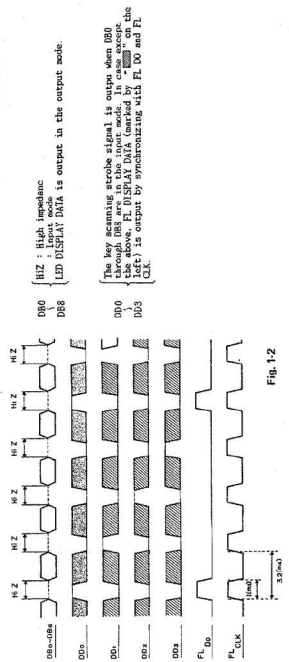
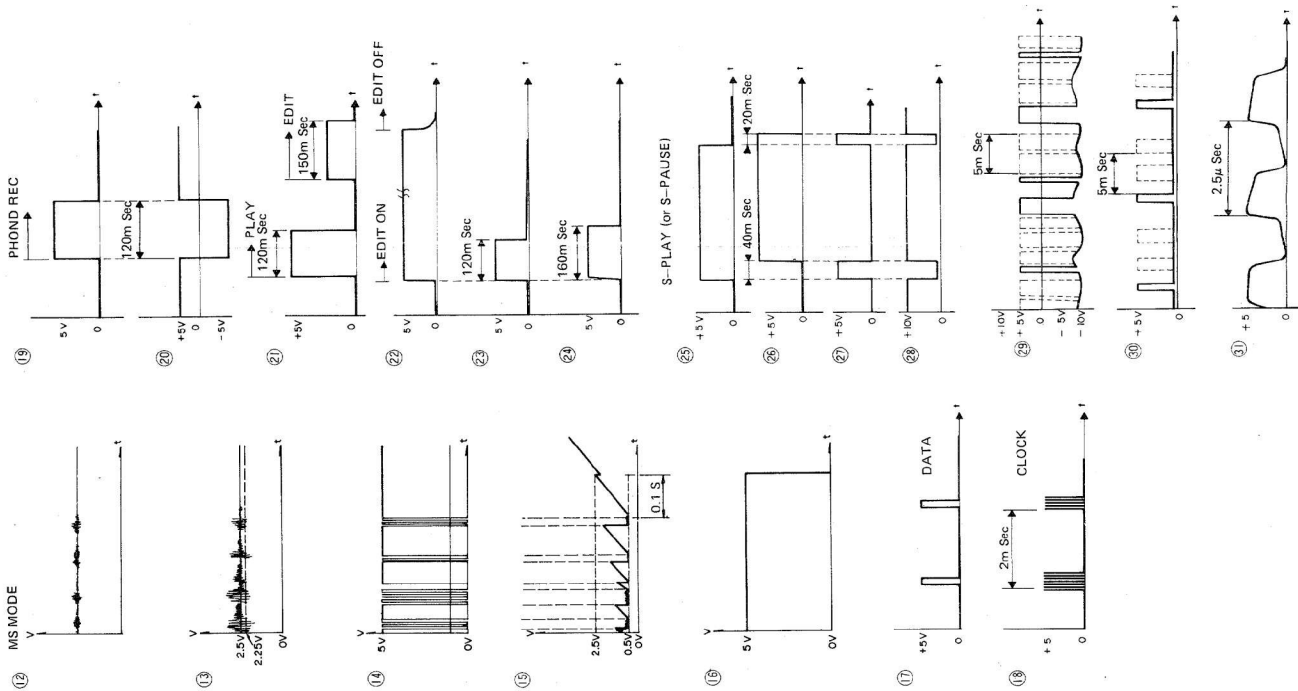
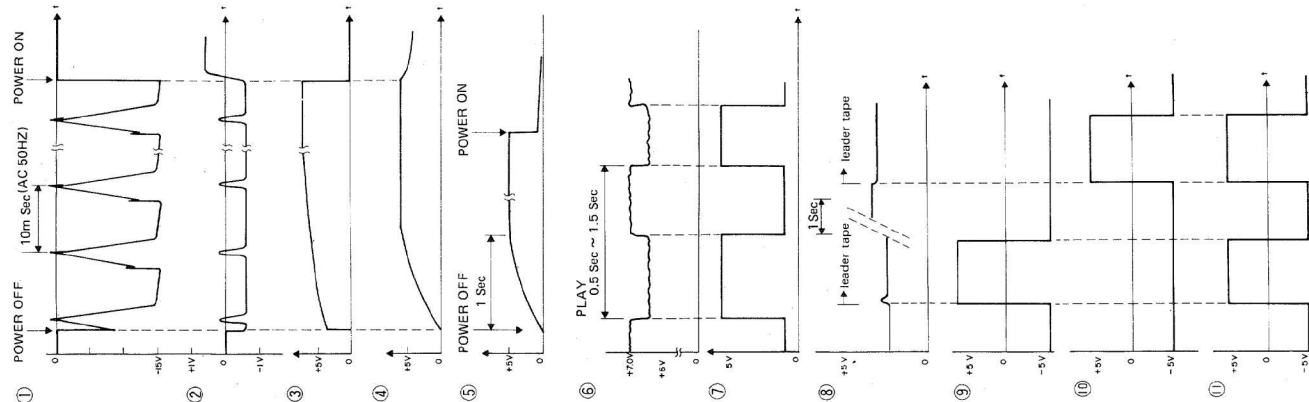


Fig. 1-2

WAVEFORM

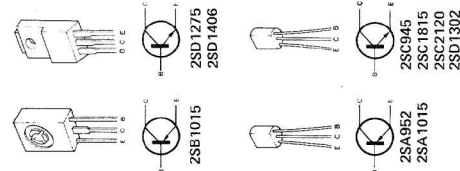


NOTES:

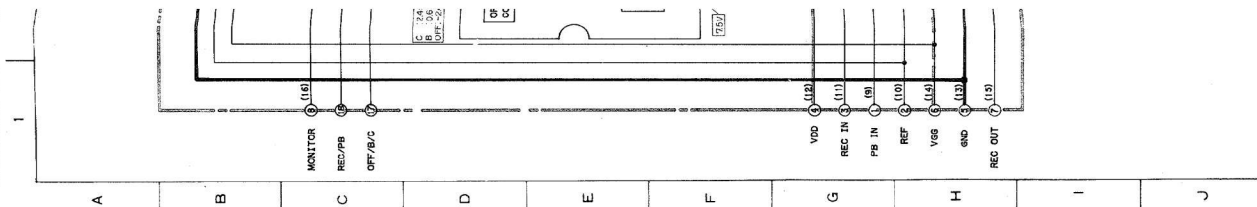
- 1) B (+) power supply
- 2) Rec path, AM signal path
- 3) The voltage is the reference value measured with a tester (20 k-ohms/V DC) when there are no signals. An asterisk (*) indicates that the value was measured with a vacuum-tube voltmeter during recording.
- 4) Resistors with no designation have a rated power of 1/4W and a tolerance of $\pm 5\%$.
- 5) Capacitors with no designation have a dielectric strength of less than 50WV.
- 6) The only capacitor tolerance indicated are $\pm 5\%$ (J) and $\pm 10\%$ (K).
- 7) Ceramic capacitor symbols:
 - For temperature compensation (SL)
 - High dielectric constant system (YY)
 - High dielectric constant system (YW, YP, YZ)
 - Semiconductor ceramic
 - For temperature compensation (SH)
- 8) Explanation of symbols:
 - Mylar capacitor
 - Aluminum solid capacitor
 - Polypropylene film capacitor
 - Bi-polarized capacitor
 - Low-leakage capacitor
 - Tantalum capacitor
 - Styrol capacitor
 - Printed resistor
 - Fuse resistor
 - Nonflammable resistor
- 9) Safety component symbol

This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

This schematic diagram is subject to change without notice in the interests of improved performance.

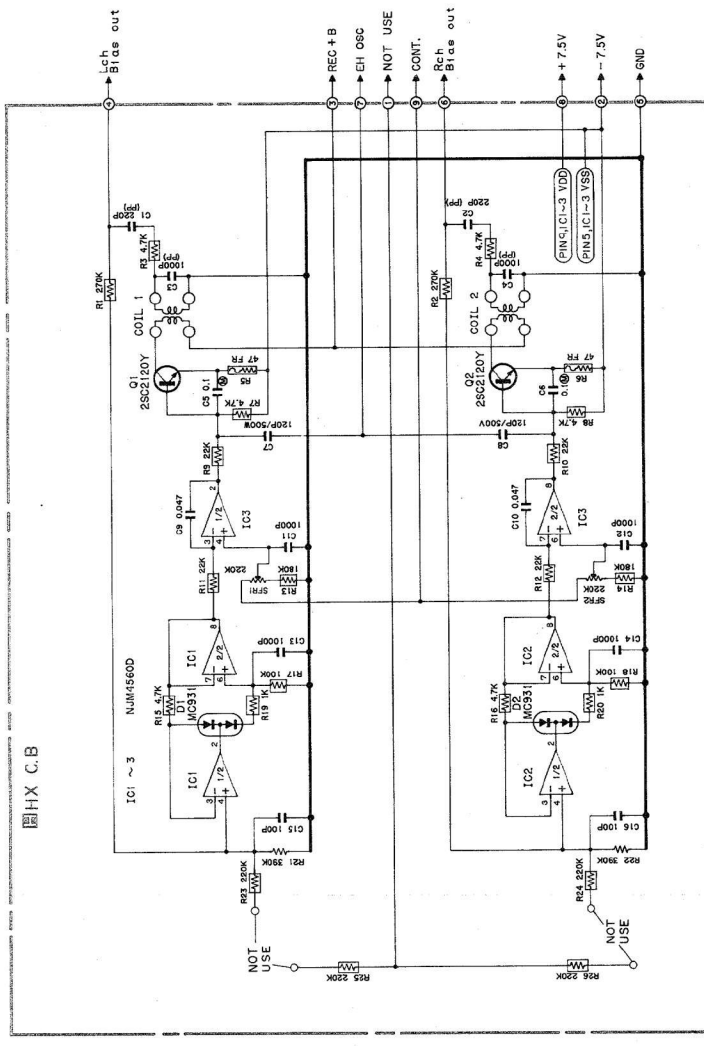
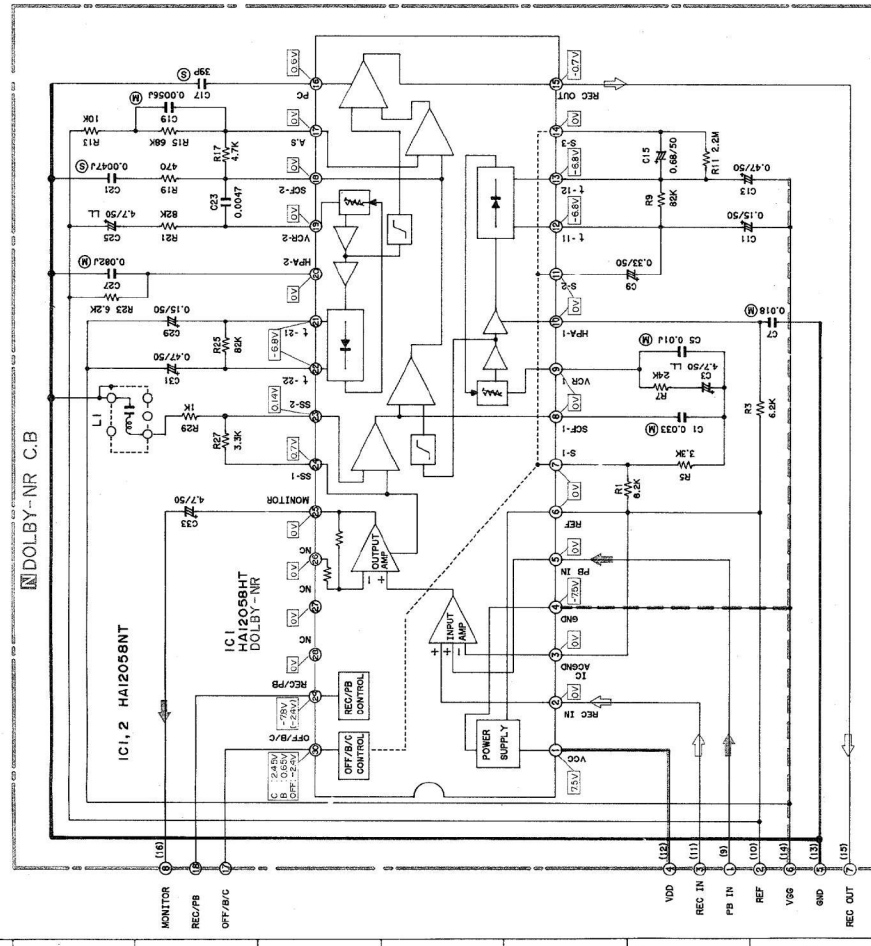


SCHEMATIC DIAGRAM



SCHEMATIC DIAGRAM-1

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

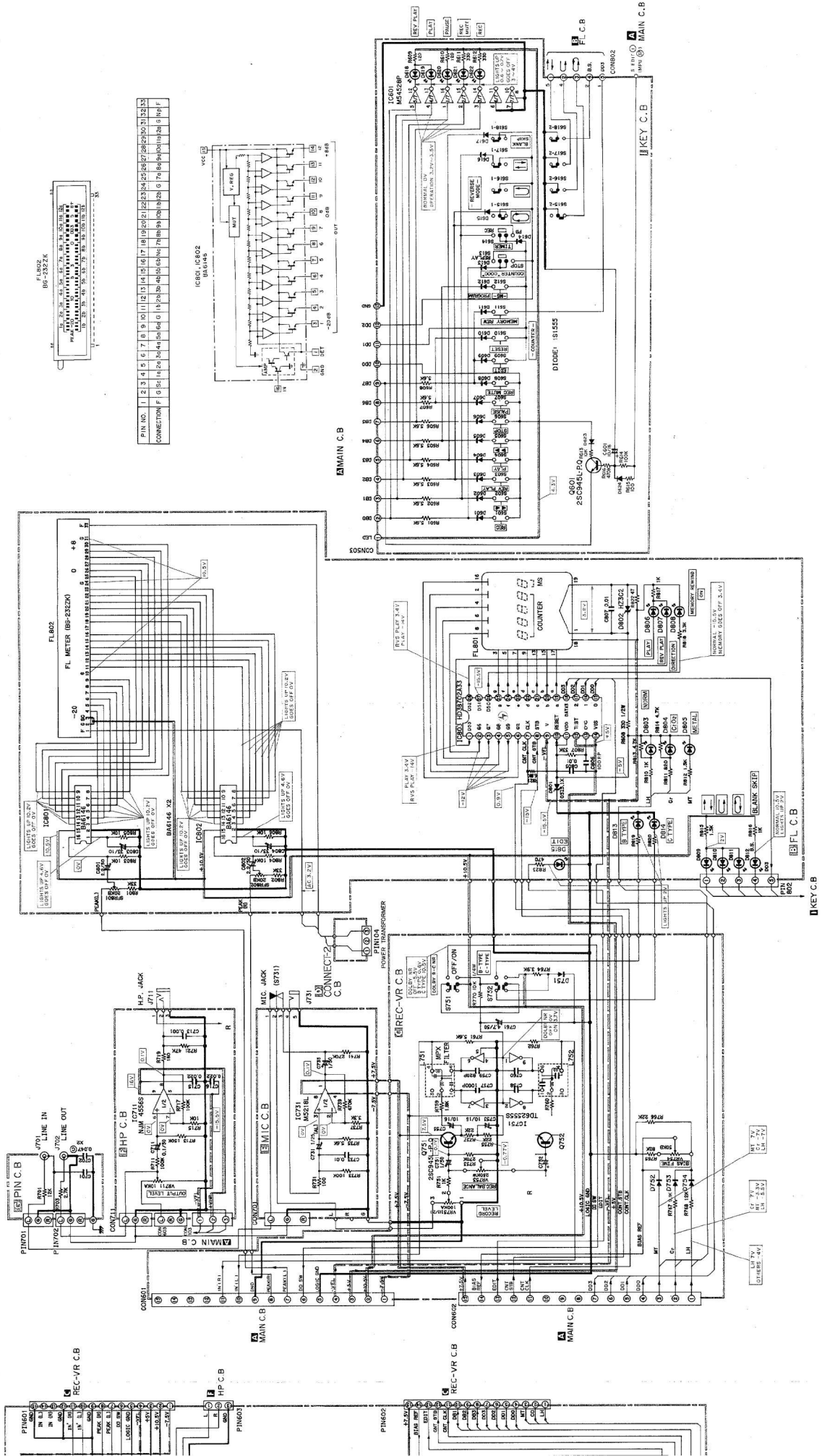


safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

16



15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30



Timing diagram for the 68000 microprocessor. The diagram shows the relationship between the address bus (A[15:0]), data bus (D[31:0]), and various control signals over 16 clock cycles. The address bus is shown as a sequence of values from 0 to 15. The data bus is shown as a sequence of values from 0 to 15. Control signals include: DIRECTION (0 for read, 1 for write), STOP (0 for normal, 1 for stop), MEMORY (0 for normal, 1 for memory), FL (0 for normal, 1 for floating point), SEG (0 for normal, 1 for segment), and RESET (0 for normal, 1 for reset). The diagram is labeled 'Fig. 2-1' and 'Signal flow in the direction'.

2-2. Terminal description

Pin No.	Terminal Symbol	Function
15	DMA0	4-bit serial data input. Refer to Tables 2-2 and 2-3.
16	DMA1	
17	DMA2	
18	DMA3	6 serial data input clocks. Data is input when "H" is set to the "L" level. Input to determine the bit data of 6 serial data. Determined as 4 the data when "L" is set to the "H" level.
7	CLOCK	
8	ENABLE	
19	SSC.a	FL segment output.
20	SSC.b	
21	SSC.c	
22	SSC.d	
23	SSC.e	
24	SSC.f	
25	SSC.g	Display scanning signal output. (FL grad)
6	G ₀	
5	G ₁	
4	G ₂	
3	G ₃	
2	G ₄	
26	D ₀	Counter 250KHz display output
27	D ₁	Not used
28	D ₂	Head direction display ("C") output
1	G ₅	Head direction display ("D") output

Latches up at "H" level.

$\left. \begin{array}{l} \sim D_{03} \\ \sim D_{13} \\ \sim D_{23} \\ \sim D_{33} \end{array} \right\} D_{20} \text{ through } D_{23} \text{ are static outputs corresponding to a couple of bits.}$

DATA					SEGMENT							
HEX	3	2	1	0	a	b	c	d	e	f	g	
1	0	0	0	0								
2	0	0	0	0								
3	0	0	1	0								
4	0	1	0	0								
5	0	1	0	1								
6	0	1	0	0								
7	0	1	1	1								
8	1	0	0	0								
9	1	0	1	0								

$D_{00} \sim D_{09}$	MS counter display data	BCD code
$D_{10} \sim D_{13}$	Type counter 10^3 (thousands digit)	BCD code
$D_{20} \sim D_{23}$	Type counter 10^2 (hundreds digit)	BCD code
$D_{30} \sim D_{33}$	Type counter 10^1 (tens digit)	BCD code
$D_{40} \sim D_{43}$	Type counter 10^0 (units digit)	BCD code
$D_{50} \sim D_{53}$	Static output	Corresponding to a couple of bits

4-1. Running of magnetic block

The light from an LED is reflected on the surface of a tape, supplied to a phototransistor and transistor circuit.

Transistor Q1 and Q2 are an automatic illumination control circuit.

The voltage at Q2 emitter (point P) remains constant based on the time constant which is determined using CIBI.

A and B are comparators. Using P2 and P8, the voltage ΔV is calculated, i.e., the difference of the output level of A and B.

As a result, the output level of Aout and Bout goes low.

Pin No.	Terminal Symbol	Function
15	DAT40	
16	DAT41	4-bit serial data input.
17	DAT42	Refer to Tables 2-2 and 2-3.
18	DAT43	
7	CLOCK	8 serial data input clock. Data is input when "1" is set to the "1" level.
8	ENABLE	Invert to determine the list data of 6 serial data. Determined as a list data when "1" is set to the "H" level.
19	SSC.a	
20	SSC.b	
21	SSC.c	
22	SSC.d	
23	SSC.e	
24	SSC.f	
25	SSC.g	
6	G ₀	
5	G ₁	
4	G ₂	
3	G ₃	
2	G ₄	
26	D ₀	
27	D ₁	
28	D ₂	
1	G ₅	

FL segment output

Digit counting signal output.
(FL grid)

Lights up as "H" level.

Fig. 2-3

3. EDITING OPERATION

3-1. Outline

When a commercial following the end of music has been recorded during air checking, the commercial can be easily cut using this mechanism.

When the EDIT button is being pressed in the NEC mode, the tape is played back in the reverse direction.

When the EDIT button is released in the NEC mode, the tape runs without recording for 4 seconds in the forward direction and stops momentarily.

(When the EDIT button is pressed in the PG mode, the tape is played back in the reverse

3-2. Circuit description

- 2-1 When the DIT button is pressed in the REC mode, the O-RTI terminal of a microphone goes high and the DIT solenoid is drawn. The solenoid is energized for 100 ms.
- 2-2 (a) The P-RTI terminal of a microphone goes low and the P-RTI solenoid is drawn.
- 2-3 (b) The P-RTI terminal of a microphone goes low and the P-RTI solenoid is drawn.
- 2-4 (c) The recording is changed over to the PG mode, and then running is started. The tape is played back in the reverse direction.
- 2-5 (d) When the DIT button is released, the tape is rewound.
- 2-6 (e) PLAY/RECE is established.
- 2-7 (f) The recording/playback is changed over to the REC mode.
- 2-8 (g) The P-RTI terminal of a microphone goes low and the P-RTI solenoid is established.
- 2-9 (h) The REC terminal of a microphone goes high and running resumes.
- 2-10 (i) After a 100 ms delay, the tape is drawn to the former position, SOL PARE is drawn to enter the PAUSE mode.
- 2-11 (j) After a 100 ms delay, SOL PARE is drawn to enter the PAUSE mode.

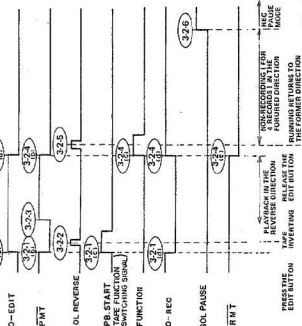


Fig. 3-1

ADJUSTMENT

WIRING-1

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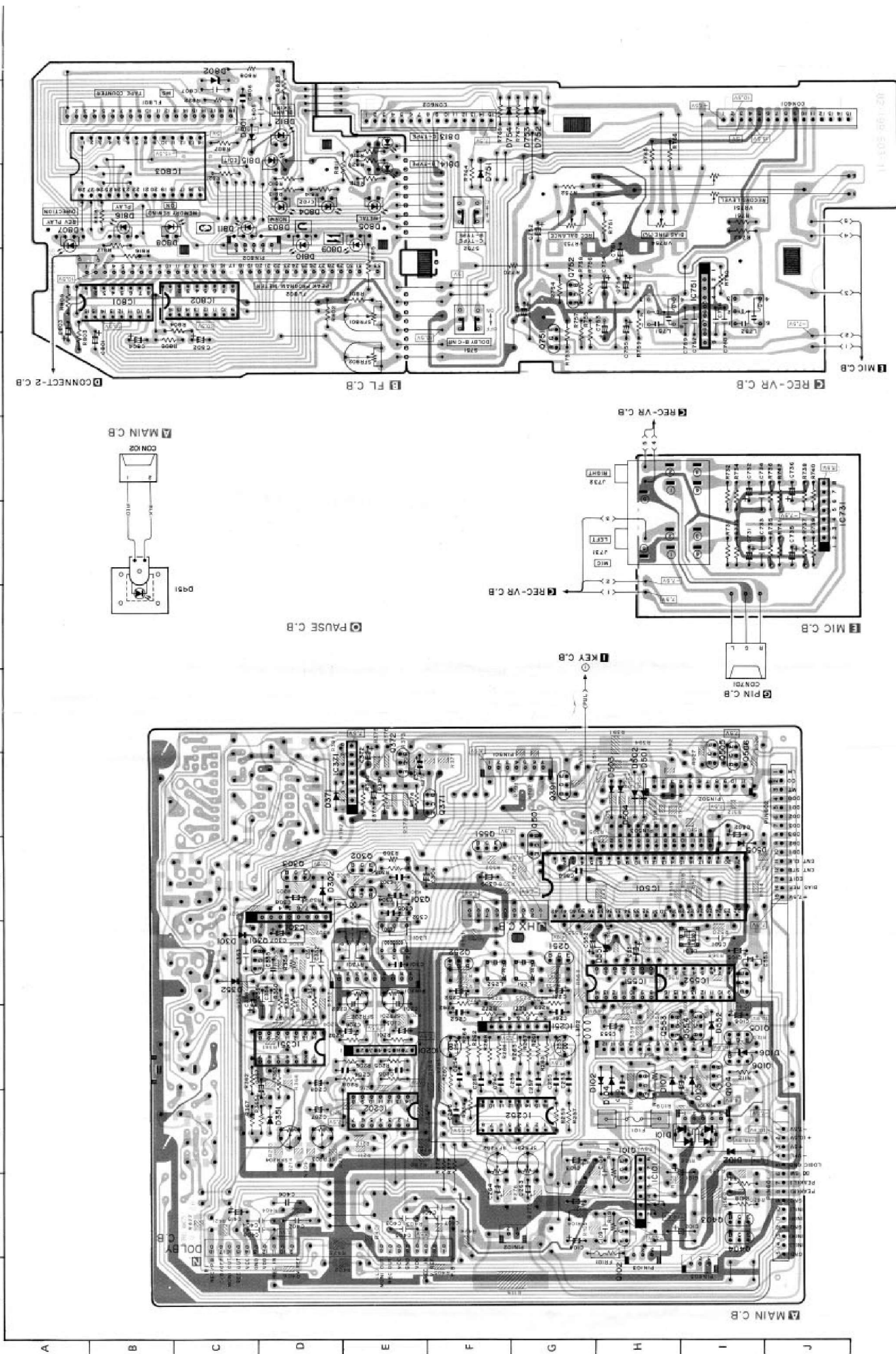
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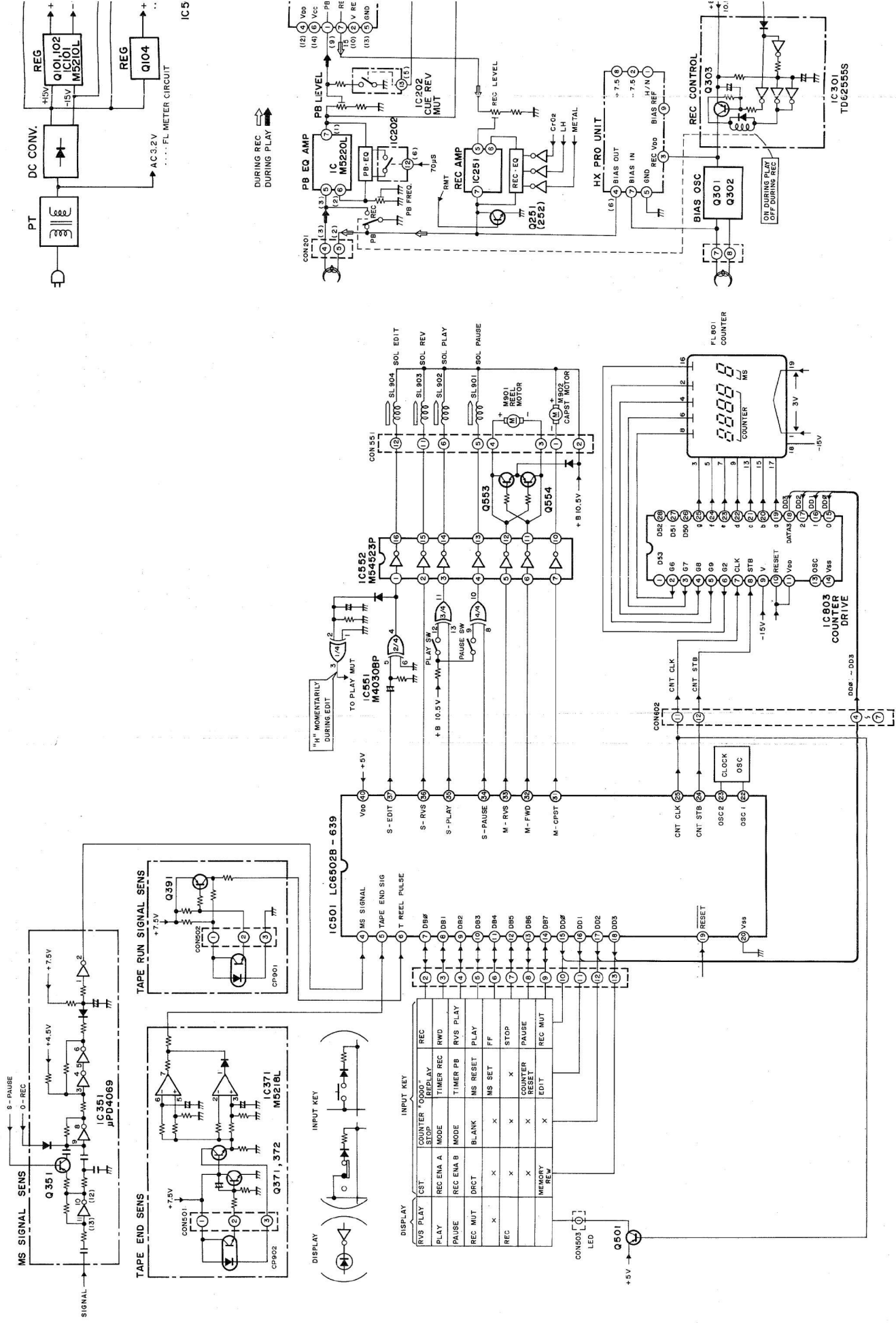
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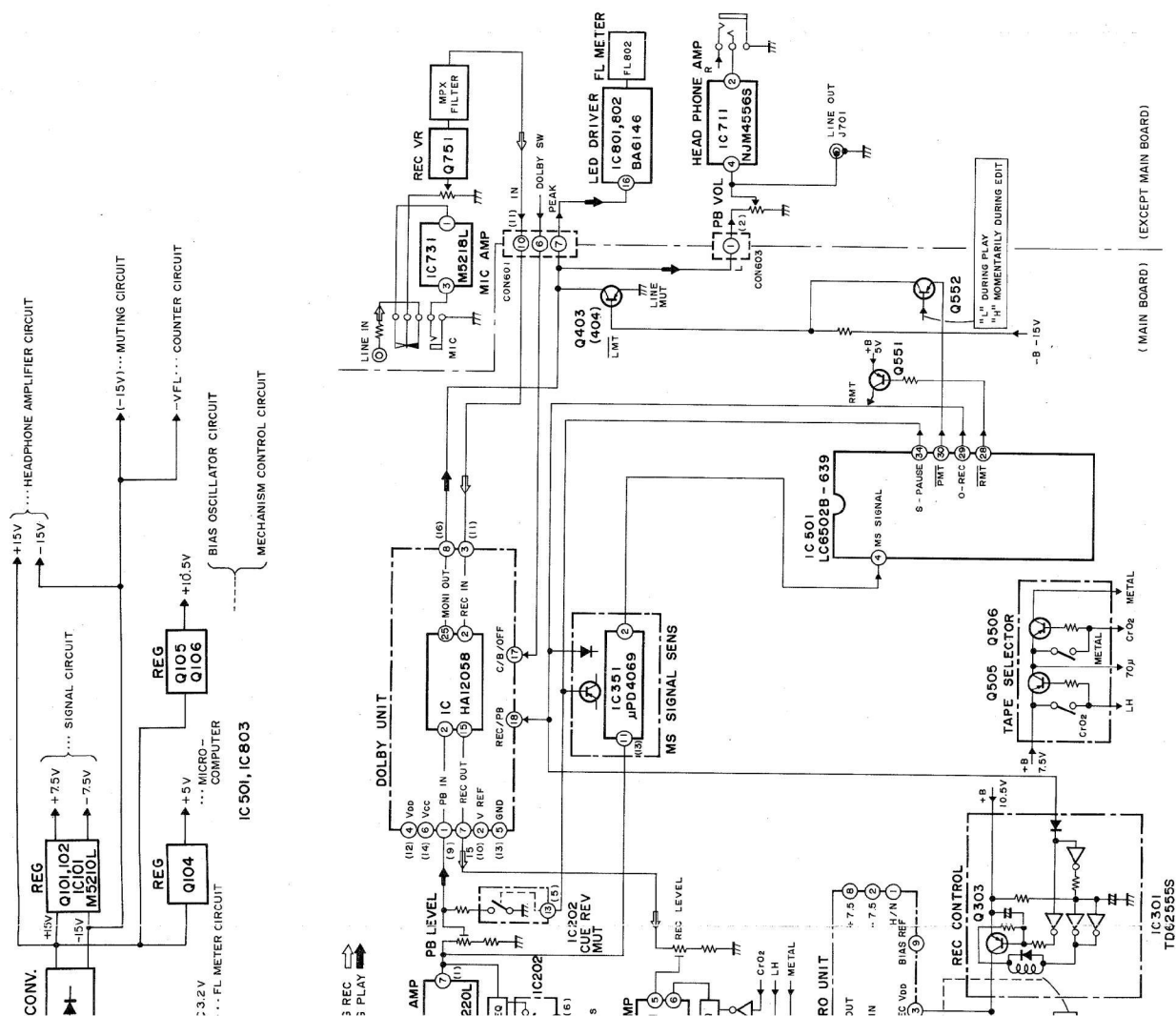
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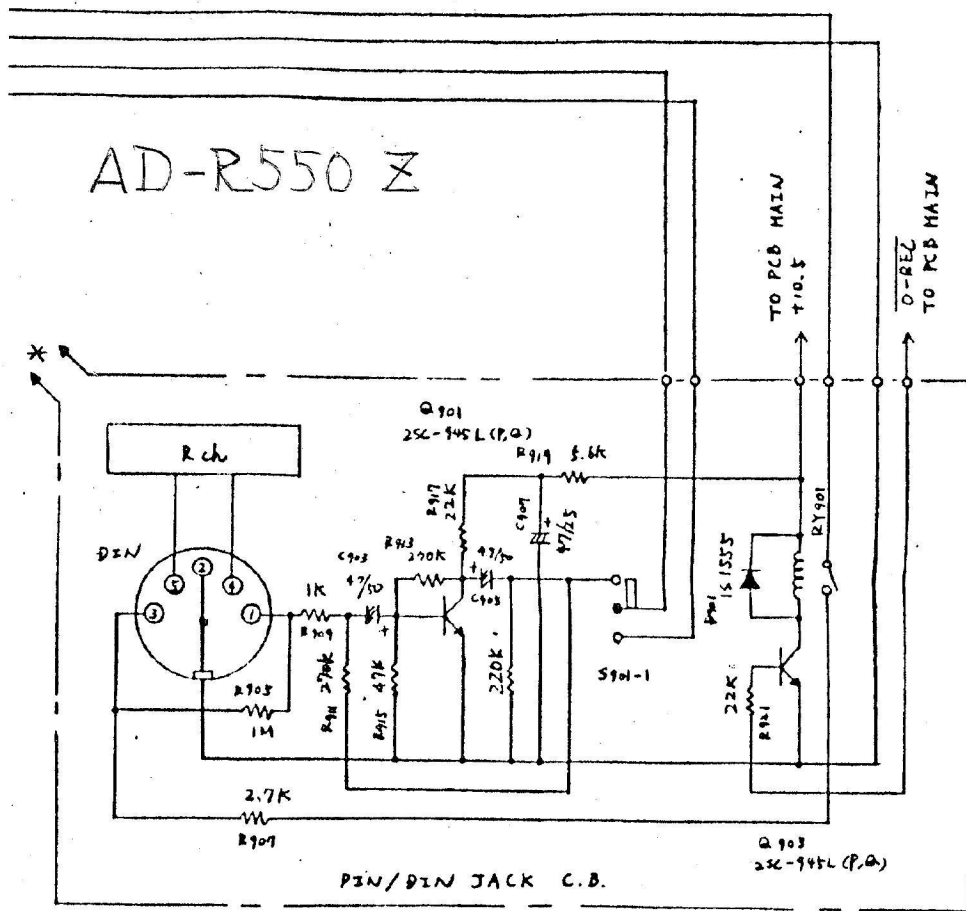


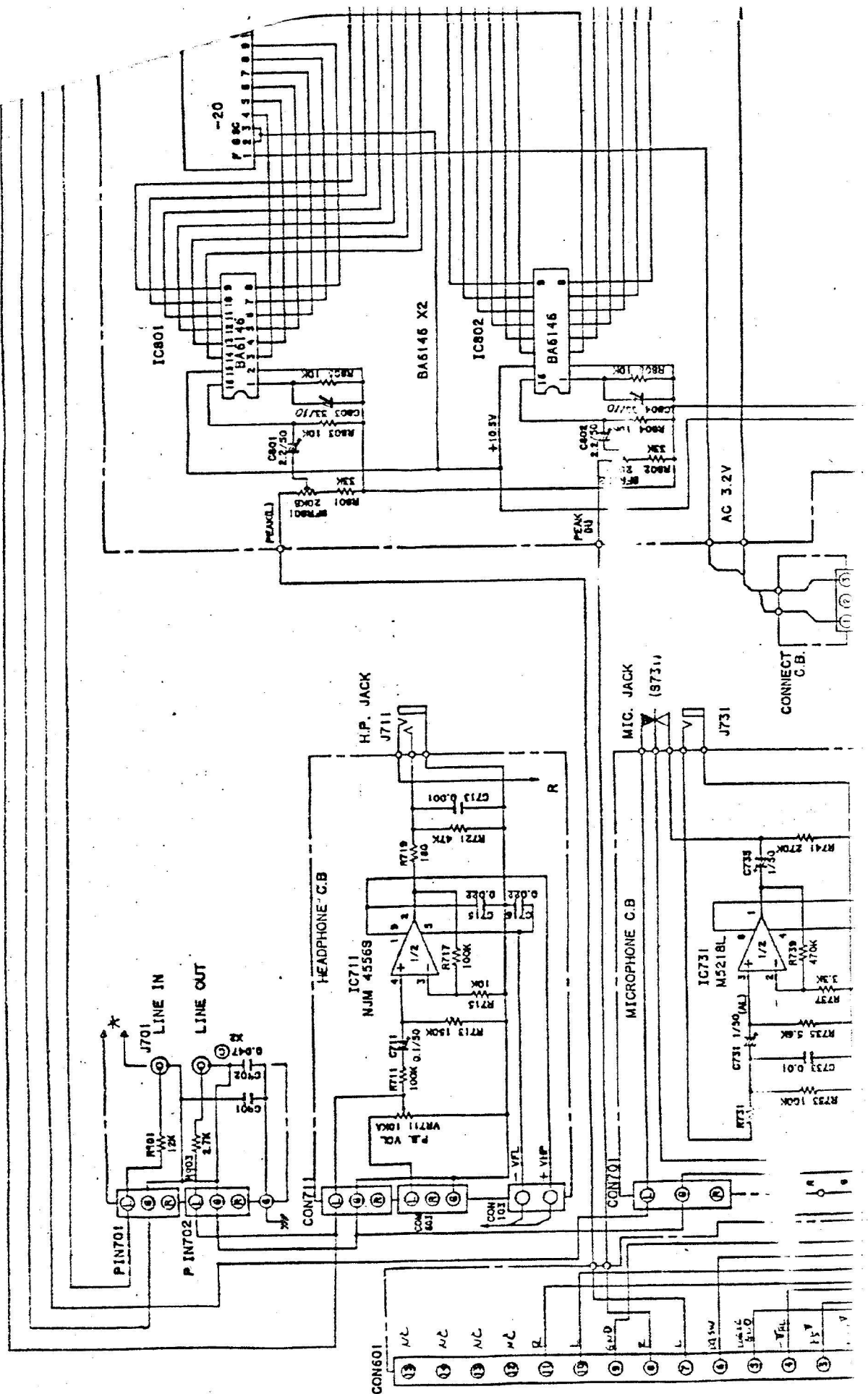
BLOCK DIAGRAM





AD-R550 Z





■ ACCESSORIES/PACKAGE LIST

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty	Remark
1	82-199-854-01		Printed indiv., Packing	※	1	★★★★
2	82-199-852-01		Cushion L. Printed indiv.	※	1	★★★★
3	82-199-853-01		Cushion R. Printed indiv.	※	1	★★★★
4	82-199-855-01		Carton, Outer (H, E, K, G models only)	※	1/3	★★★★
5	82-199-856-01		Carton, Outer (U model only)		1/3	★★★★
6	87-051-131-11		Poly Vinyl sack (for AC power cord) (H, U models only)		1	★★★★
7	87-051-135-11		Poly-Vinyl sack (for AC power cord) (E, K, G models only)		1	★★★★
8	87-056-627-01		Poly-vinyl sack (for case)		1	★★★★
9	82-199-904-01		Instructions booklet	※	1	
10	87-051-171-11		Poly-vinyl sack (for instruction)		1	★★★★
11	87-056-008-11		Label, AC power cord (K model only)		1	★★★★
12	87-056-009-51		Distributors list (H, E, K, G models only)		1	★★★★
13	87-056-059-01		Guarantee card (G model only)		1	★★★★
14	87-056-045-01		Guarantee card (U model only)		1	★★★★
15	87-565-084-01		Limited, Warranty (U model only)		1	★★★★
16	87-056-050-01		Safety instruction (U model only)		1	★★★★
17	82-199-908-01		Label, POP	※	1	★★★★
18	87-032-845-01		Siemens plug (H model only)		1	
19	87-034-978-01		Connection cord, CW254BSK		2	

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