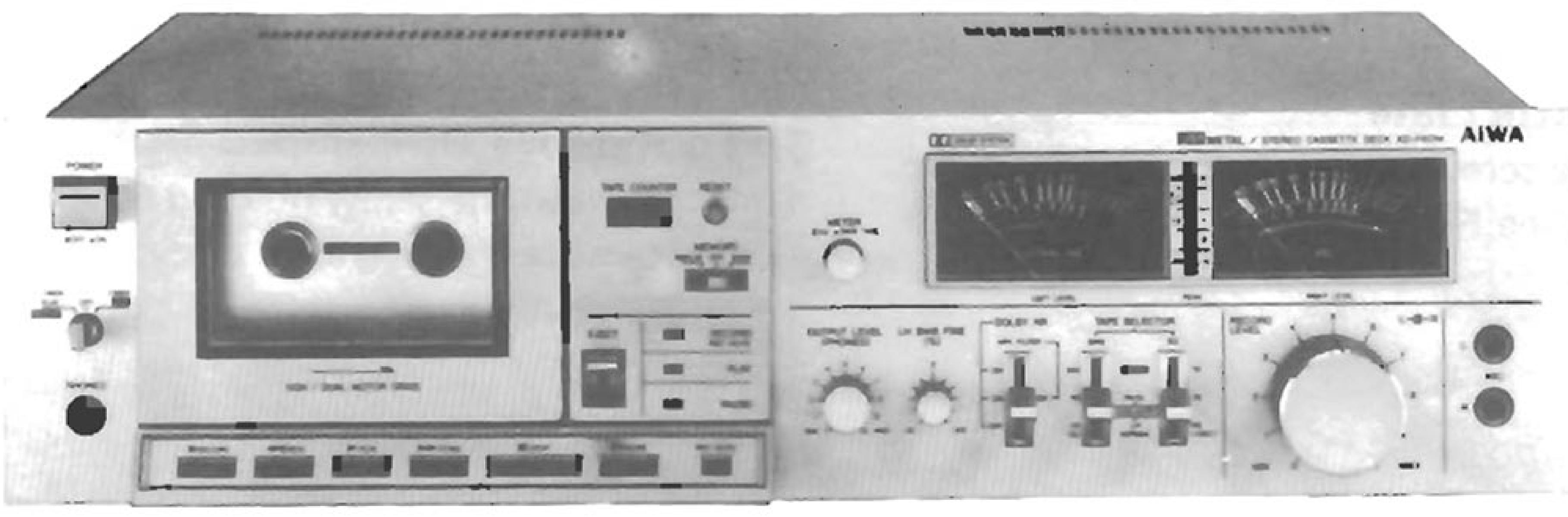
STEREO CASSETTE DECK WITH DOLBY NR SYSTEM

MODEL NO. AD-M600H,C,U,E,K,G

AIWA®

(SERVICE MANUAL)

Code No. 20-600-000-52



DATE OF ISSUE 11/1979

SPECIFICATIONS

Semiconductor:	8 IC's, 69 transistors, 54 diodes 8 LED's
Power source:	H model AC 110V/120V/220V/240V Switchable 50/60 Hz C, U model AC 120V, 60 Hz E model AC 110~120V/220V/240V Switchable 50/60 Hz K, G model AC 120V/240V Switchable 50/60 Hz
Power consumption:	24W
Dimensions:	450(W) x 120(H) x 270(D) mm C, U model 17-3/4"(W)x4-3/4"(H)x10-3/4"(D)
Weight:	7 kg C, U model 15.4 lbs
Track system:	4 track 2 channel stereo
Tape speed:	4.76 cm/s ± 1%
Wow & flutter:	Less than 0.04% (WRMS)
Automatic stop system:	Full auto stop
Automatic shut-off action time:	3 ± 1 s
Pinch roller pressure:	350 ± 30g (3.43 ± 0.29N)
Take-up torque:	50 ± 10 g-cm (490 ± 98 mN·m)
FF & rewind torque:	155 ± 65 g-cm (1520 ± 637 mN·m)
FF & rewind time:	Less than 90 s (w/C-60 cassette)
Playback output: (TTA-161)	0.58 ± 0.05V (LINE, DIN)
Playback noise: (Un-Weighted)	Less than 1.5/1.3 mV (METAL CrO_2, Fe-Cr, DOLBY NR OFF/ON) Less than 2.0/1.5 mV (LH DOLBY NR OFF/ON)
Rec./Pb output: (400 Hz 0 VU)	0 VU ± 1.5 dB (LINE OUT, DIN OUT)
Rec./Pb distortion: (400 Hz 0 VU)	Less than 0.8% (METAL) Les than 2.0% (CrO_2) Less than 1.0% (Fe-Cr) Less than 1.5% (LH)
Rec./Pb S/N: (400 Hz 0 VU) (Un-Weighted)	More than 45/48 dB (METAL, CrO_2, Fe-Cr, DOLBY NR OFF/ON) More than 42/46 dB (LH, DOLBY NR OFF/ON)
Channel separation: (1 kHz 0 VU)	More than 35 dB
Cross talk: (1 kHz 0 VU)	More than 63 dB
Erasing ratio: (METAL 125 Hz, CrO_2, Fe-Cr, LH 400 Hz, 0 VU +10 dB)	More than 60 dB

VU meter display error: (0 VU)	0 VU ± 0.5 dB	
Bias frequency:	100 kHz	
Frequency response:	0 VU METAL: 30~12,500 Hz CrO_2: 30~8,000 Hz −20 VU METAL: 20~19,000 Hz CrO_2: 20~18,000 Hz Fe-Cr: 20~18,000 Hz LH: 20~16,000 Hz	
Bias adjustment range:	± 10% (METAL) ± 20% (LH, Fe-Cr, CrO_2)	
Motor:	DC servomotor (capstan) DC motor (reels)	
Head:	Recording/Playback Sendust guard head Erasure Double gap ferrite head	
Recording system:	AC bias	
Erase system:	AC erase	
Input:	MIC;	Max. input sensitivity 0.3 mV (200 Ω~10 kΩ suitable)
	LINE IN;	Max. input sensitivity 50 mV (More than 50 kΩ)
	DIN;	Max. input sensitivity 0.1 mV/kΩ (2.7 kΩ)
Ouptut:	LINE OUT;	Standard output level 0.41V (0 VU) Optimum load impedance More than 50 kΩ
	DIN;	Standard output level 0.41V (0 VU) Optimum load impedance More than 50 kΩ
	PHONES;	8 Ω

- Specifications and external appearance are subject to change without notice due to product improvement.
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DISASSEMBLY INSTRUCTIONS

1. To Remove Cassette Lid

1) Remove the cassette lid in the direction shown by the arrow.(See Figure 1.)

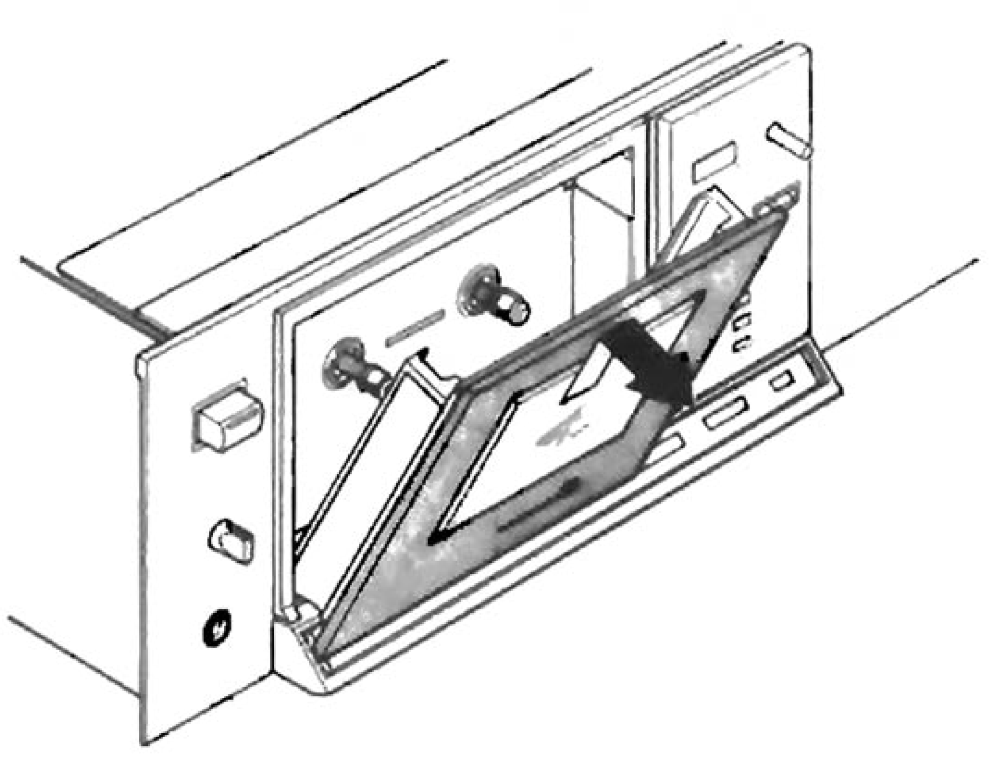


Fig. 1

2. To Remove Blinder and Cassette Plate

1) Remove the two cassette plate screws and pull the blinder in the direction of the arrow.(See Figure 2.)

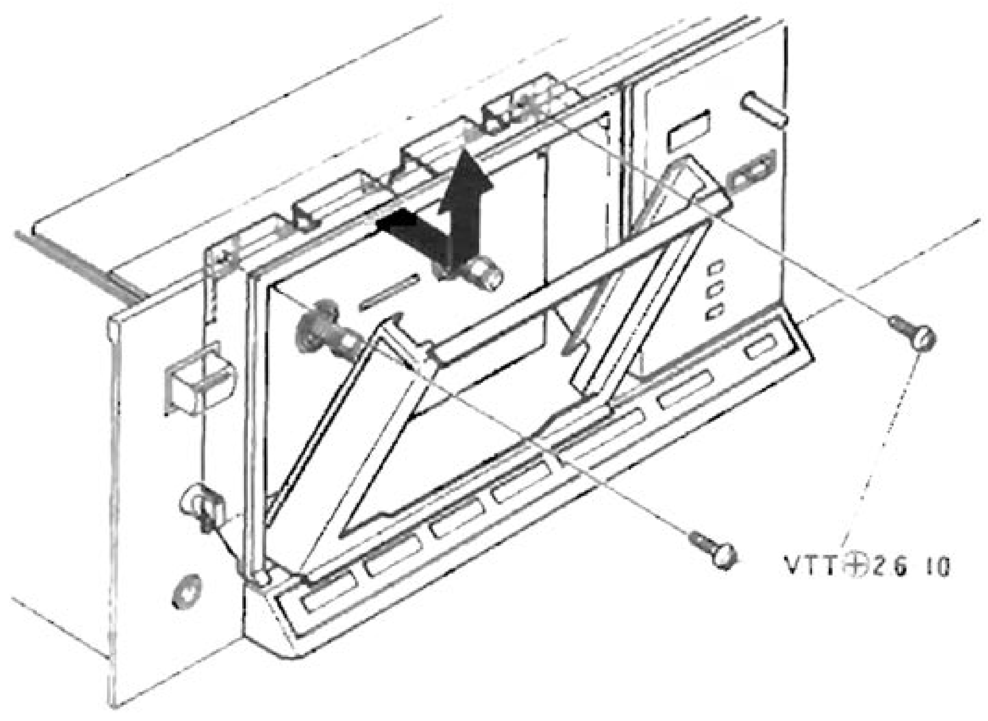


Fig. 2

3. To Remove Front Panel

1) Remove the eight knobs and six screws.(See Figure 3.)

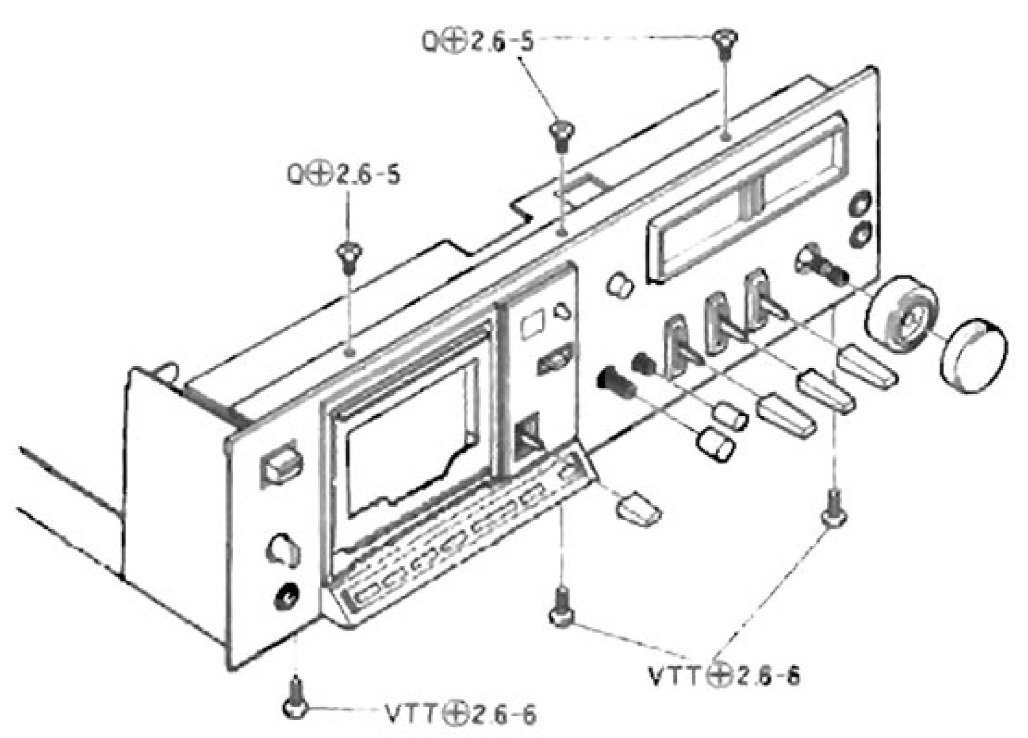


Fig. 3

4. To Remove Main Motor and Sub Motor

1) Bend the wires and solder, etc. into the shape of an "L" and place the main belt over the belt rest.
2) Once rotated in the direction of the arrow, the main and sub motors can be removed easily.(See Figure 4.)

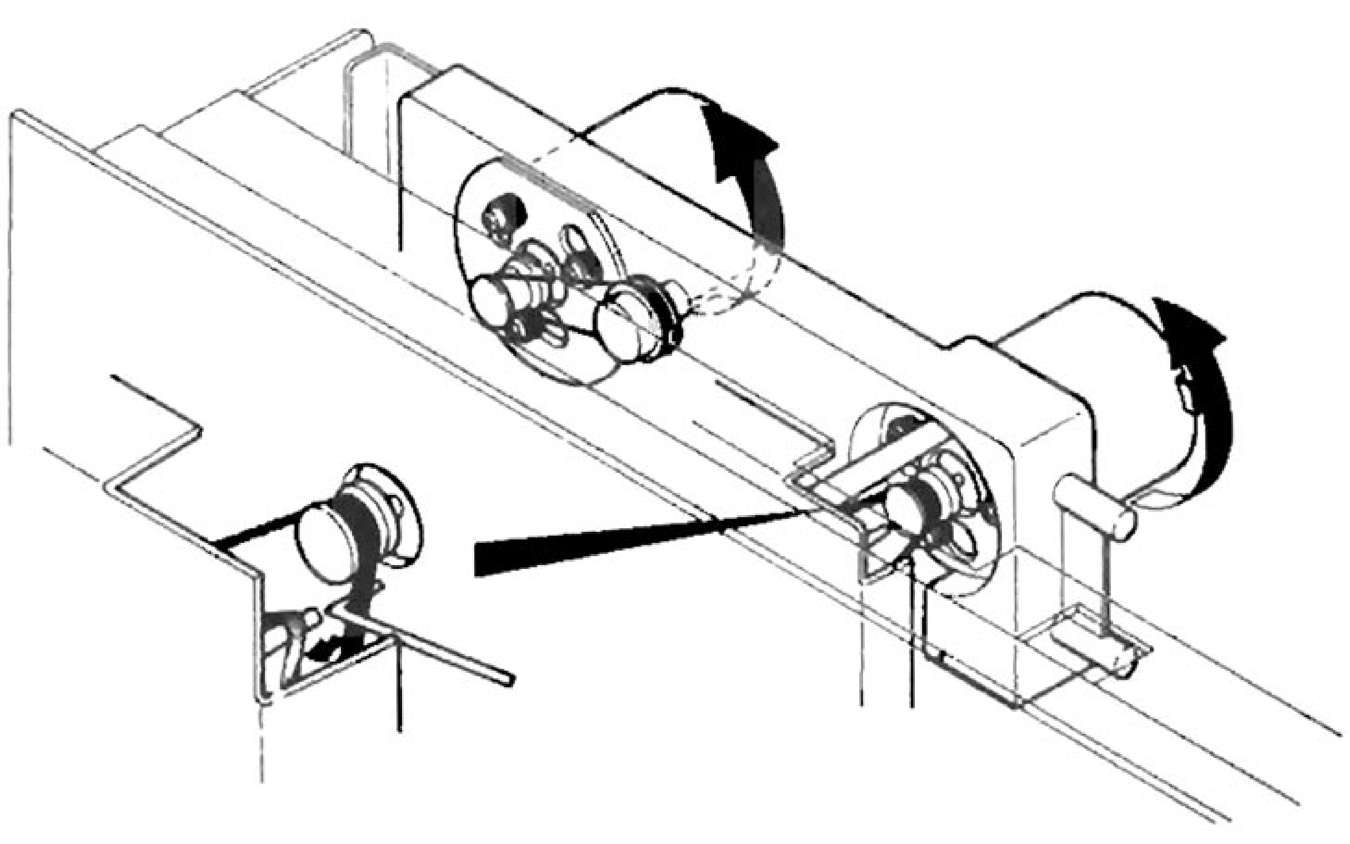


Fig. 4

5. To Remove Flywheel Support Plate

1) Loosen the screws and then slide the support plate in the direction of the arrow.(See Figure 5.)

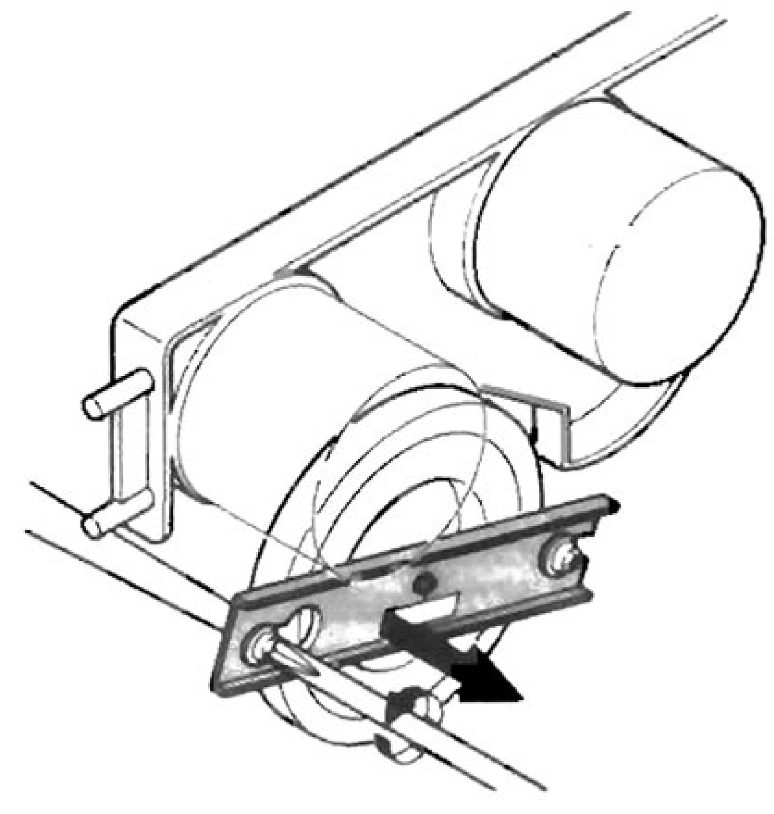


Fig. 5

6. To Remove Oil-damped Section

1) Remove the screw holding the power switch.
2) Remove the two logic circuit board screws.
3) Remove the screw. (See Figure 6.)

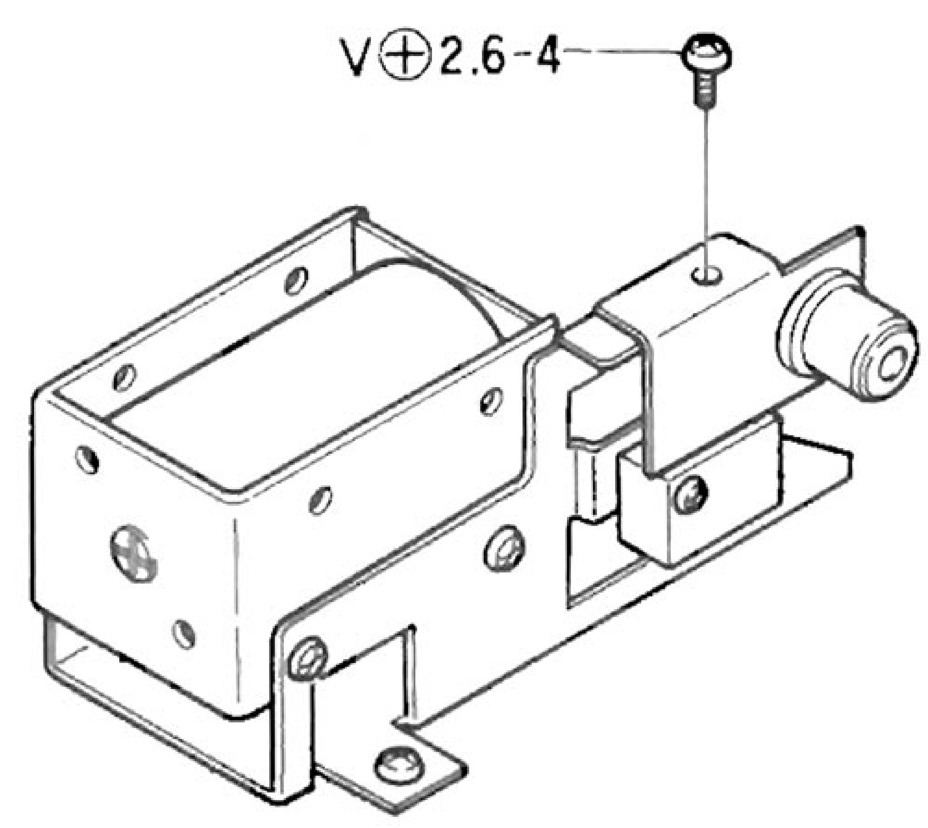


Fig. 6

Notes: Application of oil-damping oil

Apply silicon K oil (GD-10) evenly to the whole inside circumference of the holder (oil-damped) and the whole outside of the gear (oil-damped.).(See Figure 7.)

Rotate the gear (oil-damped) and then insert the holder. Wipe off any excess oil.

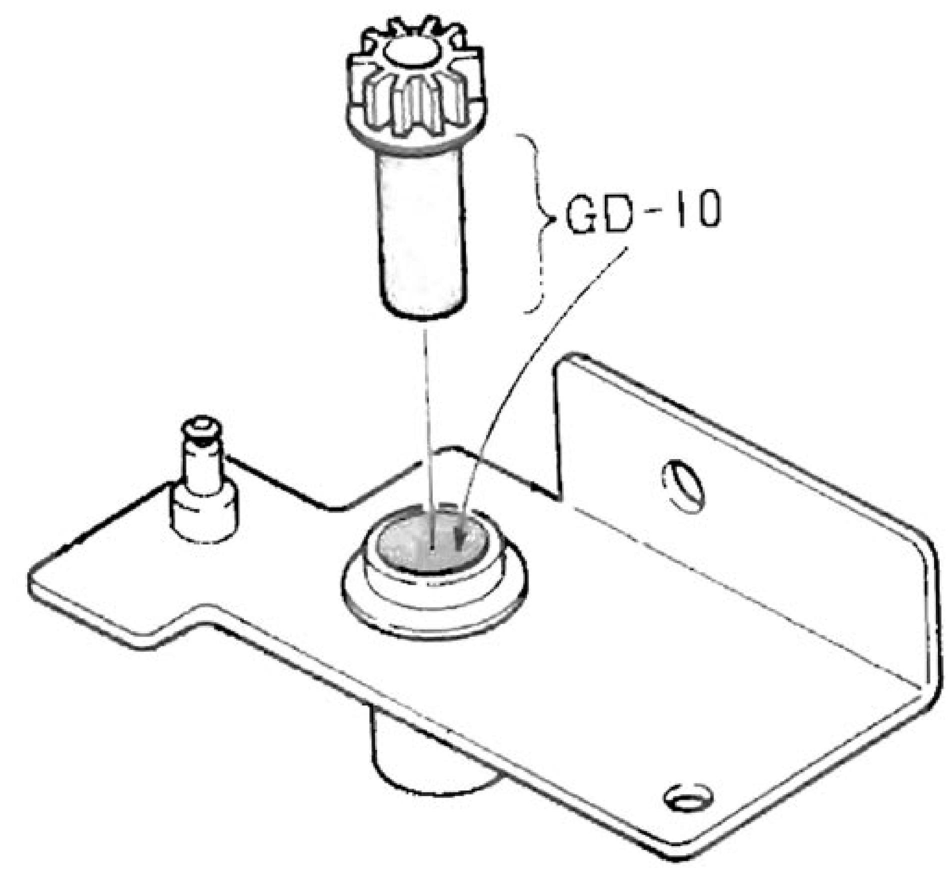


Fig. 7

Description of circuitry

The TC-9121P CMOS LSI is used for logic control. The mechanism is controlled in the desired mode by momentarily bringing the input pins to the "low" level (0–1 V). A "high" level (more than 3.5 V) voltage is fed out to the output pins.

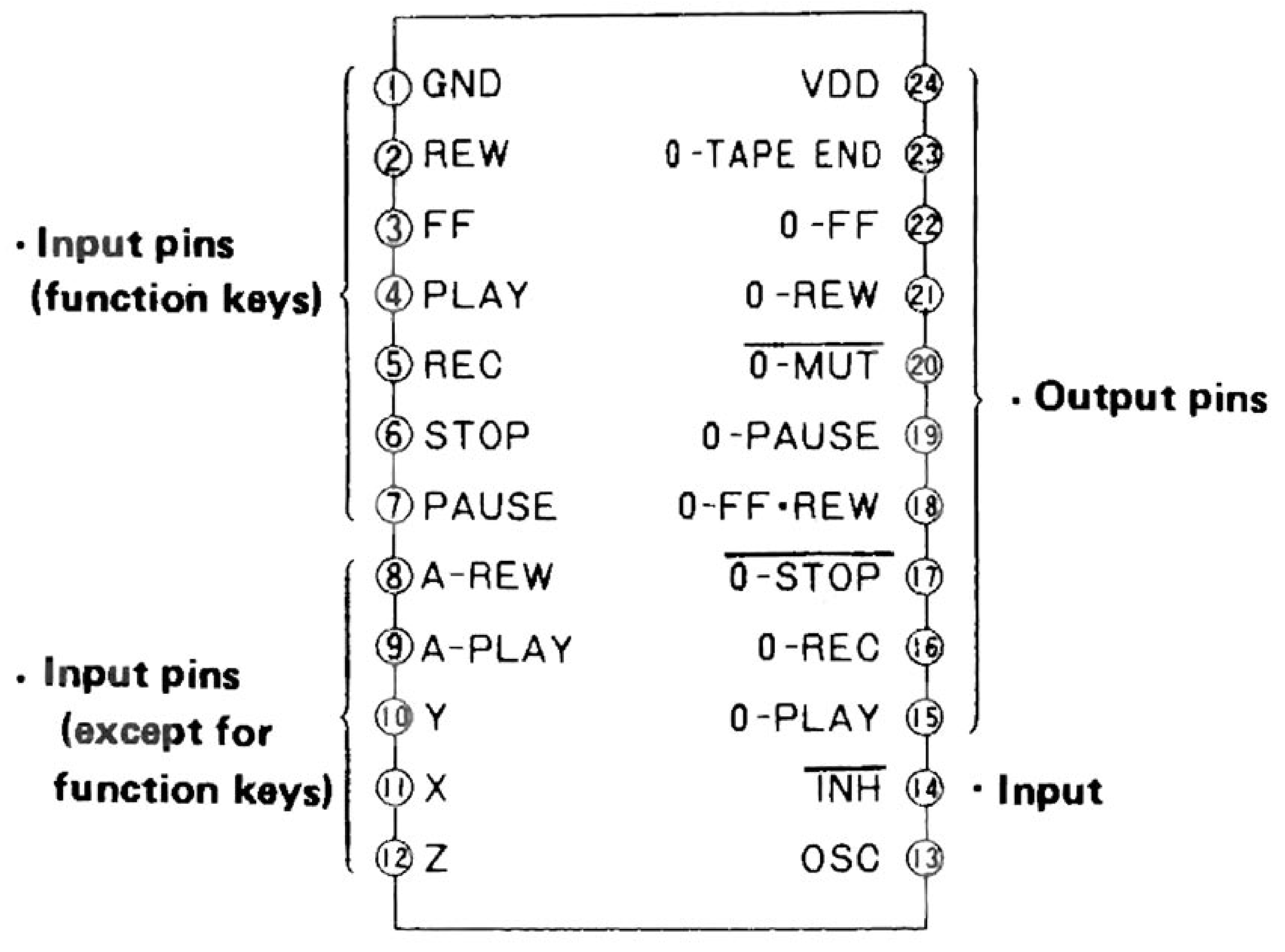


Fig. 1

* Pins (10), (18) and (23) are not used.
* Revise also for IC1 in schematic diagram 2.

1. Names of the pins and their functions

PIN NO.	Name	Function
2	REW	Input pin that commands tape rewind.
3	FF	Input pin that commands tape fast forward.
4	PLAY	Input pin that commands tape playback. When set to "low" simultaneously with REC, recording begins.
5	REC	Input pin that commands recording. Effective only when set to "low" simultaneously with PLAY.
6	STOP	Input pin whose command stops tape run or brings it to a temporary halt. Effective only with the stop, playback and recording operations.
8	A-REW	Input pin that designates operation when "low" signal is applied to Z input during playback or recording. Setting to "high" level: tape stops with above input. Setting to "low" level: tape stops once and is then rewound automatically.
9	A-PLAY	Input pin that designates operation when "low" signal is applied to Z or X input during rewind. Setting to "high" level: tape stops with above input. Setting to "low" level: tape stops once and is then rewound automatically.
11	X	Input pin that commands stop or playback (designation with above A-PLAY) during rewind. X input is not received except during rewind.
12	Z	Input pin of signal which has detected tape travel stop. Operation upon tape completion is commanded by A-REW and A-PLAY input pulses with a "low" level during stop and a "high" level during tape travel.
13	OSC	A clock pulse with CR externally attached is generated at this pin. The clock pulse determines the operation timing inside the IC.
14	$\overline{\text{INH}}$	When this pin is set to "low" in all operation modes, all the outputs except 0-MUT are cut off and the mechanism is set to the stop mode.
15	0-PLAY	"High" output pin in playback and recording mode.
16	0-REC	"High" output pin in recording or recording/pause modes.
17	$\overline{\text{0-STOP}}$	"High" output in all modes except stop.
19	0-PAUSE	"High" output in pause mode.
20	$\overline{\text{0-MUT}}$	"Low" output in playback, recording, pause modes. "High" output in other modes.
21	0-REW	"High" output pin in rewind mode.
22	0-FF	"High" output pin in fast forward mode.

Table 1

2. Operations with multiple depressed function keys

Key input 1	Other key inputs	Output mode
STOP	REC, FF, PLAY, REC, PAUSE	STOP
F.F	REW, PLAY	STOP
	REC, PAUSE	F.F (Fast Forward)
REW	FF, PLAY	STOP
	REC, PAUSE	REW (Rewind)
PLAY	PAUSE	P.B. PAUSE
REC	PLAY	REC (Record)
	PAUSE	PAUSE
	PLAY and PAUSE	REC PAUSE

Table 2

Note: The multiple depressed key period becomes the above output mode but when the keys are released in succession, the last remaining key is set.

3. Operations with function keys

Present mode \ Key input	STOP	F.F	REW	PLAY	PAUSE	REC/PLAY
STOP	–	F.F˙	REW˙	PLAY˙	PAUSE	REC˙
F.F	STOP	–	REW˙	PLAY˙	–	REC˙
REW	STOP	F.F˙	–	PLAY˙	–	REC˙
PLAY	STOP	F.F˙	REW˙	–	PLAY PAUSE	REC
PAUSE	STOP	F.F	REW˙	PLAY PAUSE	STOP	REC PAUSE
REC	STOP	F.F˙	REW˙	–	REC PAUSE	–
REC PAUSE	STOP	F.F	REW	–	REC	–
PLAY PAUSE	STOP	F.F	REW	–	PLAY	REC PAUSE

Table 3

Note 1: Changes in modes marked with a (˙) are executed via a stop time of 0.5 sec.
Changes in modes without a (˙) mark are executed at the same time as key input.

Note 2: A present operation mode with a (–) mark indicates that there is no change.

4. Output pin states with respect to key inputs

Output pin \ Key input	STOP	F.F	REW	PLAY	REC PLAY	PAUSE STOP→	PAUSE PLAY→	PAUSE REC/PLAY→
0-PLAY				○	○			
0-REC					○			○
0-STOP		○	○	○	○	○	○	○
0-F.F, 0-REW		○	○					
0-PAUSE						○	○	○
0-MUT	○	○	○			○		
0-REW			○					
0-F.F		○						
Name of mode	STOP	F.F	REW	PLAY	REC	PAUSE	PLAY PAUSE	REC PAUSE

○ = "High" output

Table 4

5. Description of operation (refer to schematic diagrams 1, 2)

5.1. Main motor circuit

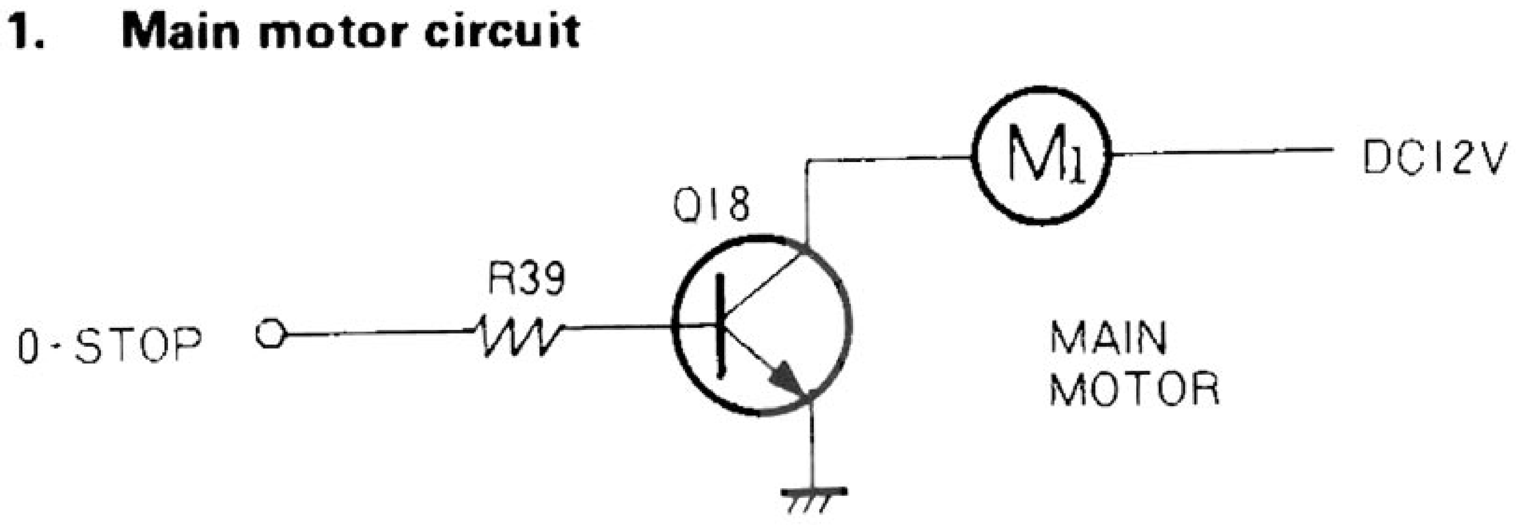


Fig. 2

The main motor is driven by Q_{18} whose base is connected to the 0-STOP pin ("high" level except with stop). This means that the motor works in all modes except stop.

5.2. Sub motor circuit

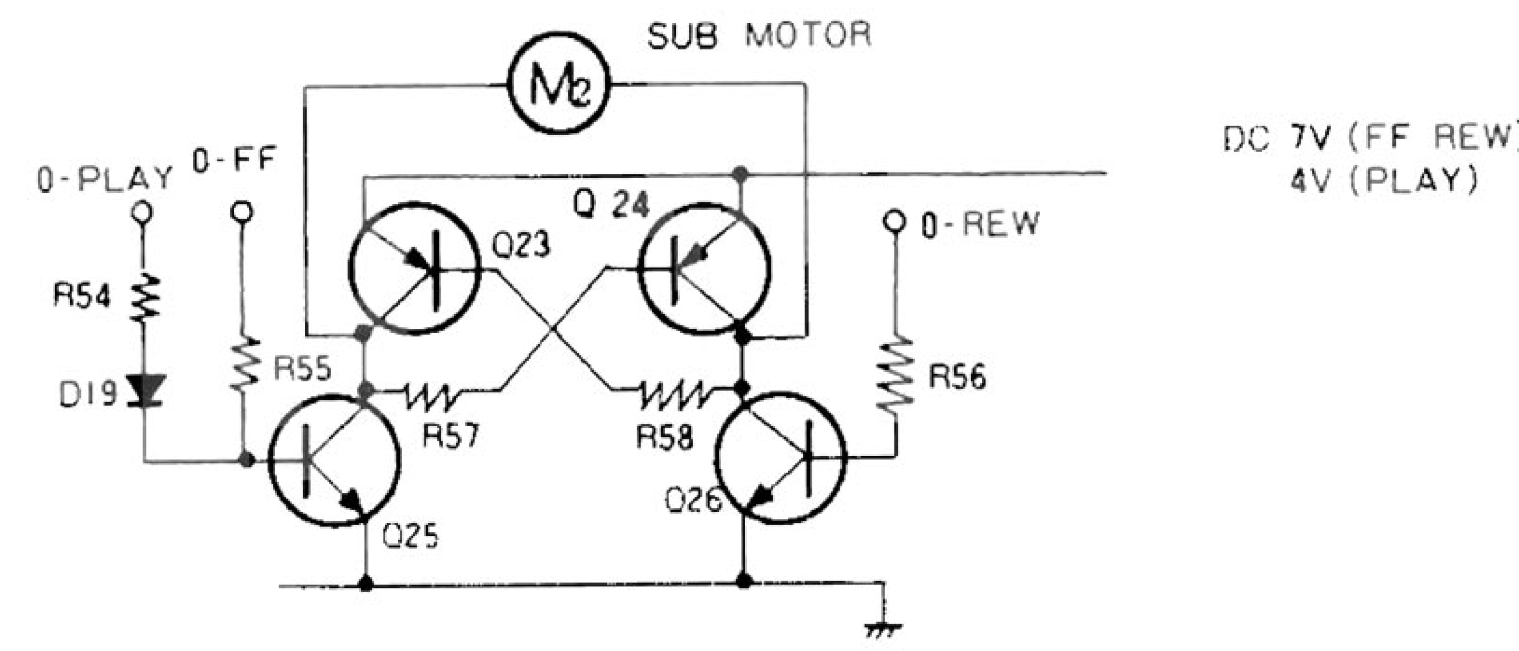


Fig. 3

IC OUTPUT \ Tr	Q_{23}	Q_{24}	Q_{25}	Q_{26}
0-FF	OFF	ON	ON	OFF
0-REW	ON	OFF	OFF	ON

Table 5

0-PLAY is the same as 0-FF but the power supply is 4V.
The sub motor is driven by a "hard-working" circuit composed of Q_{23} through Q_{26}, and the bases of Q_{25} and Q_{26} are connected to the 0-FF and 0-PLAY, 0-REW pins.
During fast forward, Q_{25} goes ON, Q_{24} ON, Q_{23} OFF and Q_{26} OFF, sub motor pin (8) is grounded, a +7.5V voltage is applied to (7) and the motor rotates counterclockwise.
During rewind, conversely, Q_{25} and Q_{24} go OFF while Q_{23} and Q_{26} go ON, pin (7) is grounded, a +7.5 V voltage is applied to pin (8) and the motor rotates clockwise.
During play (FWD mode) the signal from the 0-PLAY pin passes through R_{54} and D_{19} and the operation is the same as with fast forward. However, Q_8 goes ON and so the drive voltage is about 4V. D_{19} is designed to prevent reverse currents during fast forward.

5.3. Main solenoid (SOL 1) circuit

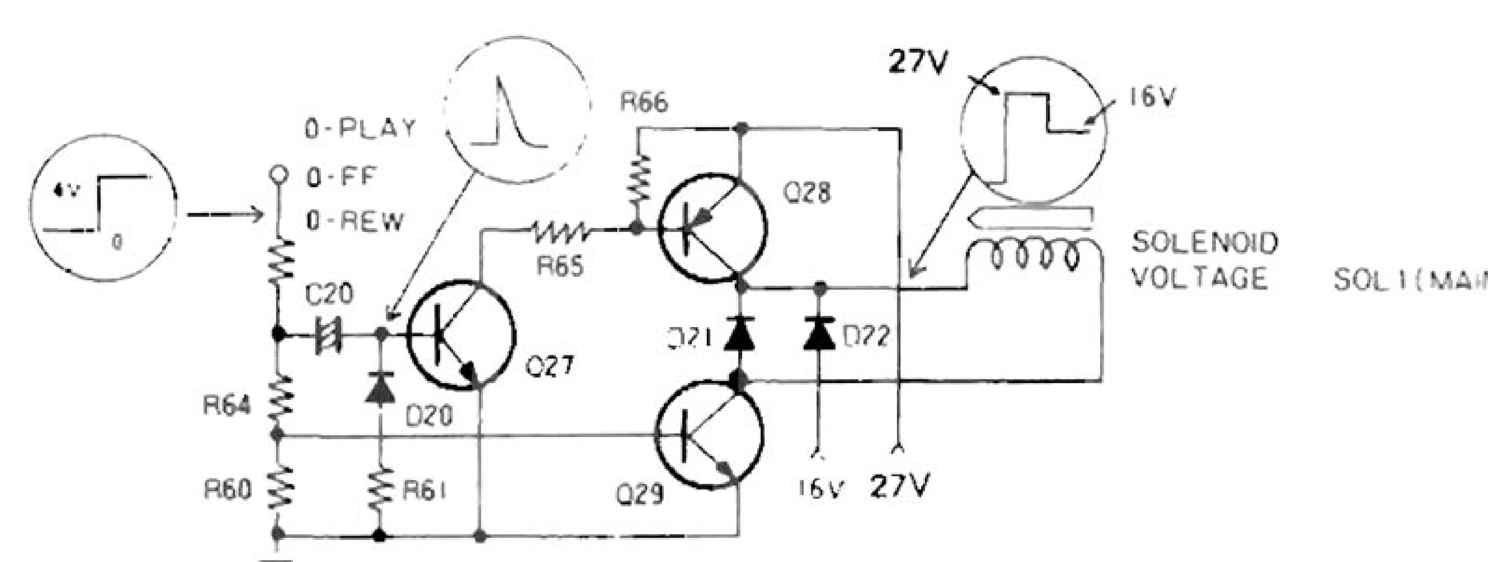


Fig. 4

The main solenoid drive circuit is composed of Q_{27}, Q_{28} and Q_{29} and it is connected to the 0-PLAY pin. About 0.4 sec. after the play button has been operated the 0-PLAY signal is set to "high." This is the delay time of the motor rise.
When the 0-PLAY pin is set to "high", Q_{29} goes ON and Q_{27} goes ON via C_{20} (100 μF). This means that Q_{28} goes ON and a + 27V voltage is applied to the solenoid.
However, since a voltage which has been differentiated by C_{20} (100 μF) is applied, the Q_{27} base goes OFF after several hundred milliseconds and Q_{28} goes to OFF. This solenoid voltage is held after the +16 V voltage has been applied through D_{23} and Q_{11}.

5.4. Rec solenoid (SOL 3), Sub solenoid (SOL 2) circuit

The rec solenoid drive circuit is composed of Q_{151}, Q_{152} and Q_{153} and it is connected to the 0-REC pin. The sub solenoid drive circuit is composed of Q_{30}, Q_{31} and Q_{32}, and it is connected to the 0-FF and 0-REW pins. The operations are the same as those for the main solenoid.

5.5. Play display circuit

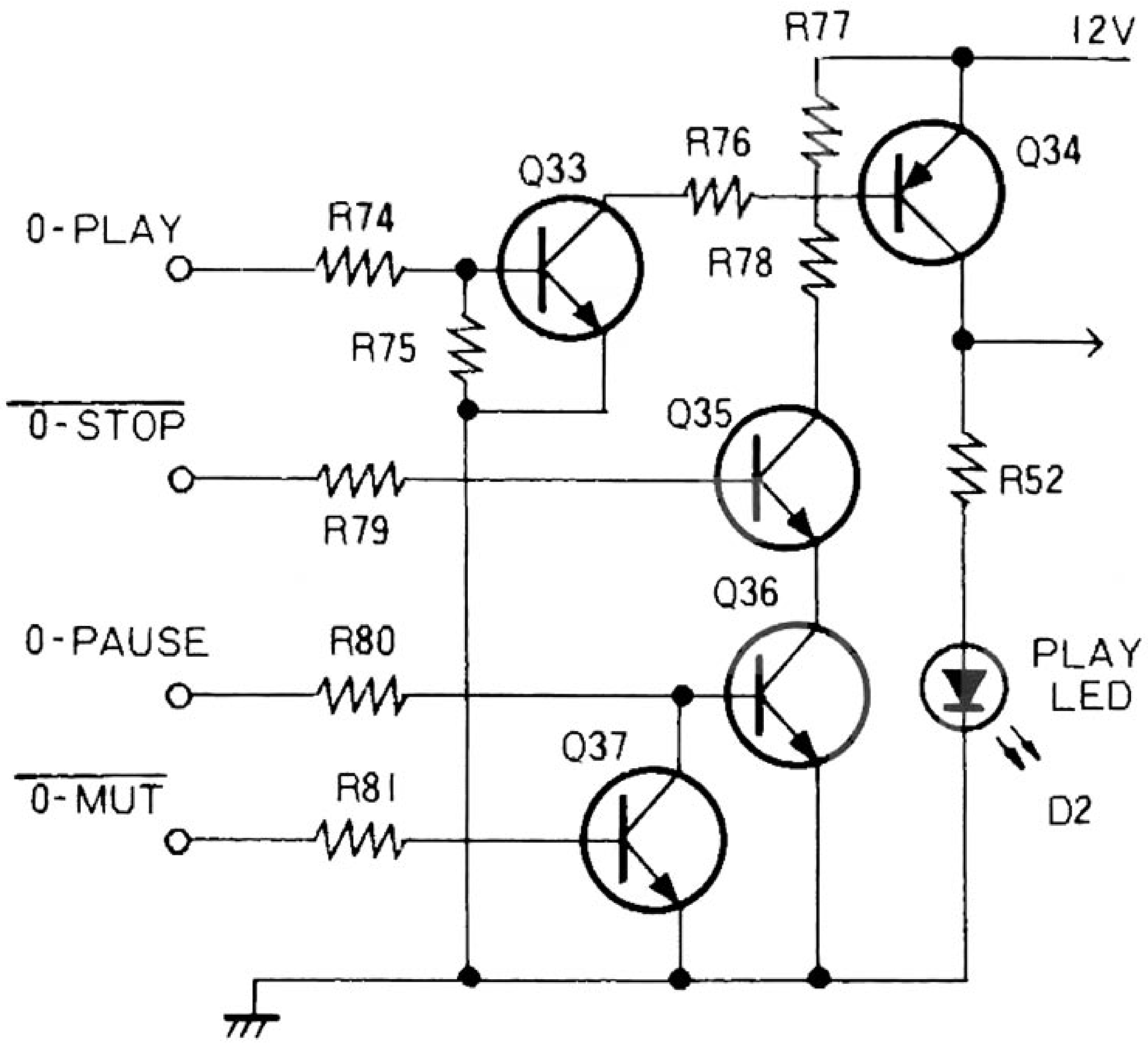


Fig. 5

Tr / IC OUTPUT	Q_{33}	Q_{34}	Q_{35}	Q_{36}	Q_{37}
0-PLAY "High"	ON	ON			
0-PAUSE "High" **$\overline{\text{0-STOP}}$ "High"**		ON	ON	ON	
$\overline{\text{0-MUT}}$ "High" **(FF, REW, STOP)**		ON		ON	ON

Table 6

During play, Q_{33} which is connected to the 0-PLAY pin goes ON, Q_{34} goes ON and the LED lights. During pause, Q_{33} goes OFF but Q_{36} is connected to the 0-PAUSE pin and so it goes ON, Q_{35} is connected to the $\overline{\text{0-STOP}}$ pin and so it goes ON, the AND circuit composed of Q_{35} and Q_{36} goes ON, and the LED lights. The Q_{36} base is connected to the $\overline{\text{0-MUT}}$ pin via Q_{37}. When $\overline{\text{0-MUT}}$ is at "high", or during the fast forward, rewind and stop modes, Q_{37} goes ON, Q_{36} goes OFF and the LED does not light.

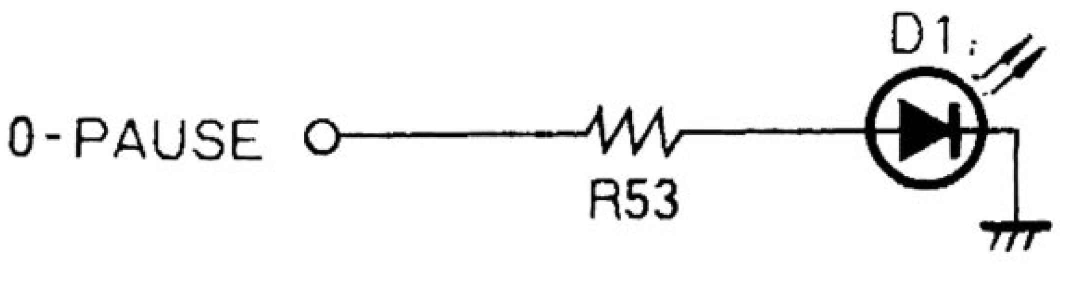


Fig. 6

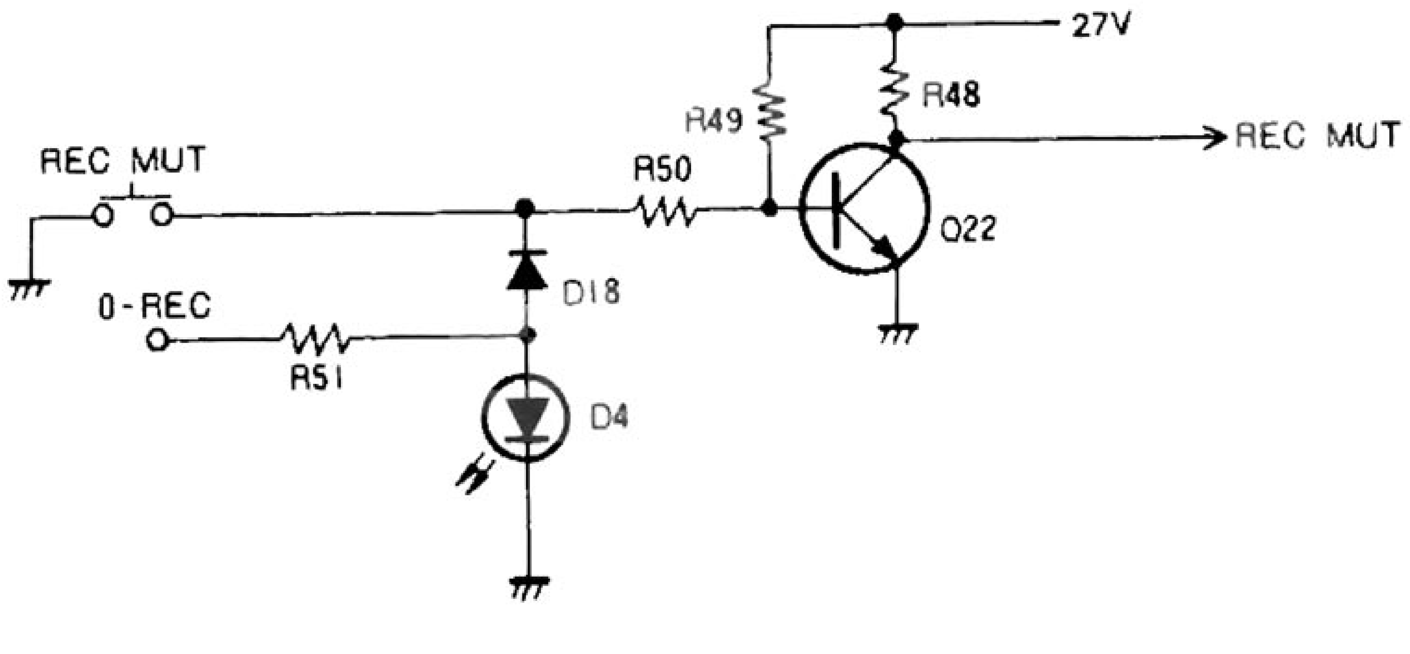


Fig. 7

5.6. Muting circuit

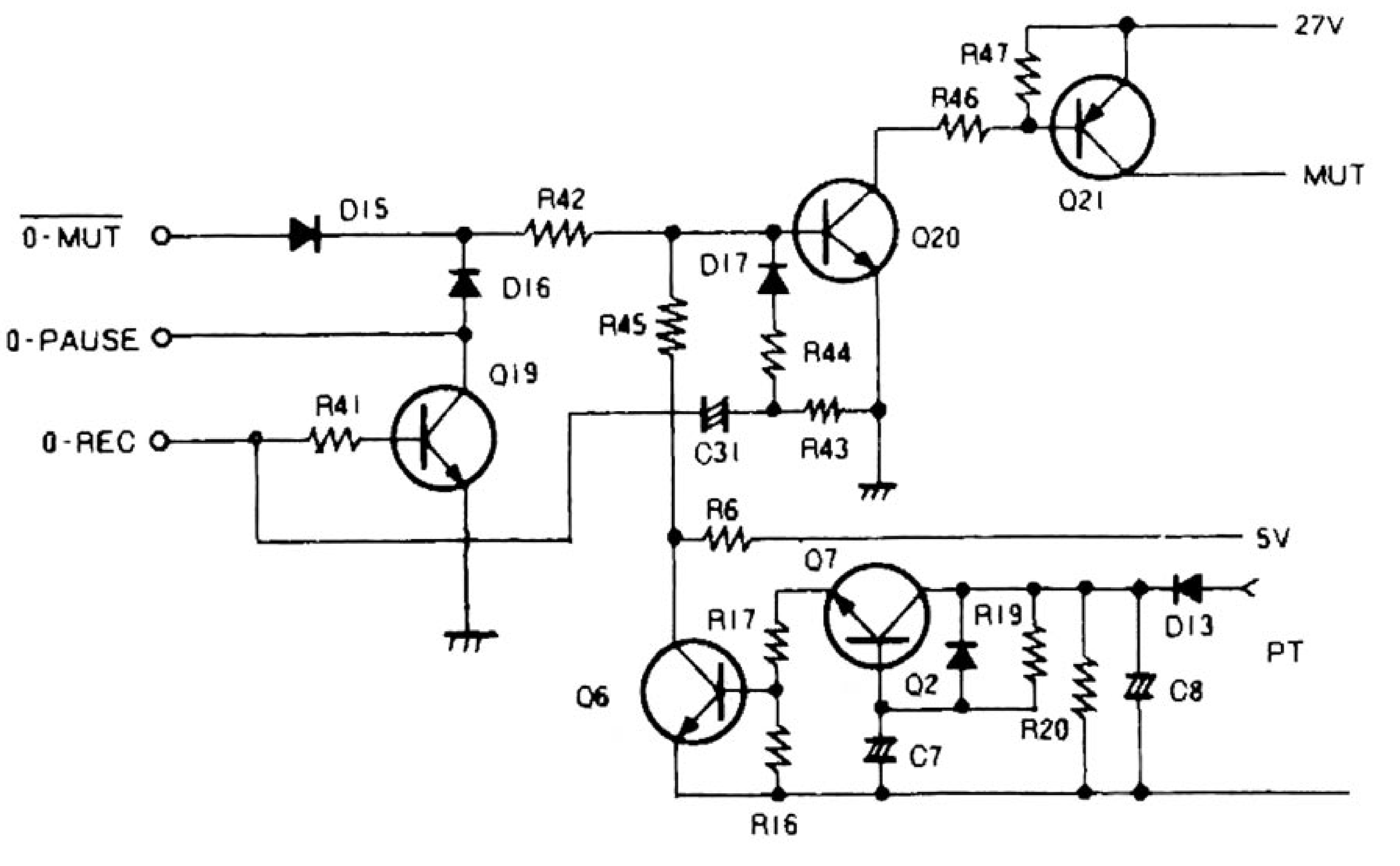


Fig. 8

Tr / IC OUTPUT	Q_{19}	Q_{20}	Q_{21}
$\overline{\text{0-MUT}}$ "High"		ON	ON
0-PAUSE "High" **0-REC "High"**	ON	OFF	OFF

Table 7

During play, the muting output from the $\overline{\text{0-MUT}}$ pin is delayed 100 ms from the 0-PLAY output, it is set from "high" to "low" and the muting function is released. Drive is performed by Q_{20} and Q_{21}.
During pause the $\overline{\text{0-MUT}}$ pin is at "low" and clicking is prevented by the OR circuit connected to the 0-PAUSE pin. However, during recording the monitor output is muted and so it is grounded by Q_{19} to prevent this.
Power on/off muting is provided by Q_6 and Q_7. When the power is switched on, Q_6 and Q_7 are OFF and so Q_{20} and Q_{21} are ON and the MUTE OUT pin is set to "high." After the time, determined by the time constants of the 330 k-ohm R_{19} and 10 μF C_7, has elapsed, Q_7 goes ON and Q_6 goes ON. Q_{20} and Q_{21} go OFF, the MUTE OUT pin is set to "low" and the muting function is released. During OFF, the C_7 load is immediately discharged through D_{12} and R_{20} and so Q_6 and Q_7 go OFF while Q_{20} and Q_{21} go ON, and the muting function is activated.

5.7. Syncrate circuit

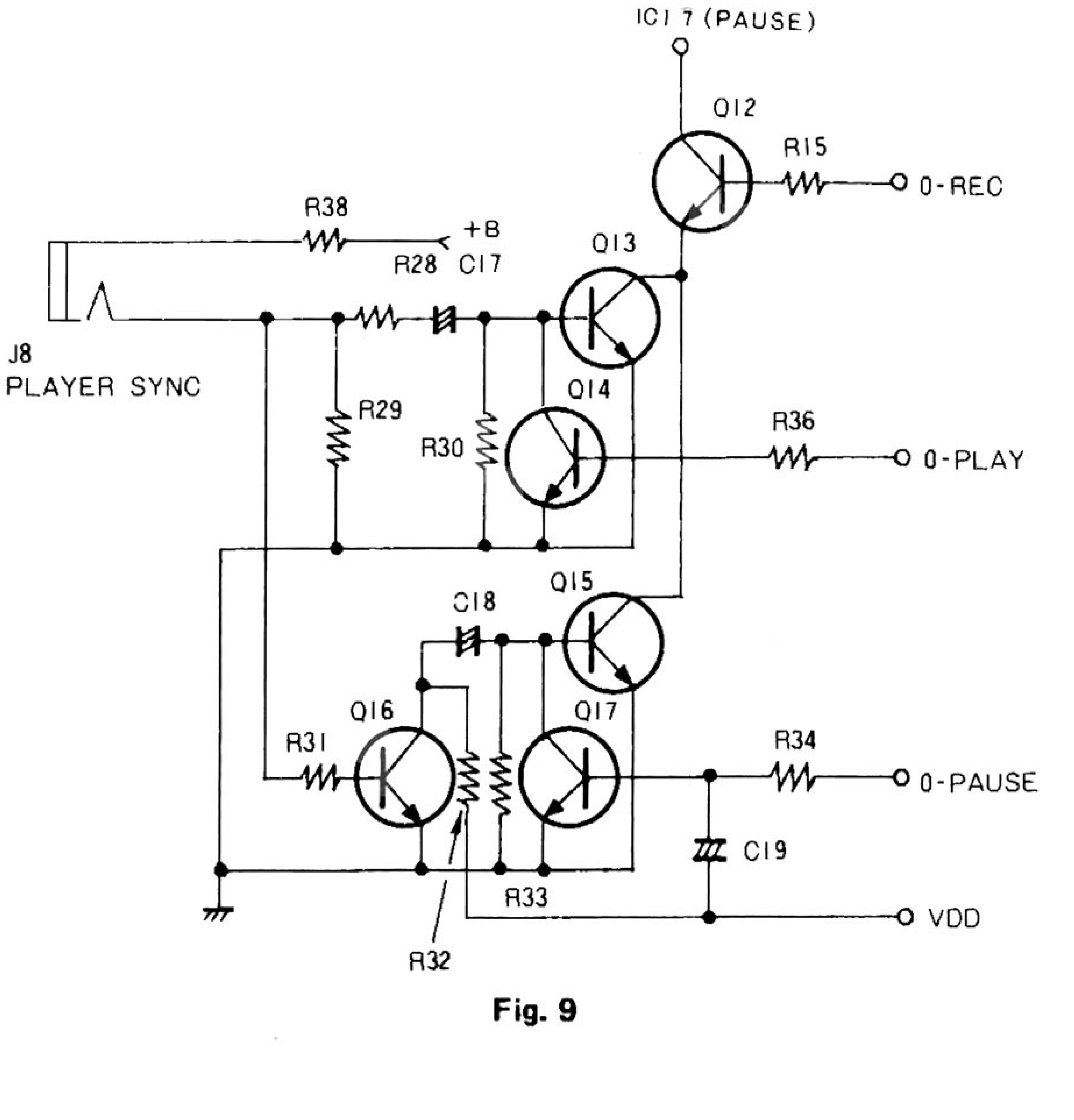


Fig. 9

Tr / IC OUTPUT	Q_{12}	Q_{13}	Q_{14}	Q_{15}	Q_{17}
REC-PAUSE	ON				ON
SYNC-ON		ON			
PAUSE-ON				OFF	ON
PAUSE OFF			ON		

Table 8

The syncrate circuit is composed of Q_{12} through Q_{17} and it works only during recording. During recording and pause, both Q_{12} and Q_{17} are ON and when the turntable's tonearm descends, the syncrate pin is set from "low" to "high", a differential pulse is applied to Q_{13} via R_{28} and C_{17}, Q_{13} goes momentarily to ON and the PAUSE input pin goes to "low" and so the pause is reset.
Next, when the tonearm rises, the syncrate pin is set from "high" to "low" and Q_{16} goes OFF. This means that the differential pulse is applied to the Q_{15} base through C_{18} and that Q_{15} is momentarily set to ON, and so the PAUSE input is set to "low" and pause is set. When the PAUSE is set while the tonearm is descending, Q_{17} goes to ON and so the tonearm UP signal is not received and there is no change in the PAUSE due to the tonearm rising. When recording from the turntable without setting the PAUSE pin, Q_{14} goes ON and the tonearm DOWN signal is not received.

5.8. Auto stop circuit

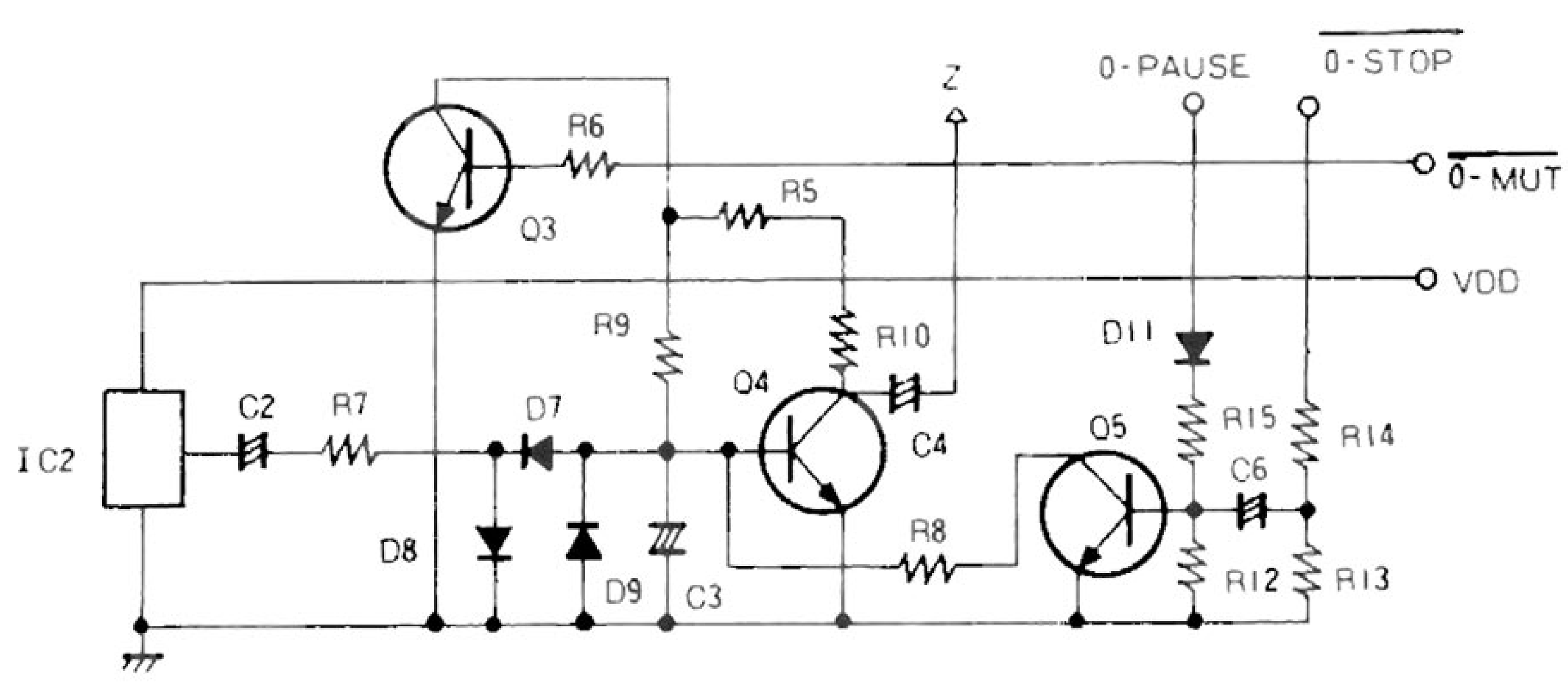


Fig. 10

Tr / IC OUTPUT	Q_5
0-PAUSE	ON
$\overline{\text{0-STOP}}$	ON

Table 9

The auto stop circuit is composed of a Hall IC and D_7, D_8, D_9 and Q_4. While the tape is traveling, the Hall IC turns the changes in the magnetic field of the ring magnet into changes in the voltage, and produces a change alternating from 0 to Vcc. This is rectified and during rotation and Q_4 base is kept at –0.7 V. When the tape stops, the Hall IC output is 0 or Vcc and the signal is cut by C_2, and so the Q_4 base rises with the time constants of R_9 and C_3 and Q_4 goes to ON. When Q_4 goes to ON, the Q_4 collector potential goes from "high" to "low", the Z input is set momentarily to "low" via C_4 and the auto stop function is activated.
Next, in this mode, the C_3 charge rises to V_{BE} and so it is discharged by Q_5. The Q_5 base is connected to the $\overline{\text{0-STOP}}$ pin and when changing to another mode from any mode except stop, a differential pulse is applied to the Q_5 base, the charge is discharged, and the auto stop is prevented before the ring magnet rotates. During pause, the 0-PAUSE pin is connected to the Q_5 base and so the Q_4 base is always at "low" and Q_4 is OFF.

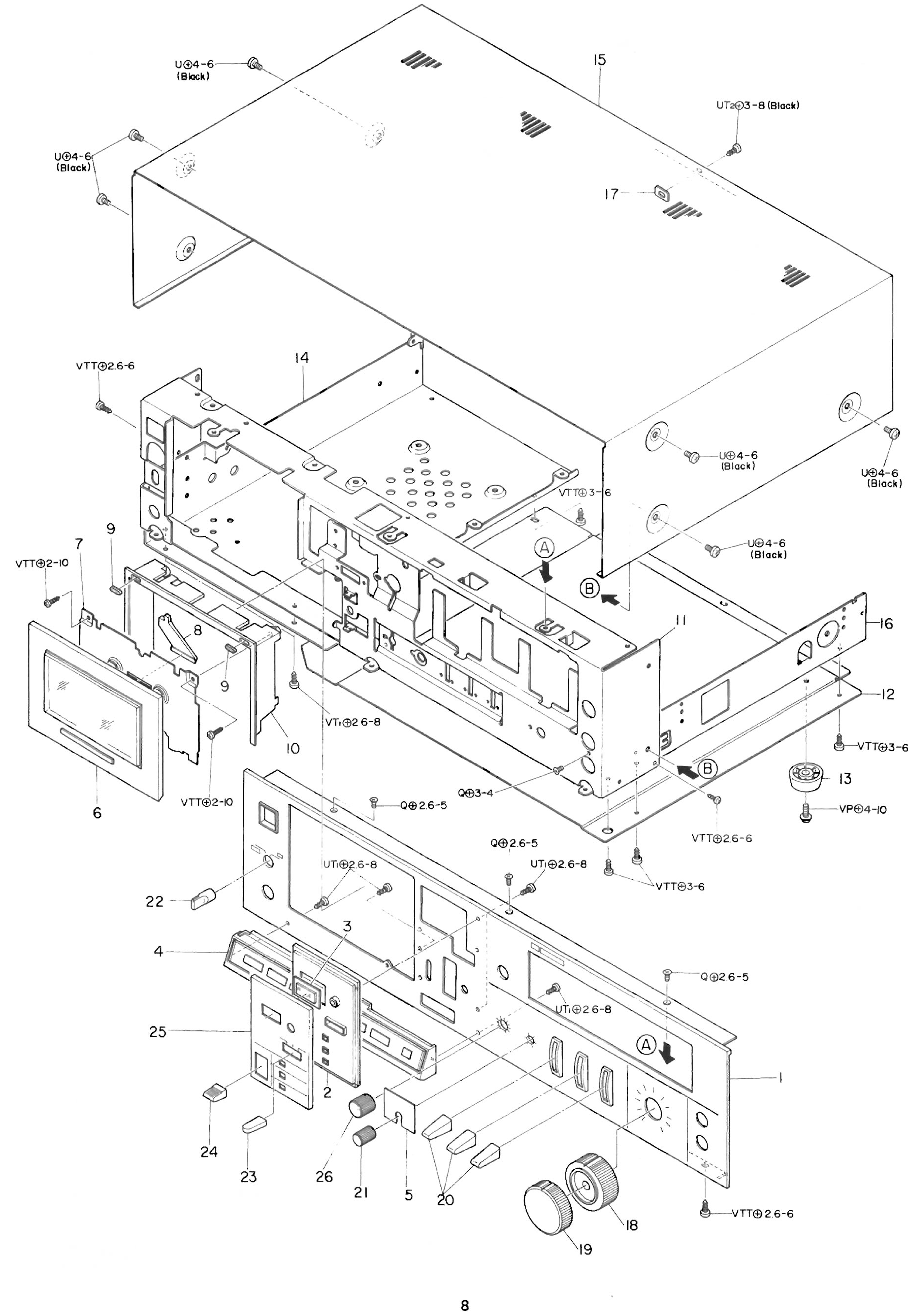
5.9. Timer recording/playback circuit

The power on/off muting is used for timer recording and playback, and employing the time constants of Q_6 and Q_7, a differential pulse is obtained via the Q_3 inverter. During timer recording, this pulse is applied to Q_1 and Q_2 simultaneously by S12 and during timer playback it is applied to Q_2, Q_1 and Q_2 go ON, and by setting the PLAY and REC inputs momentarily to "low", the tape is set to the recording or playback mode a few seconds after the power is switched on.

5.10. Memory stop, replay, repeat circuits

The memory stop is activated with the X or Z input is set to "low" during rewind the so the counter switch signal is applied to the X pin from S11-2.
Memory play is activated when A-PLAY pin is set to "low" and the X or Z input is set to "low" and so the A-PLAY pin is set to "low" by S11-1 and the counter switch signal is applied to the X pin by S11-2.
The repeat function is activated by setting the A-PLAY and A-REW pins to "low" and so they are grounded by S12-1 through D_2 and D_3.
When the memory switch is ON (stop replay), the repeat is between the counter switch "999" and tape end. When this switch is OFF, the repeat is between the tape start and tape end.

EXPLODED VIEW-1



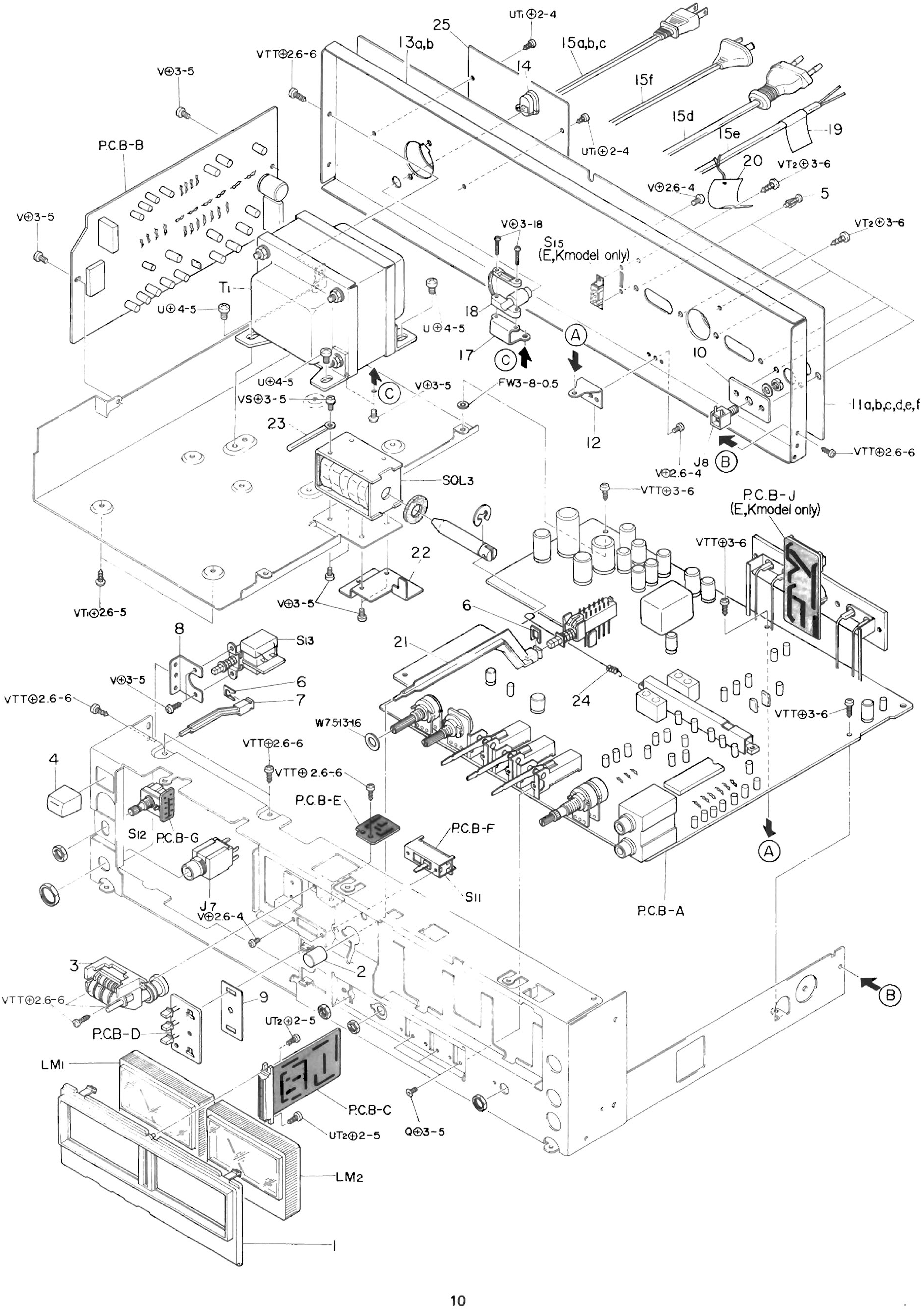
PARTS LIST

MECHANICAL PARTS

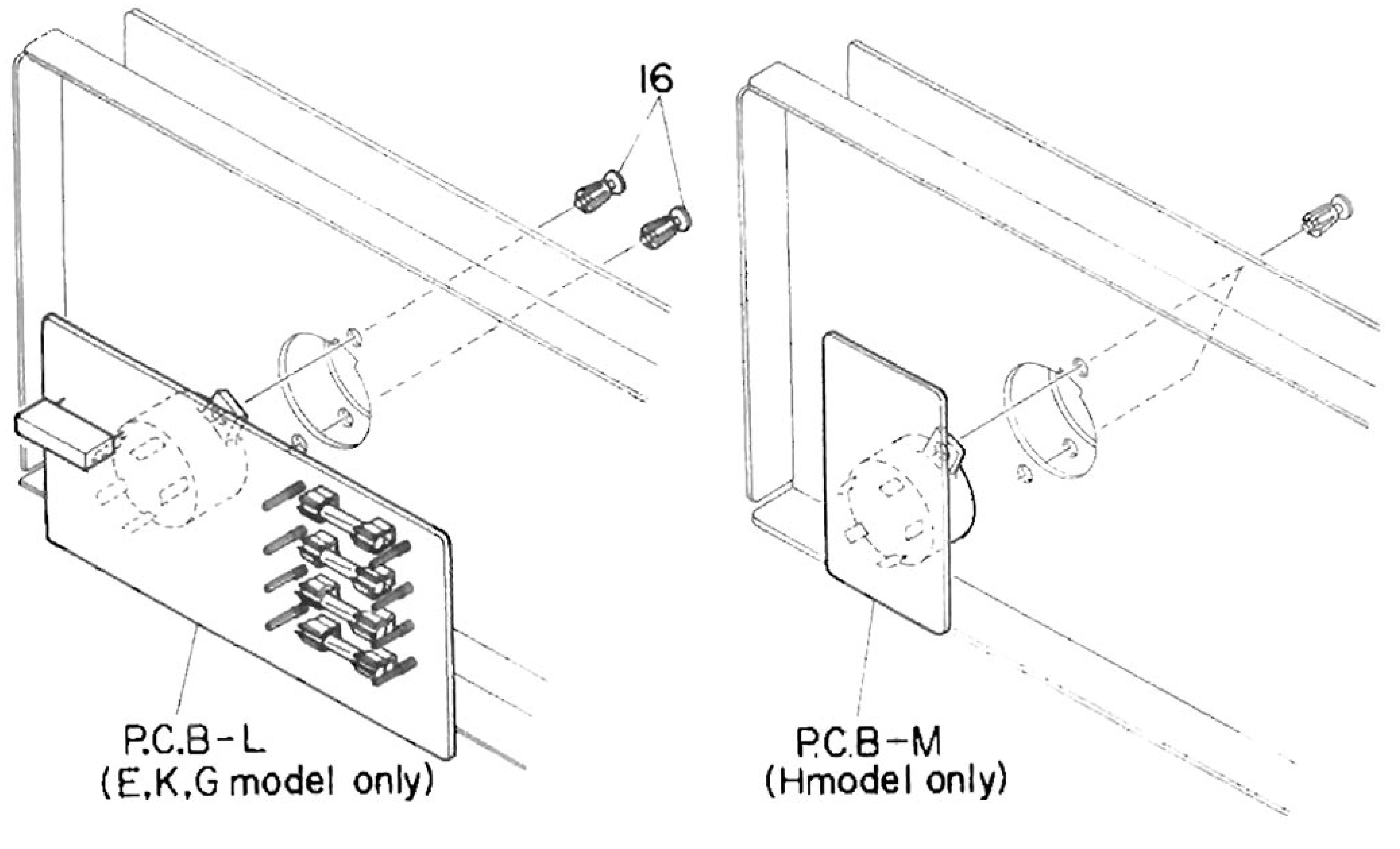
■ *mark in this part list shows exclusive part (which is used) for only Model AD-M600.

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
1-1	09-047-166-01		Front panel ass'y	*	1
	82-318-034-01		Front panel	*	1
	82-318-015-01		Guide, Lever switch	*	3
	82-318-014-01		Guide, Power button	*	1
1-2	82-318-006-01		Frame, Counter	*	1
1-3	82-397-030-01		Window, Counter	AD-6550	1
1-4	82-319-614-01		Switch board ass'y	*	1
1-5	82-318-037-01		Sheet, Bias instruction	*	1
1-6	09-047-151-01		Cassette lid ass'y	*	1
	82-318-008-01		Cassette lid ass'y	*	1
	82-318-011-01		Panel, Cassette lid	*	1
1-7	82-318-012-01		Cassette plate	*	1
1-8	82-304-044-01		Guide, Right	AD-6900	1
1-9	82-304-066-01		S cushion, Cassette lid	AD-6900	2
1-10	82-318-027-01		Blinder B	*	1
1-11	82-318-201-01		Chassis, Front	*	1
1-12	82-318-002-01		Bottom, Cabinet	*	1
1-13	87-085-161-01		Foot		4
1-14	82-318-202-01		Chassis A, Amp.	*	1
1-15	82-318-044-01		Steel cabinet	*	1
1-16	82-321-220-01		Chassis B_2, Amp.		1
1-17	82-380-439-01		Spacer, Back panel	AD-6500	1
1-18	82-318-019-01		REC knob B ass'y	*	1
1-19	82-318-016-01		REC knob A ass'y	*	1
1-20	82-318-023-01		Knob, Lever switch	*	3
1-21	82-318-043-01		Knob, Bias	*	1
1-22	82-318-022-01		Knob, Bias	*	1
1-23	82-318-024-01		Knob, Slide switch	*	1
1-24	82-328-025-01		Knob, Eject key		1
1-25	82-318-005-01		Panel, Counter	*	1
1-26	82-318-042-01		Knob, Pb.	*	1
[U model only]					
	81-318-038-01		Side board L ass'y	*	1
	82-318-040-01		Side board R ass'y	*	1
	87-257-178-11		V⊕4-25 (Black)		6

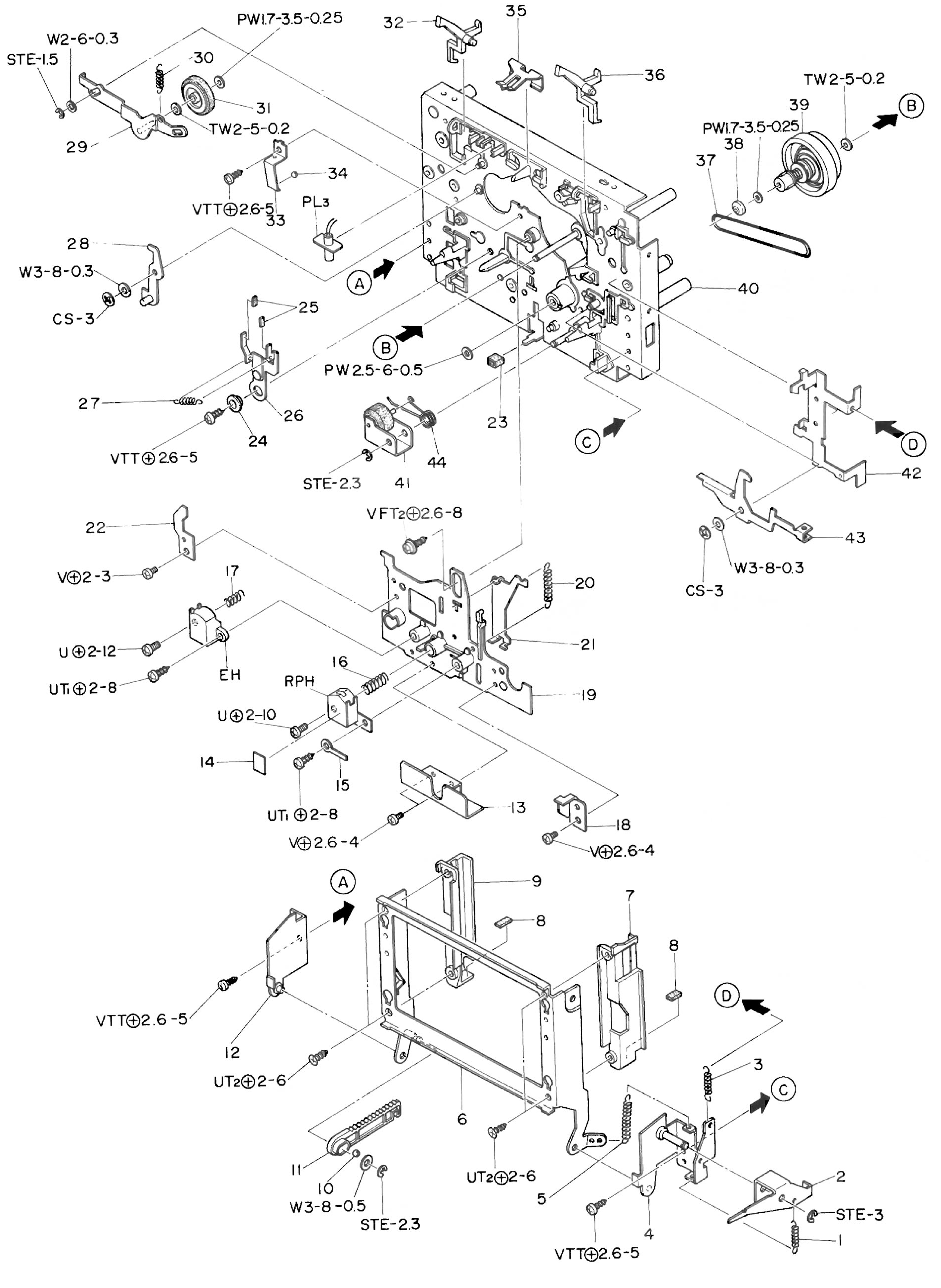
EXPLODED VIEW–2



Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty	
2-1	82-318-007-01		Frame, Meter M	*	1	
2-2	82-309-013-01		Push button A	AD-L40	1	
2-3	87-040-119-01		Counter		1	
2-4	82-318-025-01		Push button, Power	*	1	
2-5	87-085-102-01		Nylon rivet 3.5-5.5		6	
2-6	82-385-383-01		Rod stopper	AD-6300	2	
2-7	82-304-210-01		Rod, Power	AD-6900	1	
2-8	82-318-205-01		Holder, Power	*	1	
2-9	82-154-214-01		Sheet B, Insulation (U model only)		1	
2-10	82-387-273-01		Holder, Jack	AD-6800	1	
2-11a	82-318-032-01		Plate, Jack (H model only)	*	1	
2-11b	82-318-036-01		Plate, Jack (C model only)	*	1	
2-11c	82-318-033-01		Plate, Jack (U model only)	*	1	
2-11d	82-318-029-01		Plate, Jack (E model only)	*	1	
2-11e	82-318-030-01		Plate, Jack (K model only)	*	1	
2-11f	82-318-031-01		Plate, Jack (G model only)	*	1	
2-12	82-318-203-01		Holder, Circuit board	*	1	
2-13a	82-318-210-01		Chassis, Rear (H,U,E,K,G model only)	*	1	
2-13b	82-318-211-01		Chassis, Rear (C model only)	*	1	
2-14	87-085-165-01		Card bushing (H,C,U,G model only)		1	
2-15a	87-034-826-01		AC power cord (H model only)		1	
2-15b	87-034-896-01		AC power cord (C model only)		1	
2-15c	87-034-578-01		AC power cord (U model only)		1	
2-15d	87-034-877-01		AC power cord (E model only)		1	
2-15e	87-034-872-01		AC power cord (K model only)		1	
2-15f	87-034-878-01		AC power cord (G model only)		1	
2-16	87-085-090-01		Nylon rivet (H,E,K,G model only)		2	
2-17	82-397-244-01		Holder, AC power cord (E,K model only)	AD-6550	1	
2-18	87-085-166-01		Holder, AC power cord (E,K model only)		1	
2-19	87-056-008-01		Label, AC power cord (K model only)		1	
2-20	87-056-016-01		Tag, Main voltage (K model only)		1	
2-21	82-309-208-01		Rod, Selector	AD-L40	1	
2-22	82-318-208-01		Holder, Plunger	*	1	
2-23	87-038-039-01		Wire binder		1	
2-24	82-318-204-01		E spring, REC	*	1	
2-25	82-318-035-01		Name plate, Spec. (U model only)	*	1	

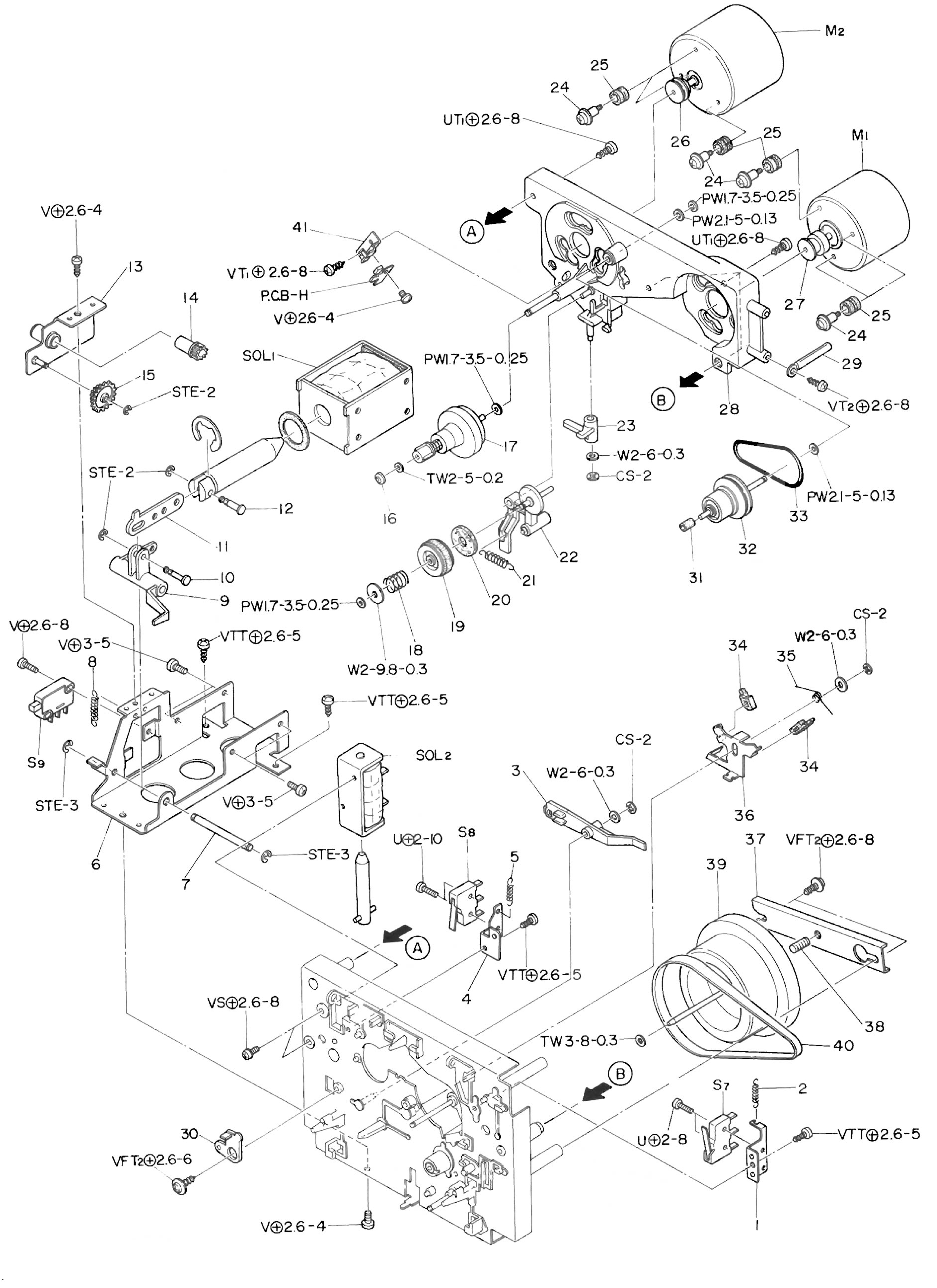


EXPLODED VIEW–3



Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
3-1	82-304-264-11		E spring, Eject lever	AD-6900	1
3-2	82-304-236-01		Lever, Eject key	AD-6900	1
3-3	82-392-374-01		E spring, Pause A	AD-6550	1
3-4	82-319-220-01		Holder C, Box R ass'y	*	1
3-5	82-319-230-01		E spring, Cassette lid	*	1
3-6	82-319-216-01		Cassette box ass'y	*	1
3-7	82-304-046-01		Holder R, Cassette	AD-6900	1
3-8	82-304-284-01		G cushion, Cassette	AD-6900	2
3-9	82-304-047-01		Holder L, Cassette	AD-6900	1
3-10	87-073-005-01		Steel ball, 2ϕ		1
3-11	82-541-240-01		Lever, Oil damper	TPR-950	1
3-12	82-319-223-01		Holder, C, Box L ass'y	*	1
3-13	82-397-291-01		Shield plate, Head	AD-6550	1
3-14	87-057-576-01		Label, Head		1
3-15	82-365-280-01		Wire support		1
3-16	82-392-347-01		C spring, Head	AD-6550	1
3-17	82-392-357-01		C spring, Erase head platform	AD-6550	1
3-18	82-303-294-01		Holder, T spring		1
3-19	82-319-204-01		Out-sert actuating chassis sub ass'y	*	1
3-20	82-319-229-01		E spring, Actuating	*	1
3-21	82-319-210-01		Actuating slide plate	*	1
3-22	82-319-209-01		Guide, Idler lever	*	1
3-23	82-397-307-01		G cushion, Eject lever		1
3-24	82-319-243-01		Flange collar, Back tension	*	1
3-25	82-303-382-01		Felt, Sub brake	AD-6900	2
3-26	82-319-259-01		Lever, Back tension ass'y	*	1
3-27	82-319-258-01		E spring, Back tension	*	1
3-28	82-319-235-01		PAC lever ass'y	*	1
3-29	82-303-342-01		Play idler ass'y	AD-6900	1
3-30	82-303-325-01		E spring, Play idler	AD-6900	1
3-31	82-303-274-01		Play idler ass'y	AD-6900	1
3-32	82-303-346-01		REC blocking lever	AD-6900	1
3-33	82-319-215-01		P spring, Actuating A	*	1
3-34	82-215-341-01		Steel ball 3/32		1
3-35	82-319-214-01		P spring, Cassette	*	1
3-36	82-303-349-01		Lever, CrO_2	AD-6900	1
3-37	82-318-207-01		Belt, Counter	*	1
3-38	82-303-398-01		Cap, Take-up reel plat-form	AD-6900	1
3-39	82-303-249-01		Take-up reel platform ass'y	AD-6900	1
3-40	09-047-153-01		Main chassis ass'y	*	1
	82-319-202-01		Out-sert chassis sub ass'y	*	1
	82-392-205-01		SS shaft, Pinch lever	AD-6550	1
	82-392-210-01		SS shaft, Reel plateform	AD-6550	1
	82-392-256-01		Shaft bearing ass'y	AD-6550	1
	82-319-242-01		SS shaft, Take-up reel plateform	*	1
	82-303-308-01		SS shaft, Play idler	AD-6900	1
3-41	82-319-252-01		Pinch roller ass'y	*	1
3-42	82-319-212-01		Lock slide plate	*	1
3-43	82-319-211-01		Lever, Play switch	*	1
3-44	82-307-222-01		T spring, Pinch lever	AD-6700	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_2	*	1
4-2	82-319-251-01		E spring, CrO_2	*	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	*	1
4-6	82-319-207-01		Holder, Plunger	*	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	2
4-10	82-304-243-01		Shaft B, Plunger	AD-6900	1
4-11	82-319-250-01		Slide plate Play B	*	1
4-12	82-304-242-01		Shaft A, Plunger	AD-6900	1
4-13	82-319-225-01		Holder, Oil damper ass'y	*	1
4-14	82-534-264-01		Gear, Oil damper		1
4-15	82-319-239-01		Gear, Oil	*	1
4-16	82-303-398-01		Cap, Supply reel platform	AD-6900	1
4-17	82-319-245-01		Supply reel platform ass'y	*	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		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, FR 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	*	1
4-27	82-319-248-01		Motor pulley, Fly A	*	1
4-28	09-047-152-01		Sub chassis ass'y	*	1
	82-319-232-01		Mechanism sub chassis ass'y	*	1
	82-439-410-01		Shaft bearing, 2ϕ	TPR-300	2
4-29	87-038-039-01		Wire binder		1
4-30	82-303-288-01		Lever, Actuating lock	AD-6900	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	*	1
4-38	82-331-107-01		Thrust for screw		1
4-39	82-303-246-01		Flywheel ass'y	AD-6900	1
4-40	82-319-227-01		Rubber belt, Flywheel	*	1
4-41	82-307-208-01		Holder, SDME	AD-6700	1

ELECTRICAL MAIN PARTS LIST

Symbol No.	Part No.	Description
<MAIN CIRCUIT BOARD SECTION>		
PCB-A	82-318-602-21	Main circuit board
IC1	87-027-358-01	IC, TA7617AP
IC2	87-027-359-01	IC, TA7617AP-R
IC3,4	87-027-357-01	IC, NE-646B
IC5	87-027-235-01	IC, NJM-4558D
Q1,2,11,12	89-320-014-01	Transistor, 2SC2001K (S)
Q3,4,5,6,7 8,9,10,13,14, 15,16,102, 107,108,151	89-309-456-01	Transistor, 2SC945L (P)
Q51	89-320-011-01	Transistor, 2SC2001K
Q52	89-107-335-01	Transistor, 2SA733 (K)
Q53,153	89-309-455-61	Transistor, 2SC945L (PQ)
Q101,105,109, 110	89-407-624-01	Transistor, 2SD762 (P)
Q103	89-107-335-61	Transistor, 2SA733K (P)
Q104	89-205-964-01	Transistor, 2SB596 (Y)
Q106	89-405-712-01	Transistor, 2SD571 (L)
Q151	89-108-854-51	Transistor, 2SA885R (S)
Q152	89-318-464-51	Transistor, 2SC1846R (S)
D1,2,3,54,55, 108,151	87-027-097-01	Diode, IS1555
D4,5,6,7,8, 9,104,105,107 111	87-027-369-01	Zener diode, 05Z-6.2L
D51,101,102	87-027-083-01	Diode, IS1885
D53	87-027-508-01	Zener diode, HZ151
D103,106	87-027-163-01	Encapsulated diode
D109	87-027-390-01	Zener diode, HZ24-3L
D110	87-027-509-01	Zener diode, HZ12B3
D152,153	87-027-365-01	Diode, S5277B
L1,2,5,6	87-005-093-01	Micro inductor coil, 4.7mH
L3,4	87-005-091-01	Micro inductor coil, 3.3mH
L7,8	82-371-648-01	Micro inductor coil, 6.8mH
L9,10	82-304-701-01	Coil, 22mH
LPF1,2	87-030-060-01	Low-pass filter
TC1,2	82-708-604-21	Trimmer
J1,2	87-032-957-01	Mic jack ass'y w/switch (MIC)
J3,4,5,6	82-309-639-01	Pin jack ass'y (LINE IN/LINE OUT) (H,C,U,G model only)
VR1,2	82-318-610-01	Volume, 20kΩ-A (RECORD LEVEL)
VR3,4	82-318-614-01	Volume, 10kΩ-A (OUTPUT LEVEL)
VR5	82-318-613-01	Volume, 20kΩ-A (LH BIAS FINE)
S1	82-318-612-01	Slide switch (REC/PB)
S3,4,5	87-031-499-01	Lever switch (DOLBY NR, EQ, BIAS)
S6	82-318-611-01	Push switch (METER)
SFR1,2,3,4, 5,6,7,8	87-021-544-01	Semi-fixed resistor, 47kΩ-B
SFR9,10	87-021-542-01	Semi-fixed resistor, l0kΩ-B
	82-318-618-01	OSC unit
PIN-1,2,3,4 5,6	87-032-903-01	Pin, 3P
		<Resistors>
R67,68	87-025-209-01	3,3kΩ Metal film resistor
⚠ R223	88-130-159-01	1.5Ω ¼W Fuse resistor (H,C,U model only)
⚠ R257	87-029-019-01	2.2Ω ½W Fuse resistor (H,C,U model only)
⚠ R203,204	87-029-017-01	10Ω ¼W Fuse resistor (H,C,U model only)
⚠ R232	87-029-106-01	47Ω ½W Fuse resistor
		<Capacitors>
C19,20	87-015-242-01	2.2μF 50V Electrolytic LL
C1,2	87-015-246-01	4.7μF 25V Electrolytic LL
C223,224	87-015-379-01	1μF 50V Electrolytic BP
C13,14,27,28, 29,30,35,36	87-015-453-01	2.2μF 25V Electrolytic BP
C71,72,107,108	87-015-484-01	3.3μF 16V Electrolytic BP
C43,44,45,46, 79,80	87-015-464-01	4.7μF 16V Electrolytic BP
C113,114	87-015-457-01	47μF 16V Electrolytic BP
C17,18	87-014-049-01	470pF PP
C53,54	87-014-114-01	0.0047μF PP
C57,58	87-014-115-01	0.0056μF PP
C49,50	87-014-119-01	0.027μF PP
C154	87-019-080-01	1μF 35V Trantalum
<LOGIC CIRCUIT BOARD SECTION>		
PCB-B	82-318-603-21	Logic circuit board
IC1	87-027-477-01	IC, TC9121P
Q1,2,3,4,5,6, 7,8,12,13, 14.15.16.17 19,20,22,27, 30,33,35,36, 37	89-309-455-61	Transistor, 2SC945L (PQ)
Q9,11	89-407-624-01	Transistor, 2SD762 (P)
Q10,29,32	89-318-464-51	Transistor 2SC1846R (S)
Q18,25,26	89-313-835-01	Transistor 2SC1383NC (Q)
Q21,34	89-107-335-61	Transistor, 2SA733K (P)
Q23,24	89-106-835-01	Transistor, 2SA683NC (Q)
Q28,31	89-108-854-51	Transistor, 2SA885R (S)
D1,2,3,4,5,6, 7,8,9,11,12, 15,16,17,18, 19,20,26,27, 28	87-027-097-01	Diode, IS1555
D10,13,21,22 24,25	87-027-365-01	Diode, S5277B
D14	87-027-475-01	Zener diode, HZ-6B1
SFR1	87-021-480-01	Semi-fixed resistor, 50kΩ-B
PIN7	87-032-926-01	Pin, 6P
PIN8	87-032-955-01	Pin, 8P
<PEAK LED CIRCUIT BOARD SECTION>		
PCB-C	82-318-608-11	Peak LED circuit board
IC1	87-027-351-01	IC,LB1416
D1	87-027-432-01	Light emitting diode
<LED CIRUCIT BOARD SECTION>		
PCB-D	82-318-604-21	LED circuit board
D1,2	87-027-352-01	Light emitting diode, GL-9NG2
D3	87-027-354-01	Light emitting diode, GL-9PR2
<HALL IC CIRCUIT BOARD SECTION>		
PCB-E	82-318-607-01	Hall IC circuit board
IC2	87-027-478-01	IC, DN-6835
Q38	89-309-455-61	Transistor, 2SC945L (PQ)
<MEMORY CIRCUIT BOARD SECTION>		
PCB-F	82-318-606-21	Memory circuit board
S11	82-318-615-01	Lever switch (MEMORY)

Symbol No.	Part No.	Description
≪TIMER CIRCUIT BOARD SECTION≫		
PCB-G	82-318-605-21	Timer cirucit board
S12	87-031-502-01	Rotary switch (TIMER)
≪DME CIRCUIT BOARD SECTION≫		
PCB-H	82-318-637-01	DME circuit board
DME1	82-397-642-11	DM-101A
≪SWITCH CIRCUIT BOARD SECTION≫		
	82-154-625-01	Switch board ass'y
≪DIN CIRCUIT BOARD SECTION≫ = "E,K" model only		
PCB-J	82-318-641-01	DIN circuit board
J3,4,5,6,9	82-309-637-01	Pin jack ass'y DIN (LINE IN/REC, LINE OUT/ PLAY, DIN)
≪SWITCH CIRCUIT BOARD SECTION≫ = "E,K" model only		
PCB-K	82-318-642-01	Switch circuit board
S15	87-031-460-01	Slide switch (INPUT SELECTOR)
≪POWER CIRCUIT BOARD SECTION≫		
⚠ PCB-M	82-304-733-11	Power circuit board (H model only)
⚠ PCB-L	82-154-608-01	Power circuit board (E,K,G model only)
⚠ S14	82-304-732-01	Rotary switch (VOLTAGE SELECTOR) (H model only)
⚠ S14	87-031-459-01	Rotary switch (VOLTAGE SELECTOR) (E model only)
⚠ S14	87-031-542-01	Rotary switch (VOLTAGE SELECTOR) (K,G model only)
⚠ F1	87-035-060-01	Fuse, "T" 800mA (E model only)
	87-098-015-01	Fuse label, "T" 800mA (E model only)
⚠ F1	87-035-222-01	Fuse "T" 1A (K,G model only)
⚠ F2	87-035-075-01	Fuse, "T" 500mA (E model only)
	87-098-013-01	Fuse label, "T" 500mA (E model only)
⚠ F2	87-035-220-01	Fuse, "T" 630mA (K,G model only)
⚠ F3,4	87-035-144-01	Fuse "T" 250mA (E model only)
⚠ F3,4	87-035-145-01	Fuse, "T" 250mA (K,G model only)
⚠	87-033-147-01	Fuse clamp
		<**Capacitor**>
⚠ C1	87-019-096-01	0.01μF PP (E,K,G mdoel only)
≪MISCELLANEOUS≫		
⚠ T1	82-318-647-01	Power transformer (H model only)
⚠ T1	82-318-649-01	Power transformer (C mdoel only)
⚠ T1	82-318-648-01	Power transformer (U mdoel only)
⚠ T1	82-318-650-01	Power transformer (E model only)
⚠ T1	82-318-651-01	Power transformer (K,G model only)
RPH	87-046-172-01	REC/PB head
EH	87-046-173-01	Erase head
M1	87-045-135-01	Motor, Main

Symbol No.	Part No.	Description
M2	82-319-617-01	Motor, Sub
SOL1	82-319-615-01	Solenoid, Main
SOL2	82-304-640-11	Solenoid, Sub
SOL3	82-319-618-01	Solenoid, REC
S7,8	82-304-724-01	Micro switch (CrO_2 AUTO, REC INH)
S9	82-319-613-01	Micro switch (CASSETTE)
⚠ S13	87-031-467-01	Push switch (POWER) (H,E,K,G model only)
⚠ S13	87-031-520-01	Push switch (POWER) (C,U model only)
J7	87-032-748-01	Jack, 6.3ϕ (PHONES)
J8	87-032-882-01	Jack, 2.5ϕ (PLAYER SYNC)
PL3	82-318-628-01	Pilot lamp, 8V 50mA
LM1	82-318-617-11	Level meter, TAPE
LM2	82-318-616-11	Level meter, VU
⚠ CP1	87-028-036-01	Compound capacitor 0.033μF + 120Ω (H,C,U model only)
⚠	87-085-166-01	Holder, AC power cord (E,K model only)
⚠	87-033-140-01	Splice connector
⚠	87-085-165-01	Cord bushing (H,C,U,G model only)
⚠	87-034-826-01	AC power cord (H model only)
⚠	87-034-896-01	AC power cord (C model only)
⚠	87-034-578-01	AC power cord (U mdoel only)
⚠	87-034-877-01	AC power cord (E model only)
⚠	87-034-872-01	AC power cord (K model only)
⚠	87-034-878-01	AC power cord (G model only)
CON-1	82-309-650-01	3P connector ass'y
CON-2	82-318-627-01	3P connector ass'y
CON-3	82-318-626-01	3P connector ass'y
CON-4	82-309-648-01	3P connector ass'y
CON-5	82-309-649-01	3P connector ass'y
CON-6	82-318-633-01	3P connector ass'y
CON-7	82-318-635-01	6P connector ass'y

⚠ 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.

ACCESSORIES/PACKAGE

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
1a	82-318-855-01		Printed indiv., Packing (H,C,E,K,G model only)	*	1
1b	82-318-856-01		Printed indiv., Packing (U model only)	*	1
2	82-318-860-01		Pad, Cassette window	*	1
3	82-318-861-01		Cushion L, Printed indiv.	*	1
4	82-318-862-01		Cushion R, Printed indiv.	*	1
5	87-051-131-11		Poly-vinyl sack (for AC power cord) (H model only)		1
6	87-051-135-11		Poly-vinyl sack (for AC power cord) (C,U,E,K,G model only)		1
7	87-056-607-01		Poly-vinyl sack (for case)		1
8a	82-318-904-01		Instructions booklet (H model only)	*	1
8b	82-318-905-01		Instructions booklet (C model only)	*	1
8c	82-318-910-01		Instructions booklet (U model only)	*	1
8d	82-318-906-01		Instructions booklet (E model only)	*	1
8e	82-318-907-01		Instructions booklet (K model only)	*	1
8f	82-318-911-11		Instructions booklet (G model only)	*	1
9	87-051-175-01		Poly tube A (for instruction)		1
10	87-056-008-11		Label, AC power cord (K model only)		1
11	87-056-009-41		Distributors list (H,C,E,K,G model only)		1
12	87-056-016-01		Tag, Main voltage (K model only)		1
13	87-056-013-01		Guarantee card (C model only)		1
14	87-056-042-01		Label, Metal POP		1
15	86-944-012-01		Connection cord, CW-129BSK (H,C,U,K,G model only)		2
16	86-925-015-01		Connection cord, CW-115BSK (E model only)		1
17	87-032-845-01		Siemens plug (H model only)		1
18	87-056-034-01		Service station list (U model only)		1
19	87-056-035-01		Card, Limited warranty (U model only)		1
20	87-056-045-01		Guarantee card (U model only)		1
					1

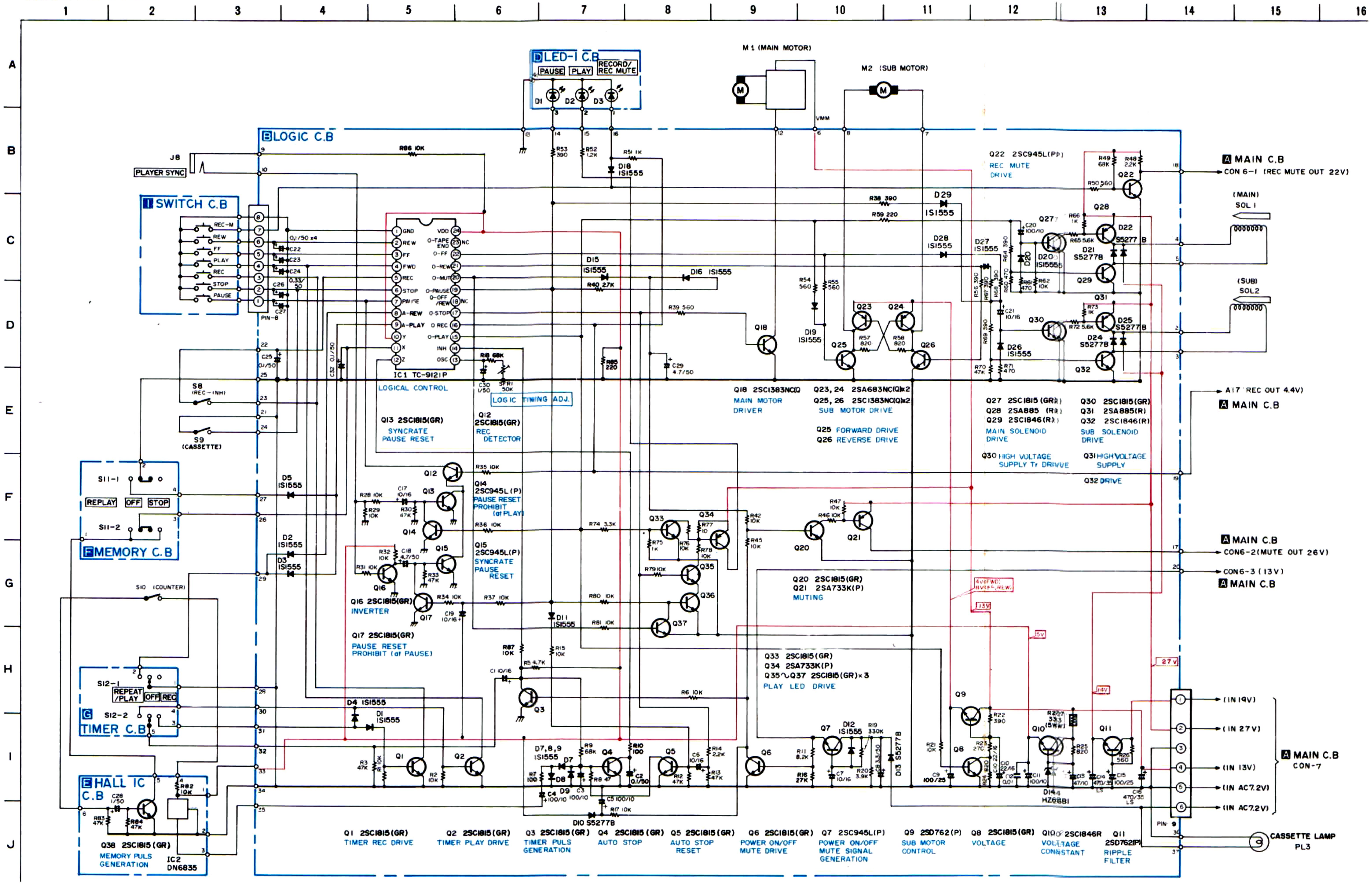
AIWA CO., LTD.

791125(1)–Z

Printed in Japan

SCHEMATIC DIAGRAM-1

SCHEMATIC DIAGRAM-2



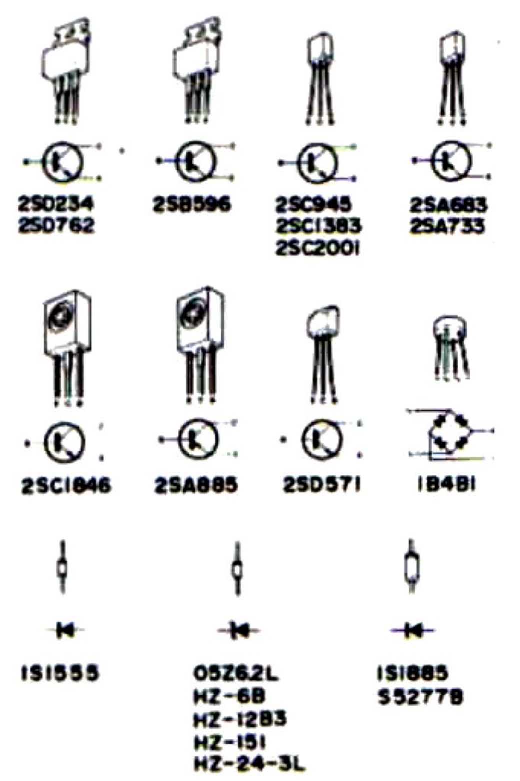
NOTES:

1) —— B (+) power supply —— B (–) power supply
2) ➡ Signal path
➡ 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. But ( ) is with AM reception or 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)
   - Semiconductor ceramic
8) Explanation of symbols
   - (M) Mylar capacitor
   - (PP) Polypropylene film capacitor
   - (BP) Bi-polarized capacitor
   - (LL) Low-leakage capacitor
   - (T) Tantalum capacitor
   - Fuse resistor
   - Nonflammable 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.



S1-1∼12	REC/PB	(PB)	S10	COUNTER	(OFF)
S2-1,2	INPUT	(LINE)	S11-1,2	MEMORY	(OFF)
S3-1∼4	DOLBY NR	(OFF)	S12-1,2	TIMER/ REPEAT	(OFF)
S4-1∼4	EQ	(LH)	S13	POWER	(OFF)
S5-1∼4	BIAS	(LH)	S14	VOLTAGE SELECTOR	
S6-1∼4	VU/TAPE	(VU)	S15	INPUT SELECTOR	(LINE)
S7	CrO2 AUTO	(OFF)			
S8	REC-INH				
S9	CASSETTE	(OFF)			

WIRING–2

1. Tape Speed Adjustment

Settings:

- Test tape: TTA-111S
- Adjustment location: SFR of Main motor (M_1)

Method:

Playback the test tape and adjust so that the frequency is 2980~2990 Hz, both at the start and the end of tape winding.

11. Logic Timing Adjustment

Settings:

- Adjustment location: SFR1

Method:

Frequency counter connected with IC1, PIN No. 13 on pattern.

CMOS IC handling precautions

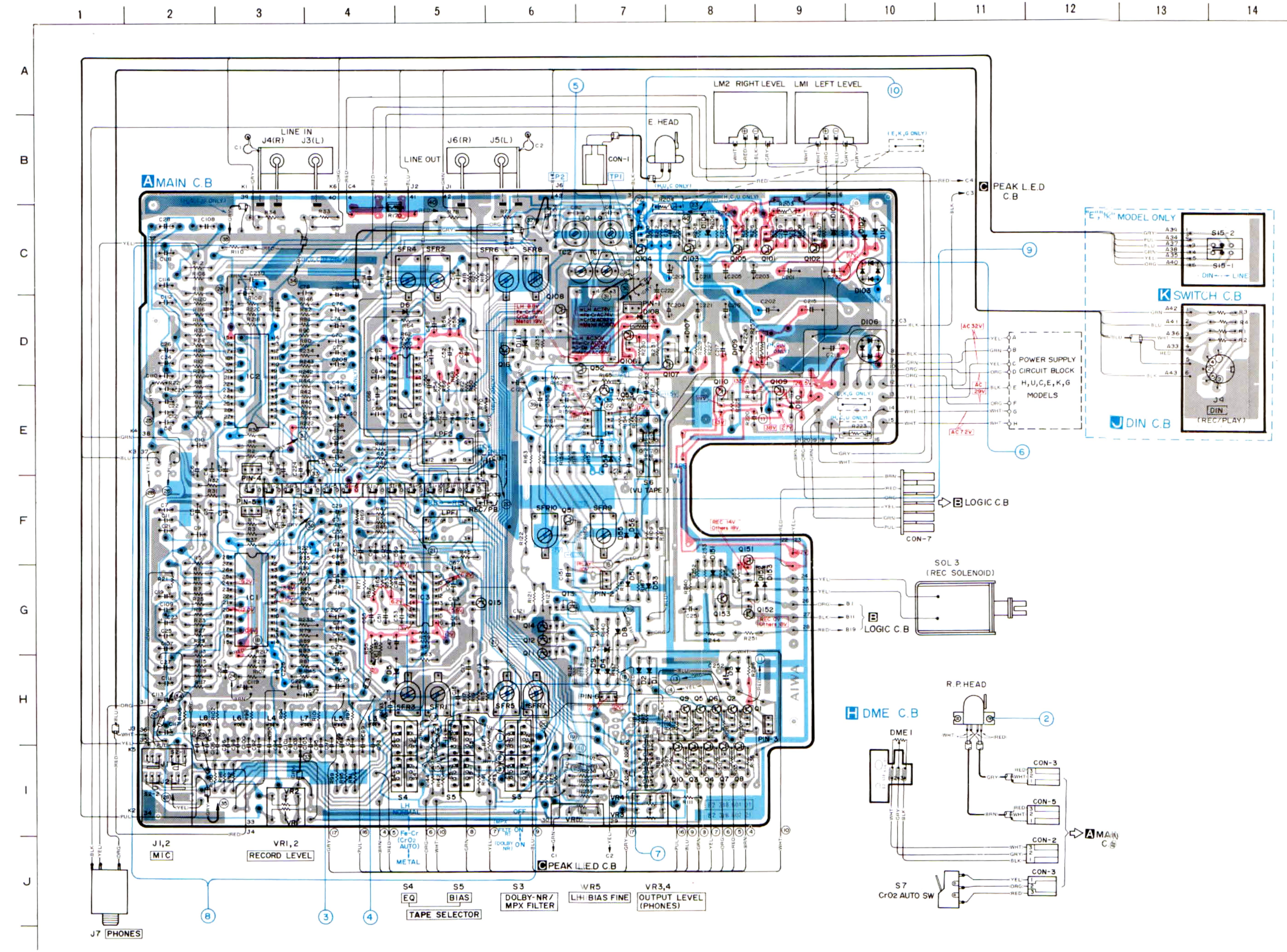
(1) The CMOS IC's construction makes this part susceptible to damage by static electricity and so take sufficient care.

(2) Do not perform a continuity test with a tester, etc. Refer to the circuit voltage of each part.

NOTES (1) B(+) Pattern   Component side pattern   Others pattern

(2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals.

WIRING–1



2. Azimuth Adjustment

Settings:

- Playback mode
- Output level: MAX.
- Test tape: TTA-117E
- TAPE SELECTOR switch: CrO_2 AUTO
- Adjustment location: azimuth adjusting screw

Method:

Playback 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.

3. Playback Level Adjustment

Settings:

- Test tape: TTA-161
- TAPE SELECTOR switch: LH
- Adjustment locations: SFR3 (L-ch)
  SFR4 (R-ch)

Method:

Playback the test tape and adjust so that the output is 580 mV.

4. Playback Frequency Characteristic Adjustment

Settings:

- Test tape: TTA-117E
- TAPE SELECTOR switch: CrO_2 AUTO
- Adjustment locations: SFR1 (L-ch)
  SFR2 (R-ch)

Method:

Playback the test tape and adjust so that the 1 kHz and 10 kHz outputs are identical.

Rating: 0 ± 0.5 dB

5. Bias Trap Coil Adjustment

Settings:

- Recording mode
- TAPE SELECTOR switch: METAL
- Test points: TP1 (L-ch), TP2 (R-ch)
- Adjustment locations: L9 (L-ch), L10 (R-ch)

Method:

Adjust L9, 10 so that the voltage at test point TP1, 2 is reduced to minimum value.

Rating: Less than 1.5 V

6. Bias Adjustment

- **Fe-Cr tape**

Settings:

- Recording mode
- Test tape: TTA-119E
- Input signal: –20 dB, 1 kHz, 10 kHz
- TAPE SELECTOR switch: Fe-Cr
- Adjustment location: TC1 (L-ch), TC2 (R-ch)

Method:

Record and playback the 1 kHz and 10 kHz signals. Adjust so that the 1 kHz and 10 kHz outputs are identical.

Rating: $0^{+0}_{-0.5}$ dB

Settings differ as below for METAL, CrO_2, LH tape.

- **METAL tape**

Settings:

- Test tape: TTA-119M
- TAPE SELECTOR switch: METAL

Rating: 0 ± 1.0 dB

- **CrO_2 tape**

Settings:

- Test tape: TTA-119G
- TAPE SELECTOR switch: CrO_2 AUTO

Rating: 0 ± 1.0 dB

- **LH tape**

Settings:

- Test tape: CS-10
- TAPE SELECTOR switch: LH

Rating: 0 ± 1.0 dB

7. REC./P.B. Sensitivity Adjustment

- **Fe-Cr tape**

Settings:

- Recording mode
- Test tape: TTA-119E
- Input signal: –26 dBV, 1 kHz
- Output level: MAX.
- TAPE SELECTOR switch: Fe-Cr
- Adjustment locations: SFR5 (L-ch)
  SFR6 (R-ch)

Method:

Record and playback the test tape and adjus SFR5, 6 so that the LINE OUTPUT is 410 mV

Settings differ as below METAL, CrO_2, LH tape.

- **METAL tape**

Settings:

- Test tape: TTA-119M
- TAPE SELECTOR switch: METAL

Rating: 410 mV ± 1.5 dB

- **CrO_2 tape**

Settings:

- Test tape: TTA-119G
- TAPE SELECTOR switch: CrO_2 AUTO

Rating: 410 mV ± 1.5 dB

- **LH tape**

Settings:

- Test tape: CS-10
- TAPE SELECTOR switch: LH

Rating: 410 mV ± 1.5 dB

8. Level Meter Adjustment

Settings:

- Recording mode
- Input signal: –20 dB, 1 kHz
- Adjustment locations: SFR7 (L-ch)
  SFR8 (R-ch)

Method:

Adjust RECORD VOLUME so that the LINE OUTPUT is 410 mV. Next adjust SFR551, 552 so that the meter pointer indicated 0 VU.

9. Tape Time 0 Point Adjustment

Settings:

- TAPE SELECTOR switch: Fe-Cr
- METER: TAPE TIME
- Test tape: TTA-119E
- Adjustment location: SFR9

Method:

Run the test tape for 90 seconds beginning at the magnetic substance of the tape. (from the RPH passing point)

Then turn the tape over and adjust so that the indicator points to "0" within 30~60 seconds from that point.

10. Tape Time Full Scale Adjustment

Settings:

- TAPE SELECTOR switch: Fe-Cr
- METER: TAPE TIME
- Output level: TTA-119E
- Adjustment location: SFR10

Method:

Adjust SFR10 so that the indicator points to "Full Scale" when first starting to wind the test tape.

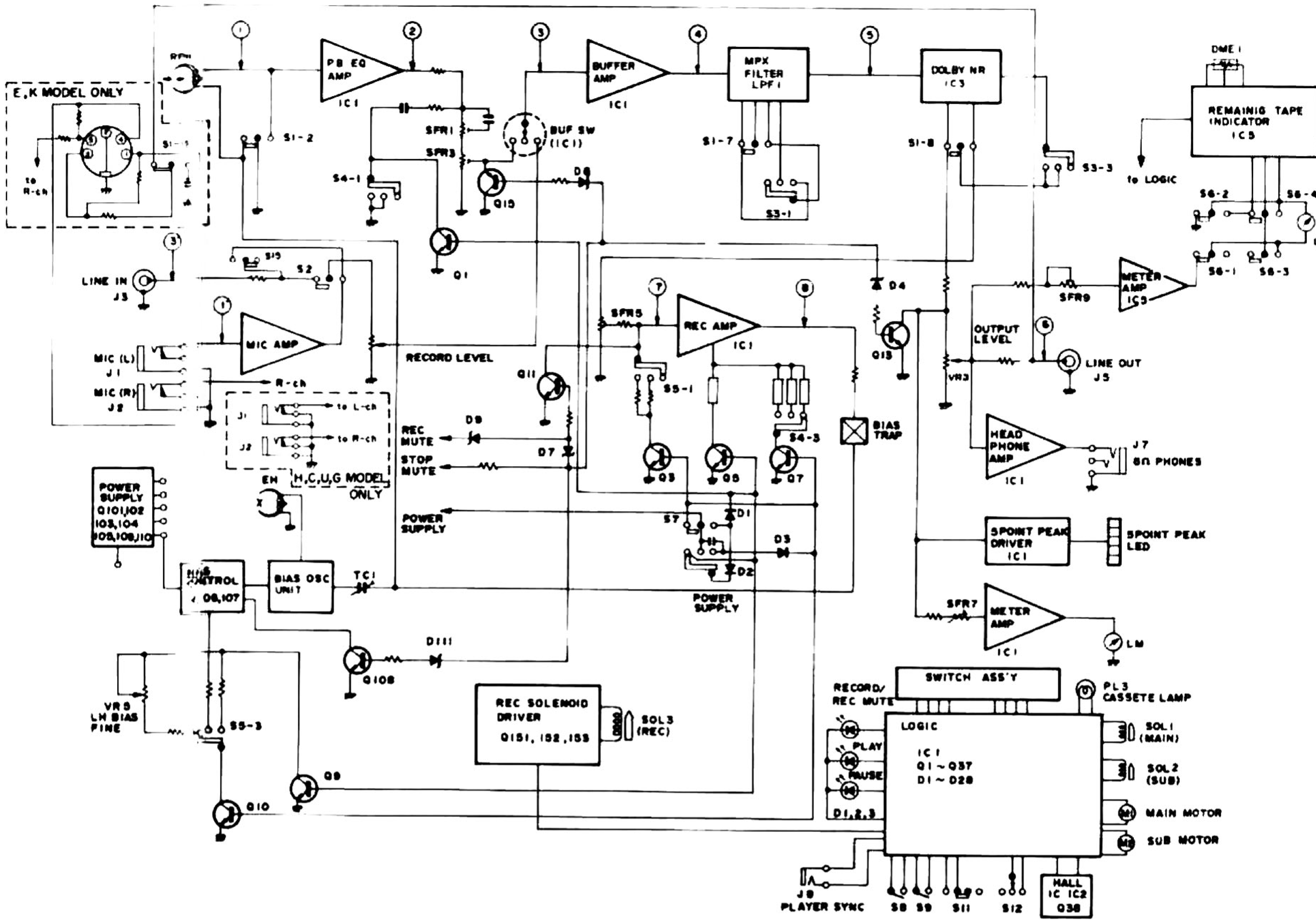
NOTES (1) B(+) Pattern B(–) Pattern Component side pattern Others pattern

(2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signal. An asterisk (*) indicates that the value was measured with a vacuum-tube voltmeter during recording.

WIRING-3

1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
J
"H" MODEL ONLY
T1 (P.T)
T.F
S14 VOLTAGE SELECTOR
AC110/120/220/240V
50/60Hz
240V
220V
CP1
(120+0.033)
S13
POWER
M POWER C.B
"E" MODEL ONLY
AC110-120/220/240V
50/60Hz
F1 800mAT
F2 500mAT
F3 250mAT
F4 250mAT
S14 VOLTAGE SELECTOR
240V
220V
110V -120V
L POWER C.B
"K" "G" MODEL ONLY
"G" MODEL ONLY
AC120/240V
50/60Hz
"K" MODEL ONLY
F1 1AT
F2 630mAT
F3 250mAT
F4 250mAT
S14 VOLTAGE SELECTOR
120V
"U" "C" MODEL ONLY
AC120V
60Hz
L POWER C.B
YEL
GRN
ORG
BLK
WHT
BLU
GRY
RED
BRN
C1

BLOCK DIAGRAM



LEVEL DIAGRAM