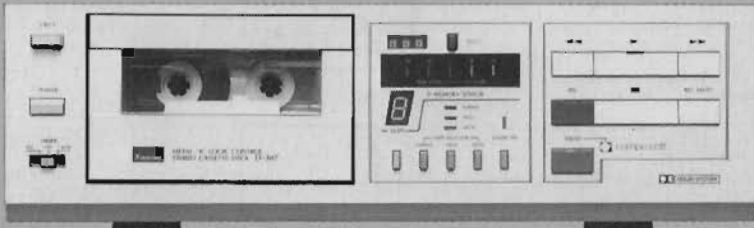


# SERVICE MANUAL

METAL/IC LOGIC CONTROL  
STEREO CASSETTE DECK


## SANSUI D-M7



### ● SPECIFICATIONS

Track format . . . . .	4-track/2-channel system
Tape speed . . . . .	4.8 cm/sec.
Heads (2-head configuration)	
Rec/pb head . . . . .	HIGH-B hard permalloy
Erase head . . . . .	Double-gap ferrite
Motor . . . . .	Electrically controlled DC motor
Wow/flutter . . . . .	0.05 % max (WRMS)
Fast forwarding (rewinding) time	
. . . . .	Approx. 90 sec. (for C-60 tape)
Frequency response (-20 VU recording/playback)	
Normal (LH) tape . . . . .	20 to 15,000 Hz
Chrome tape . . . . .	20 to 16,000 Hz
Metal tape . . . . .	20 to 17,000 Hz
Signal-to-noise ratio (recording/playback with metal tape)	
DOLBY NR OFF . . . . .	Better than 58 dB
DOLBY NR ON . . . . .	Better than 68 dB (5 kHz)
Erasure rate (metal tape)	
. . . . .	65 dB min (1 kHz)
Recording bias frequency	
. . . . .	85 kHz
Input sensitivity/impedance	
LINE IN (REC) . . . . .	145 mV/47 kohms
Output level (1 kHz, 0 dB = 200 pwb/mm)	
LINE OUT (PLAY) . . . . .	250 mV
Power requirements . . . . .	110 ~ 120, 220 ~ 240 V (50/60 Hz)
For U.S.A. and Canada	
. . . . .	120 V (60 Hz)
Power consumption . . . . .	20 W
Dimensions . . . . .	345 mm (13-5/8") W
. . . . .	105 mm (4-3/16") H
. . . . .	220 mm (8-11/16") D
Weight . . . . .	3.7 kg (8.2 lbs) net
. . . . .	4.4 kg (9.7 lbs) packed

\* Design and specifications subject to change without notice for improvements.

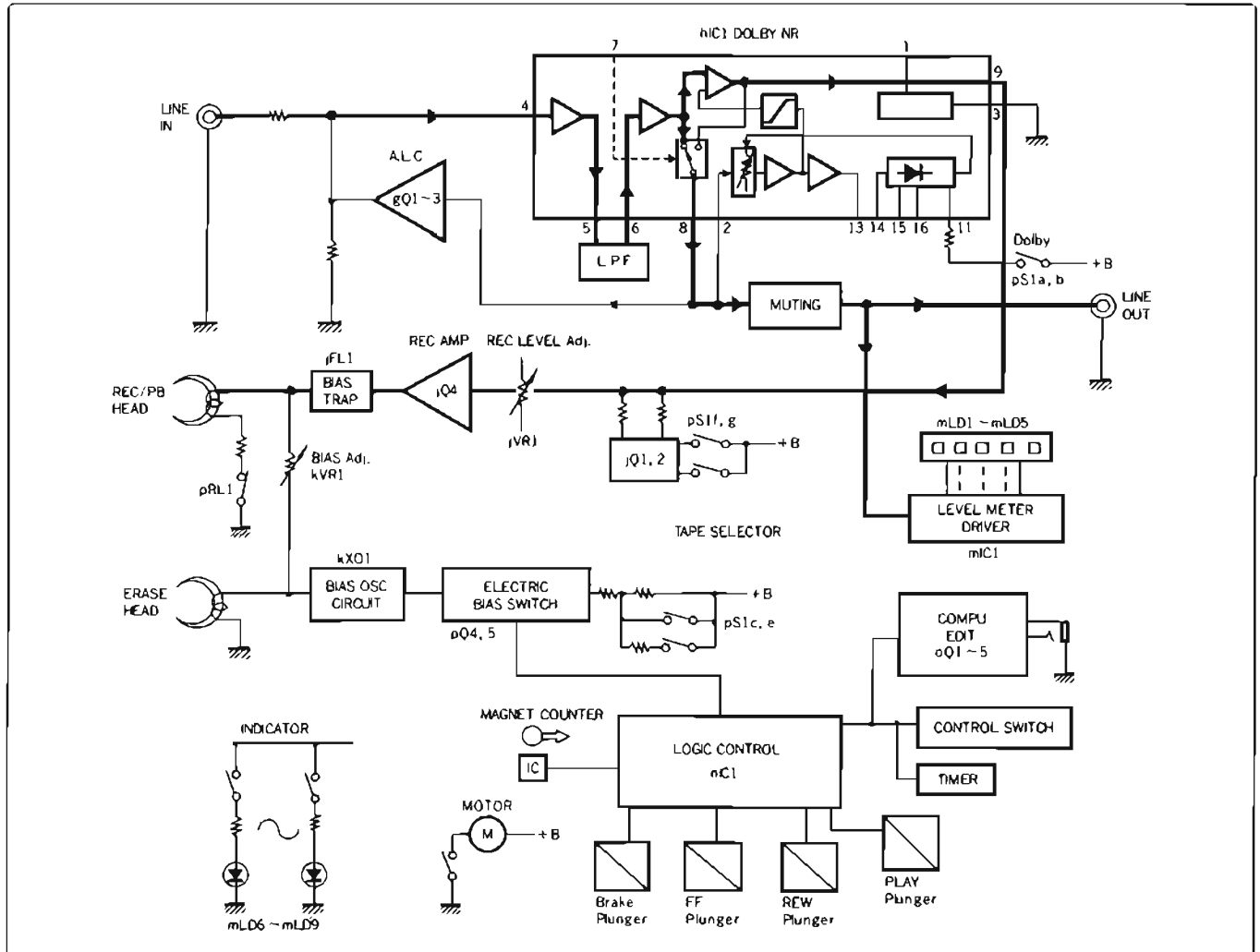
\* The word "Dolby" and  are trademark of Dolby Laboratories. This product is manufactured under the license from Dolby Laboratories.

*Sansui*

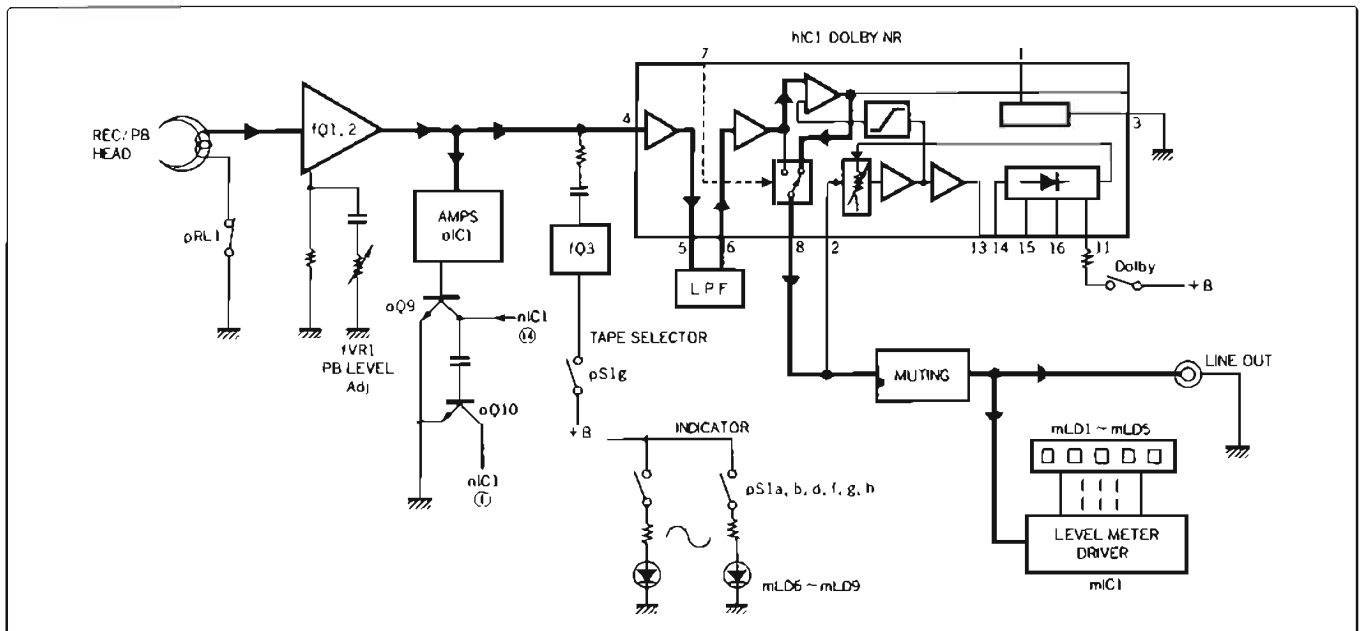
SANSUI ELECTRIC CO., LTD.

# 1. BLOCK DIAGRAM

## 1-1. Recording Operation Block Diagram



## 1-2. Playback Operation Block Diagram



## 2. OPERATIONS

### 2-1. Operation of Cassette Mechanism

(See Fig. 2-1, Fig. 2-2 and Page 12 Exploded View)

#### A. Operation of PLAYBACK

- 1) When a cassette half is set, the cassette sensor arm goes up to turn the slide switch (wS10) on, so that the capstan motor begins to rotate.
- 2) Therefore, rotation is transmitted from the motor, through the capstan belt, to the flywheel.
- 3) When the PLAY button is depressed in this state, since the play plunger is energized to attract the play plunger arm 20 and thus the stopper against the play gear 39 is released, the play gear rotates due to a restoring force of the plate spring fixed on the chassis until the play gear engages with the flywheel gear.
- 4) Since the play gear engages with the flywheel gear, the play gear is rotated by the flywheel gear and thus the play gear cam moves the assist base 9 upward; consequently, the head base 37, brake arm 67 and play idler are all moved upward to release the brake.
- 5) At the same time, the head base 37 brings the pinch roller into pressure-contact with the capstan (flywheel shaft) to run the tape. In this case, the tape is reeled up since the play idler is brought into contact with the R/F clutch assembly shaft and the take-up reel.
- 6) Since the stopper is actuated by the play plunger arm, the play gear stops rotating at a position where the play gear is disengaged from the flywheel gear. In this case, however, the flywheel is kept rotating. During the PLAY operation, the plunger is kept energized and therefore the play plunger arm 20 is kept attracted.

#### B. Operation of RECORDING

- 1) When a cassette half is set, the REC prevention arm goes up to turn the slide switch on, so that the REC operation is enabled in the logic circuit. The operation of the mechanism is the same as in the PLAY operation.

#### C. Operation of FASTFORWARD

- 1) When the FF button is depressed, the brake plunger is energized to attract the brake arm 67, so that the brake is released.
- 2) At the same time, the FF plunger is energized to attract the FF/REW plunger arm 16. Accordingly, the R/F clutch gear is engaged with the transmission gear to rotate the take-up reel assembly, so that the tape is reeled up.

#### D. Operation of REWIND

- 1) When the REW button is depressed, the brake plunger is energized to attract the brake arm 67, so that the brake is released.
- 2) At the same time, the REW plunger is energized to attract the FF/REW plunger arm 16. Accordingly, R/F clutch gear is engaged with the supply reel gear to rotate the supply reel, so that the tape is reeled up.

#### E. AMPS (Automatic Music Program Search)

- 1) When the FF button or the REW button is depressed during PLAY operation under the condition that any of the preset station switches (1 to 3) is kept depressed, the brake plunger is energized to attract the brake arm and the assist base lock plate 71.
- 2) Next, the play plunger is deenergized (the play plunger is once energized by the logic control circuit after the brake plunger has been energized) to release the stopper against the play gear, so that the head base comes down.
- 3) The head base is supported at an about 1.2 mm downward position by the assist base lock plate 71 attracted by the brake plunger.
- 4) In this state, the FF or REW plunger is energized to perform the FF or REW operation.
- 5) If the cassette tape on which no signal is stored is kept played about three seconds, the logic control circuit releases the FF or REW operation and therefore the head base goes down. Thereafter, the play plunger is energized and the PLAY operation begins.

Fig. 2-1

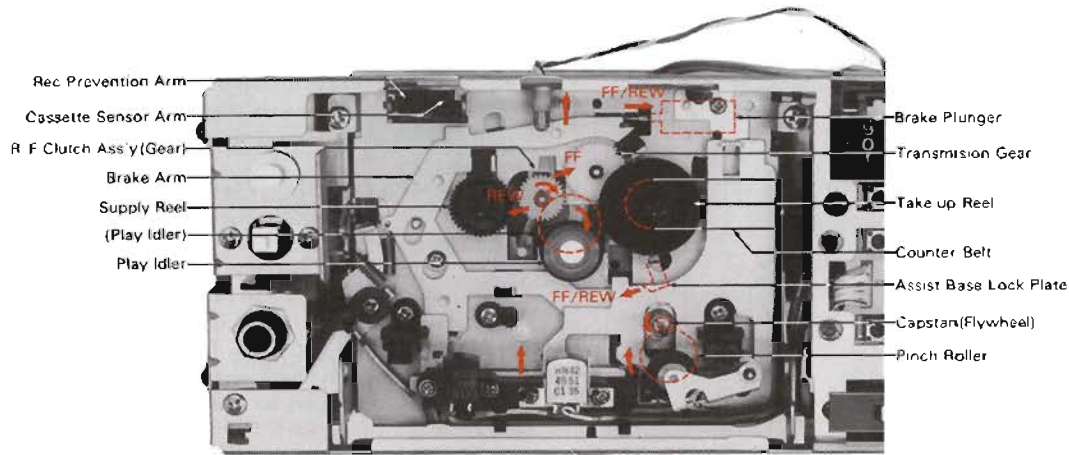
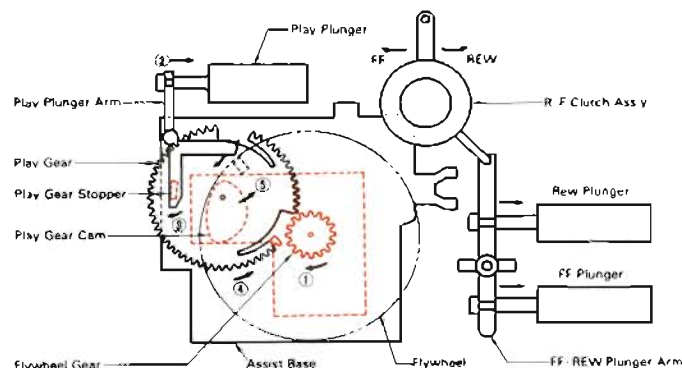


Fig. 2-2



## 2-2. Operations of Logic Control Circuits

This fully-logic, feather-touch control system adopts a logic circuit mainly comprising an IC-BA843 and a plunger solenoid in order to implement various control operations. Additionally, an IC-HA12024 is used for providing an AMPS function (automatic music program search of one-to-nine musics ahead or behind).

Further, when assembled with a player, for instance, P-M7, the control system provides a computer editing function as follows: when musics on a record disc are recorded on a tape, the pause ON/OFF operation in recording the musics by a cassette tape recorder is automatically controlled, in conjunction with the movement of the player, through the pause circuit provided for the tape recorder. In this case, a muting signal is supplied from the player to the tape recorder pause circuit through a transistor switching circuit provided in this control system.

### A. PLAY Operation (See Fig. 2-3 and 2-4)

- 1) When the PLAY key is depressed, the PLAY input pin 1 of the control IC (BA843) is grounded, so that the PLAY output pin 12 changes from a L-voltage level to a H-voltage level.
- 2) Accordingly, nQ4 is turned on to attract the play plunger and also to light up the PLAY indicator light (nLD1).
- 3) Further, nQ6 is turned on to attract the brake plunger. Simultaneously, IQ1 is turned off via pQ6, pQ7 and IQ2 to release audio-muting.
- 4) Since the REC output pin 10 is at a L-voltage level, the relay switching transistor pQ3 is off. As a result, pQ1 is turned on via the relay coil to pass a playback signal. Similarly, since pQ2 is off, the input signal is cut off and the record/playback amplifier operates as a playback amplifier.

Fig. 2-3 PLAYBACK Operation Block Diagram

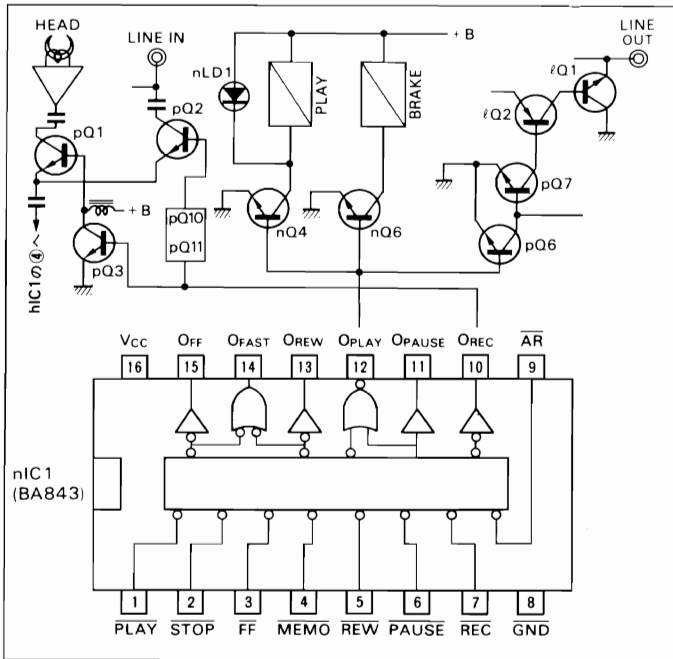


Fig. 2-4 Mode of each output terminal for each key input <BA843>

INPUT	OUTPUT						OUTPUT MODE
	FAST (No.14)	FF (No.15)	REW (No.13)	REC (No.10)	PAUSE (No.11)	PLAY (No.12)	
STOP	L	L	L	L	L	L	STOP MODE
FF	H	H	L	L	L	L	FF MODE
REW	H	L	H	L	L	L	REW MODE
PLAY	L	L	L	L	L	H	PLAY MODE
PAUSE	L	L	L	L	H	L	PAUSE MODE
REC/PLAY	L	L	L	H	L	H	REC/PLAY MODE
REC/PAUSE	L	L	L	H	H	L	REC/PAUSE MODE

### B. REC Operation (See Fig. 2-3 and 2-4)

- 1) When a cassette half having an error erase prevention pawl is mounted, since the error erase prevention switch (qS1) is closed, the AR pin 9 changes from a L-voltage level to a H-voltage level, thus realizing a recording stand-by condition.
- 2) When the REC key and the PLAY key are depressed, since the REC input pin 7 and the PLAY input pin 1 are both grounded, the REC output pin 10 changes from a L-voltage level to a H-voltage level. Accordingly, nQ8 is turned on to light up the REC indicator light (nLD2).
- 3) Simultaneously, since the relay switching transistor pQ3 is turned on, the relay (pRL1) is switched from PLAY to REC. And, since pQ1 becomes off, the output of the head amplifier is cut off.
- 4) Also, pQ5 and pQ4 are turned on to activate the bias oscillator circuit.
- 5) At the same time, since pQ2 is turned on via pQ10 and pQ11, the input signal is passed and the record/play amplifier operates as a record amplifier.
- 6) The other operations are the same as in the PLAY operation.

### C. FF·REW Operation (See schematic diagram on page 14)

- 1) The FF operation starts when the FAST output pin No. 14 becomes a H-voltage level to turn on nQ6, that is, to actuate the brake plunger. At the same time, since the FF output pin No. 15 becomes a H-voltage level to turn on nQ7, the FF plunger is actuated to start the FF operation.
- 2) In the same manner as in the FF operation, the REW operation starts when the brake is released and the REW output pin No. 13 becomes a H-voltage level to turn on nQ5, that is, to actuate the REW plunger.

### D. PAUSE Operation (See schematic diagram on page 14)

- 1) The PLAY operation changes to the PAUSE operation, when the PAUSE output pin No. 11 changes from a L-voltage level to a H-voltage level to turn nQ9. In this case, the PAUSE LED (nLD3) comes on.
- 2) At the same time, the PLAY output pin No. 12 changes from a H-voltage level to a L-voltage level to deenergize each plunger and to disable each amplifier, so that the audio muting operates.
- 3) The REC operation changes to the PAUSE operation, when the REC output pin No. 10 is held at a H-voltage level. In this case, the REC/PLAY amplifier operates as a REC amplifier. The other operations are the same as explained under Items 1) and 2) above.

### E. AMPS Operation (See Fig. 2-5, 2-6 and 2-7)

- 1) When the AMPS switch (oS1i, j) is depressed after having determined musics to be selected, a H-voltage level signal is inputted to the music selection count pin No. 7 of the automatic music selection IC (HA12024). After that, every time depressing the AMPS switch, the numeral is advanced one by one and is indicated on the SEL 510 (oLD1). When the numeral is "0", "1" is automatically indicated without depressing the AMPS switch, whenever musics are selected next.
- 2) If the FF or REW key is depressed in the PLAY operation, the PLAY operation is released and the FF or REW operation starts. At the same time, since oQ8 is turned off, the music selection pin No. 13 changes from a L-voltage level to a H-voltage level, so that the music selection operation is enabled. At this time, since the pin No. 15 also changes from a L-voltage level to a H-voltage level, oQ7 is turned on to hold oQ8 at an OFF state.
- 3) In this case, the REC/PB head is in slight-contact with a tape to detect signals recorded on the tape, so that the detected signal is inputted to the input pin No. 9. When the signal is applied to the pin No. 9, the pin No. 11 becomes a H-voltage level. When the signal is not applied, the voltage level of the pin 11 drops gradually.
- 4) When the stylus comes into a lead-over groove, the level of the pin No. 11 becomes a L-voltage (about two volts) to shift down the music selection numeral stored in the memory. When the

music selection numeral becomes "0", the pin No. 15 changes from a H-voltage level to a L-voltage level; oQ9 is turned off; oQ10 is momentarily turned on to ground the input pin No. 1 of the control IC (BA843). This is the same as a state where the PLAY key is depressed.

Fig. 2-5 Music selection operation chart <HA-12024> (ex. fourth)

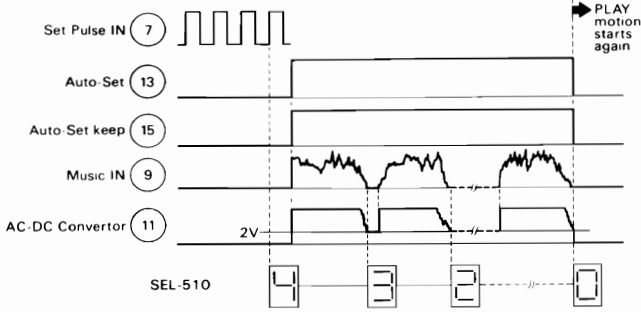


Fig. 2-6 AMPS Section Schematic Diagram

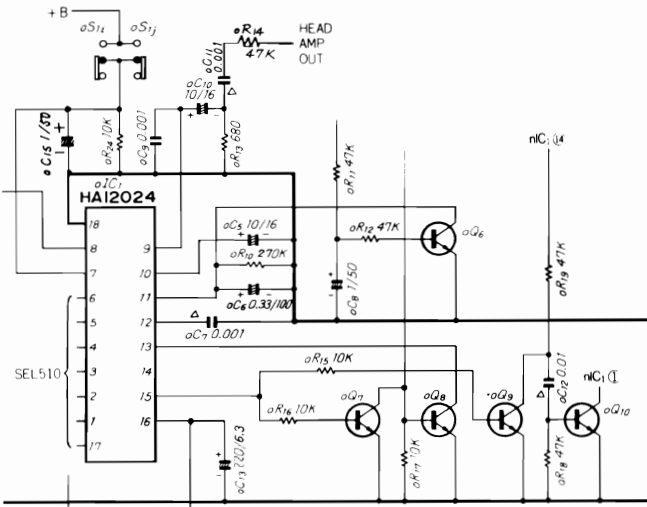
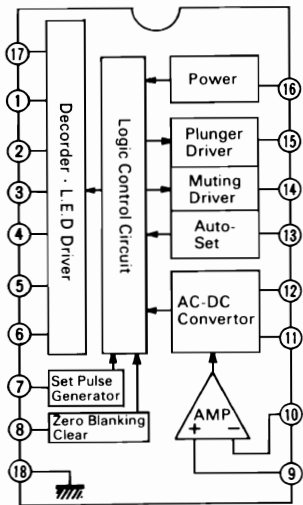


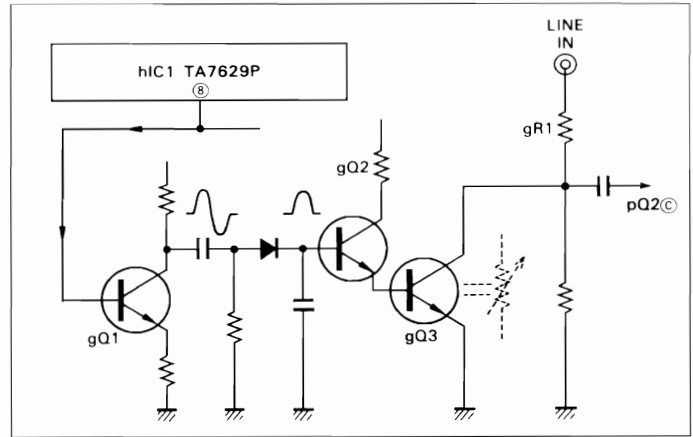
Fig. 2-7



F. ALC Operation (See Fig. 2-8)

This control system adopts an ALC (automatic level control) circuit in the record input section in order to eliminate missetting of the recording level. That is to say, the output signal (from Pin 8) of the Dolby IC (TA7629P) is amplified through the flat amplifier (gQ1) and is applied to the Darlington amplification circuit (gQ2, gQ3) after being rectified. In this case, since the input signal voltage is divided by the resistance between collector and emitter of the gQ3 and the input resistor (gR1), it is possible to control an excessively-large voltage input signal.

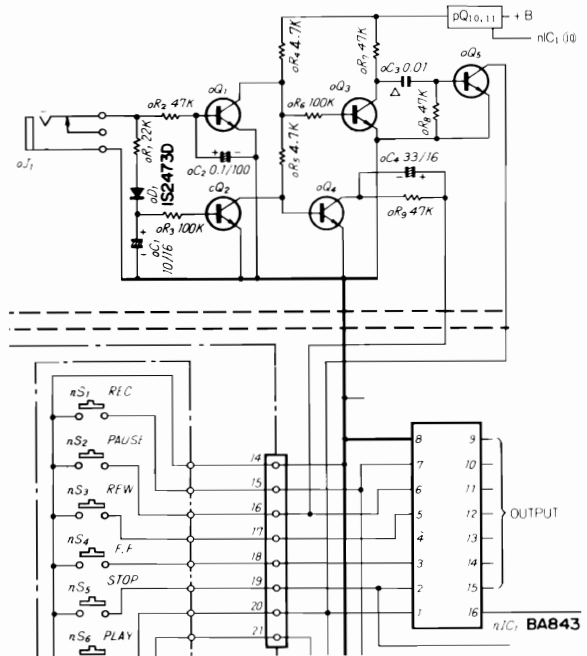
Fig. 2-8 A.L.C. Operation Block Diagram



G. Computer Editing Circuit (See Fig. 2-9)

- 1) When some musics on a record disk are required to record on a tape in cooperation with a player such as P-M7, depress the REC key and the PAUSE key.
- 2) Since the operation becomes the record pause state, the REC output of the control IC (BA843) turns on pQ11 via pQ10, so that a B-voltage is supplied to the computer editing circuit to activate it.
- 3) The instant the player arm comes down onto a record disk and the muting is released, a H-voltage level signal is applied to the input terminal oJ1. Therefore, oQ1 is turned on; oQ3 is turned off; oQ5 is momentarily turned on to ground the pin No. 1 of the control IC. This is the same as a state where the PLAY key is depressed, so that the PAUSE operation is released and the REC operation starts.
- 4) Conversely, if the muting operation begins when the player arm moves up after a music has been played, a L-voltage level signal is inputted to the input terminal oJ1. Since oQ2 is turned off after one second through the delay circuit oC1, oR3, the oQ4 is momentarily turned on to ground the pin No. 6 of the control IC. This is the same as a state where the PAUSE key is depressed; that is, the PAUSE operation starts.

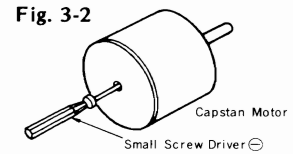
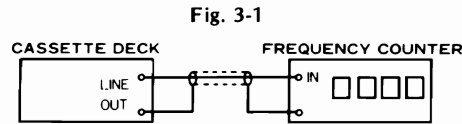
Fig. 2-9 Computer Editing Section Schematic Diagram



### 3. ADJUSTMENTS

#### 3-1. Tape Speed Adjustment

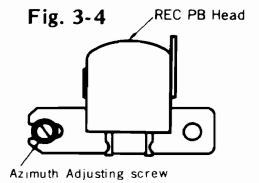
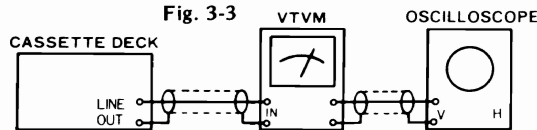
- Note: 1. Use Sansui Test Tape, SCT-35K (3 kHz signals are recorded on the tape).  
 2. Connections are shown in Fig. 3-1.



STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	ADJUST FOR	REMARKS
1.	TAPE SPEED Adj.	LINE OUT Frequency counter	Playback the TEST TAPE SCT-35K.	Turn semi-variable resistor as Fig. 3-2.	3000 Hz $\pm$ 45 Hz	Use small screw driver.

#### 3-2. Playback Adjustment

- Note: 1. Before this adjustment, clean REC/P.B. head surface.  
 2. For this adjustment, use Sansui Test Tape, SCT-F10KN, SCT-L400N and SCT-F1K.  
 3. Set the Dolby NR switch to be OFF.  
 4. Connections are shown in Fig. 3-3.



STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	ADJUST FOR	REMARKS
1.	REC/P.B. Head Adj.	LINE OUT VTVM, Scope	Playback the TEST TAPE SCT-F10K	Adjust the azimuth adjusting screw in Fig. 3-4.	MAX. Output on both channels.	Refer to removal of Lid Ass'y on Page 6. After this adjustment, lock the screw with paint.
2.	Playback Level Adj.	Same as above	Set TAPE SELECTOR to NORMAL (LH) position. Playback the TEST TAPE SCT-L400	Adjust each fVR1 on L-CH and R-CH.	370 mV $\pm$ 2 dB	See Top View on page 10.
3.	High Frequency Equalization Check	Same as above	Set TAPE SELECTOR to NORMAL (LH) position. Playback the TEST TAPE SCT-F1K.	_____	_____	Read output levels on both channels.
			Playback the TEST TAPE SCT-F10K	_____	_____	Confirm that the output levels are within $\pm$ 3 dB comparing with the above readings.

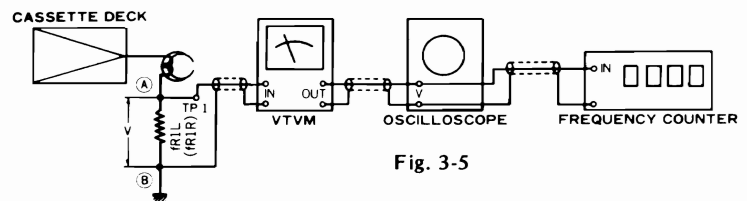
Note: On STEP 3, set the TAPE SELECTOR to HIGH (CrO<sub>2</sub>) position during playback of SCT-10KN, and confirm the indication on VTVM drops approximately 3 dB  $\sim$  4 dB.

#### 3-3. Recording Adjustment

##### 1) Bias Adjustment

\* Adjust this step, when replacing bias osc circuit, variable resistor for bias adjustment or REC/PB head. Adjust in step 2) 2. Frequency Response Adj. on page 6 usually.

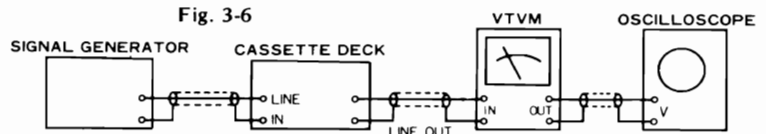
- Note: 1. For this adjustment, use Sansui Test Tape, SCT-SA.  
 2. Set the Dolby NR Switch to be OFF.  
 3. Connections are shown in Fig. 3-5.



STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	ADJUST FOR	REMARKS
1.	Recording Bias Adj.	Between A & B points of each fR1L & fR1R. VTVM, Scope, Frequency Counter	Load the TEST TAPE SCT-SA. Depress PAUSE, REC and PLAY buttons. Set TAPE SELECTOR to HIGH (CrO <sub>2</sub> ) position.	Adjust kVR1L for L-CH and kVR1R for R-CH.	5 mV	See Top View on page 10.
			Set TAPE SELECTOR to NORMAL (LH) position.	_____	_____	Confirm the indication on VTVM shows 3.5 mV.
			Set TAPE SELECTOR to METAL position.	_____	_____	Confirm the indication on VTVM shows 8.5 mV.
2.	Bias Frequency Check	Same as above	Load the TEST TAPE SCT-SA. Set TAPE SELECTOR to NORMAL (LH) position.	_____	_____	Confirm that the Frequency Counter shows 85 kHz $\pm$ 10 kHz.

## 2) REC Level & Frequency Response Adjustment

- Note: 1. Connections are shown in Fig. 3-6.  
 2. Set the Dolby NR switch to be OFF.



STEP	SUBJECT	INPUT SIGNAL	MEASURE OUTPUT	SETTING	ADJUSTMENT	REMARKS
1.	REC Level Adj.	Feed 1 kHz, 110 mV from S.G into LINE IN.	LINE OUT VTVM Scope	Load the TEST TAPE SCT-SA. Set TAPE SELECTOR to HIGH (CrO <sub>2</sub> ) position. 1. Depress PAUSE, and REC button. 2. Adjust the Audio S.G. Volume for obtaining 200 mV on VTVM. 3. Push off the PAUSE button, then record the 1 kHz signal. 4. Play back the 1 kHz signal. 5. Confirm that the output levels on both channels are 200 mV ± 2 dB on VTVM.	1. If not, turn jVR1 (REC, L-CH) and jVR1 (REC, R-CH) until output level 200 mV ± 2 dB on both channel are obtained. 2. Repeat this REC Level adj. until the indication on VTVM will be 200 mV ± 2 dB.	jVR1 (REC, L-CH), and jVR1 (REC, R-CH) are shown in Top View on page 10.
2.	Frequency Response Adj.	Feed 1 kHz 10 mV (-20 dB) and 10 kHz 10 mV (-20 dB) from S.G. into LINE IN.	Same as above	Load the TEST TAPE SCT-SA. Set TAPE SELECTOR to HIGH (CrO <sub>2</sub> ) position. 1. Record the 1 kHz and 10 kHz signals from S.G. 2. Play back the 1 kHz and 10 kHz signals, then confirm that both output levels equal.	1. If not, adjust kVR1L for L-CH and kVR1R for R-CH slightly until the output levels will be equal.	As kVR1L and kVR1R are previously adjusted, turn them slightly, if necessary.

### ◆ List of Sansui Test Tape

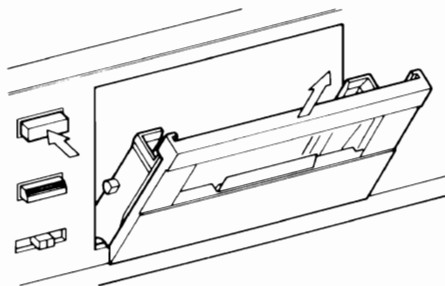
Name of TEST TAPE	Recorded Frequency	Description
SCT-F40	40 Hz	Playback Frequency Response Check
SCT-F1K	1 kHz	High Frequency Equalization Check
SCT-F10k	10 kHz	REC/PB Head Adjustment
SCT-L400	400 Hz	Playback Level and Indicator Level Adjustment
SCT-S3K	3 kHz	Speed Check and Wow & Flutter Check
SCT-LH NORMAL (LH)		Recording Bias Adjustment
SCT-SA HIGH (CrO <sub>2</sub> )		REC/PB Level Adjustment
SCT-CS Fe-Cr		Frequency Response Check

### ◆ TAPE SELECTOR Position

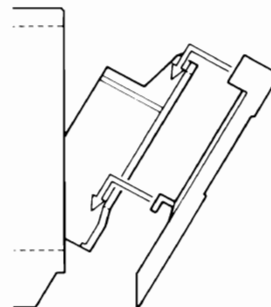
NORMAL Position		HIGH Position	
FUJI	FL, FXI	FUJI	FX II
MAXELL	UL, UD, XLI	MAXELL	XL II
TDK	D, AD, OD	TDK	SA
SCOTCH	TARTAN CRYSTAL MASTER 120	SCOTCH	MASTER 70
SONY	AHF, BHF, CHF Low-Noise	SONY	JHF
AGFA	SUPER SUPER COLOR SUPER FERRO DYNAMIC	AGFA	STEREO CHROM
BASF	LN Super LH I	BASF	SCR
METAL Position			
		MAXELL	MX
		TDK	MA-R, MA
		SCOTCH	Metafine
		SONY	METALLIC

### ◆ Removal and Attachment of Lid Ass'y

Depress the EJECT button to open the cassette holder, and pull the cover up and then toward you to remove it as shown in the figure.



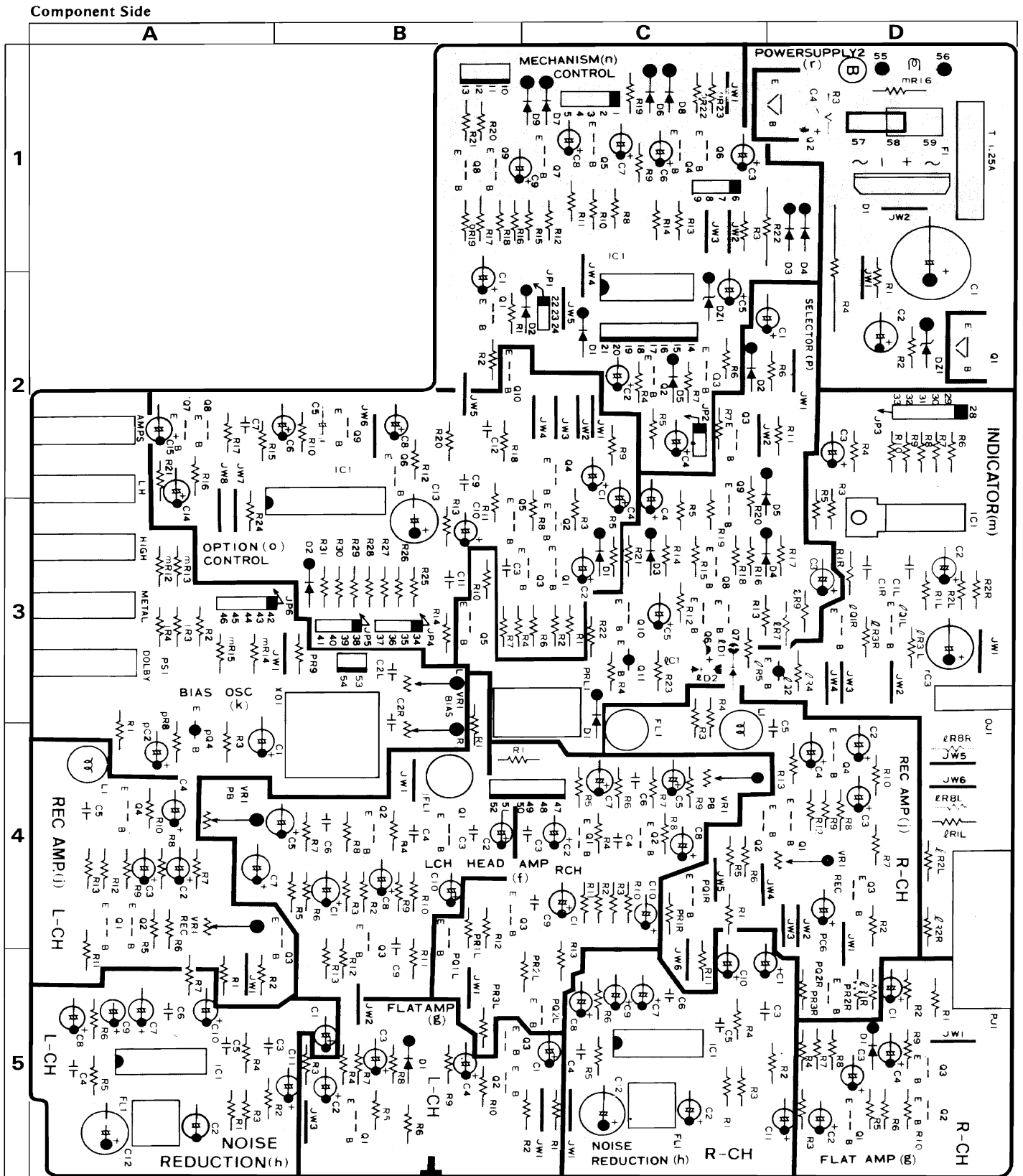
Re-attach the cover to the cassette holder by following the procedure for its removal in reverse.



# 4. PARTS LOCATION & PARTS LIST

## 4-1. G-1330 Main Circuit Board (Stock No. 00664001)

• Since some of capacitors and resistors are omitted from parts lists in this Service Manual, refer to the Common Parts List for capacitors & resistors, which was appended previously to Sansui Manual.



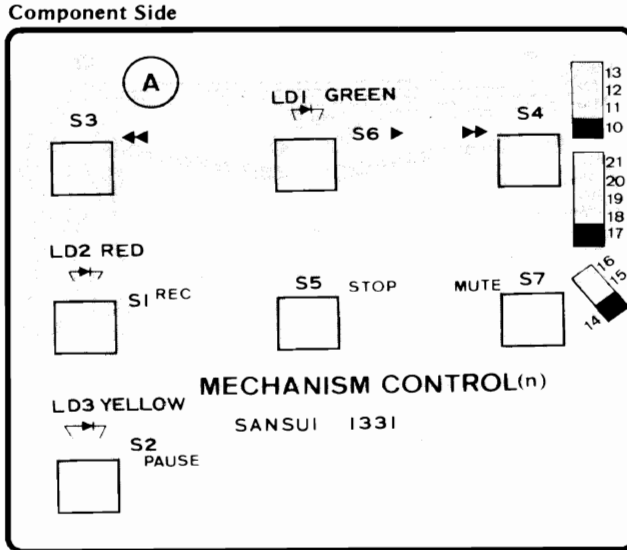


## Parts List

Parts No.	Stock No.	Description	Parts No.	Stock No.	Description
<b>•Transistor</b>			oD1, 2	03117600 or 46092700 or 46086000	1S2473D US1035 1S1588
fQ1, 2	07225401	2SC2320L	pD1, 3~5	03117600 or 46092700 or 46086000	1S2473D US1035 1S1588
fQ3	07299701 or 03068301 or 46078801	2SC2603 2SC2320 2SC2458	rD1	03117000	RB152
gQ1 ~ 3	07299701 or 03068301 or 46078801	2SC2603 2SC2320 2SC2458	<b>•Zener Diode</b>		
jQ1 ~ 4	07299701 or 03068301 or 46078801	2SC2603 2SC2320 2SC2458	nDZ1	03183600	RD5.6EB
IQ1	07299701 or 03068301 or 46078801	2SC2603 2SC2320 2SC2458	rDZ1	03179000	RD13EB
IQ2	07299601 or 03012701 or 46078701	2SA1115 2SA999 2SA1048	<b>•Capacitor</b>		
nQ1 ~ 3	07299701 or 03068301 or 46078801	2SC2603 2SC2320 2SC2458	fC2	46030400	10 $\mu$ F 25V E.L.
nQ4 ~ 7	07299701 or 03068301	2SC2603 2SC2320	fC6	07215500	5600pF 25V C.C.
nQ8, 9	07299701 or 03068301 or 46078801	2SC2603 2SC2320 2SC2458	fC9	07215100	2700pF 25V C.C.
oQ1 ~ 10	07299701 or 03068301 or 46078801	2SC2603 2SC2320 2SC2458	jC5	07216300	0.027 $\mu$ F 25V C.C.
pQ1 ~ 3	07299701 or 03068301 or 46078801	2SC2603 2SC2320 2SC2458	mC1	07215800	0.01 $\mu$ F 25V C.C.
pQ4	07299601 or 03012701 or 46078701	2SA1115 2SA999 2SA1048	oC7, 9, 11	07211700	1000pF 25V C.C.
pQ5 ~ 10	07299701 or 03068301 or 46078801	2SC2603 2SC2320 2SC2458	oC12	07215800	0.01 $\mu$ F 25V C.C.
pQ11	07299601 or 03012701 or 46078701	2SA1115 2SA999 2SA1048	<b>•Resistor</b>		
rQ1, 2	03083901	2SD313AL	nR22	00186800	150 $\Omega$ 2W N.I.R.
<b>•IC</b>			rR4	00193100	12 $\Omega$ 3W N.I.R.
hIC1	46128200	TA7629P	fVR1	07241000	1k $\Omega$ Semi Variable Resistor, play back lebel
mIC1	03611600	LB1416	jVR1	07241400	20k $\Omega$ (B) Semi Variable Resistor, rec lebel
nIC1	46129300	BA843	kVR1	07241500	50k $\Omega$ (B) Semi Variable Resistor, bias
oIC1	46132700	HA12024	hFL1	46128800	Filter, dolby
<b>•Diode</b>			jFL1	42904400	Trap Coil
gD1	03117600 or 46092700 or 46086000	1S2473D US1035 1S1588	jL1	46090700	Coil 3.9mH
ID1, 2	03117600 or 46092700 or 46086000	1S2473D US1035 1S1588	kXO1	46169000	OSC Block
nD1 ~ 5	03117600 or 46092700 or 46086000	1S2473D US1035 1S1588	mPL1	46172800	Pilot Lamp 14V 85mA
nD6 ~ 9	03117700	10E-2	oJ1	46148200	Jack, comu edit
			pS1	46165700	Push Switch, dolby, tape selector
			pRL1	11505100	Relay, rec-play switch
			pJ1	07249100	4P Terminal Board

- The circuit board, G-1331, G-1332, G-1333, G-1334 & G-1335 are not supplied as the assembled. However, the individual parts on the circuit board are provided by orders.

#### 4-2. G-1331 Control Switch Circuit Board



**Parts List**

Parts No.	Stock No.	Description
nLD1	07250900	LED TLG123, (Green)
nLD2	46176900	LED TLS123, (Red)
nLD3	07251000	LED TLY123, (Yellow)
nS1 ~ 7	46170500	Push Switch, rec, pause, rew, ff, stop, play, rec mute

#### 4-3. G-1332 Timer Switch Circuit Board

**Parts List**

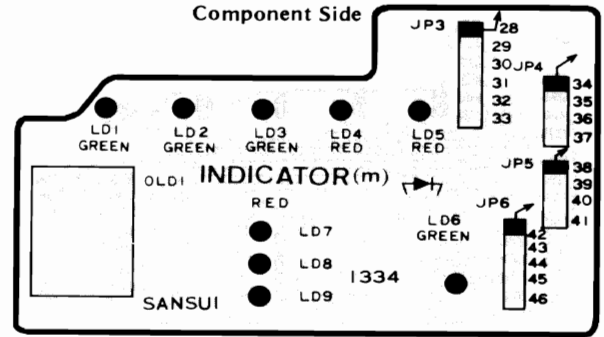
Parts No.	Stock No.	Description
nS8	46169100	Slide Switch, timer

#### 4-4. G-1333 Magnetic Sensor Circuit Board

**Parts List**

Parts No.	Stock No.	Description
nIC2	03614000	DN6838

#### 4-5. G-1334 Indicator Circuit Board



**Parts List**

Parts No.	Stock No.	Description
mLD1 ~ 3	07250900	LED TLG123, (Green)
mLD4, 5	46176900	LED TLS123, (Red)
mLD6	07250900	LED TLG123, (Green)
mLD7 ~ 9	46176900	LED TLS123, (Red)
oLD1	46166200	LED SEL510, AMPS

#### 4-6. G-1335 Power Switch Circuit Board

**Parts List**

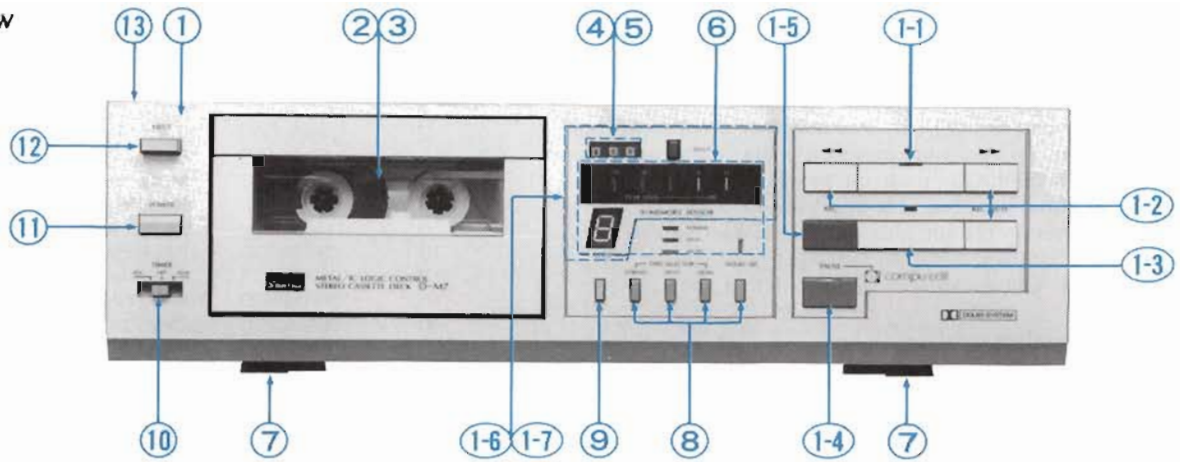
Parts No.	Stock No.	Description
qS1	46087300	Push Switch, power

**• Abbreviations**

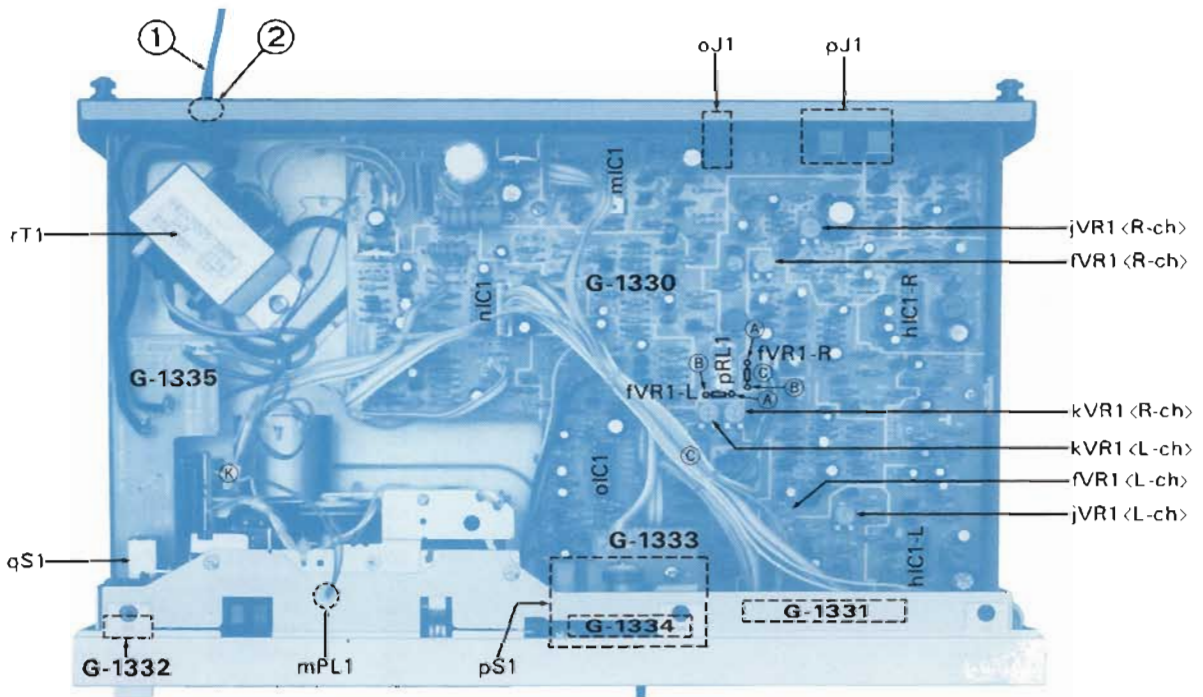
- |  |  |
|--|--|
| C.R. . . . Carbon Resistor                             | E.L. . . . Low Leak Electrolytic Capacitor           |
| S.R. . . . Solid Resistor                              | E.B. . . . Bi-Polar Electrolytic Capacitor           |
| Ce.R. . . . Cement Resistor                            | E.BL. . . . Low Leak Bi-Polar Electrolytic Capacitor |
| M.R. . . . Metal Film Resistor                         |  |
| F.R. . . . Fusing Resistor                             | Ta.C. . . . Tantalum Capacitor                       |
| N.I.R. . . . Non-Inflammable Resistor                  | F.C. . . . Film Capacitor                            |
| C.C. . . . Ceramic Capacitor                           | M.P. . . . Metalized Paper Capacitor                 |
| C.T. . . . Ceramic Capacitor, Temperature Compensation | P.C. . . . Polystyrene Capacitor                     |
| E.C. . . . Electrolytic Capacitor                      | G.C. . . . Gimmic Capacitor                          |

# 5. OTHER PARTS

5-1. Front View



5-2. Top View



Parts List <Front View>

Parts No.	Stock No.	Description
1	09449900	Front Panel Ass'y
1-1	09448600	Control Knob Ass'y, play
1-2	09437700	Control Knob, ff, rew, rec mute
1-3	09437500	Control Knob, stop
1-4	09455000	Control Knob Ass'y, pause
1-5	09448900	Control Knob Ass'y, rec
1-6	09450700	Indicator Panel
1-7	09457900	Indicator Sheet
2	09450500	Lid Ass'y
3	09457500	Mechanism Panel Ass'y
4	46172500	Tape Counter
5	09452800	Counter Belt
6	09453800	LED Holder
7	07804700	Leg
8	07828800	Push Knob, tape selector, dolby
9	09457800	Push Knob, amps
10	09451200	Slide Knob, timer
11	07828200	Push Knob, power
12	07853800	Push Knob, eject
13	09451000	Bonnet

Parts List <Top View>

Parts No.	Stock No.	Description
1	38005400	Power Supply Cord
2	39106000	Strain Relief
rT1	15005901	Power Transformer
oJ1	46148200	Jack, COMP/IDENT
pJ1	07249100	4P Terminal Board
pS1	46165700	Push Switch, dolby, tape selector
mPL1	46172800	Pilot Lamp 14V 85mA
qS1	46087200	Push Switch, power
pRL1	11505100	Relay, rec-play

## 6. MAIN PARTS REPLACEMENT

(See Exploded View Right & Top View Page10)

### A. Mechanism Ass'y

- 1) Remove bonnet, lid ass'y and front panel.
- 2) Take off pilot lamp and mechanism panel ass'y.
- 3) Take out counter belt and G-1335 (power switch circuit board).
- 4) Plug out connector **(K)** on mechanism ass'y and two connectors **(C)** on G-1330 (REC/P.B. amp circuit board), then cut off two vinyl bands for bundling wires. (See Top View on page 10)
- 5) Loosen two screws on the top side and two screws on the bottom side.
- 6) Push the cassette well rockplate **(15)** in order to open cassette well **(22)**.
- 7) Pull out the mechanism ass'y.

### B. Cassette well **(22)**, play idler (Fig. 7-1)

- 1) Pull out mechanism ass'y. (See above A)
- 2) Loosen two screws fixing door bracket **(13)**, to remove the door bracket and take off cassette well **(22)**.
- 3) Then loosen two screws fixing mechanism cover to remove the mechanism cover.
- 4) Take off counter belt around take-up reel.
- 5) Pull out plastic tack fixing take up idler (See Fig. 6-1), and the idler can be easily removed.

### C. Capstan Motor **(4)**

- 1) Take out mechanism ass'y. (See above A)
- 2) Loosen one screw **(60)** fixing motor bracket **(11)** and removed the bracket.
- 3) Take off R.F. clutch belt **(42)** and capstan belt **(41)**.
- 4) Loosen two screws **(55)** fixing motor and the motor can be lastly.

### D. Flywheel **(44)**, R.F. clutch ass'y **(46)**

- 1) Take out mechanism ass'y.
- 2) Pull out a poly-washer **(61)** around flywheel spindle (capstan).
- 3) Remove one screws **(60)** fixing motor bracket.
- 4) Pull out motor bracket.
- 5) Take off R.F. clutch belt **(42)**, and capstan belt **(41)**.
- 6) Pull out flywheel from the mechanism ass'y.
- 7) Remove poly-washer **(65)** fixing R.F. clutch ass'y.
- 8) And, R.F. clutch ass'y will be off from the mechanism ass'y.

## 7. EXPLODED VIEW & PARTS LIST

### Parts List

Parts No.	Stock No.	Description
2	09438000	Pinch Roller Ass'y
3	09438100	Plunger Solenoid, brake
4	09443500	Motor (with Pulley <b>(77)</b> )
5	07556600	Rec/PB Head
6	09438200	Erase Head
16	09438300	FF/REW Plunger Arm
17	09438400	Cassette Sensor Arm
18	09438500	Rec Prevention Arm
20	09438700	Play Plunger Arm
21	09438800	Cassette Guide
22	09438900	Cassette Well
36	09440300	Flywheel Spacer
37	09440400	Head Base
38	09440500	Spacer, eject lock arm/safety arm
39	09440600	Play Gear
40	09440700	Transmission Gear
41	09440800	Capstan Belt
42	09440900	R-F Clutch Belt
43	09441000	Cushion
44	09441100	Flywheel
45	09441200	Play Idler Ass'y
46	09441300	R-F Clutch Ass'y
47	09441400	Take-up Reel
48	09441500	Eject Dumper
49	09441600	Supply Reel
53	09441700	Micro Switch
54	09441800	Plunger Solenoid, FF-REW
67	09443800	Brake Shoe
75	09444100	Plunger Solenoid, play
●Spring		
23	09439000	Cassette Holder Spring
24	09439100	Head Adjust Spring (Erase Head)
25	09439200	Cassette Well Spring
26	09439300	Pinch Roller Spring
27	09439400	FF/REW Plunger Arm Spring
28	09439500	Head Adjust Spring (Rec/PB Head)
29	09439600	Eject Arm Lock Spring
30	09439700	Assist Base Spring
31	09439800	Play Idler Spring
32	09439900	Play Plunger Arm Spring
33	09440000	Head Base Spring
34	09440100	Head Base Hold Spring
35	09440200	Back Tension Spring
69	09442800	Brake Arm Spring
70	09442900	Eject Lock Arm Spring
72	09443100	Assist Base Lock Plate Spring
●Screw, washer		
55	08321300	Pan Head (BSF) M2.6 x 4
56	09441900	Pan Head M2 x 13
57	09442000	Pan Head M2.6 x 15
59	00457400	Pan Head Tapping M3 x 6
60	09442200	Pan Head Tapping M3 x 4
66	09442700	Pan Head Tapping M2 x 12
76	00460300	Pan Head Tapping M3 x 5
58	09442100	Washer (Oil Seal)
61	09442300	Poly-thrust Washer M2.5 x 0.5
62	07513000	Poly-thrust Washer M2.0 x 0.13
63	09442400	Poly Washer D-1.7
64	09442500	Poly Washer D-2.6
65	09442600	Poly Washer D-3.5

1 ~ 25  
26 ~ 50  
51 ~ 77

<EXPLODED VIEW>

• Though every part included in mechanism ass'y is numbered in exploded view, part unlisted in the parts list are not supplied.

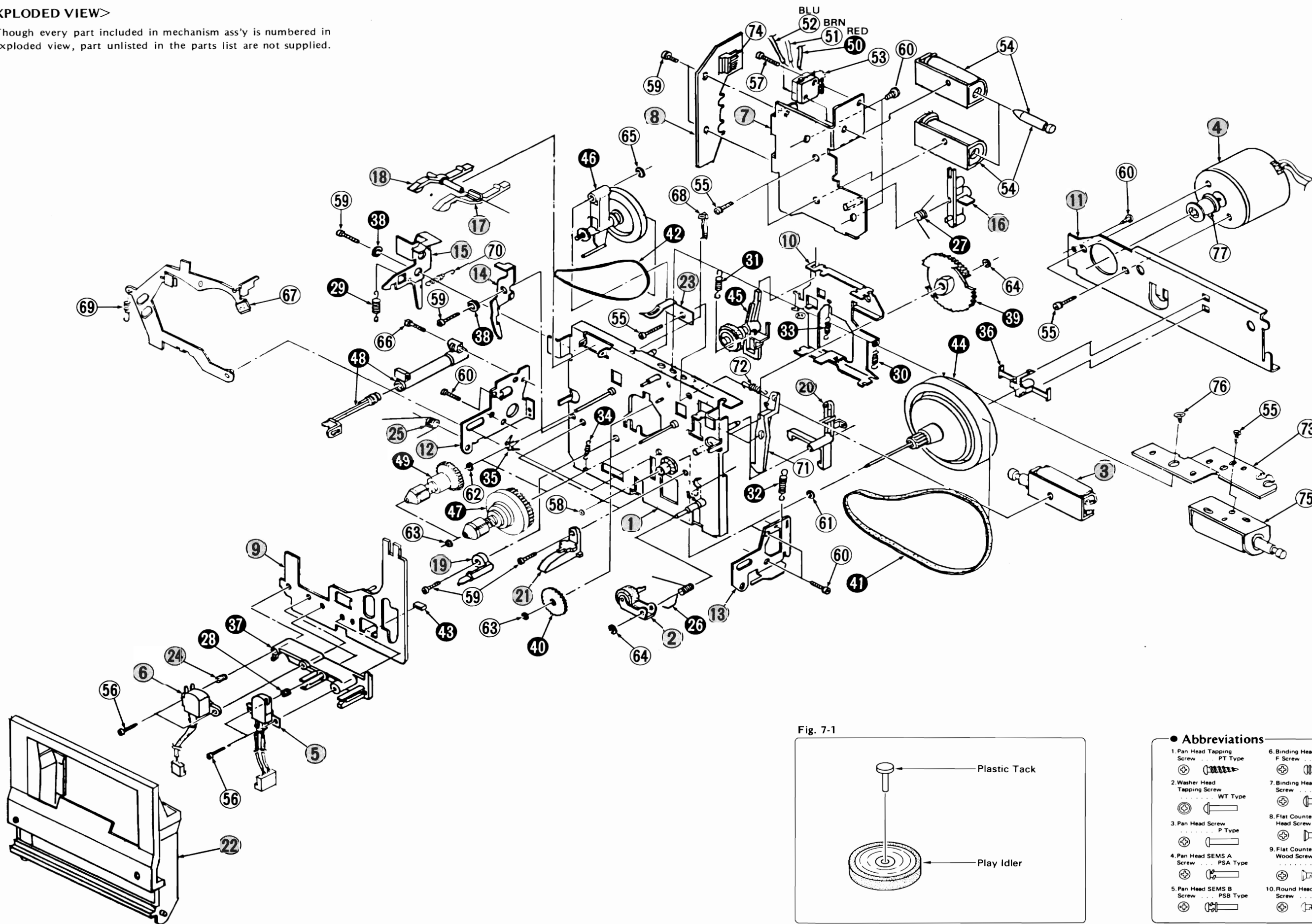
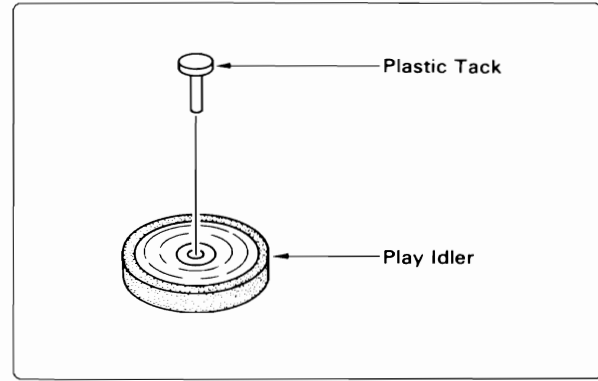


Fig. 7-1

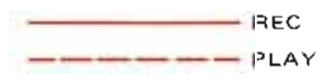
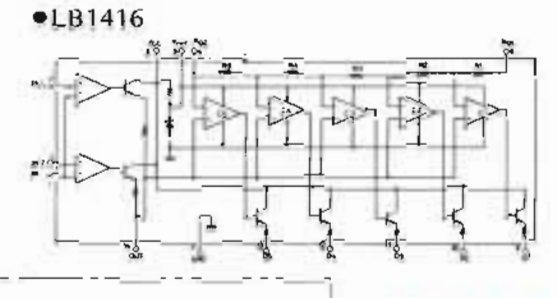
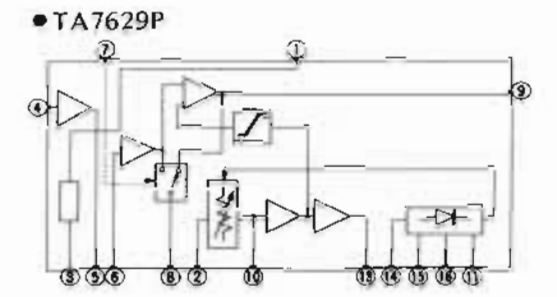
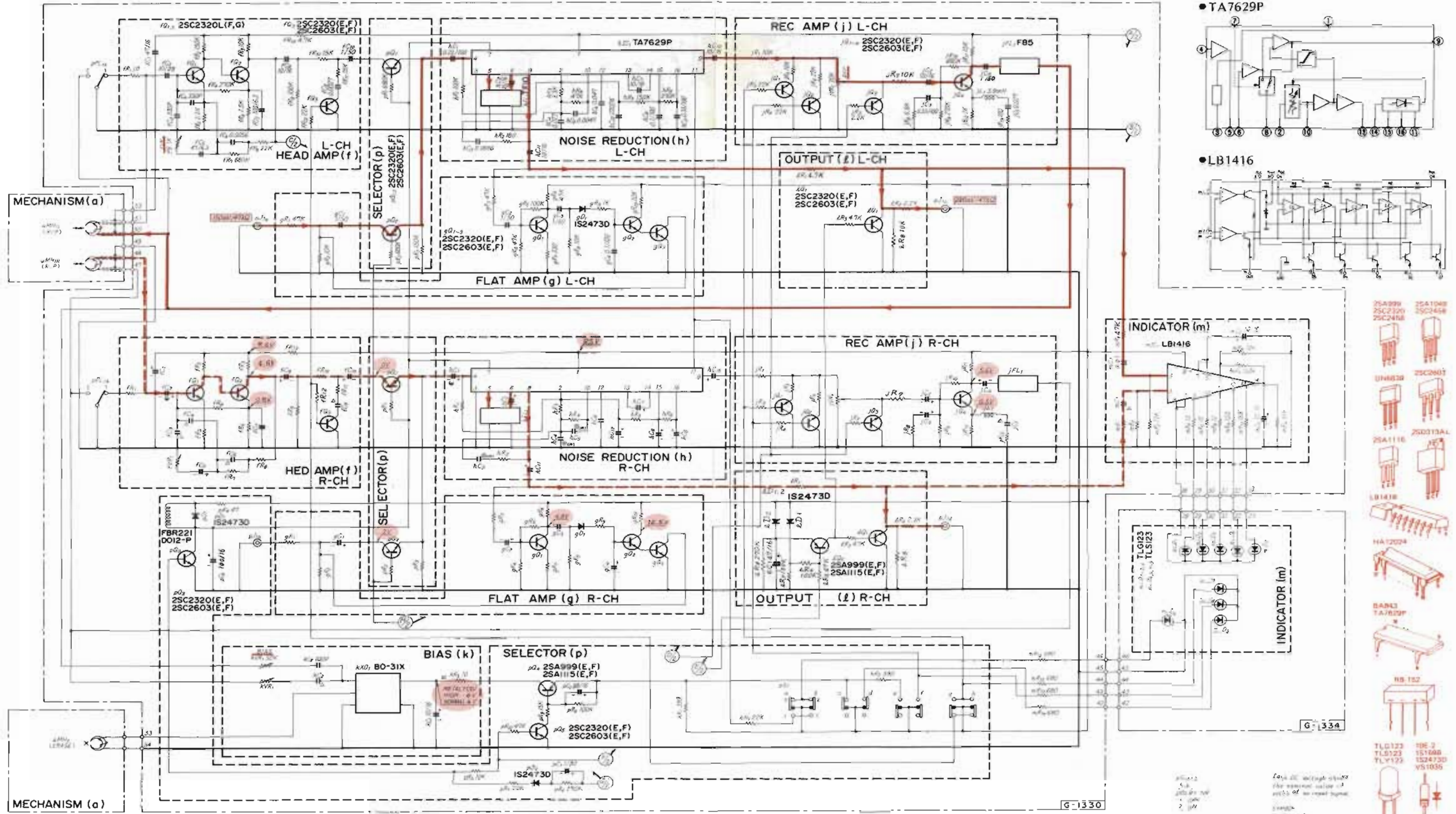


• Abbreviations

1. Pan Head Tapping Screw . . . PT Type	6. Binding Head SEMS F Screw . . . BSF Type	11. Hex. Socket Setscrew . . . SC Type	16. Retaining Ring (E Washer) . . . E Type
2. Washer Head Tapping Screw . . . WT Type	7. Binding Head Screw . . . B Type	12. Slot Type Setscrew . . . SS Type	17. Toothed Lock Washer (External) . . . TLE Washer
3. Pan Head Screw . . . P Type	8. Flat Counter Sunk Head Screw . . . F Type	13. Binding Head SEMS B Screw . . . BSB Type	18. Wave Washer
4. Pan Head SEMS A Screw . . . PSA Type	9. Flat Counter Sunk Wood Screw . . . FC Type	14. Spring Washer . . . S Type	19. Hexagon Nut H Type Nut
5. Pan Head SEMS B Screw . . . PSB Type	10. Round Head Wood Screw . . . RH Type	15. Plain Washer . . . P Type	

8. SCHEMATIC DIAGRAM 8-1. Amplifier Section

\* Design and specifications subject to change without notice for improvement.  
 \* Le présent et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.  
 \* Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.



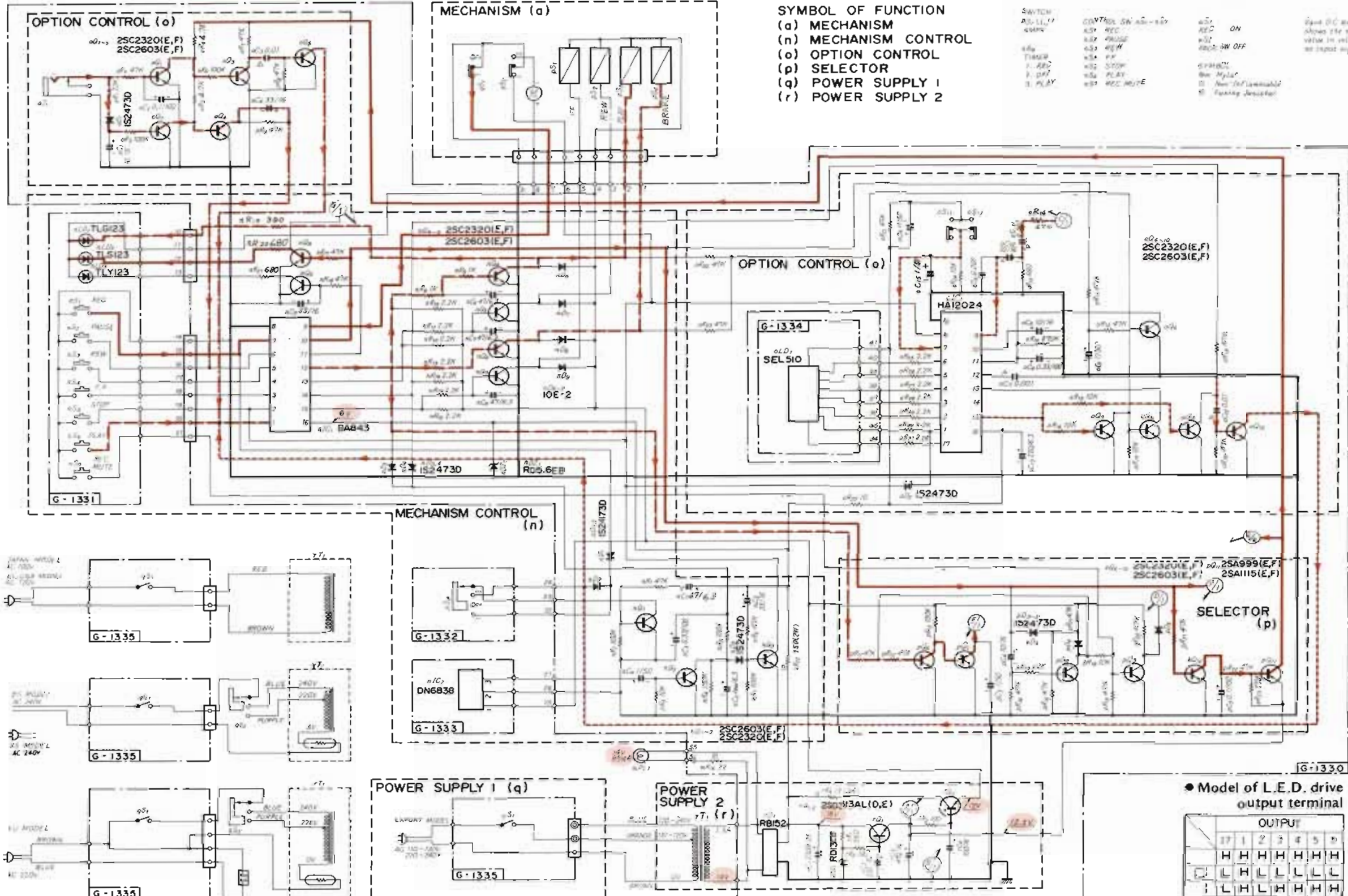
- SYMBOL OF FUNCTION
- (a) MECHANISM
  - (f) HEAD AMP
  - (g) FLAT AMP
  - (h) NOISE REDUCTION
  - (j) REC AMP
  - (k) BIAS OSC
  - (l) OUTPUT
  - (m) INDICATOR
  - (p) SELECTOR

Notes: 1. For the value of the component, refer to the component list. 2. For the value of the component, refer to the component list.

\* Design and specifications subject to change without notice for improvement.  
 \* La présentation et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.  
 \* Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.

8-2. Control Section

②



**SYMBOL OF FUNCTION**  
 (a) MECHANISM  
 (n) MECHANISM CONTROL  
 (o) OPTION CONTROL  
 (p) SELECTOR  
 (q) POWER SUPPLY 1  
 (r) POWER SUPPLY 2

**SWITCH**  
 AS: 11.11  
 4AMP  
 4A  
 4A  
 1. AMP  
 1. AMP  
 1. PLAY

**CONTROL SW.**  
 AS: REC  
 AS: 4952  
 AS: 4952  
 AS: STOP  
 AS: PLAY  
 AS: REC. PAUSE

**REC ON**  
 REC SW OFF

**Other symbols:**  
 2SC2320(E,F)  
 2SC2603(E,F)  
 HA12024  
 SEL510  
 BA843  
 DN6838  
 RD32P  
 RB152  
 2SC133AL(D,E)  
 2SC2320(E,F)  
 2SC2603(E,F)  
 2SA999(E,F)  
 2SA1115(E,F)

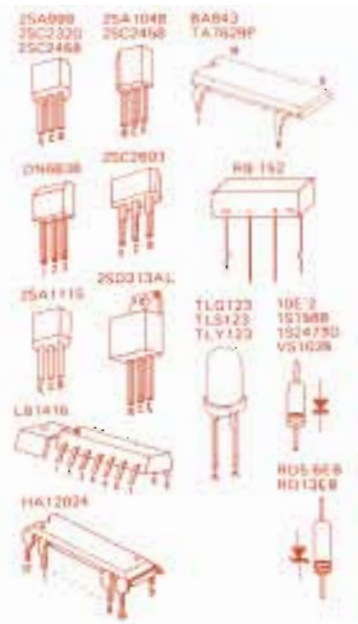
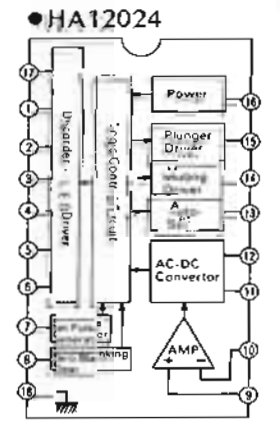
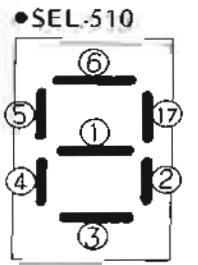
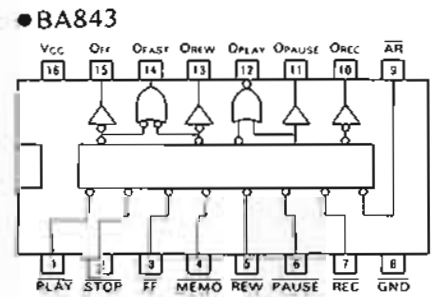


TABLE 1

1	2SC2320	2SC2603
2	HA12024	SEL510
3	BA843	DN6838
4	RD32P	RB152
5	2SC133AL	2SC2320
6	2SC2603	2SA999
7	2SA1115	2SA1115



● Model of L.E.D. drive output terminal

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

— REC  
 - - - PLAY  
 ···· AMPS  
 -·-·-· COMPU EDIT

1

2

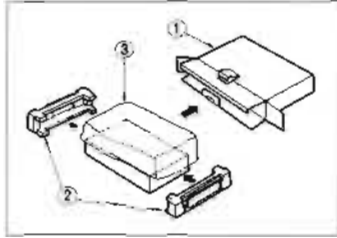
3

4

5

## 9. PACKING LIST

Parts No.	Stock No.	Description
1	09453400	Carton Case
2	09453600	Styrofoam Packing
3	09453300	Vinyl Bag



## 10. ACCESSORY LIST

Stock No.	Description
38103300	Pin Plug Cord
94300500	Head Cleaner
46142600	Operating Instruction
46165000	Pin Plug Cord with Mini Plug

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