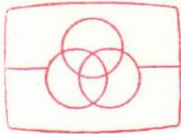


**STEREO CASSETTE DECK****MODEL NO. AD-M800E,K**

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**AIWA®****[SERVICE MANUAL]**


Code No. 04-800-000-18



DATE OF ISSUE 11/1980

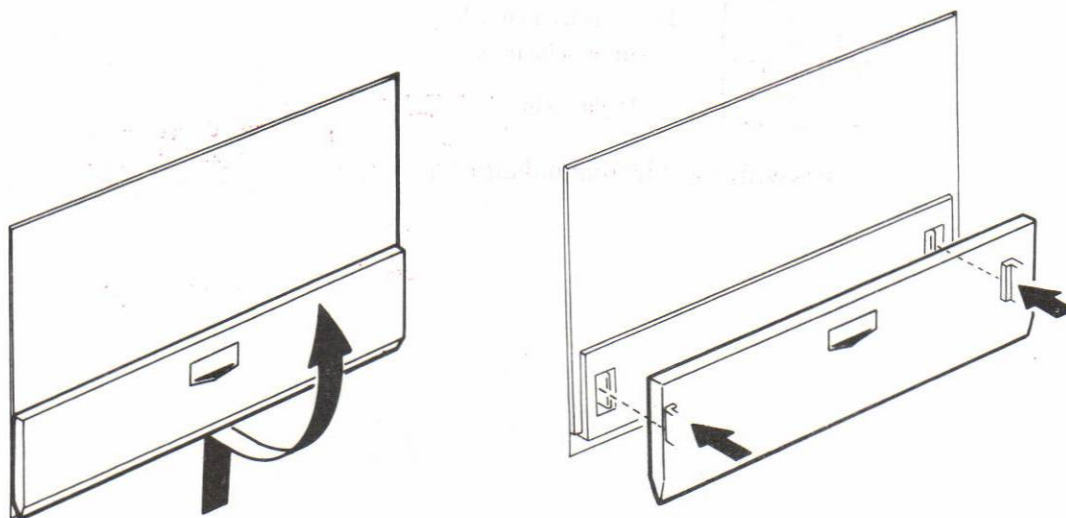
**SPECIFICATIONS**

<b>Semiconductors:</b>	53 ICs, 1 FET, 146 transistors, 99 diodes & 1 PIN diode, 27 LED's	<b>Erasing ratio:</b>	More than 60 dB
<b>Power supply:</b>	E model AC 120V/220V switchable, 50/60 Hz K model AC 120V/240V switchable, 50/60 Hz	<b>Bias frequency:</b>	105 kHz
<b>Power consumption:</b>	29W	<b>Frequency response:</b>	METAL 20 ~ 20,000 Hz CrO <sub>2</sub> 20 ~ 18,000 Hz Fe-Cr 20 ~ 19,000 Hz LH 20 ~ 17,000 Hz
<b>Dimensions:</b>	450 (W) x 120 (H) x 300 (D) mm	<b>Motor:</b>	FG servo motor (capstan) DC motor (reel)
<b>Weight:</b>	7.2 kg	<b>Inputs:</b>	MIC max. sensitivity 0.3 mV (200 Ω ~ 10 kΩ suitable) LINE IN max. sensitivity 50 mV (Optimum load impedance more than 50 kΩ)
<b>Track type:</b>	4 tracks 2 channel	<b>Outputs:</b>	DIN max. sensitivity 0.1 mV/kΩ (impedance 3 kΩ)
<b>Tape speed:</b>	4.8 cm/s ± 1.5%	<b>LINE OUT</b>	Standard level 0.41 V (0 VU) (Optimum load impedance more than 50 kΩ)
<b>Wow and flutter:</b>	Less than 0.04% (WRMS)	<b>DIN</b>	Standard level 0.41V
<b>Automatic stop system:</b>	Full auto stop	<b>PHONES</b>	8Ω ~ 150Ω, 2mW (0 VU)
<b>Automatic shut-off action time:</b>	3 ± 1 s.		
<b>Pinch roller pressure:</b>	450 ± 40 g (4.41 ± 0.39N)		
<b>Take-up torque:</b>	50 ± 10g-cm (490 ± 98 mN·m)		
<b>FF &amp; rewind time:</b>	90 s. (C-60)		
<b>Play back output:</b>	0.51 mV ± 0.8 dB (LINE)		
<b>Play back noise:</b>	Less than 1.0 mV (METAL, CrO <sub>2</sub> , Fe-Cr DOLBY-NR ON) Less than 2.2 mV (LH DOLBY NR OFF)		
<b>Rec./PB output:</b>	0 VU ± 1.5 dB (LINE)		
<b>Rec./Pb distortion:</b>	Less than 1.0% (METAL) Less than 1.2% (CrO <sub>2</sub> ) Less than 1.0% (Fe-Cr) Less than 1.5% (LH)		
<b>Rec./Pb noise:</b>	Less than 2.2/1.2 mV (METAL, CrO <sub>2</sub> , Fe-Cr DOLBY-NR OFF/ON)		
<b>(Unweighted)</b>	Less than 2.8/1.4 mV (LH DOLBY-NR OFF/ON)		
<b>(Weighted-A)</b>	Less than 1.1/0.5 mV (METAL, CrO <sub>2</sub> , Fe-Cr DOLBY-NR OFF/ON)		
<b>Channel separation:</b>	Less than 1.5/0.7 mV (LH DOLBY-NR OFF/ON)		
<b>Cross talk:</b>	More than 35 dB		
<b>(1 kHz, 0 VU)</b>			
<b>(1 kHz, 0 VU)</b>	More than 60 dB		

- Specifications and external appearance are subject to change without due to product improvement.
- Dolby Noise Reduction System is licensed from Dolby Laboratories.
- The name "Dolby" and  symbol are trademarks of Dolby Laboratories.

## Caution

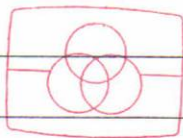
- Remove the cassette compartment cover by first pushing upwards and then pulling out.
- When reattaching, align the compartment cover with the tabs and press as shown in the illustration.



## ACCESSORIES/PACKAGE

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
1	82-155-858-01		Printed indiv., Packing	*	1
2	82-162-852-11		Cushion L, Printed indiv.	AD-R500	1
3	82-162-853-01		Cushion R, Printed indiv.	AD-R500	1
4	87-051-131-11		Poly-vinyl sack (for AC power cord)		1
5	87-056-607-01		Poly-vinyl sack (for case)		1
6	82-155-859-01		Support cushion	*	1
7a	82-155-907-11		Instructions booklet (E model only)	*	1
7b	82-155-908-01		Instructions booklet (K model only)	*	1
8	87-051-132-11		Poly-vinyl sack		1
9	87-051-135-11		Poly-vinyl sack		1
10	87-051-175-01		Poly-tube A (for instruction)		1
11	87-056-009-41		Distributors list		1
12	82-155-951-11		Screw handle ass'y	*	1
13a	86-925-015-01		Connection cord CW-115BSK (E model only)		1
13b	86-944-012-01		Connection cord, CW-129BSK (K model only)		2
14	86-159-001-01		Remote control, RC-82		1
15	87-047-063-01		Battery, SUM-3AE		3
16	87-056-008-11		Label, AC power cord (K model only)		1
17	87-056-016-01		Tag, Main voltage (K model only)		1

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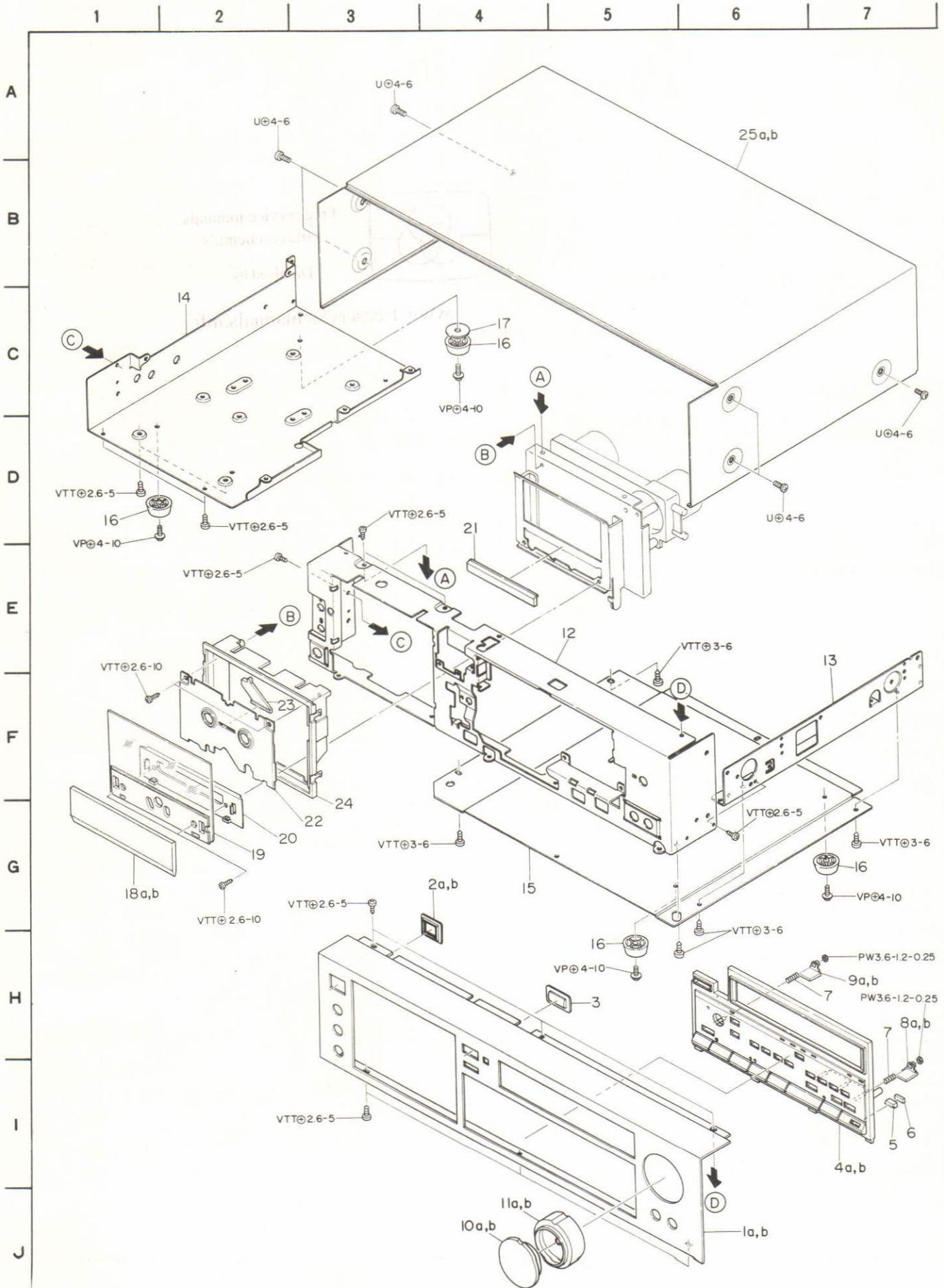


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### EXPLODED VIEW-1



## MECHANICAL PARTS

## PARTS LIST

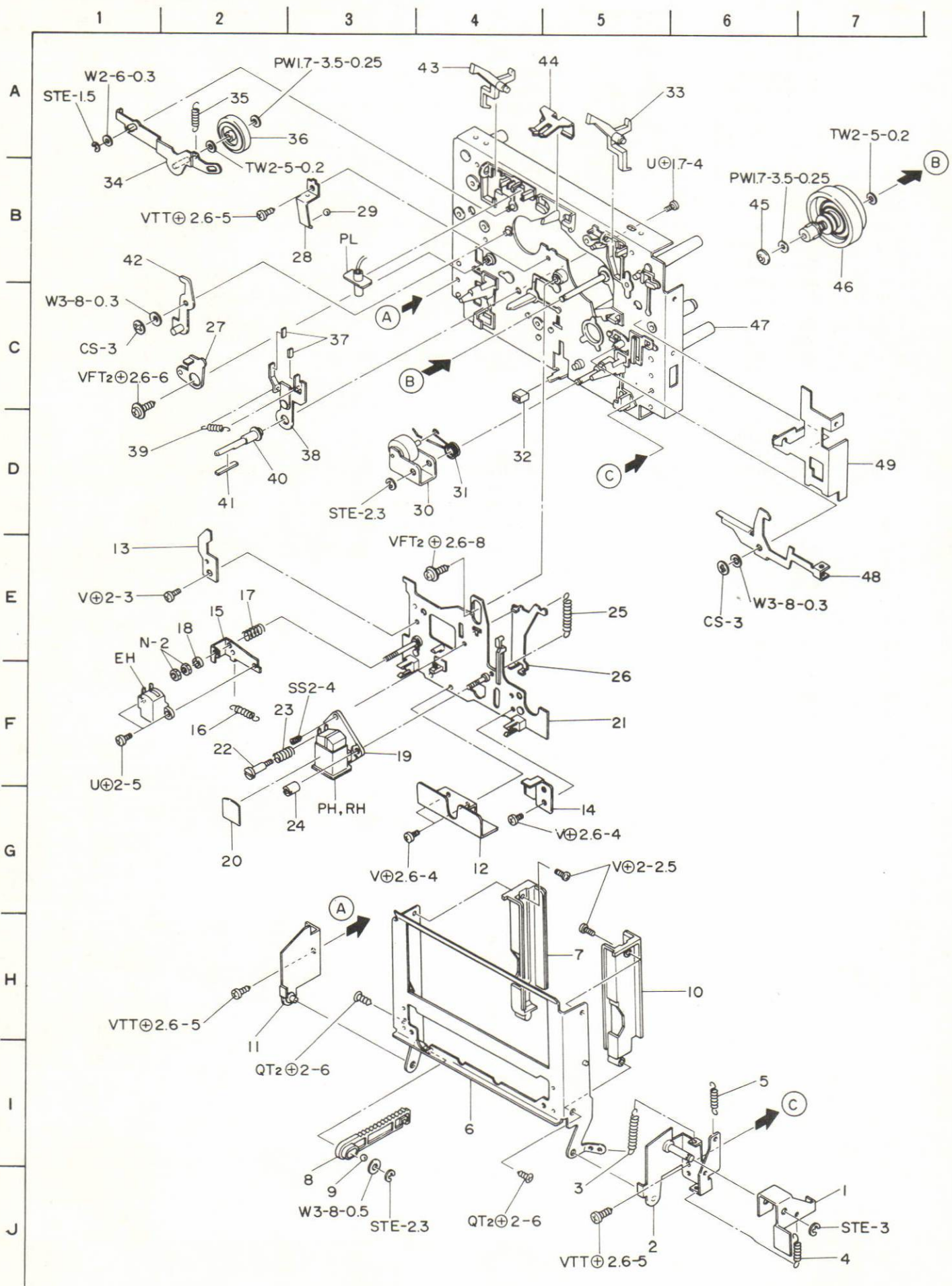
■ \* mark in this part list shows exclusive part (which is used) for only Model No. AD-M800.

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
1-1	82-155-055-01		Panel, Front E	*	1
1-2	82-318-014-01		Guide, Power button	AD-M600	1
1-3	82-155-061-01		Window B, Counter	*	1
1-4	09-047-187-01		Control panel ass'y	*	1
	82-155-019-01		Guide, Control panel	*	1
	82-155-062-01		Control panel E	*	1
	82-155-063-01		Plate, LED	*	1
	82-155-030-01		Touch-key, Dummy	*	1
	82-155-024-01		Touch-key, PLAY	*	5
	82-155-025-01		Touch-key, STOP	*	1
	82-155-031-01		Touch-key, REC mute	*	1
1-5	82-155-033-01		Knob, REC mute	*	1
1-6	82-152-218-01		S cushion, REC mute	*	1
1-7	82-155-214-01		C-spring, Eject	*	4
1-8	82-155-017-01		Knob, Dolby	*	3
1-9	82-155-018-01		Knob, Eject	*	1
1-10	82-155-005-01		Knob REC B ass'y	*	1
1-11	82-155-002-01		Knob REC A ass'y	*	1
1-12	82-155-201-01		Chassis, Front	*	1
1-13	82-321-220-01		Amp. chassis B2		1
1-14	82-155-220-01		Amp. chassis A3	*	1
1-15	82-318-002-01		Cabinet, Bottom	AD-M600	1
1-16	87-085-161-01		Foot		4
1-17	82-154-223-01		G cushion, Foot	AD-M700	1
1-18	82-155-013-01		Cassette lid	*	1
1-19	82-155-014-01		Window, Cassette	*	1
1-20	82-155-039-01		Blind cassette	*	1
1-21	82-155-042-01		Name, Cassette lid	*	1
1-22	82-155-037-01		Plate, Cassette	*	1
1-23	82-154-015-01		Guide, Right	AD-M700	1
1-24	82-155-023-01		Blinder	*	1
1-25	82-155-016-01		Cabinet, Steel	*	1



Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
2-1	82-155-020-01		Knob, Control A	*	2
2-2	82-155-022-01		Guide, Light	*	8
2-3	82-155-021-01		Knob, Control B	*	8
2-4	82-155-221-01		T-spring, Earth	*	1
2-5	82-155-038-01		Knob, Control C	*	1
2-6	82-155-212-01		Lamp cover R	*	1
2-7	82-155-211-01		Lamp cover L	*	1
2-8	82-155-205-01		Guide, LED	*	1
2-9	82-155-219-01		S cushion, Meter	*	2
2-10	87-040-128-01		Counter		1
2-11	82-385-253-01		Belt L, Counter	AD-6300	1
2-12	82-155-009-01		Knob, Slide switch B	*	1
2-13	82-155-008-01		Knob, PB	*	2
2-14	82-318-205-01		Holder, Power	AD-M600	1
2-15	82-318-025-01		Push-button, Power	AD-M600	1
2-16	82-304-210-01		Rod power	AD-6900	1
2-17	82-385-383-01		Stopper rod	AD-6300	1
2-18	82-155-202-01		Holder, Microprocessor circuit board	*	2
2-19	82-155-217-01		Amp. chassis	*	1
2-20	87-038-052-01		Wire crip	*	2
2-21	87-064-056-01		Hinge, Circuit board		2
2-22a	82-155-045-01		Panel, Rear (E model only)	*	1
2-22b	82-155-046-01		Panel, Rear (K model only)	*	1
2-23	82-318-203-01		Holder, Circuit board	AD-M600	1
2-24	87-085-090-01		Nylon rivet		2
2-25a	87-034-877-01		AC power cord (E model only)		1
2-25	87-034-872-01		AC power cord (K model only)		1
2-26	82-397-244-01		Holder, AC power cord	AD-6550	1
2-27	87-085-102-01		Nylon rivet 3.5-5.5		6
2-28	87-085-080-01		Nylon rivet		2
2-29	82-155-216-01		Holder, PB	*	1
2-30	87-085-166-01		Holder, AC power cord		1
2-31	82-155-057-01		Knob, Tone	*	1
2-32a	82-155-051-01		Name plate, Spec. (E model only)	*	1
2-32b	82-155-052-01		Name plate, Spec. (K model only)	*	1
2-33	82-307-026-01		Guide, Pipe	AD-6700	2
2-34	82-155-056-01		Pipe A2	*	1
2-35	82-307-235-01		Nut	AD-6700	1
2-36	82-307-234-01		G cushion	AD-6700	1

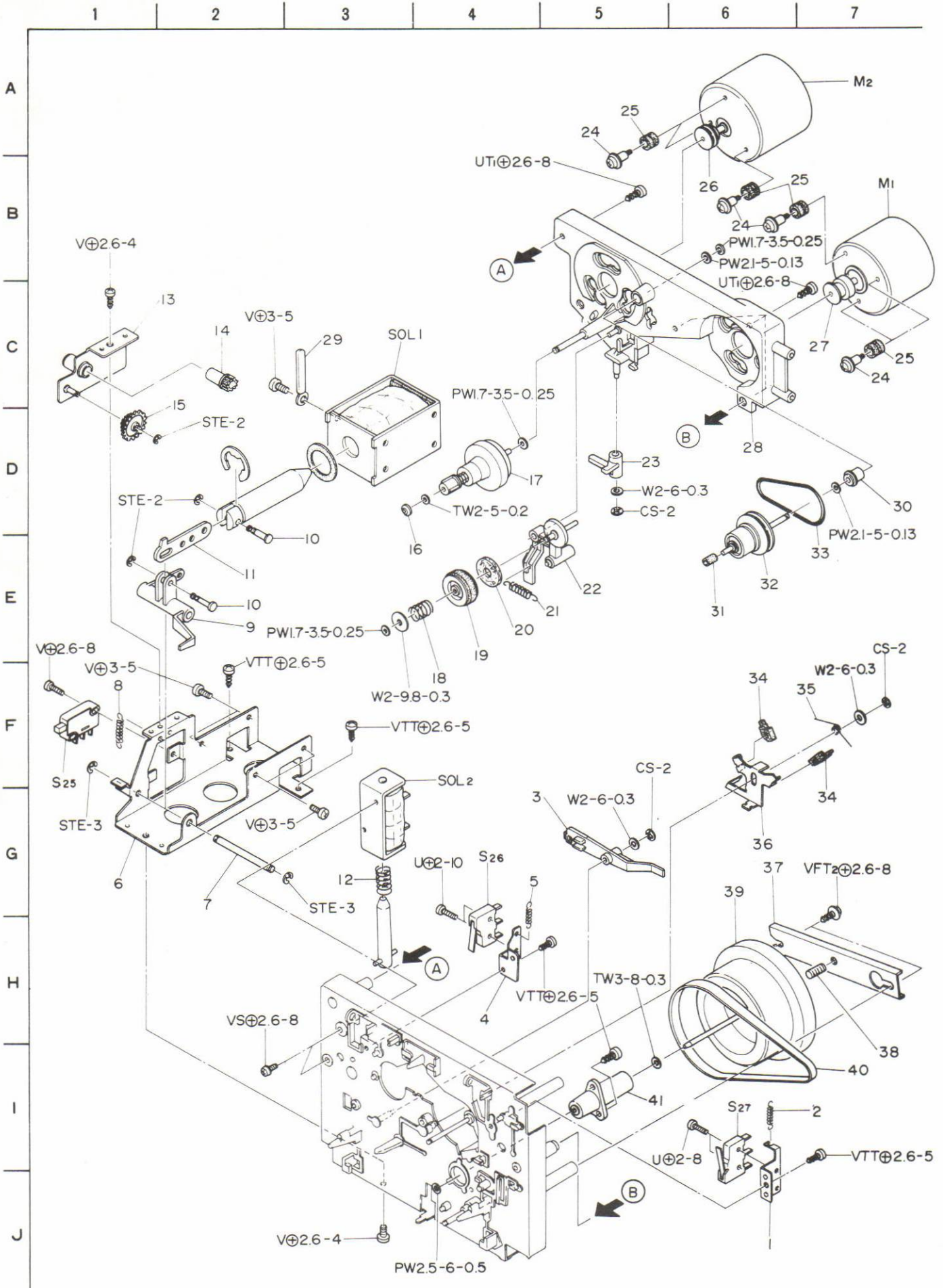
EXPLODED VIEW-3





Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
3-1	82-155-204-01		Lever, Eject	*	1
3-2	82-319-220-01		Holder C, Box R ass'y	AD-M600	1
3-3	82-319-230-01		E-spring, Cassette lid	AD-M600	1
3-4	82-155-215-01		E-spring, Eject lever	*	1
3-5	82-392-374-01		E-spring, Pause A	AD-6550	1
3-6	82-155-206-01		Cassette box ass'y	*	1
3-7	82-155-040-01		Holder L2, Cassette	*	1
3-8	82-541-240-01		Lever, Oil damper	TPR-950	1
3-9	82-073-005-01		Steel ball 2φ		1
3-10	82-155-041-01		Holder R2, Cassette	*	1
3-11	82-319-223-01		Holder C, Box L ass'y	AD-M600	1
3-12	82-397-291-01		Shield plate, Head	AD-6550	1
3-13	82-319-209-01		Guide, Idler lever	AD-M600	1
3-14	82-303-294-01		Holder, T-spring	AD-6900	1
3-15	82-303-374-01		Holder, EH	AD-6900	1
3-16	82-154-220-01		E-spring, EH	AD-M700	1
3-17	82-154-209-01		C-spring, EH	AD-M700	1
3-18	82-303-371-01		Collar, EH	AD-6900	1
3-19	82-155-615-01		Head combination	*	1
3-20	82-304-069-01		Label, Head	AD-6900	1
3-21	09-047-181-01		Outsert actuating chassis ass'y	*	1
3-22	82-304-289-01		Screw, RPH	AD-6900	1
3-23	82-392-357-01		C-spring, Head	AD-6550	1
3-24	82-304-317-01		Nut, Azimuth	AD-6900	1
3-25	82-155-222-01		E-spring, Actuating	*	1
3-26	82-319-210-01		Slide plate, Actuating	AD-M600	1
3-27	82-303-288-01		Lever, Actuating lock	AD-6900	1
3-28	82-319-215-01		P-spring, Actuating A	AD-M600	1
3-29	82-215-341-01		Steel ball 3/32		1
3-30	82-319-270-01		Pinch roller ass'y	AD-M600	1
3-31	82-303-316-01		T-spring, Pinch lever	AD-M600	1
3-32	82-397-307-01		G cushion, Eject lever	AD-6550	1
3-33	82-303-349-01		Lever, CrO <sub>2</sub>	AD-6900	1
3-34	82-303-342-01		Play idler lever ass'y	AD-6900	1
3-35	82-303-325-01		E-spring, Play idler	AD-6900	1
3-36	82-303-274-01		Play idler ass'y	AD-6900	1
3-37	82-303-382-01		Felt, Sub brake	AD-6900	2
3-38	82-319-259-01		Lever, Back tension ass'y	AD-M600	1
3-39	82-154-221-01		E-spring, Back tension	AD-M700	1
3-40	82-154-212-01		Shaft, Tension	AD-M700	1
3-41	82-303-372-01		Felt, EH	AD-6900	1
3-42	82-319-235-01		Lever, PAC ass'y	AD-M600	1
3-43	82-303-346-01		Lever, REC blocking	AD-6900	1
3-44	82-319-214-01		P-spring, Cassette	AD-M600	1
3-45	82-303-398-01		Take up reel platform cap	AD-6900	1
3-46	82-303-249-01		Take up reel platform ass'y	AD-6900	1
3-47	09-047-175-01		Main chassis ass'y	*	1
3-48	82-319-211-01		Lever, Play switch	AD-M600	1
3-49	82-155-210-01		Lock lever	*	1

EXPLODED VIEW-4



Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
4-1	82-319-241-01		Holder, CrO <sub>2</sub>	AD-M600	1
4-2	82-319-251-01		E-spring, CrO <sub>2</sub>	AD-M600	1
4-3	82-303-286-01		Lever, Brake	AD-6900	1
4-4	82-303-350-01		Holder, REC blocking	AD-6900	1
4-5	82-319-234-01		E-spring, REC blocking	AD-M600	1
4-6	82-319-207-01		Holder, Plunger	AD-M600	1
4-7	82-304-244-01		Shaft, Play lever	AD-6900	1
4-8	82-304-249-01		E-spring, Actuating	AD-6900	1
4-9	82-304-232-01		Lever, Play	AD-6900	1
4-10	82-319-269-01		Shaft, Plunger	AD-M600	1
4-11	82-319-250-01		Slide plate, Play B	AD-M600	1
4-12	82-481-311-01		C-spring, Plunger	AF-3090	1
4-13	82-319-225-01		Holder, Oil damper ass'y	AD-M600	1
4-14	82-534-264-01		Gear, Oil damper		
4-15	82-319-239-01		Gear, Oil	AD-M600	1
4-16	82-303-398-01		Take up reel platform cap	AD-6900	1
4-17	82-154-216-01		Supply reel platform ass'y	AD-M700	1
4-18	82-303-322-01		C-spring, FR idler	AD-6900	1
4-19	82-303-271-01		Idler pulley FR ass'y	AD-6900	1
4-20	82-303-335-01		Felt 6.4-14	AD-6900	1
4-21	82-303-353-01		E-spring, FR lever	AD-6900	1
4-22	82-303-277-01		FR lever ass'y	AD-6900	1
4-23	82-303-292-01		Lever, Eject	AD-6900	1
4-24	87-081-483-01		Motor screw M2.6		6
4-25	82-439-319-01		Rubber cushion B	TPR-300	6
4-26	82-319-247-01		Motor pulley, FR	AD-M600	1
4-27	82-319-248-01		Motor pulley, Flywheel A	AD-M600	1
4-28	09-047-152-01		Sub chassis ass'y	*	1
4-29	87-064-080-01		Wire binder		1
4-30	82-439-410-01		Shaft bearing 2φ	TPR-300	1
4-31	82-303-309-01		Drive rubber	AD-6900	1
4-32	82-303-330-01		Slip pulley ass'y	AD-6900	1
4-33	82-303-385-01		Rubber belt FR B	AD-6900	1
4-34	82-439-426-01		Brake shoe A	TPR-300	2
4-35	82-303-318-01		T-spring, Brake	AD-6900	1
4-36	82-303-297-01		Slide plate, Brake	AD-6900	1
4-37	82-319-238-01		Plate, Flywheel	AD-M600	1
4-38	82-331-107-01		Thrust screw		1
4-39	82-154-218-01		Flywheel ass'y	AD-M700	1
4-40	82-319-227-01		Rubber belt, Flywheel	AD-M600	1
4-41	82-392-256-01		Shaft bearing ass'y	AD-6550	1

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**AIWACO.,LTD.**



Symbol No.	Part No.	Description
		< Resistor >
R1	87-025-286-01	22kΩ ¼W ±1% Metal film resistor
« SWITCH CIRCUIT BOARD-1 SECTION »		
PCB-G S15	82-155-611-01 82-318-615-01	Switch circuit board-1 Lever switch (MEMORY)
« SWITCH CIRCUIT BOARD-2 SECTION »		
PCB-H S24	82-155-610-01 87-031-502-01	Switch circuit board-2 Rotary switch (TIMER/REPEAT)
PIN17,18	87-032-903-01	PIN, 3P
PIN16	87-032-904-01	PIN, 4P
PIN19	87-032-908-01	PIN, 8P
« TAPE/CHANNEL SWITCH CIRCUIT BOARD SECTION »		
PCB-J D1,10,11,12 13,15 D14	82-155-618-11 82-155-661-01	Tape/channel switch circuit board LED, TLG-205S
S4~11, D2~9	82-561-614-01	LED, TLR-205
	87-031-558-01	Push-switch w/LED (MEMORY 1~4, TAPE SELECTOR)
S12~14	87-031-557-01	Push-switch (COMPU BRAIN, MEMORY IN, START)
« LOGIC SWITCH CIRCUIT BOARD SECTION »		
PCB-K D1 D2 D3 S17~23	82-155-620-11 87-027-636-01 87-027-637-01 87-027-638-01 87-031-556-01	Logic switch circuit board LED, TLR-226 LED, TLG226 LED, TLY226 Push-switch (Logic control switch)
« BIAS LED CIRCUIT BOARD SECTION »		
PCB-L D1	82-155-619-11 87-027-638-01	Bias LED circuit board LED, TLY226
« VOLUME CIRCUIT BOARD-1 SECTION »		
PCB-M VR2	82-155-605-11 82-155-643-01	Volume circuit board-1 Volume, 10kΩ-A (OUTPUT LEVEL)
« VOLUME CIRCUIT BOARD-2 SECTION »		
PCB-N VR1	82-155-604-11 82-155-644-01	Volume circuit board-2 Volume, 20kΩ-A (RECORD LEVEL)
« VOLTAGE SELECTOR CIRCUIT BOARD SECTION »		
PCB-P	82-154-608-11	Voltage selector circuit board
S30	87-031-591-01	Rotary switch (VOLTAGE SELECTOR) (E model)
S30	87-031-542-01	Rotary switch (VOLTAGE SELECTOR) (K model)

Symbol No.	Part No.	Description
F1	87-035-219-01 87-098-013-01 87-033-147-01	Fuse, T500mA Fuse label, T500mA Fuse clamp
C1	87-019-104-01	< Capacitor > 0.01μF Line capacitor
« DIN CIRCUIT BOARD SECTION »		
PCB Q Q1,2 Q3 D1 J3,4,5,6,8 .S31	82-160-667-01 89-312-222-01 89-318-156-01 87-027-097-01 87-038-054-01	DIN circuit board Transistr, 2SC1222(E) Transistor, 2SC1815(BL) Diode, 1S1555 Jack board ass'y (LINE IN/REC, LINE/OUT/ PLAY, DIN , LINE/DIN)
RY1	84-184-612-01	Reed relay HA-212N
« MISCELLANEOUS »		
T1 RH,PH EH M1 M2 SOL1 SOL2 PL LM1,2 J7 J9 VR3	82-155-631-01 82-155-615-01 87-046-173-01 82-154-621-01 82-319-617-01 82-319-615-11 82-304-640-11 82-155-664-01 82-155-638-11 82-155-641-01 87-049-006-01 82-155-665-01	Power transformer RH,PH combination head Erase head Motor, DC-FG Motor, DC-EG Solenoid (FWD) Solenoid (FR) Pilot lamp, 8V 80mA Level meter Jack, 6.3φ (PHONES) Jack, 2.5φ (PLAYER SYNC) Volume, 10kΩ-B (BIAS FINE ADJUST)
S25 S26,27	82-319-613-01 87-031-610-01	Micro switch (Cassette detection) Micro switch (Erase prevention, CrO <sub>2</sub> detection)
S29	87-031-467-01	Push-switch (POWER)
	87-085-166-01	Holder, AC power cord
	87-034-877-01	AC cord (E model)
	87-034-872-01	AC cord (K model)
CON-18 CON-17 CON-4 CON-10 CON-22 CON-16 CON-15 CON-6 CON-21 CON-2 CON-7 CON-5 CON-9 CON-14 CON-11 CON-8 CON-19 CON-20	82-155-635-01 82-155-636-01 82-155-648-01 82-155-653-01 82-155-687-01 82-155-634-01 82-155-649-11 82-155-659-01 82-155-674-01 82-155-672-01 82-155-658-11 82-155-647-01 82-155-652-01 82-155-656-01 82-155-657-01 82-155-655-01 82-155-688-01 82-155-689-01	Connector ass'y, 3P Connector ass'y, 3P Connector ass'y, 3P Connector ass'y, 3P Connector ass'y, 3P Connector ass'y, 4P Connector ass'y, 4P Connector ass'y, 4P Connector ass'y, 4P Connector ass'y, 4P Connector ass'y, 5P Connector ass'y, 6P Connector ass'y, 6P Connector ass'y, 6P Connector ass'y, 6P Connector ass'y, 6P Connector ass'y, 7P Connector ass'y, 8P Connector ass'y, 8P

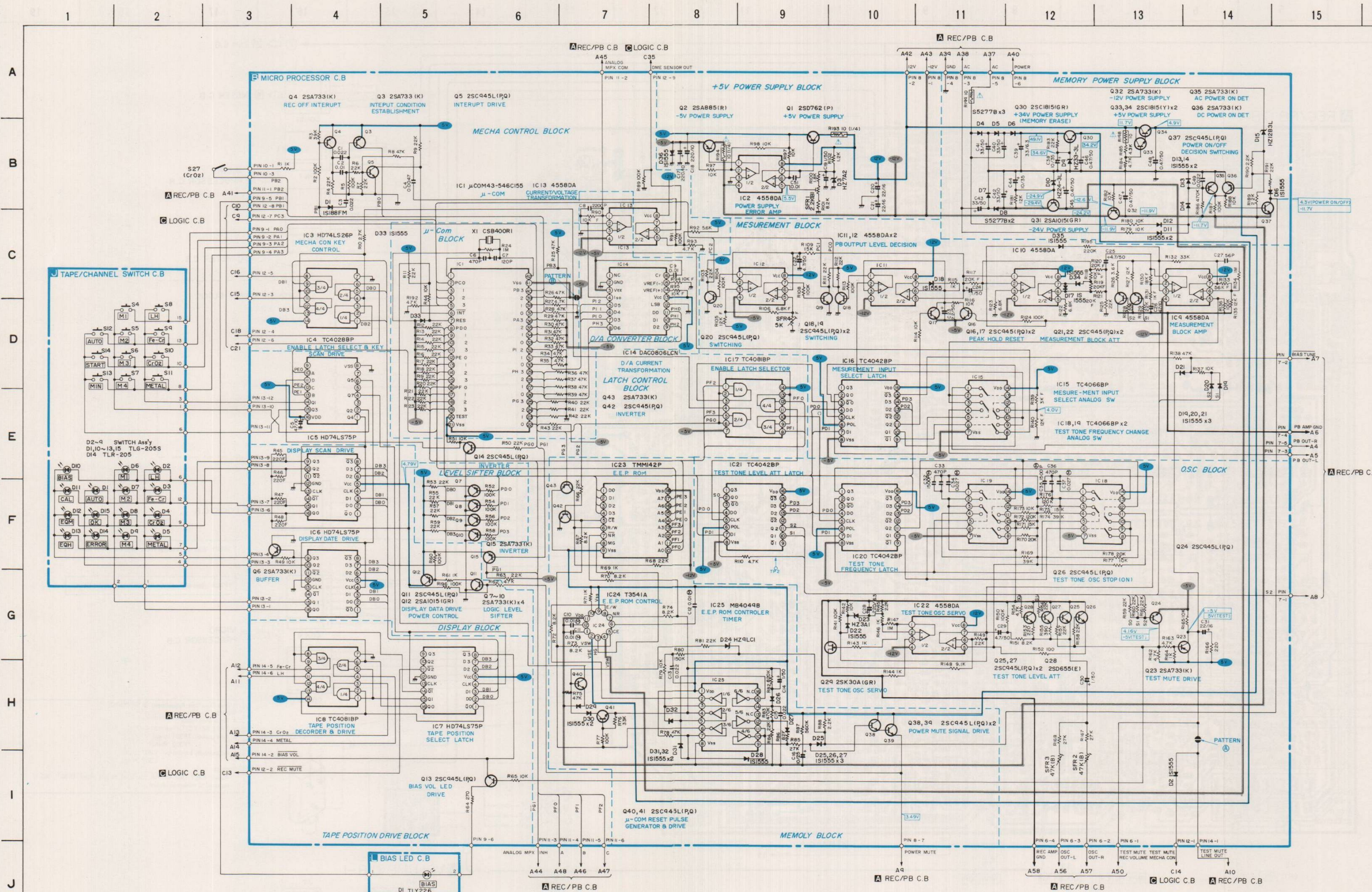
Symbol No.	Part No.	Description
CON-12	82-155-654-01	Connector ass'y, 9P
CON-13	82-155-651-01	Connector ass'y, 12P

⚠ 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.

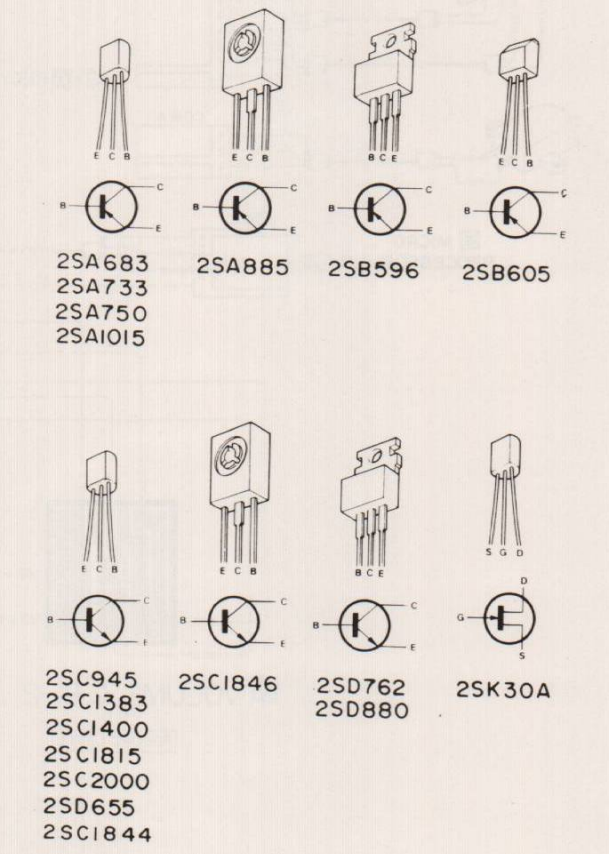
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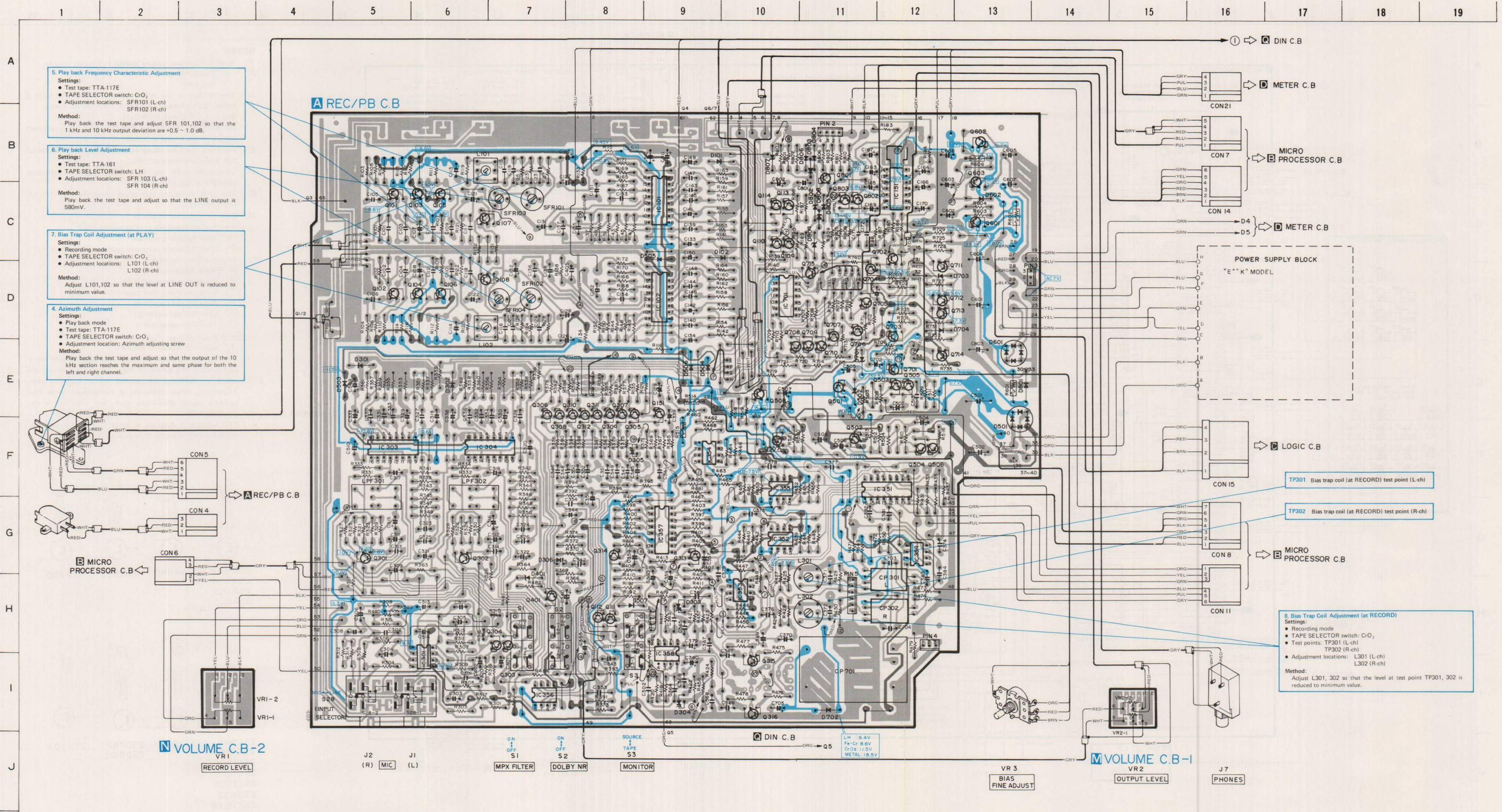
SCHEMATIC DIAGRAM-3



- NOTES:**
- 1) B (+) power supply B (-) power supply
  - 2) Signal path Rec path
  - 3) The voltage is the reference value measured with a tester (20 k-ohms/V DC) when there are no signals. But ( ) is with recording. 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 ¼W and a tolerance of ±5%.
  - 5) Capacitors with no designation have a dielectric strength of less than 50WV.
  - 6) The only capacitor tolerances indicated are ±5% (J) and ±10% (K).
  - 7) Ceramic capacitor symbols:
    - For temperature compensation (SL)
    - High dielectric constant system (YY)
    - High dielectric constant system (YW, YP, YZ)
  - 8) Explanation of symbols:
    - Mylar capacitor
    - Aluminum solid capacitor
    - Polypropylene film capacitor
    - Bi-polarized capacitor
    - Low-leakage capacitor
    - Tantalum capacitor
    - Fuse resistor
    - 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.



WIRING-1



**5. Play back Frequency Characteristic Adjustment**  
 Settings:  
 • Test tape: TTA-117E  
 • TAPE SELECTOR switch: CrO<sub>2</sub>  
 • Adjustment locations: SFR101 (L-ch) SFR102 (R-ch)  
 Method:  
 Play back the test tape and adjust SFR 101,102 so that the 1 kHz and 10 kHz output deviation are +0.5 ~ 1.0 dB.

**6. Play back Level Adjustment**  
 Settings:  
 • Test tape: TTA-161  
 • TAPE SELECTOR switch: LH  
 • Adjustment locations: SFR 103 (L-ch) SFR 104 (R-ch)  
 Method:  
 Play back the test tape and adjust so that the LINE output is 580mV.

**7. Bias Trap Coil Adjustment (at PLAY)**  
 Settings:  
 • Recording mode  
 • TAPE SELECTOR switch: CrO<sub>2</sub>  
 • Adjustment locations: L101 (L-ch) L102 (R-ch)  
 Method:  
 Adjust L101,102 so that the level at LINE OUT is reduced to minimum value.

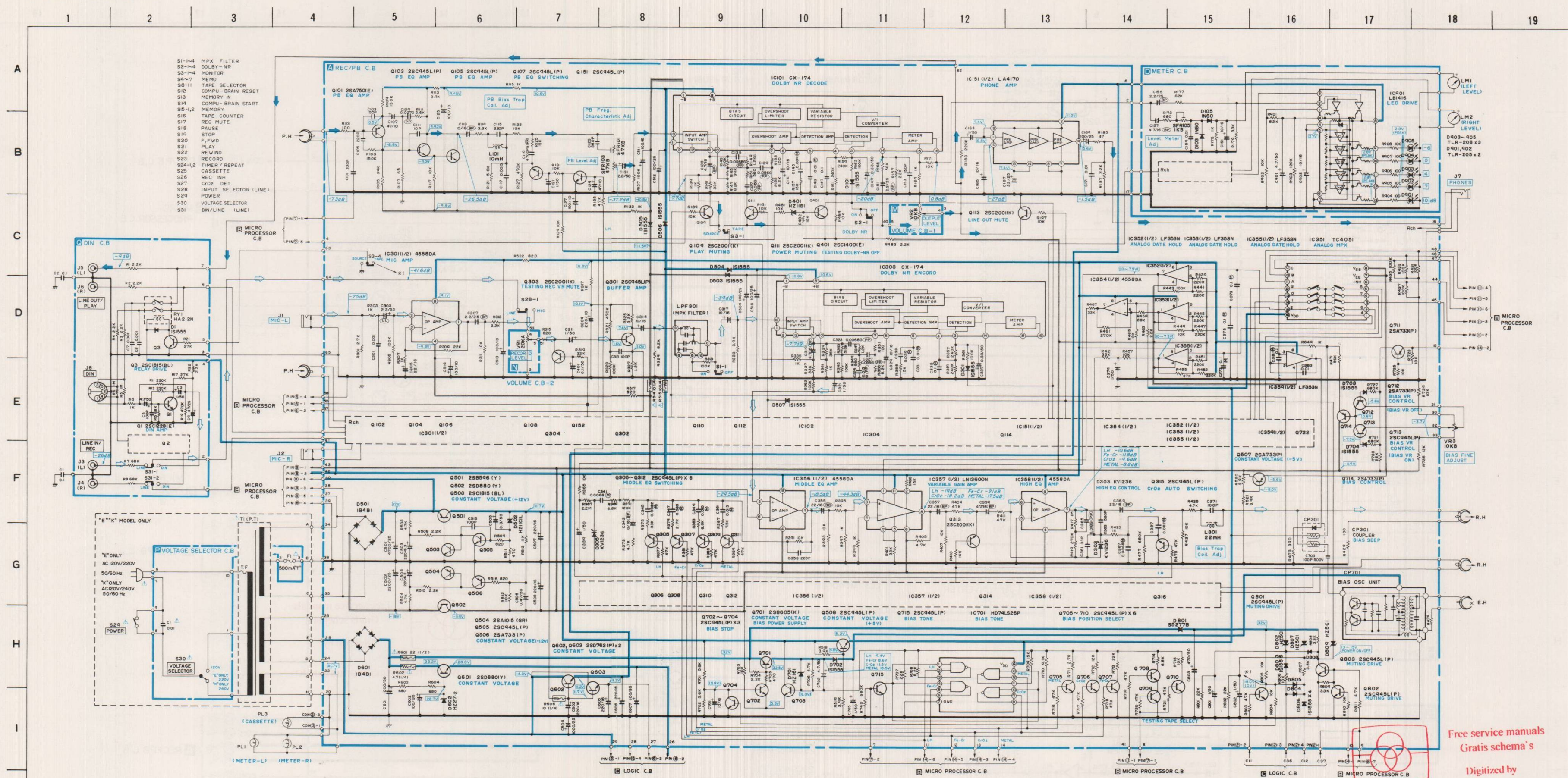
**4. Azimuth Adjustment**  
 Settings:  
 • Play back mode  
 • Test tape: TTA-117E  
 • TAPE SELECTOR switch: CrO<sub>2</sub>  
 • Adjustment location: Azimuth adjusting screw  
 Method:  
 Play back the test tape and adjust so that the output of the 10 kHz section reaches the maximum and same phase for both the left and right channel.

**8. Bias Trap Coil Adjustment (at RECORD)**  
 Settings:  
 • Recording mode  
 • TAPE SELECTOR switch: CrO<sub>2</sub>  
 • Test points: TP301 (L-ch) TP302 (R-ch)  
 • Adjustment locations: L301 (L-ch) L302 (R-ch)  
 Method:  
 Adjust L301, 302 so that the level at test point TP301, 302 is reduced to minimum value.

**NOTES** (1)  B(+) Pattern  B(-) Pattern  Others pattern  
 (2) 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.

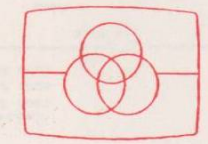
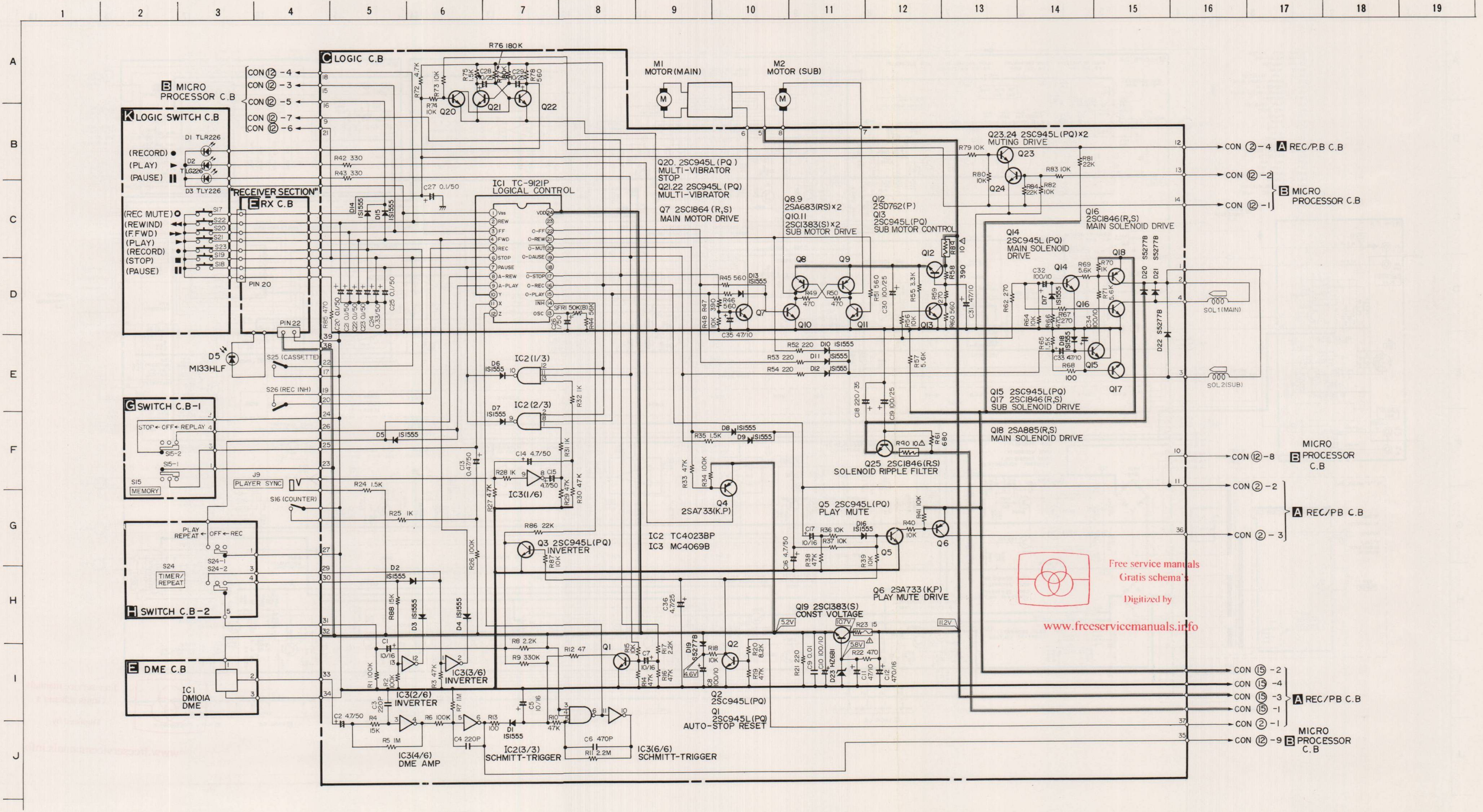


SCHEMATIC DIAGRAM - 1



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SCHEMATIC DIAGRAM -2



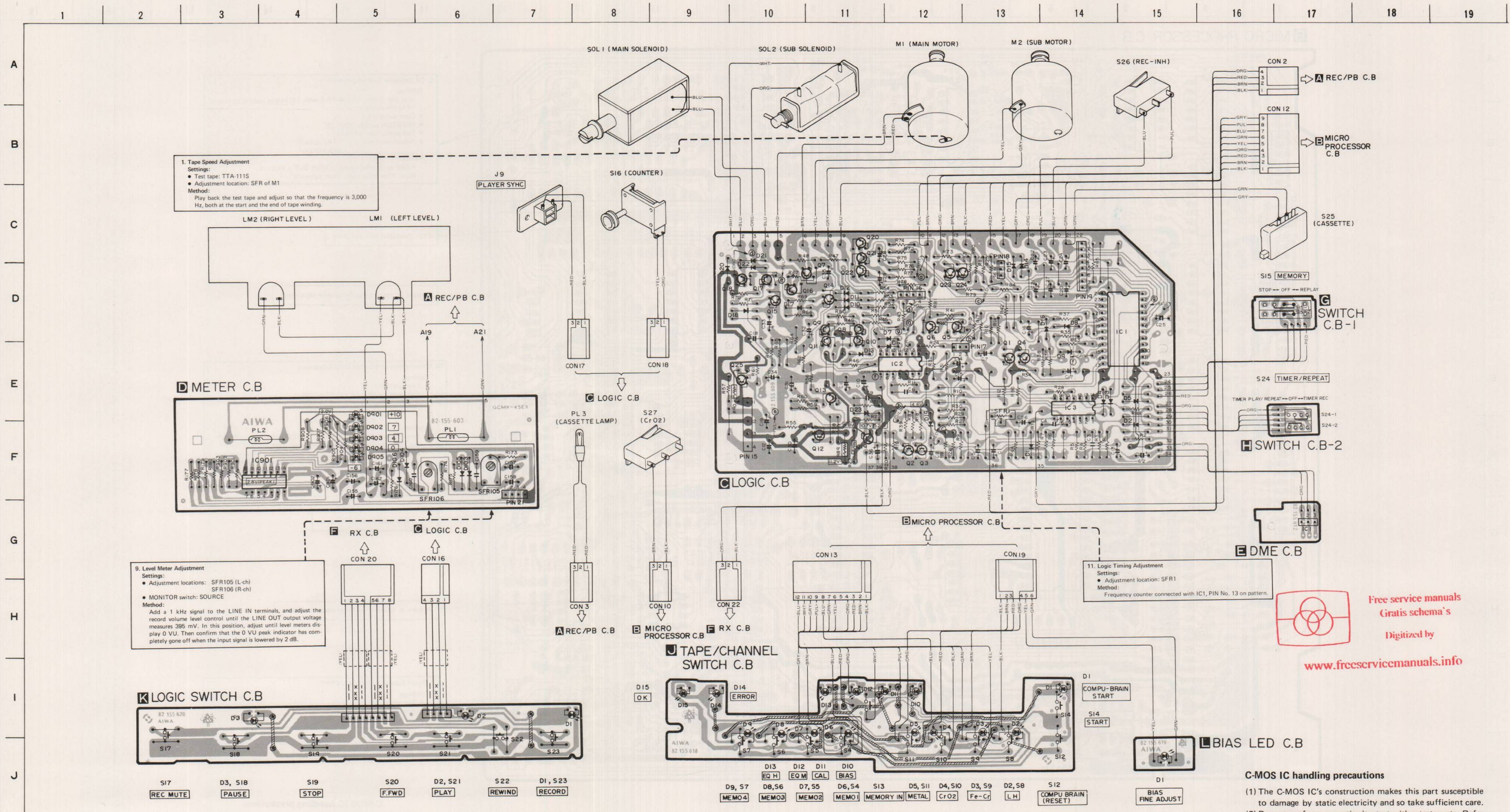
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CON (15) -2  
 CON (15) -4  
 CON (15) -3  
 CON (15) -1  
 CON (2) -1  
 CON (12) -9

A REC/PB C.B.  
 MICRO PROCESSOR C.B.

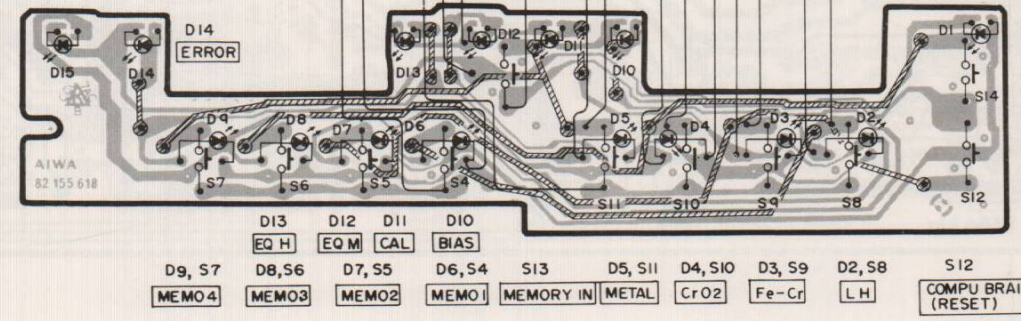
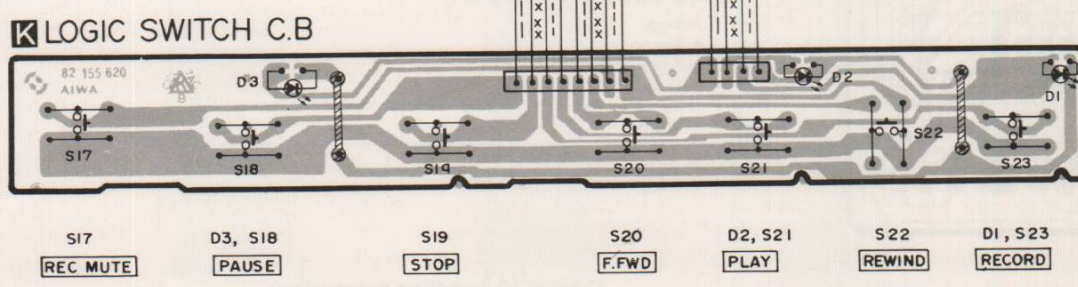
WIRING-2



**1. Tape Speed Adjustment**  
 Settings:  
 • Test tape: TTA-111S  
 • Adjustment location: SFR of M1  
 Method:  
 Play back the test tape and adjust so that the frequency is 3,000 Hz, both at the start and the end of tape winding.

**9. Level Meter Adjustment**  
 Settings:  
 • Adjustment locations: SFR105 (L-ch)  
 SFR106 (R-ch)  
 • MONITOR switch: SOURCE  
 Method:  
 Add a 1 kHz signal to the LINE IN terminals, and adjust the record volume level control until the LINE OUT output voltage measures 395 mV. In this position, adjust until level meters display 0 VU. Then confirm that the 0 VU peak indicator has completely gone off when the input signal is lowered by 2 dB.

**11. Logic Timing Adjustment**  
 Settings:  
 • Adjustment location: SFR1  
 Method:  
 Frequency counter connected with IC1, PIN No. 13 on pattern.



NOTES  
 ■ B(+) Pattern  
 ▨ Component side pattern  
 ■ Others pattern

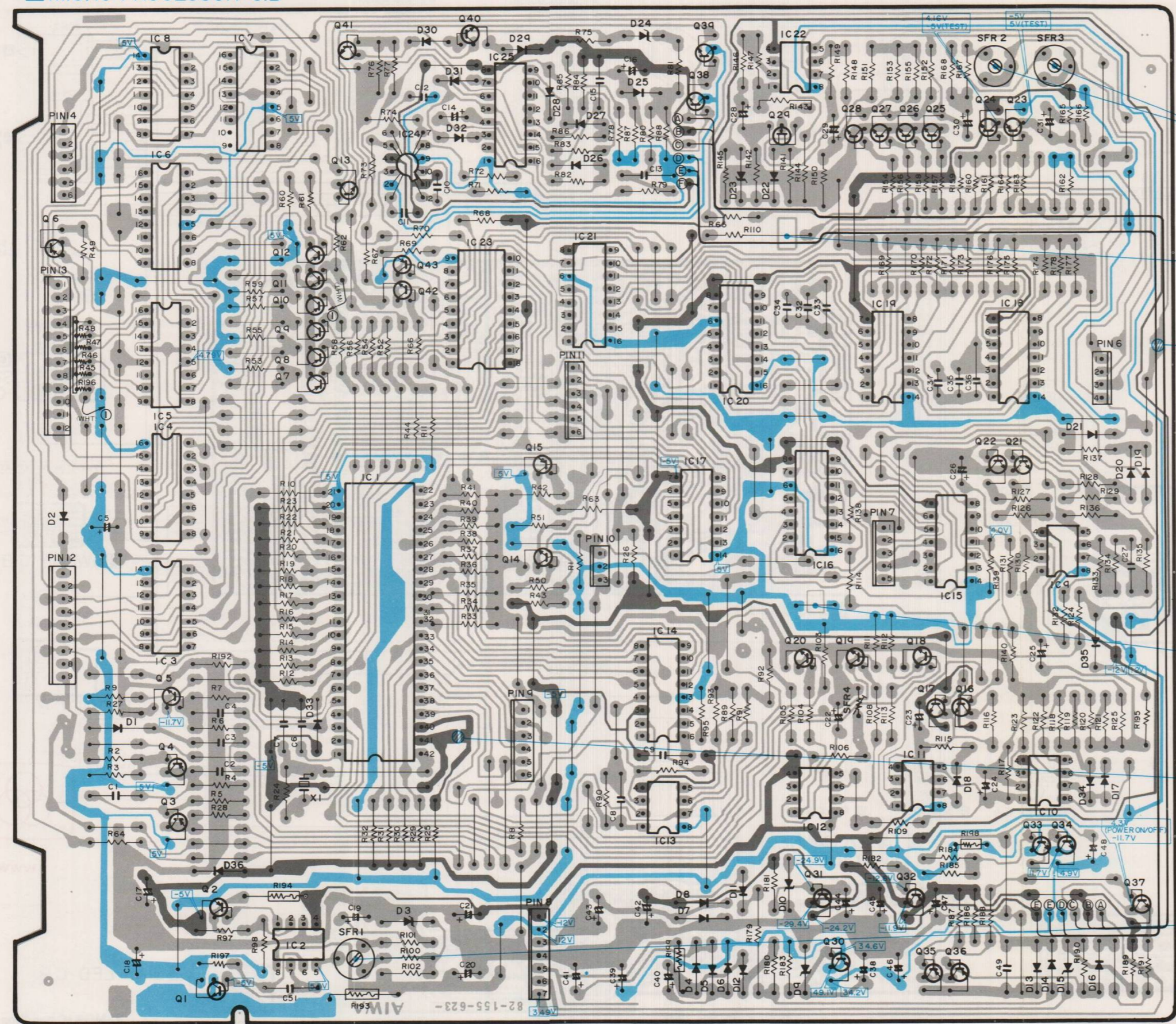
**C-MOS IC handling precautions**  
 (1) The C-MOS IC's construction makes this part susceptible to damage by static electricity and so take sufficient care.  
 (2) Do not perform a continuity test with a tester, etc. Refer to the circuit voltages of each part.

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WIRING-3

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

MICRO PROCESSOR C.B



**3. CR Oscillator Level Adjustment**

**Settings:**  
Join test points TP-1 & TP-2 with 1.8 kohms resistor to supply +B to the oscillator circuit.

- Open pattern A
- MONITOR switch: SOURCE
- Test point: Line out jacks
- Adjustment locations: SFR2 (L-ch)  
SFR3 (R-ch)

**Method:**  
Adjust so that the output at LINE OUT is 39.5 mV.  
Note: After adjustment, short pattern A

TP2 Oscillation level test point

Pattern A (short by soldering after adjustment)

**10. Memorization of Standard Data Adjustment**

**Settings:**  
Open pattern B  
Test tapes: CrO<sub>2</sub> ..... TTA-119G  
METAL ..... TTA-119M  
Fe-Cr ..... TTA-119E  
LH ..... TTA-119J

**Method:**  
Begin from CrO<sub>2</sub> in above order. Select the tape selector button and press the DATA Reset button, then press the start button. After confirming that the automatic adjustment is completed and OK indicator has lit, repeat the above operation. This will make fine automatic adjustment (memorization). Perform for each test tape.  
Note: After adjustments, short pattern B.

TP1 Power supply voltage test point

Pattern B (short by soldering after adjustment)

**2. Power Supply Voltage Adjustment**

**Settings:**  
• Test point: TP1  
• Adjustment location: SFR1

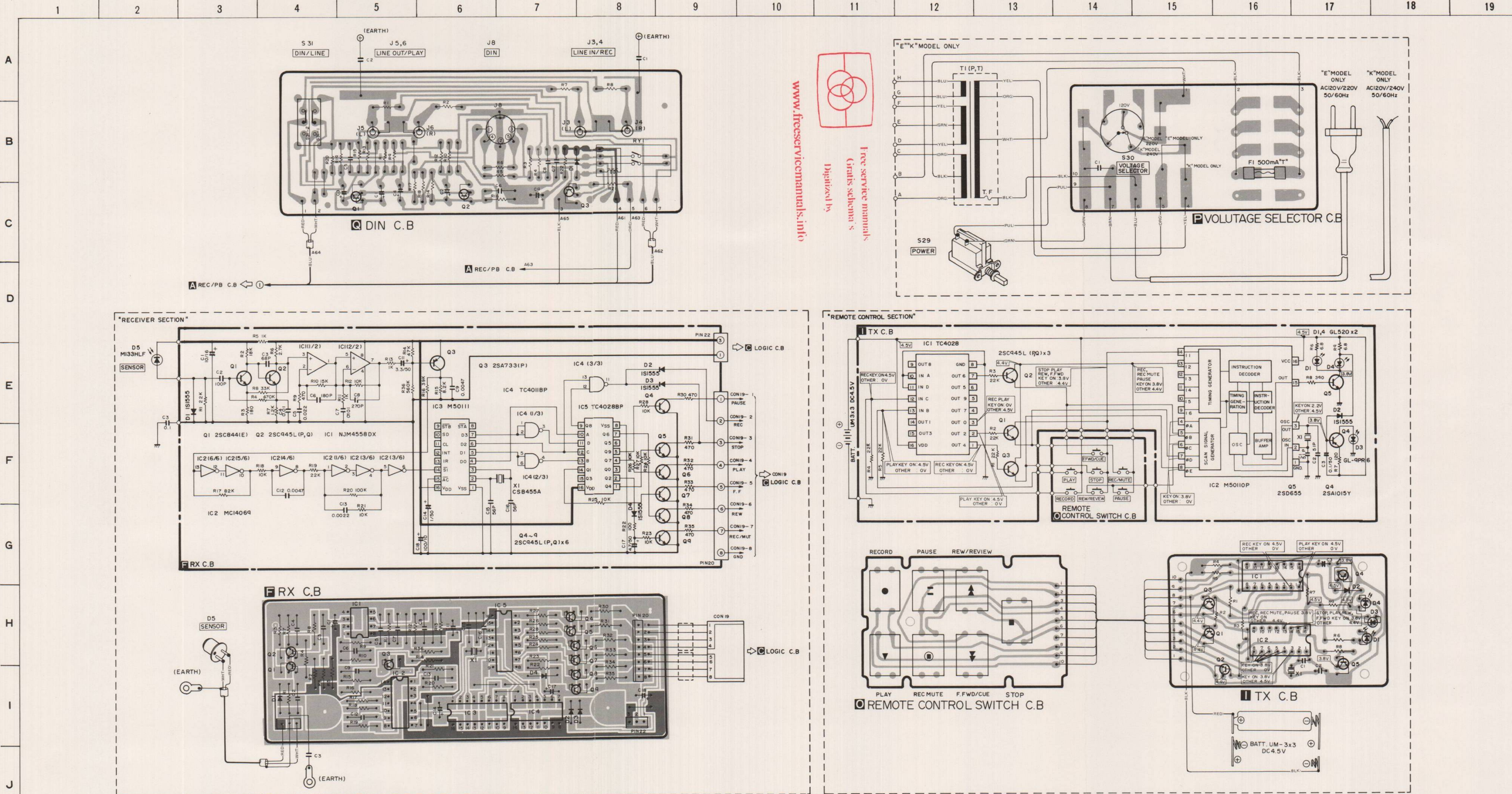
**Method:**  
Adjust so that the voltage between test point and ground is 5.00 ± 0.03V.

**NOTES** (1) B(+) Pattern B(-) Pattern Others pattern  
(2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals.

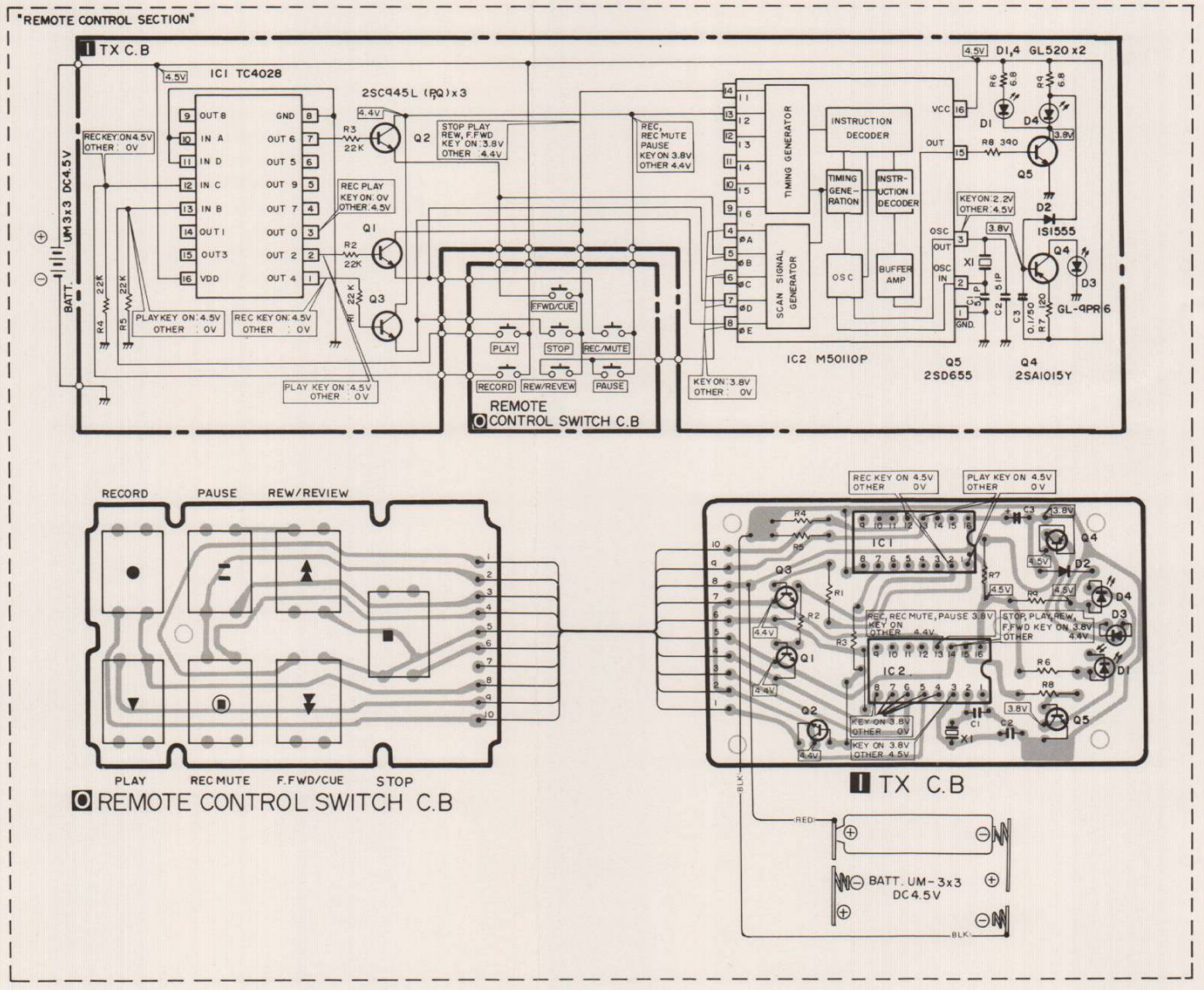
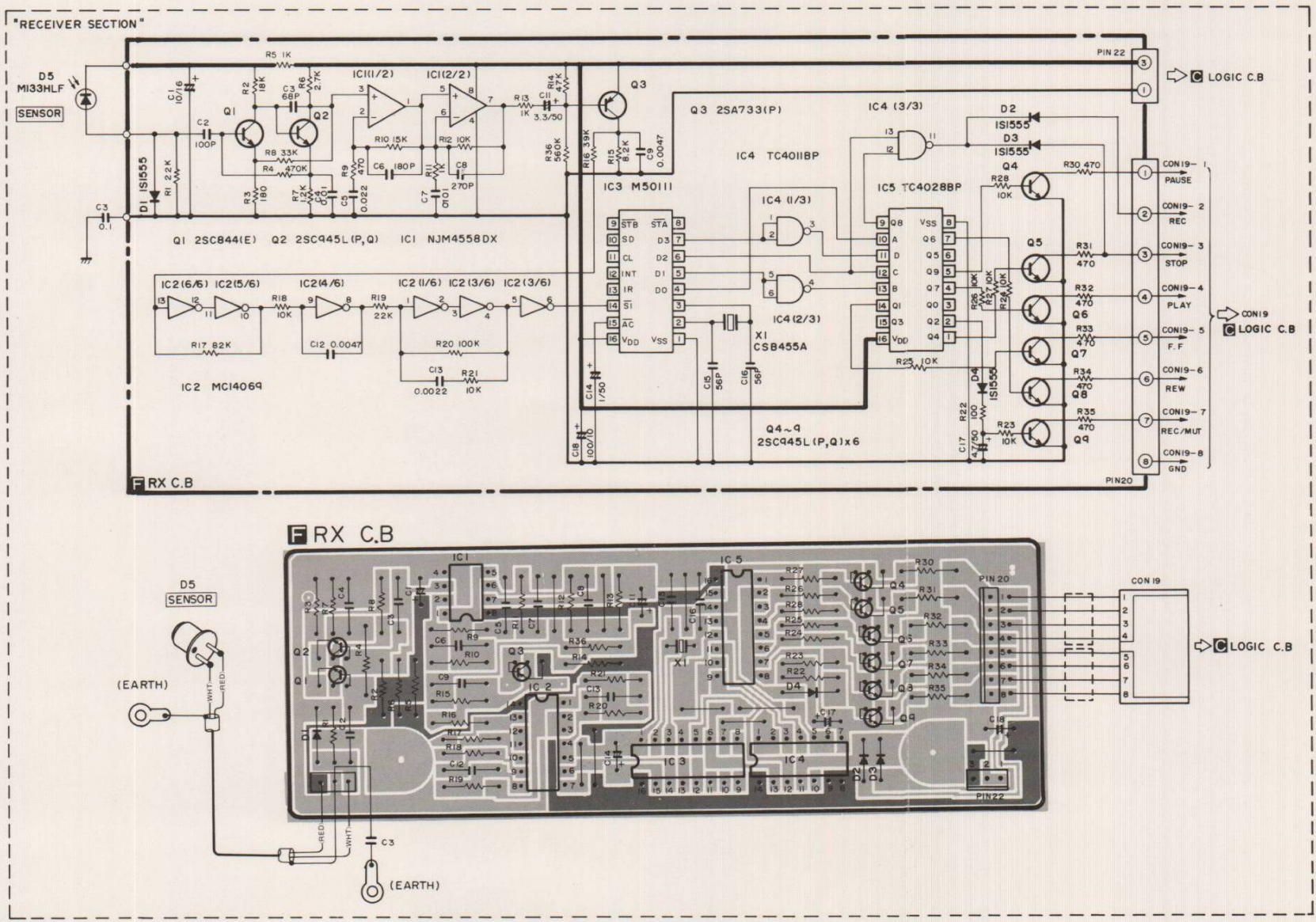
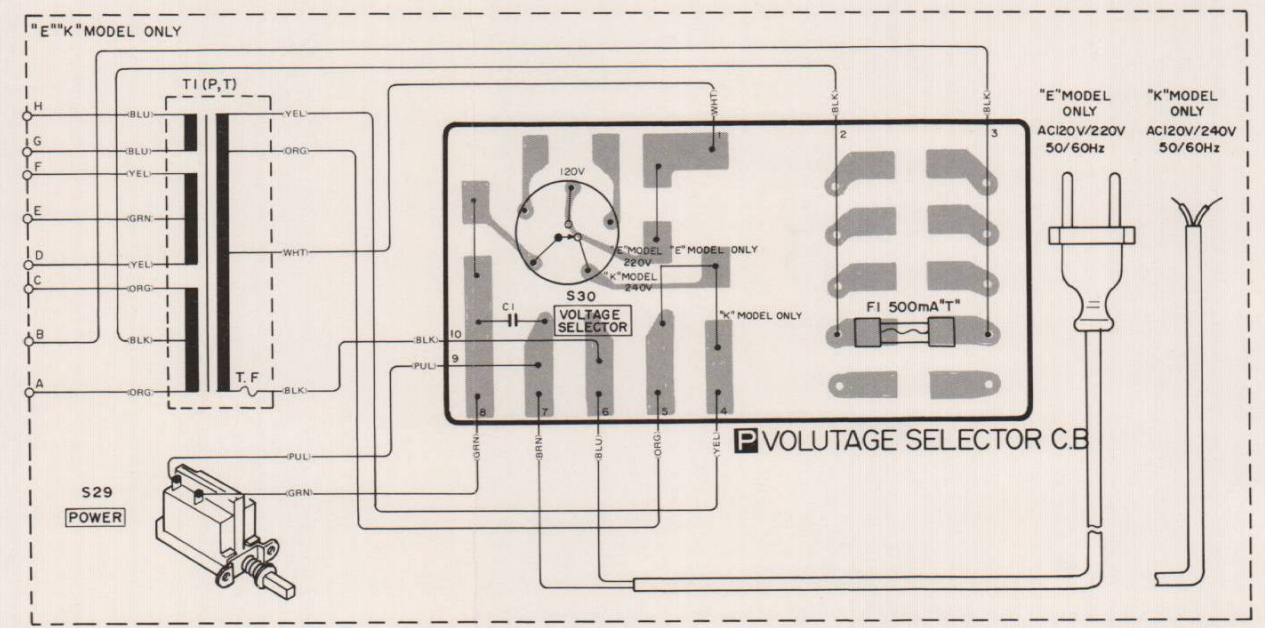
C-MOS IC handling precautions

- (1) The C-MOS IC's construction makes this part susceptible to damage by static electricity and so take sufficient care.
- (2) Do not perform a continuity test with a tester, etc. Refer to the circuit voltages of each part.

WIRING-4



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NOTES (1) ■ B(+) Pattern ■ Others pattern  
 (2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals.

**C-MOS IC handling precautions**  
 (1) The C-MOS IC's construction makes this part susceptible to damage by static electricity and so take sufficient care.  
 (2) Do not perform a continuity test with a tester, etc. Refer to the circuit voltages of each part.