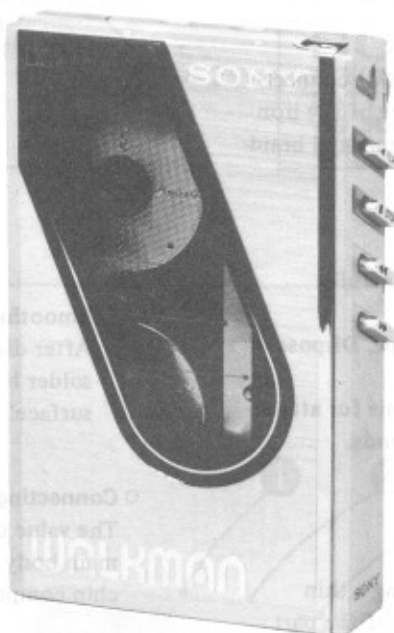


# WM-10II/30

## SERVICE MANUAL

Refer to MDR-W30L(B) Service Manual issued previously for information of headphones supplied with this set.



WM-10II:  
*US Model*  
*Canadian Model*

WM-30:  
*AEP Model*  
*UK Model*  
*E Model*

### SPECIFICATIONS

Tape track: 4-track 2-channel stereo

Fast winding time: Approx. 2 min. 30 sec. with Sony cassette C-60

Frequency response (DOLBY NR OFF)

40-15,000 Hz (with the TAPE selector set to  $\text{CrO}_2$ )

40-15,000 Hz (with the TAPE selector set to METAL)

Power output: 5 mW + 5 mW (max.)

5 mW + 5 mW (at 10% harmonic distortion) at dc operation

Power requirements: 1.5 V dc

Size AA battery (IEC designation R6)

External batteries (used in the optional case EBP-10):

size AA (IEC designation R6)  $\times 2$

**WM-10II only**

DC IN 1.5 V jack accepts: Sony AC-D1 ac power adaptor (optional)

for use on 120 V ac or Sony DCC-70 car battery cord (optional)

for use with 12 V car battery.

**WM-30 only**

DC IN 1.5 V jack accepts:

Sony AC-D1 ac power adaptor (optional)

available in the continental European countries for use on

220 V ac, 50 Hz

available in the United Kingdom for use on 240 V ac, 50 Hz,

available in other countries for use on 110, 120, 220,

240 V ac, 50/60 Hz

adjustable by Sony personnel.

Sony DCC-70 car battery cord (optional) for use with 12 V car battery

Battery life (continuous playback hours):

Approx. 2.5 hours with Sony SUM-3 (NS) New Super battery

Approx. 5 hours with supplied Sony Eveready AM3 alkaline battery

For maximum performance we recommend the use of alkaline battery.

Dimensions:

With cassette inside

Approx. 86  $\times$  111.4  $\times$  22.4 mm (w/h/d) ( $3\frac{1}{2} \times 4\frac{1}{2} \times \frac{29}{32}$  inches)

incl. projecting parts and controls

Without cassette inside

Approx. 70  $\times$  110.8  $\times$  21.3 mm (w/h/d) ( $2\frac{7}{8} \times 4\frac{1}{8} \times \frac{27}{32}$  inches)

not incl. projecting parts and controls

Weight: Approx. 190 g (6.8 oz) incl. battery, not incl. other accessories



STEREO CASSETTE PLAYER  
**SONY**®

TC

## SERVICING NOTE

Servi circuit has been changed for the sets with serial number 77,001 and later.

## Replacing chip components

All chip components should be connected and disconnected, using a tapered soldering iron [temperature of the iron tip: less than  $280^{\circ}\text{C}$  ( $536^{\circ}\text{F}$ )], a pair of tweezers and braided wire.

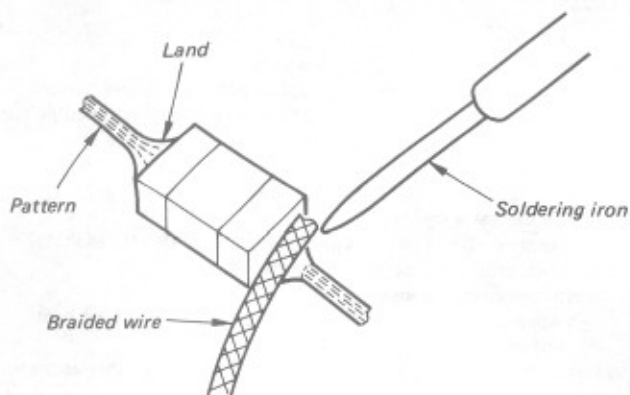
## Precautions for replacement

1. Do not disconnect the chip component forcefully. Otherwise, the pattern may peel off.
2. Never re-use a disconnected chip component. Dispose of all old chip components.
3. To protect the chip component, heating time for attaching the component should be within 3 seconds.

## ○ Removing chip components

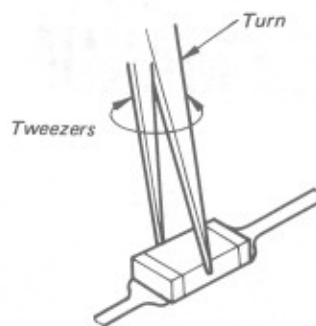
## (1) Removing solder at electrode

Remove the solder at the electrode, using a thin braided wire. Do not remove the solder of the part (chip component) attached adjacent to the electrode.



## (2) Disconnecting chip components

Turn the tweezers with the soldering iron alternately applied to both electrodes, and the chip component will be disconnected. Take careful precautions while disconnecting, because if the chip component is forcefully removed the land may peel off. Never re-use a disconnected chip component.



## (3) Smoothing the soldered surface

After disconnecting the chip component, remove the solder by using a braided wire to smooth the land surface.

## ○ Connecting chip components

The value of chip components is not displayed on the main body. Take due precautions to avoid mixing new chip components with other ones.

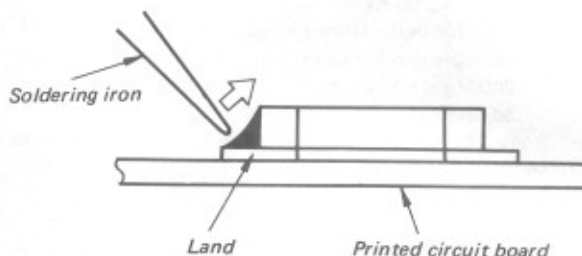
## (1) Applying solder to land on one side

Apply a thin layer of solder to the land on one side where the chip component is to be connected. Too much solder may cause bridging.



## (2) Speedy soldering

Hold the chip component at the desired position, using tweezers, and apply the soldering iron in the arrow-marked direction. To protect the chip component, heating time should be within 3 seconds.



- (3) Speedy soldering of electrode on the other side  
Solder the electrode on the other side in the same way as in (2) above.

SECTION 1  
OUTLINE

## 1-1. MODEL IDENTIFICATION

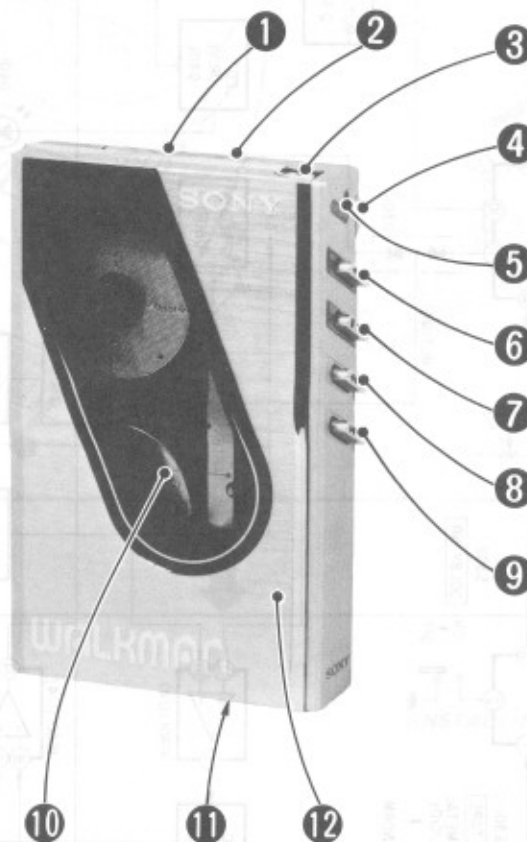
US, Canadian model

**SONY** WM-10II  
STEREO CASSETTE PLAYER  
BATT SUPPLY: 1.5Vx1 IEC R6  
JIS SUM-3 SIZE AA MADE IN JAPAN  
SONY CORP.

AEP, UK, E model

**SONY** WM-30  
STEREO CASSETTE PLAYER  
BATT SUPPLY: 1.5Vx1 IEC R6  
JIS SUM-3 SIZE AA MADE IN JAPAN  
SONY CORP.

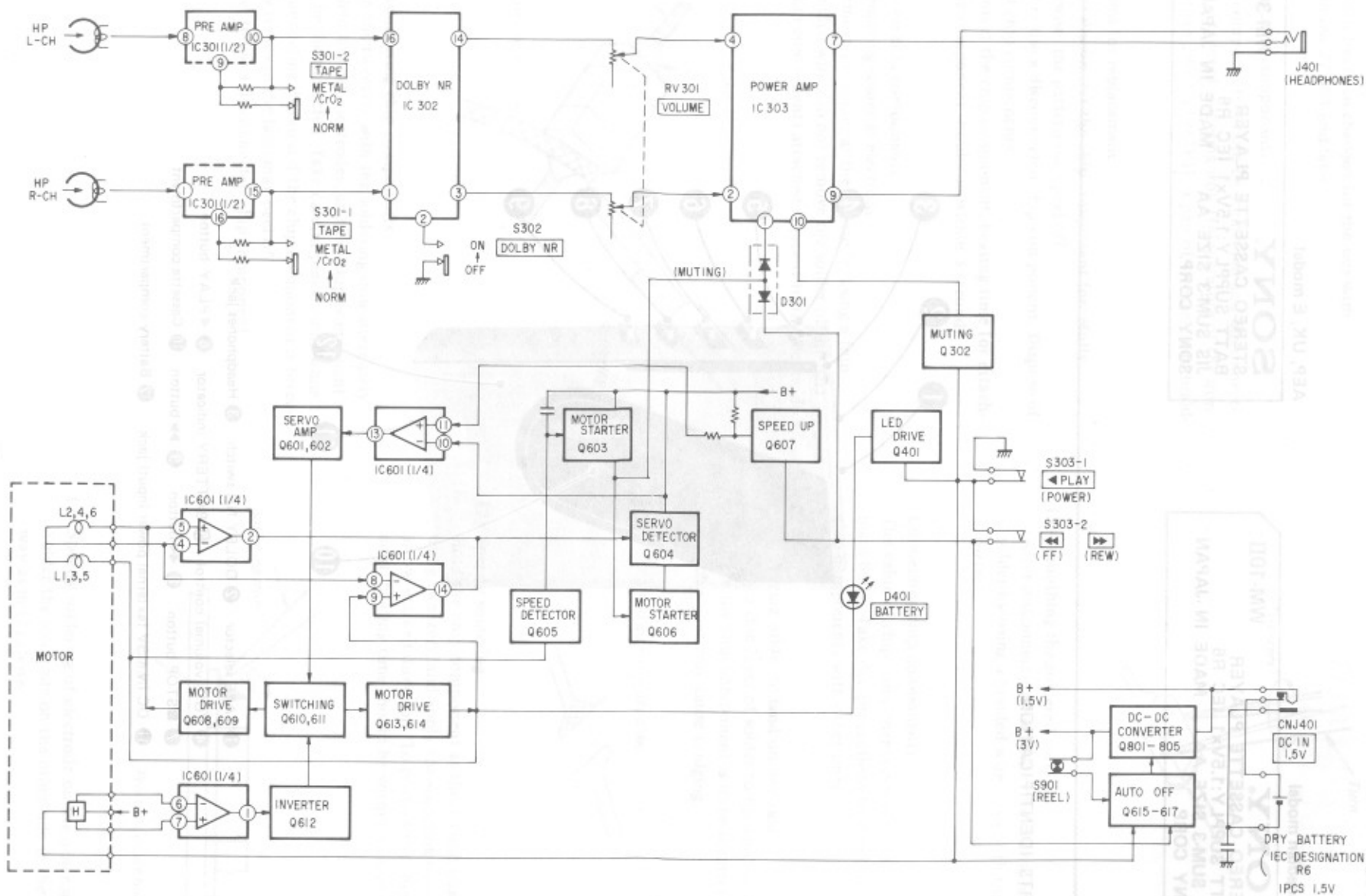
## 1-2. PARTS IDENTIFICATION



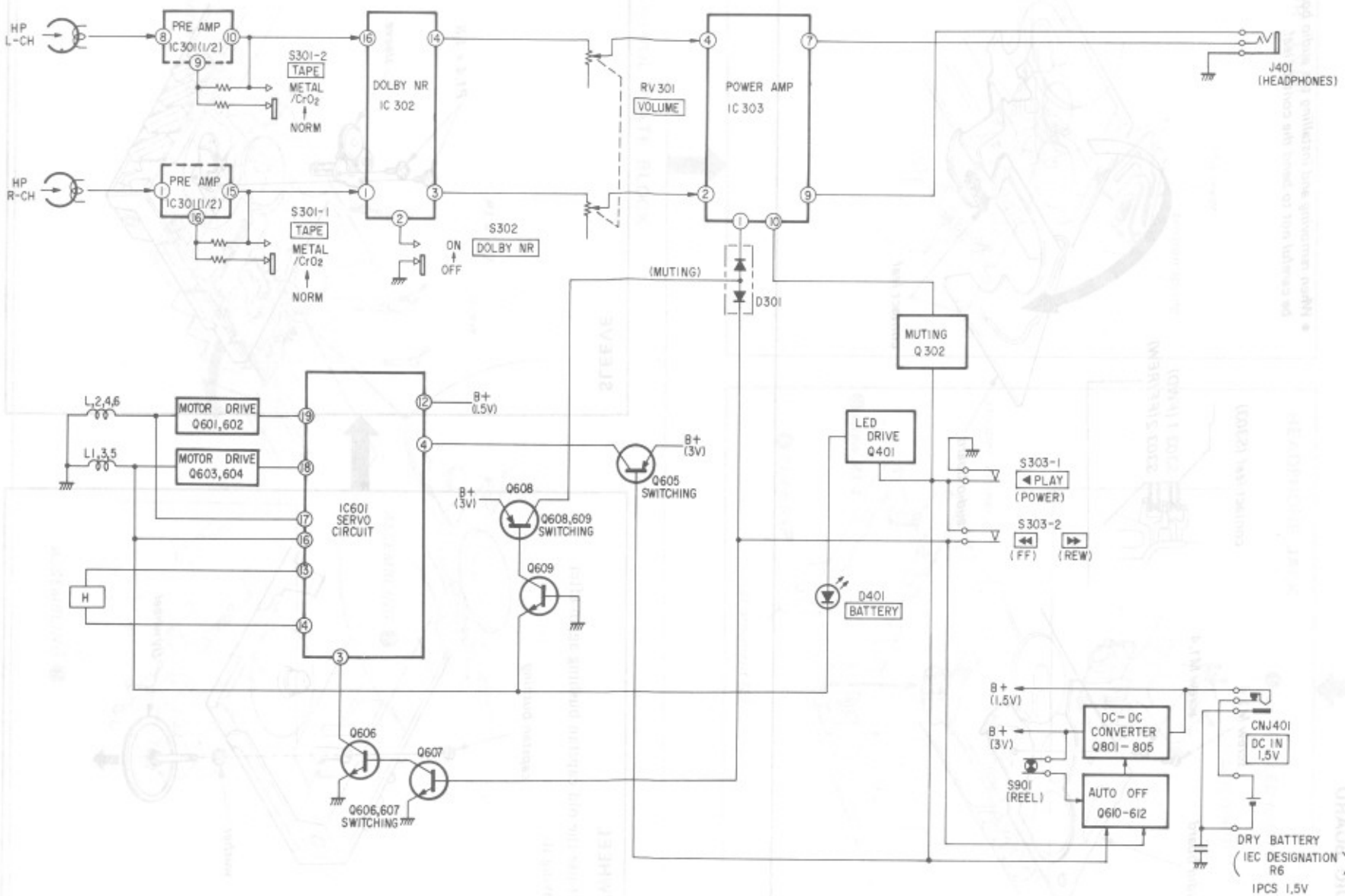
- ① TAPE selector    ② DOLBY NR switch    ③ Headphones jack  
④ VOL (volume) control    ⑤ BATTERY indicator    ⑥ ◀PLAY button  
⑦ ■STOP button    ⑧ ◀◀button    ⑨ ▶▶button    ⑩ Cassette compartment  
⑪ DC IN 1.5V (external power input) jack    ⑫ Battery compartment

## 1-3. BLOCK DIAGRAM

Up to Serial No. 77,000



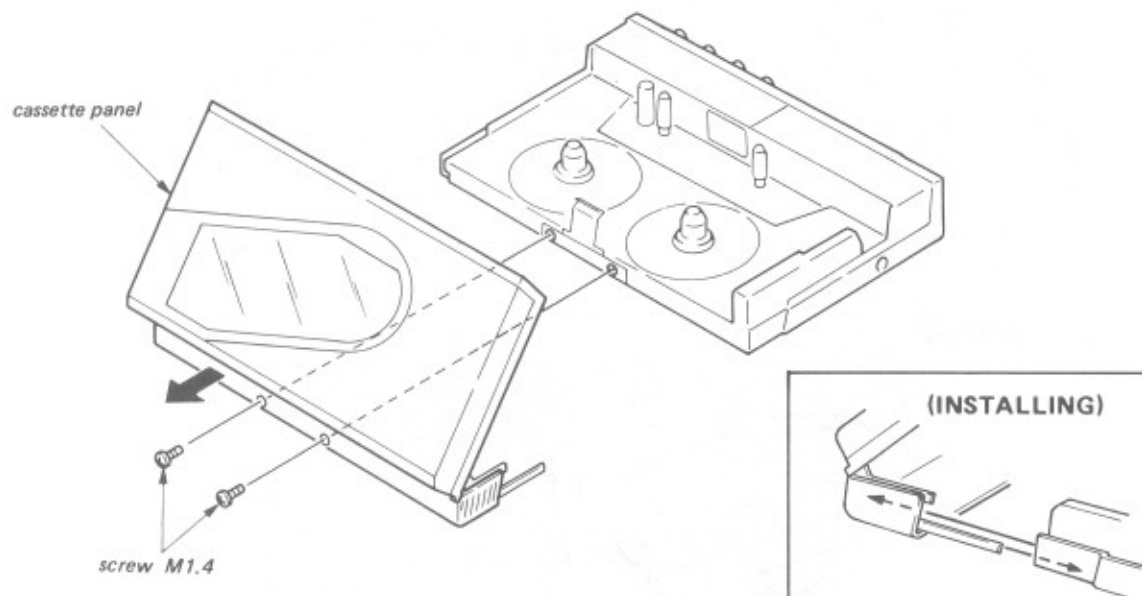
14. BLOCK DIAGRAM  
Serial No. 77,001 and later



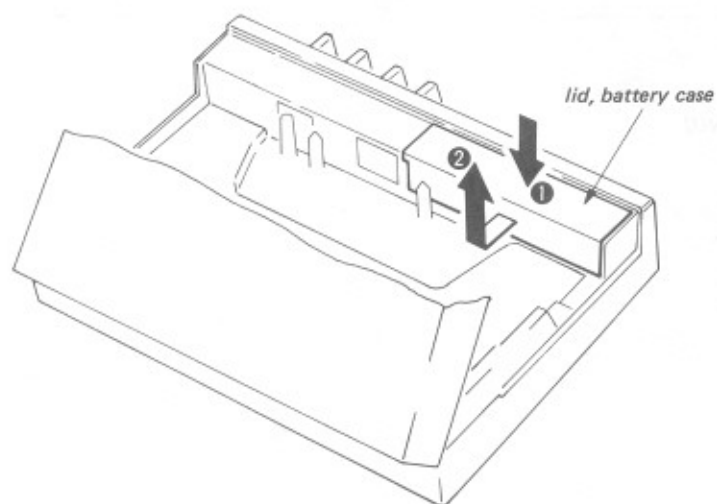
SECTION 2  
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

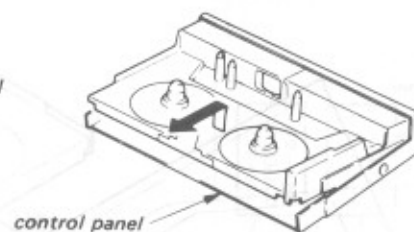
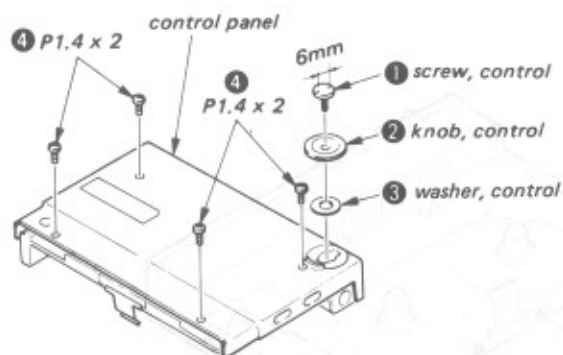
## CASSETTE PANEL



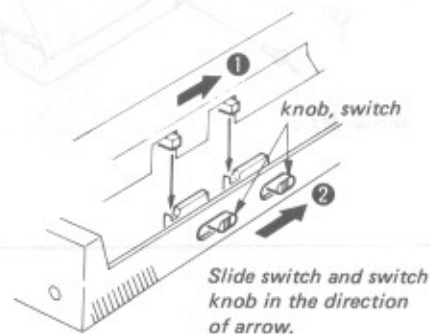
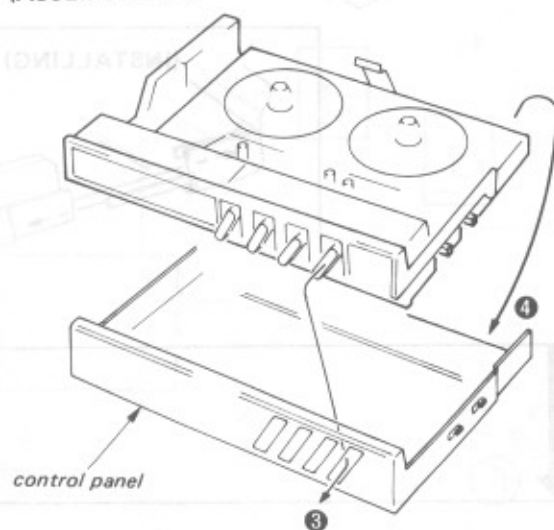
## LID, BATTERY CASE



## CONTROL PANEL

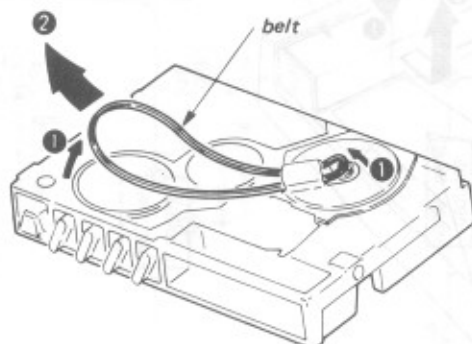


(ASSEMBLING)

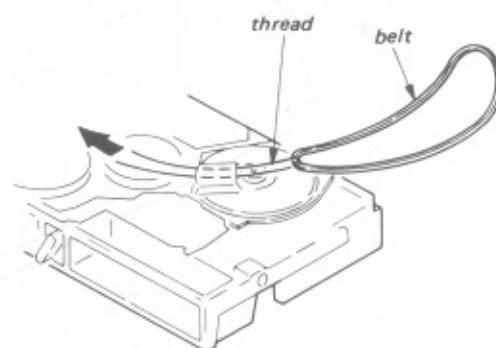


## BELT

(REMOVING)



(INSTALLING)



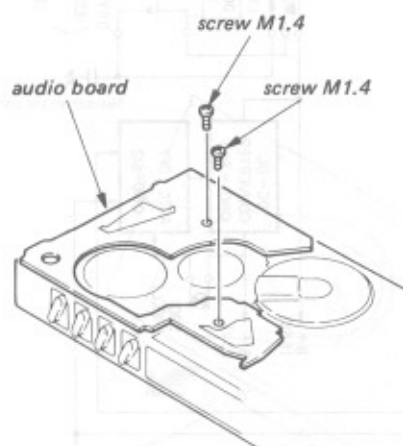


## SECTION 2

to P. 13 MOTOR BLOCK

## AUDIO BOARD

- When removing and installing the audio board, be careful not to bend the contact leaf.



contact leaf (S303)

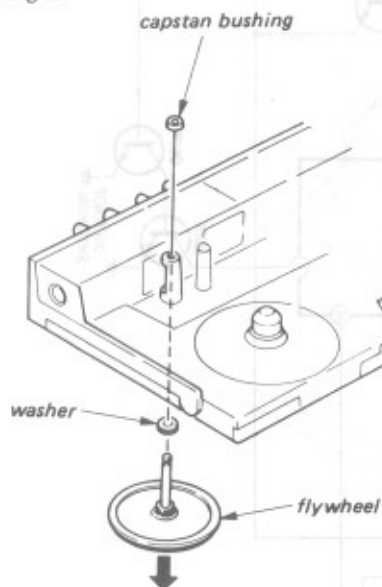
S303-1 (FWD)  
S303-2 (FF/REW)

audio board

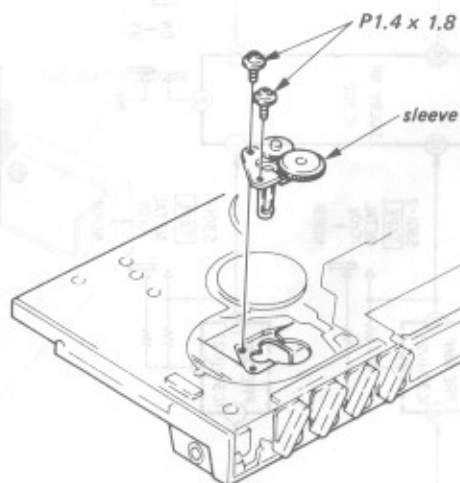
contact leaf

## FLYWHEEL

Don't use the old capstan bushing again after removing it.

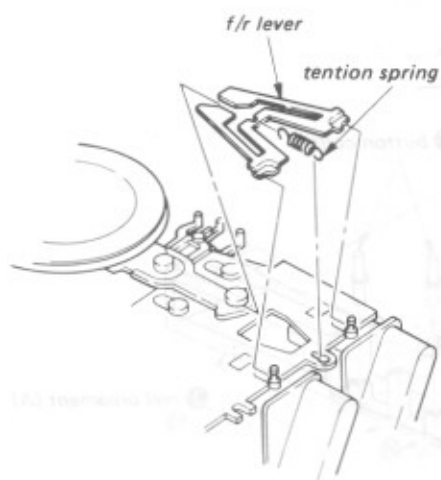


## SLEEVE

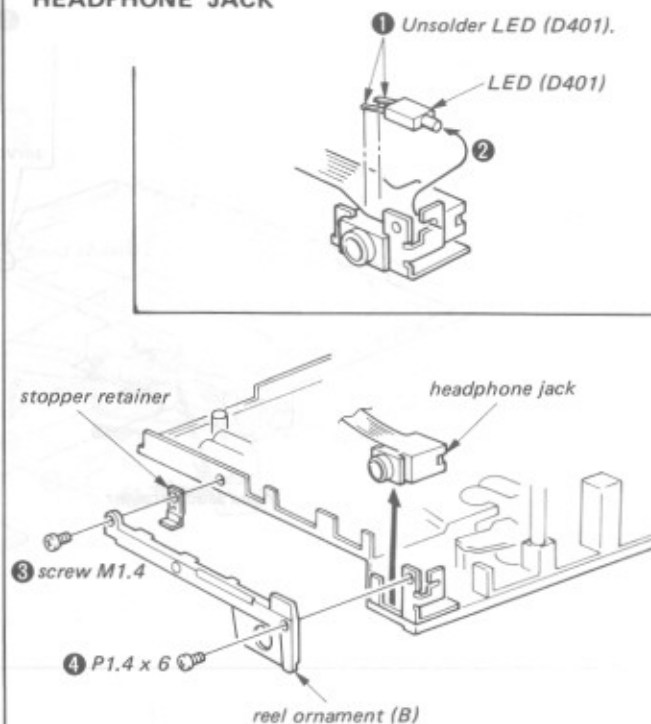




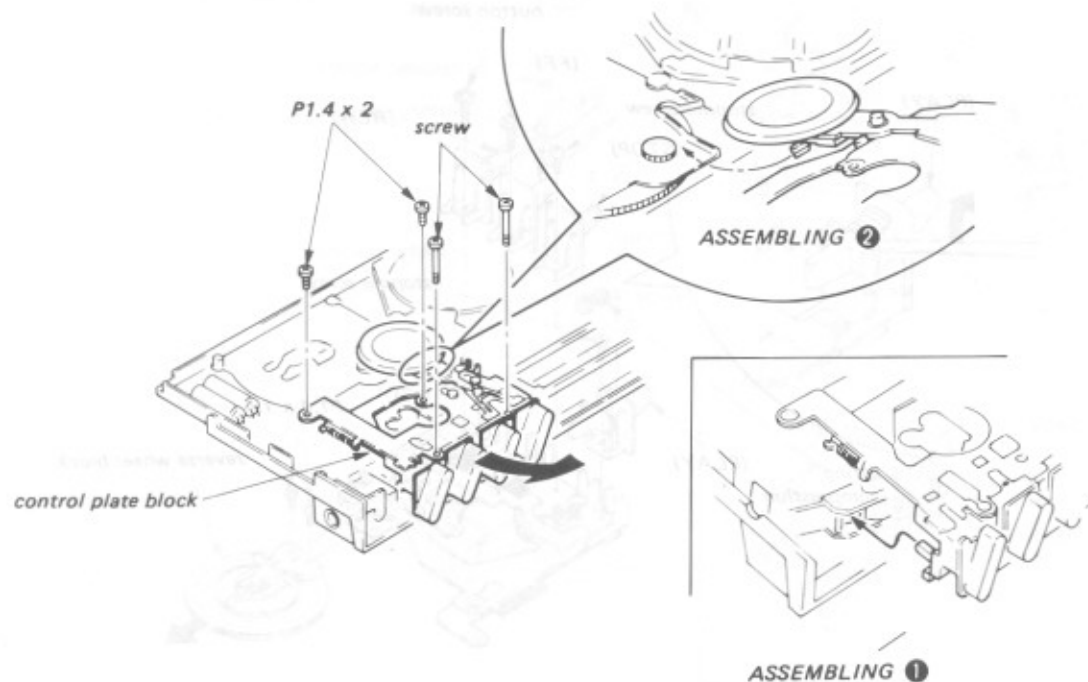
## F/R LEVER



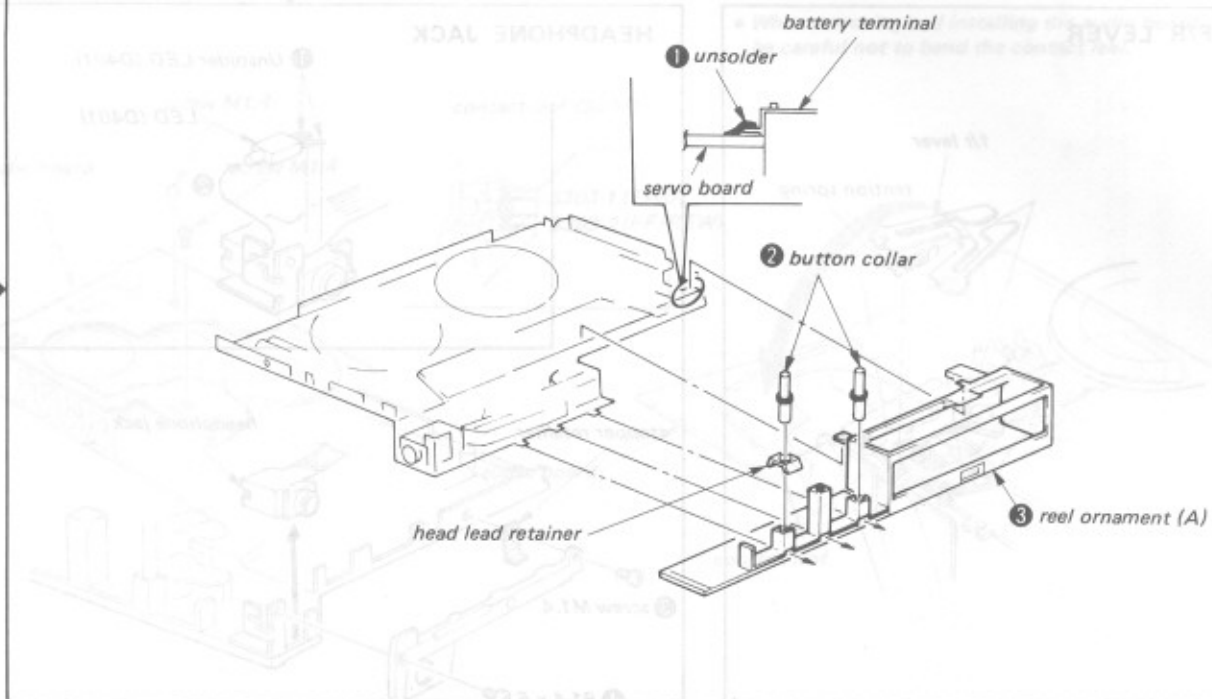
## HEADPHONE JACK



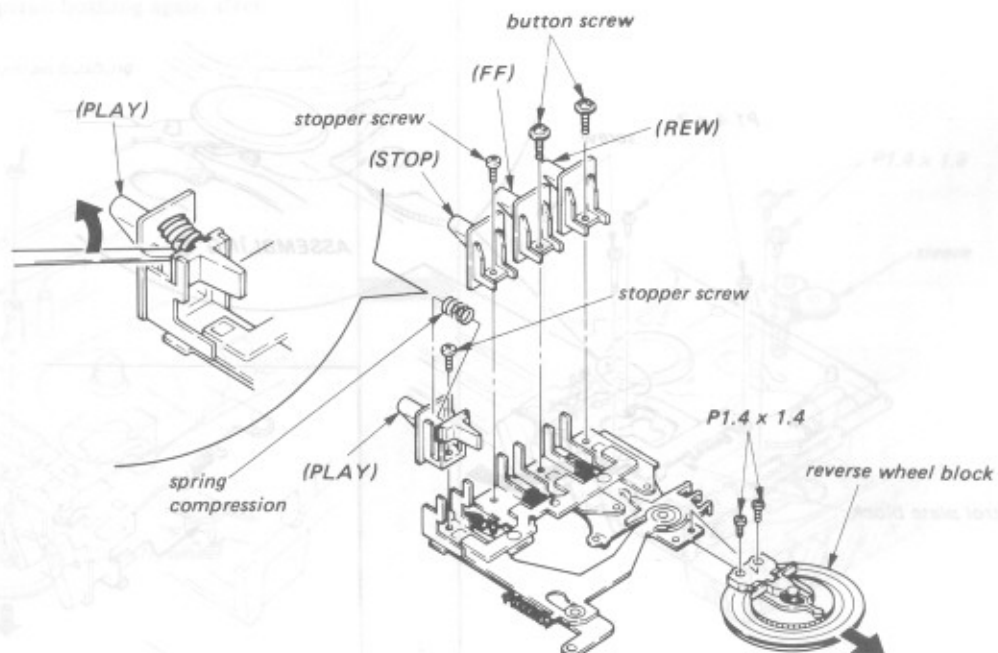
## CONTROL PLATE BLOCK



## REEL ORNAMENT (A)

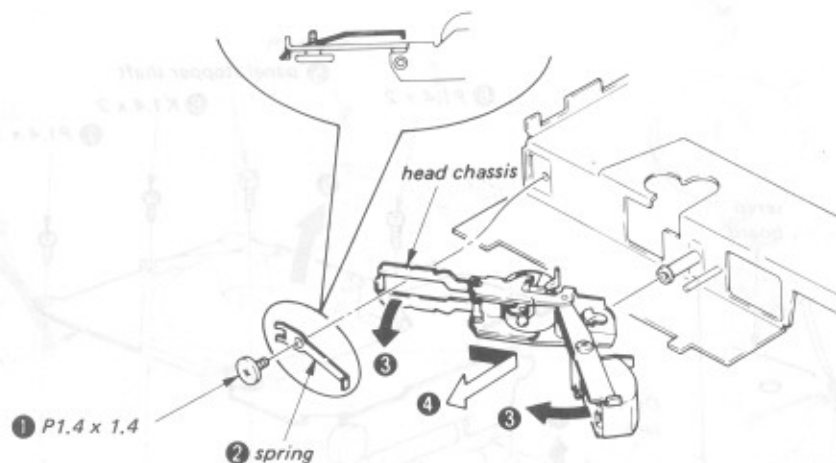


## BUTTON (PLAY, STOP, FF, REW), REVERSE WHEEL BLOCK

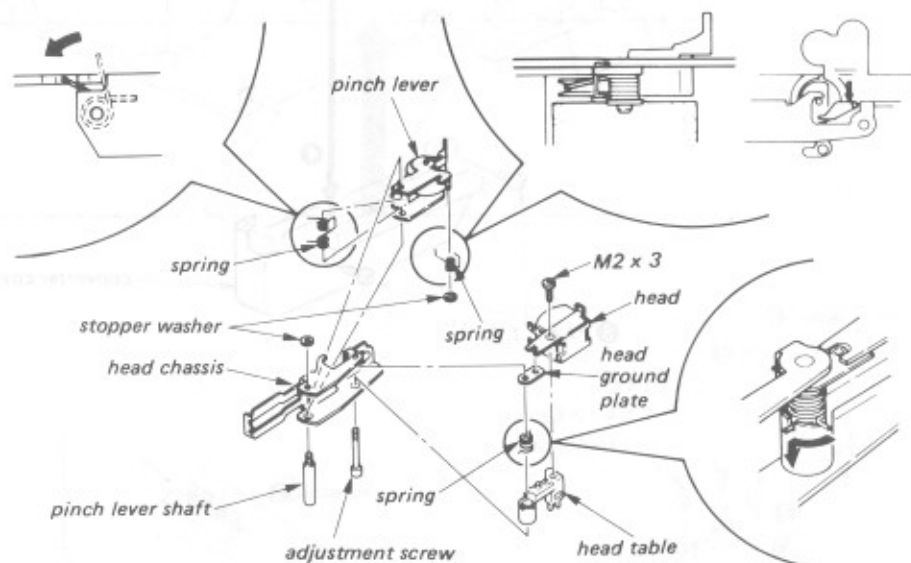


## HEAD CHASSIS

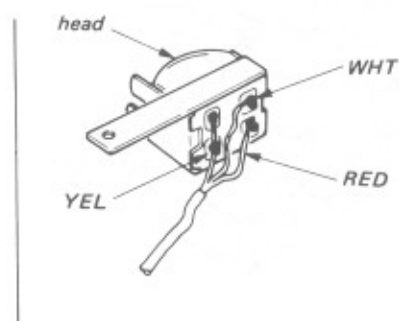
Don't use the old stopper washer again after removing it.



## (ASSEMBLING)

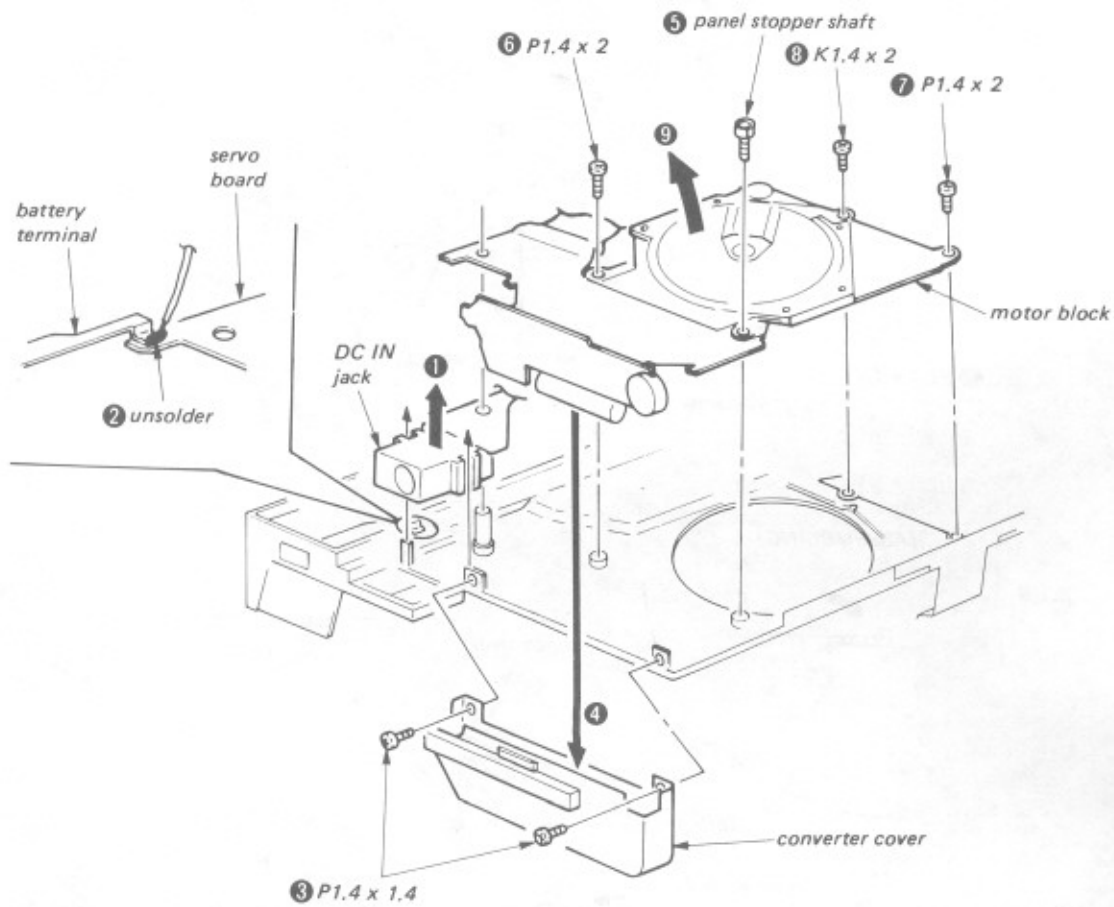


## (HEAD WIRING)



from AUDIO BOARD

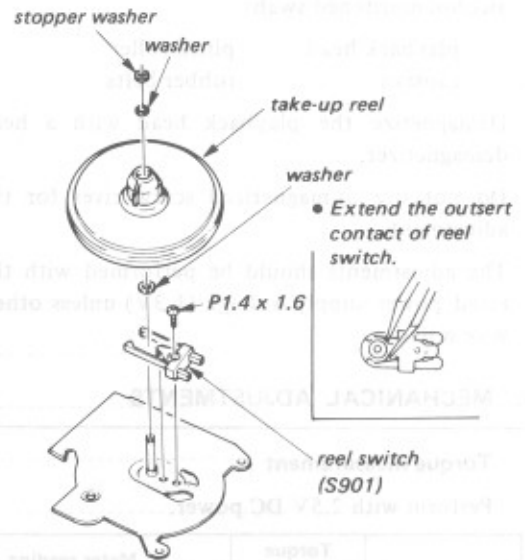
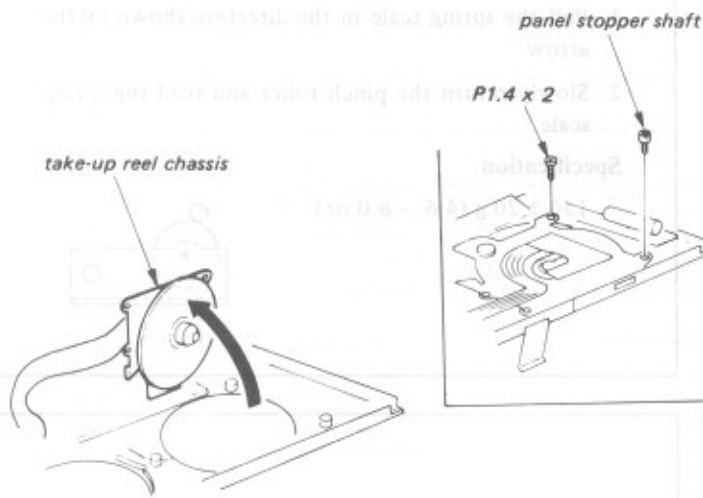
MOTOR BLOCK



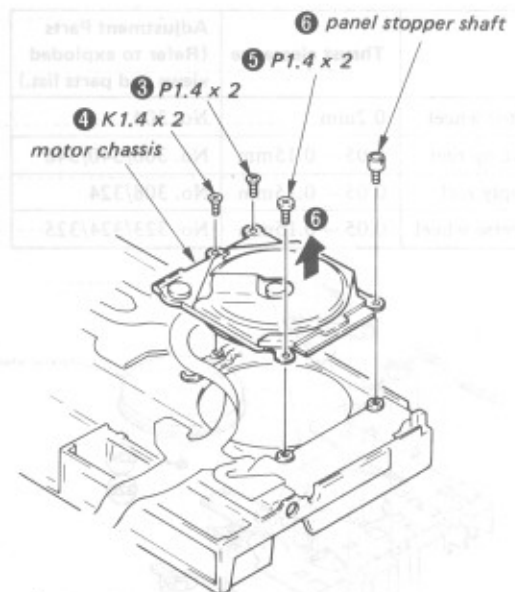
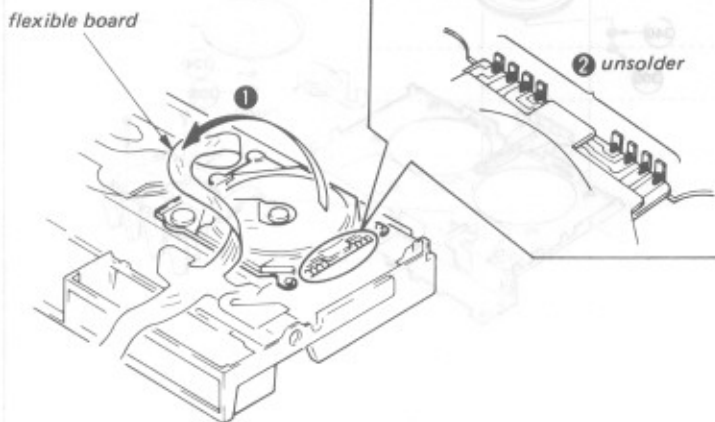
SECTION 3  
ADJUSTMENTS

## TAKE-UP REEL

Don't use the old stopper washer again after removing it.



## MOTOR CHASSIS





## SECTION 3 ADJUSTMENTS

### PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:

playback head  
capstan

pinch roller  
rubber belts

2. Demagnetize the playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. The adjustments should be performed with the rated power supply voltage (1.3V) unless otherwise noted.

### 3-1. MECHANICAL ADJUSTMENTS

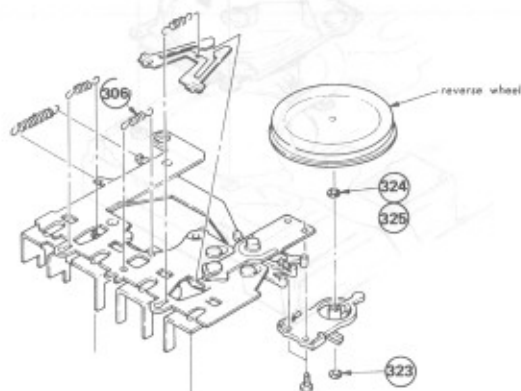
#### Torque Measurement

Perform with 2.5V DC power.

	Torque mater	Meter reading
FWD	CQ-102C	20 - 40 g·cm (0.28 - 0.56 oz·inch)
FF, REW	CQ-201B	More than 60 g·cm (More than 0.83 oz·inch)
Back Tension	CQ-102C	0 - 2.5 g·cm (0 - 0.035 oz·inch)
Tape Pulling Force	CQ-403	More than 45 g·cm (More than 0.62 oz·inch)

#### Thrust Clearance Adjustment

	Thrust clearance	Adjustment Parts (Refer to exploded views and parts list.)
Motor wheel	0.2mm	No. 304
Take-up reel	0.05 - 0.15mm	No. 308/340/346
Supply reel	0.05 - 0.15mm	No. 308/324
Reverse wheel	0.05 - 0.15mm	No. 323/324/325



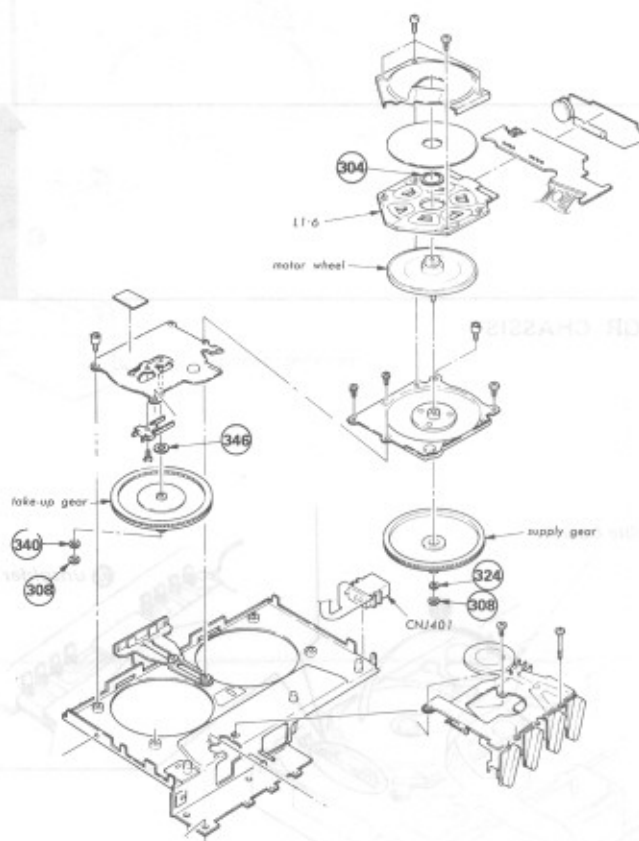
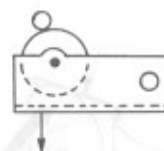
#### Pinch Roller Pressure Measurement

##### — Forward Mode —

1. Pull the spring scale in the direction shown by the arrow.
2. Slowly return the pinch roller and read the spring scale.

#### Specification:

$150 \pm 20$  g (4.6 - 6.0 oz)





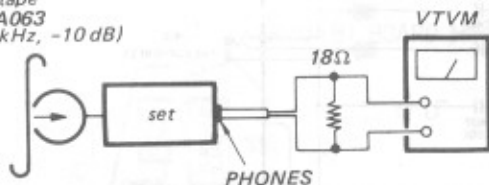
## 3-2. ELECTRICAL ADJUSTMENT

## Playback Head Azimuth Adjustment

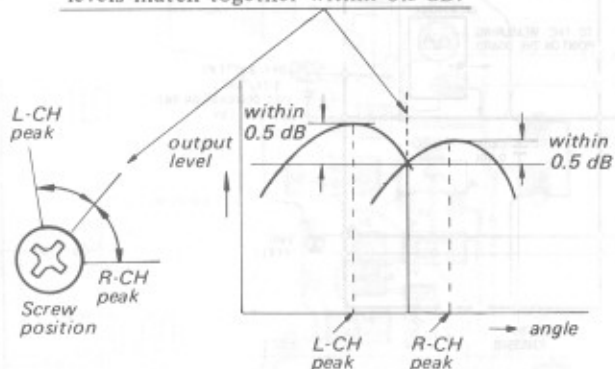
## Procedure:

1. Mode: playback

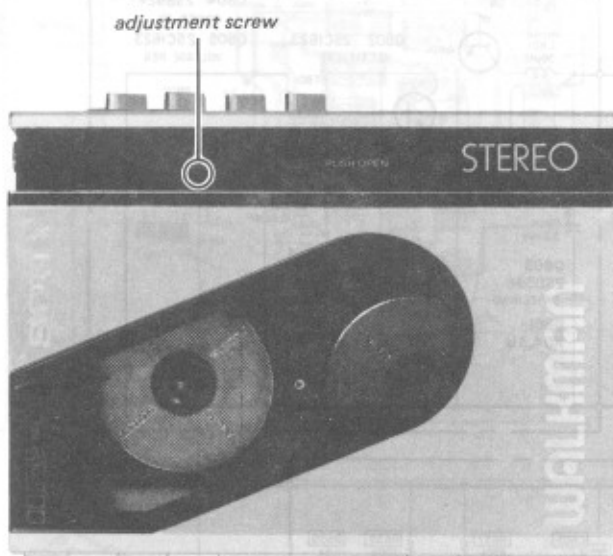
test tape  
P-4-A063  
(6.3 kHz, -10 dB)



2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 0.5 dB.



## Adjustment Location:



## Tape Speed Adjustment

## Setting:

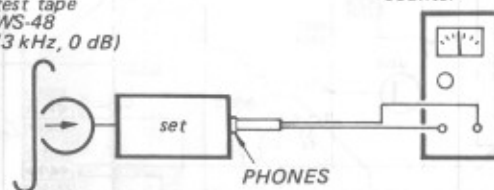
VOLUME control: mechanical mid

## Procedure:

Mode: playback

speed checker  
LFM-30  
or  
digital frequency  
counter

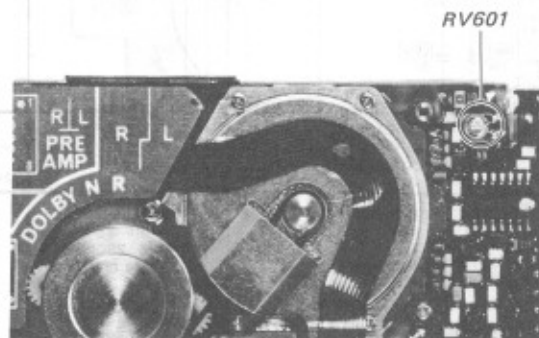
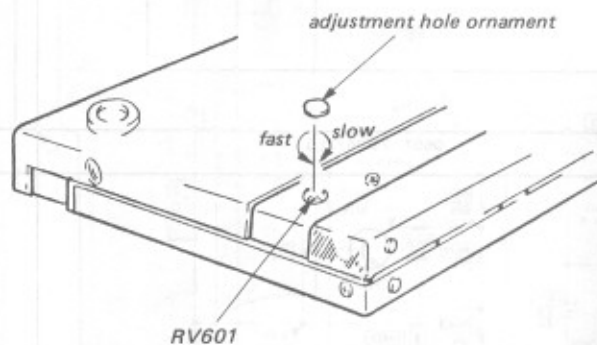
test tape  
WS-48  
(3 kHz, 0 dB)



## Specification:

Speed checker	Digital frequency counter
$\pm 2\%$	2,940 - 3,060 Hz

## Adjustment Location:

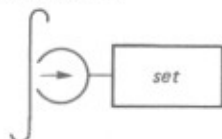


# Dolby NR Level Adjustment

## Setting:

TAPE switch: NORM  
DOLBY NR switch: off  
VOLUME control: minimum

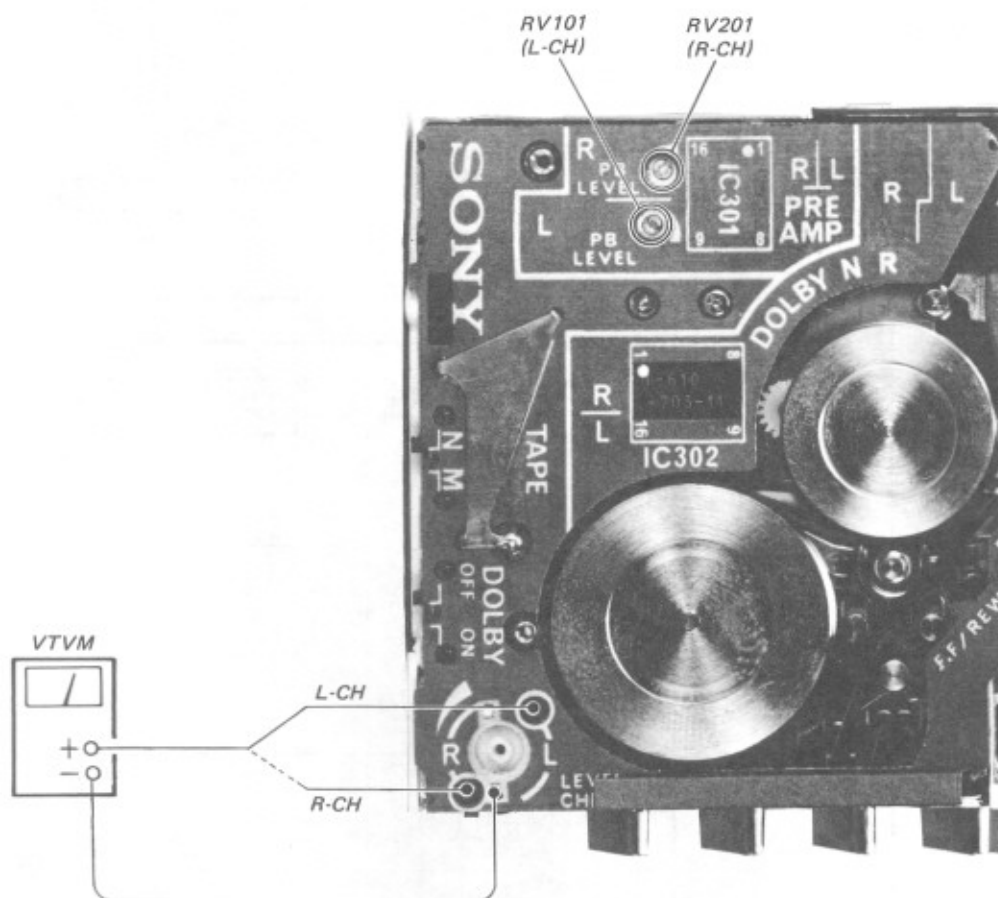
test tape  
P-4-L300  
(315 Hz, 0 dB)



## Procedure:

Adjust RV101 (L-CH), RV201 (R-CH) to obtain  
-27.7dB  $\pm$  1dB (0.028V to 0.036V) output level.

Adjustment Location: audio board



## MEMO

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[illegible]

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mag Tempis

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Part no.	Switch	Ref. No.
10000	10000	10000
10001	10001	10001
10002	10002	10002
10003	10003	10003
10004	10004	10004
10005	10005	10005
10006	10006	10006
10007	10007	10007
10008	10008	10008
10009	10009	10009
10010	10010	10010
10011	10011	10011
10012	10012	10012
10013	10013	10013
10014	10014	10014
10015	10015	10015
10016	10016	10016
10017	10017	10017
10018	10018	10018
10019	10019	10019
10020	10020	10020
10021	10021	10021
10022	10022	10022
10023	10023	10023
10024	10024	10024
10025	10025	10025
10026	10026	10026
10027	10027	10027
10028	10028	10028
10029	10029	10029
10030	10030	10030
10031	10031	10031
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10036	10036	10036
10037	10037	10037
10038	10038	10038
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10040	10040	10040
10041	10041	10041
10042	10042	10042
10043	10043	10043
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10046	10046	10046
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10089	10089	10089
10090	10090	10090
10091	10091	10091
10092	10092	10092
10093	10093	10093
10094	10094	10094
10095	10095	10095
10096	10096	10096
10097	10097	10097
10098	10098	10098
10099	10099	10099
10100	10100	10100

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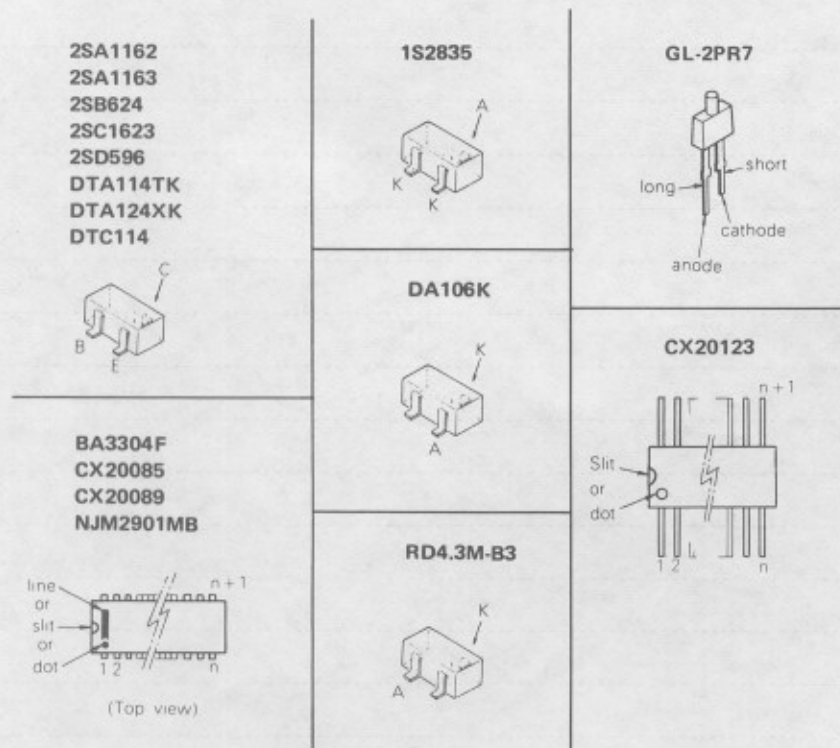
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

● Semiconductor Lead Layouts



SECTION 4  
DIAGRAMS

4-1. SCHEMATIC DIAGRAM

Note:

- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\text{F}$  50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $\frac{1}{4}\text{W}$  or less unless otherwise specified.
-  : signal path.
-  : B+ bus.
-  : adjustment for repair.
- Total current is measured with no cassette installed.
- Power voltage is 1.5V and fed with regulated dc power supply from battery terminal. Voltages are dc with respect to ground in PLAY mode. Voltage variations may be noted due to normal production tolerances.
- ( ) : DOLBY NR (S302) ON
-  : FF/REW mode
- Waveforms are taken to ground in FWD mode by using oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Switch

Ref. No.	Switch	Position
S301	TAPE	NORM
S302	DOLBY NR	OFF
S303-1	PLAY	OFF
S303-2	◀▶(FF/REW)	OFF
S901	Reel	—
J401	Headphones (switch)	OFF

Note: Voltages are measured with a VOM (50k $\Omega$ /V).

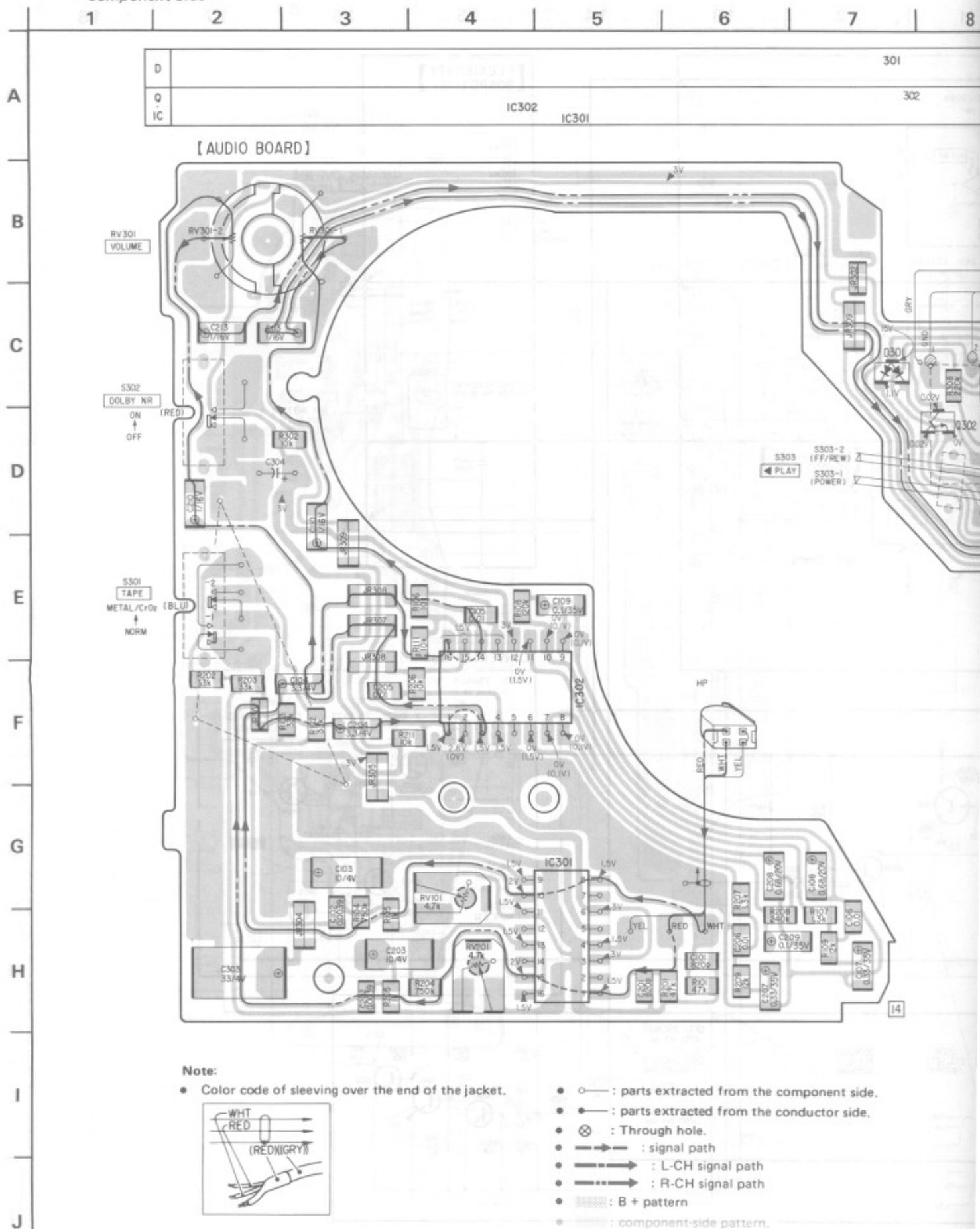






## 4-2. MOUNTING DIAGRAM

— Component Side —





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10

11

12

13

14

15

16

40I

302

IC303

30I

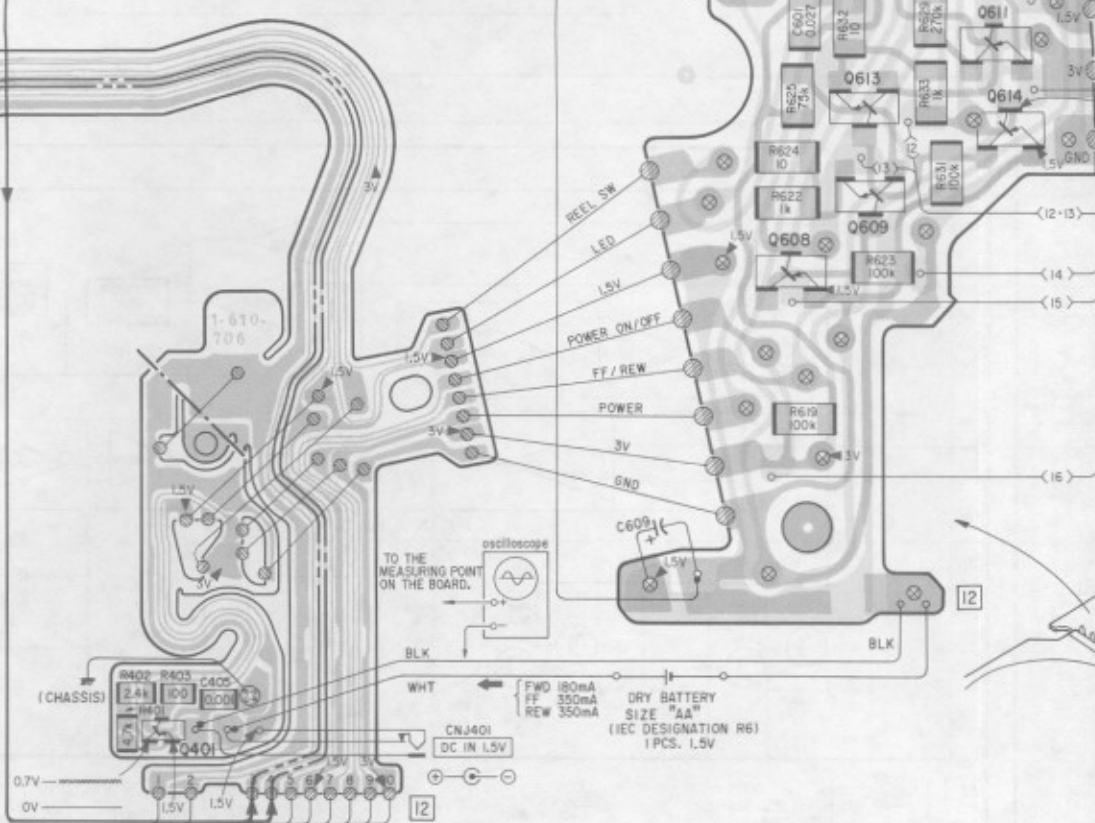
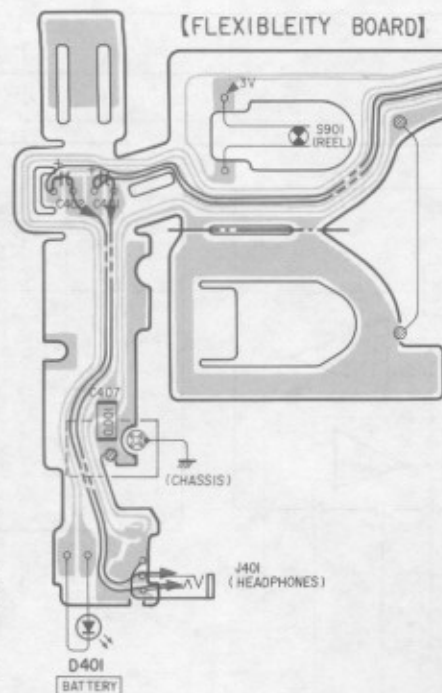
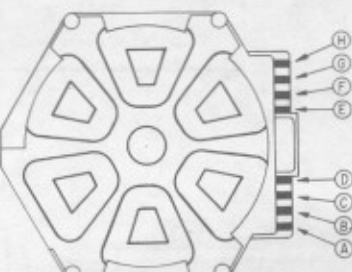
40I

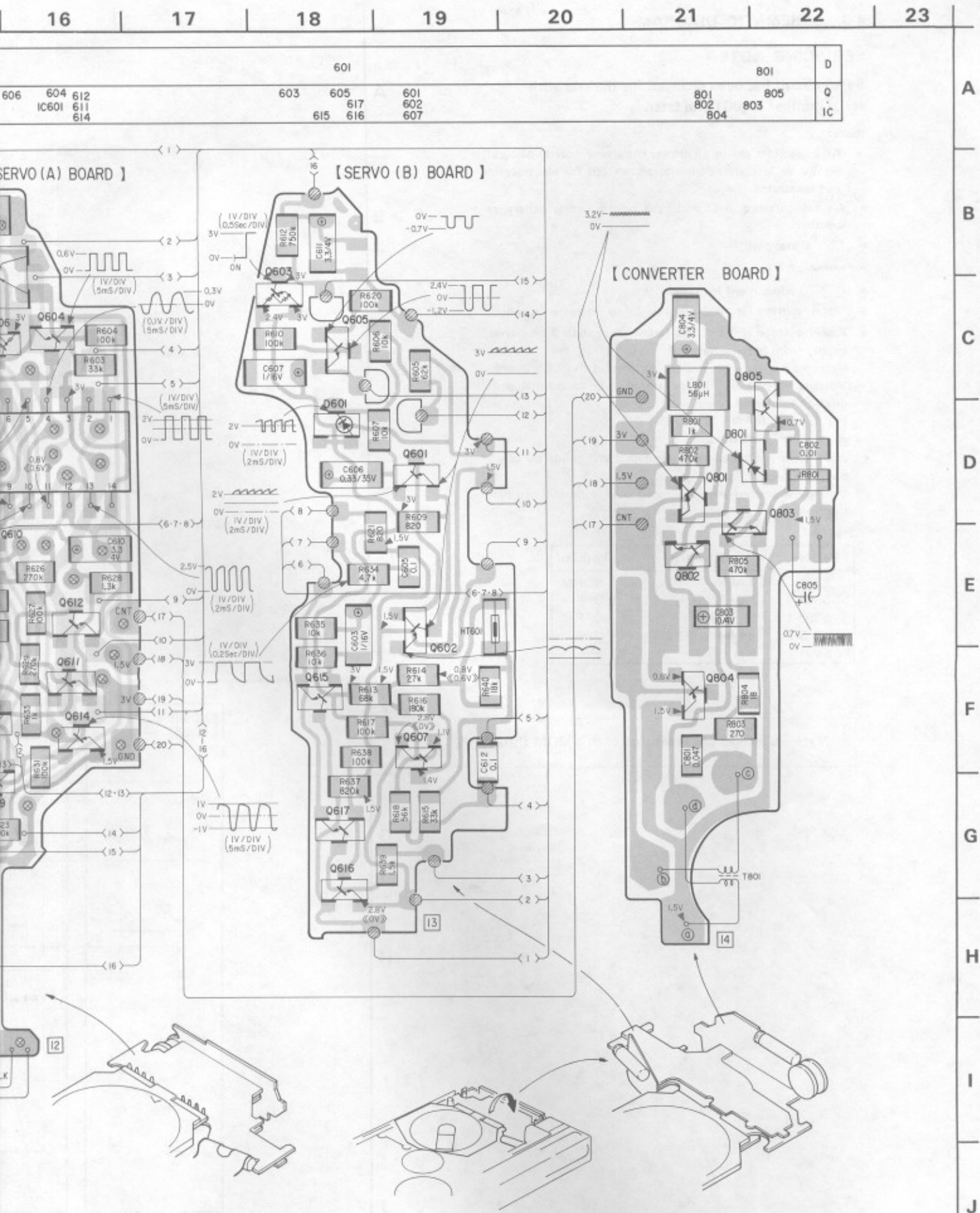
610  
613  
608606  
609604  
IC601  
611  
614

[SERVO (A) BOARD]

[MOTOR COIL BOARD]

[FLEXIBLEITY BOARD]





## 4-3. SCHEMATIC DIAGRAM

## SERVICING NOTE

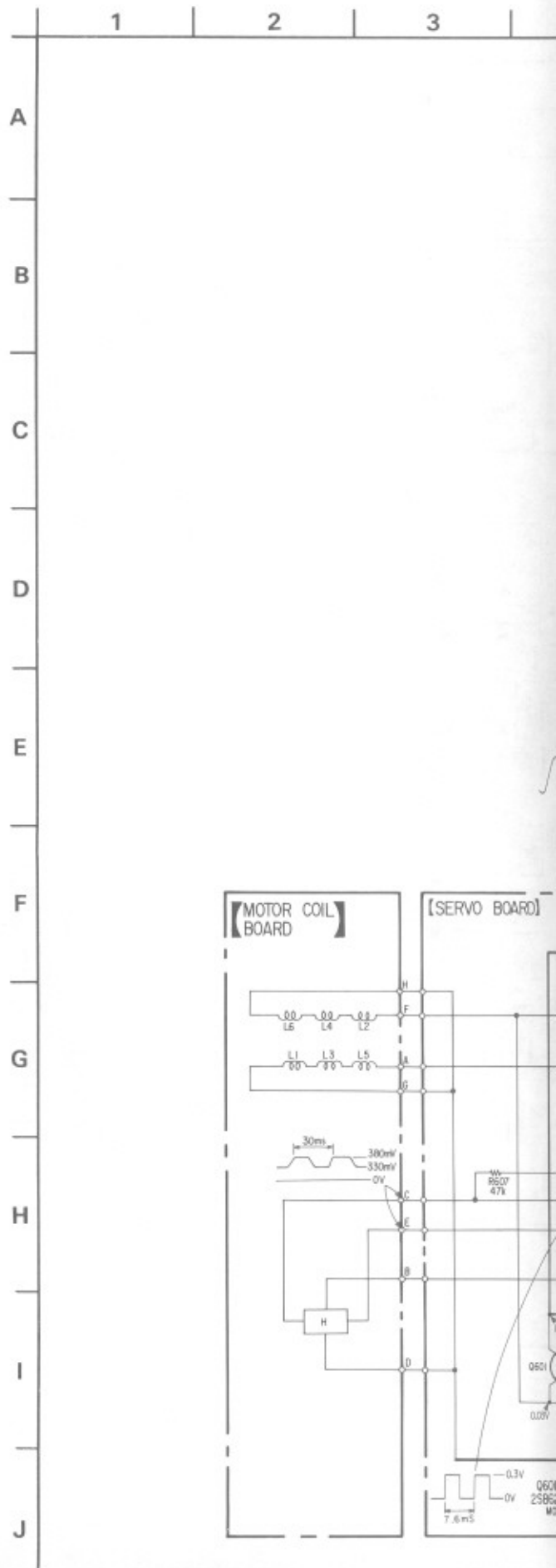
Servo circuit has been changed for the sets with serial number 77,001 and later.

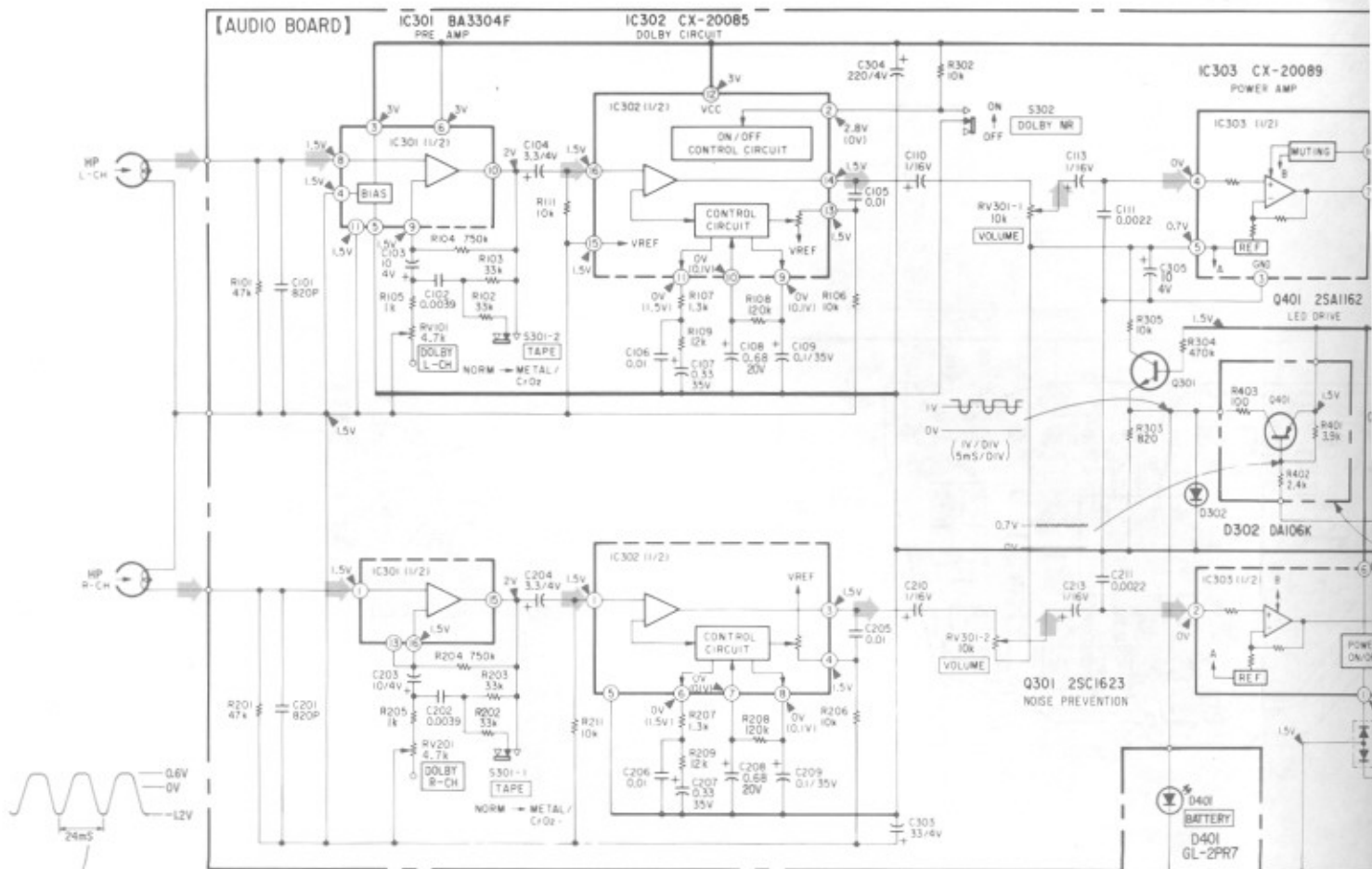
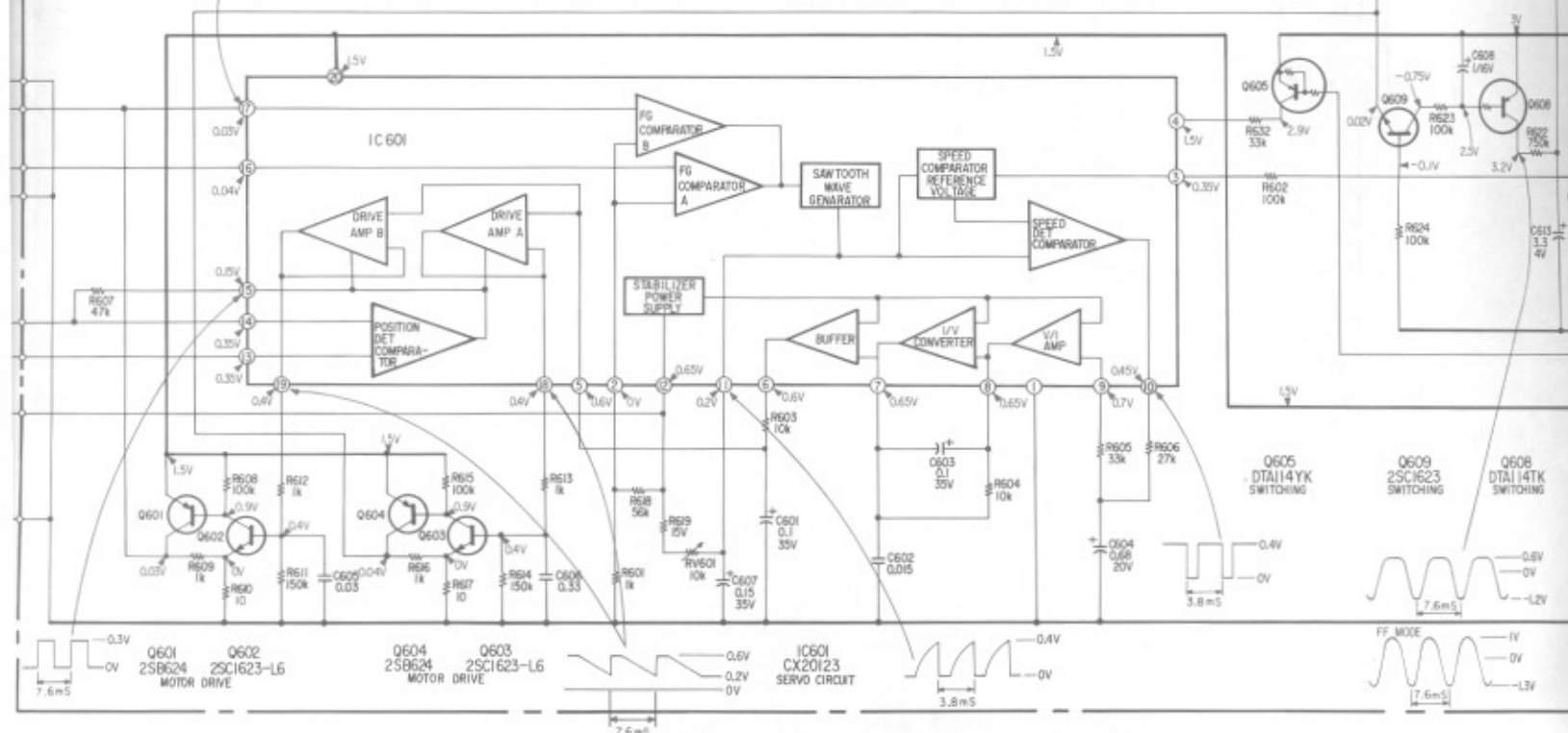
## Note:

- All capacitors are in  $\mu\text{F}$  unless otherwise noted. pF:  $\mu\text{F}$  50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $\frac{1}{4}\text{W}$  or less unless otherwise specified.
- $\Rightarrow$  : signal path.
- $\text{---}$  : B+ bus.
- $\square$  : adjustment for repair.
- Total current is measured with no cassette installed.
- Power voltage is 1.5V and fed with regulated dc power supply from battery terminal.  
Voltages are dc with respect to ground in PLAY mode.  
Voltage variations may be noted due to normal production tolerances.
- ( ) : DOLBY NR (S302) ON
- $\ll \gg$  : FF/REW mode
- Waveforms are taken to ground in FWD mode by using oscilloscope.  
Voltage variations may be noted due to normal production tolerances.
- Switch

Ref. No.	Switch	Position
S301	TAPE	NORM
S302	DOLBY NR	OFF
S303-1	PLAY	OFF
S303-2	$\ll \gg$ (FF/REW)	OFF
S901	Reel	—

Note: Voltages are measured with a VOM (50k $\Omega$ /V).



**[SERVO BOARD]**

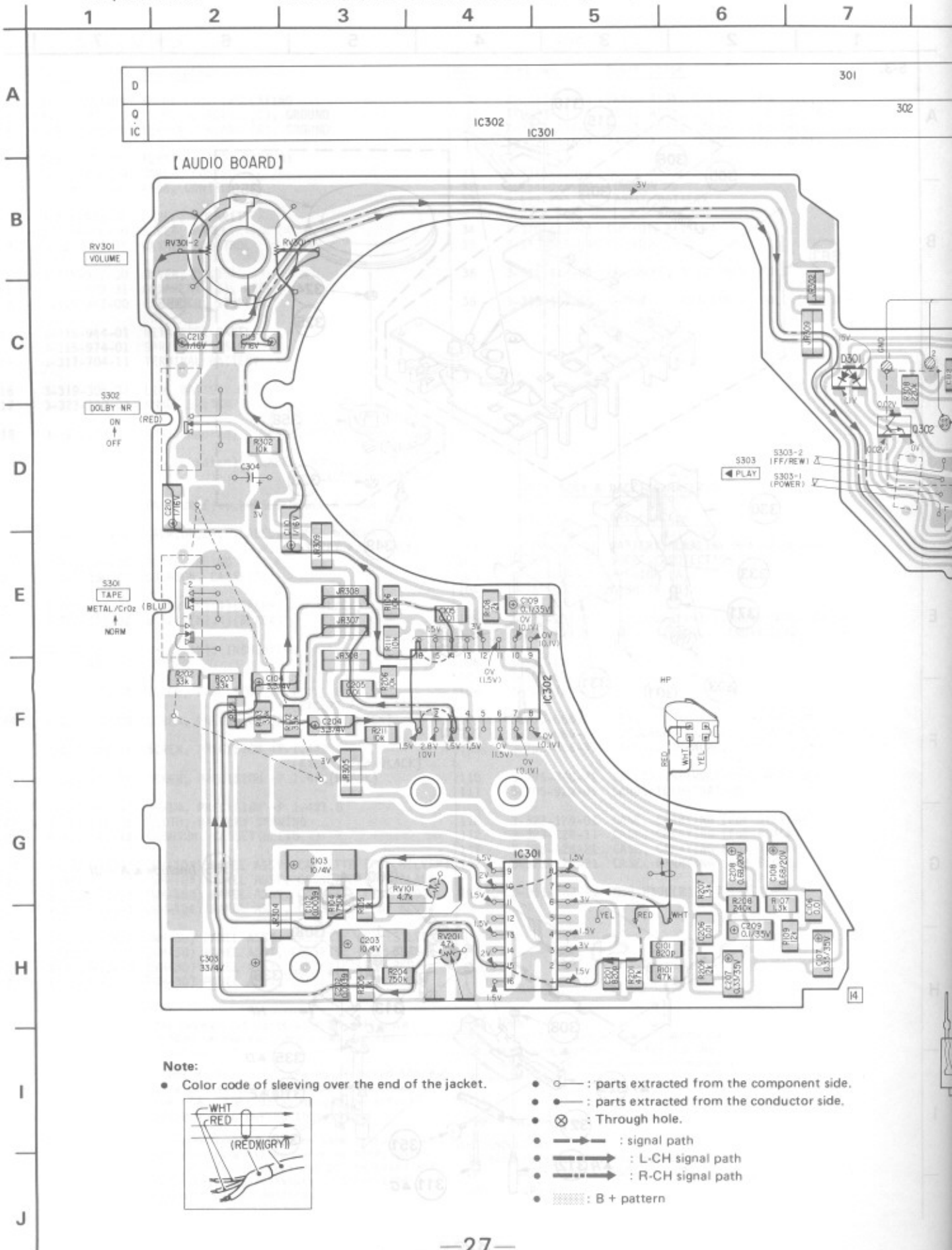


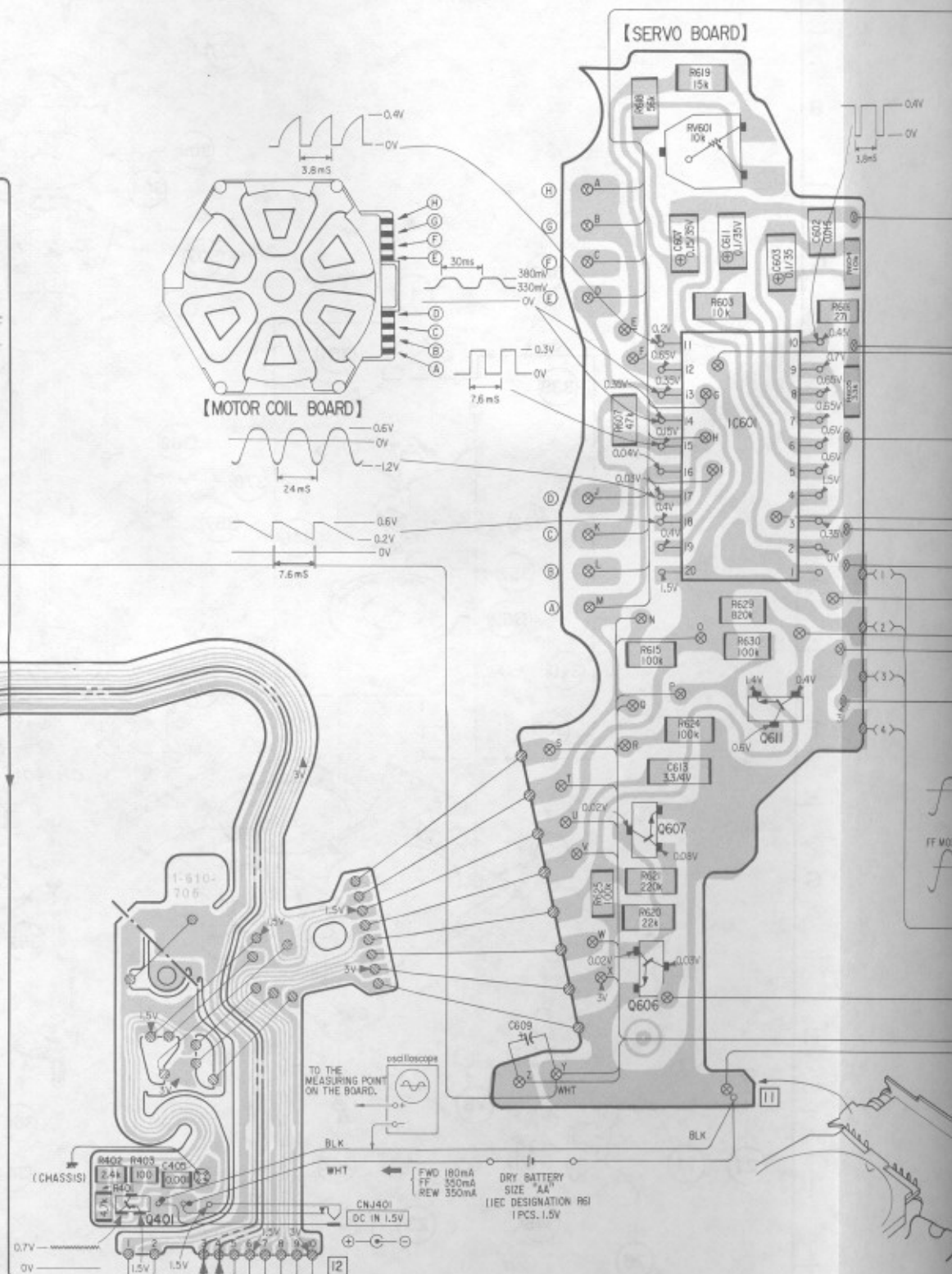
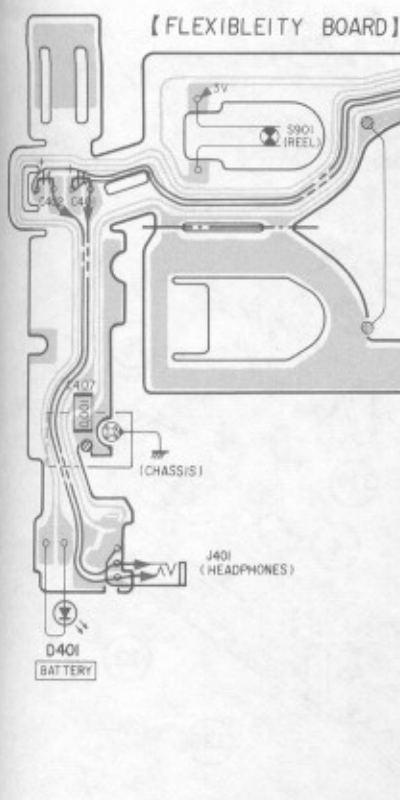
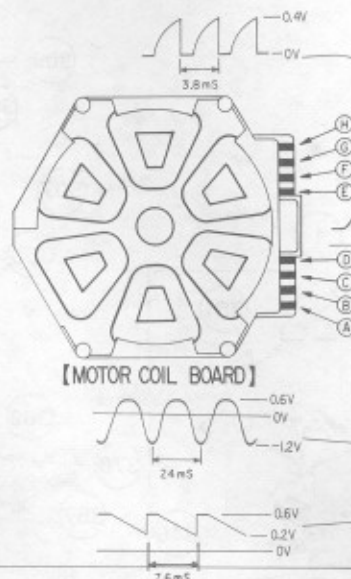
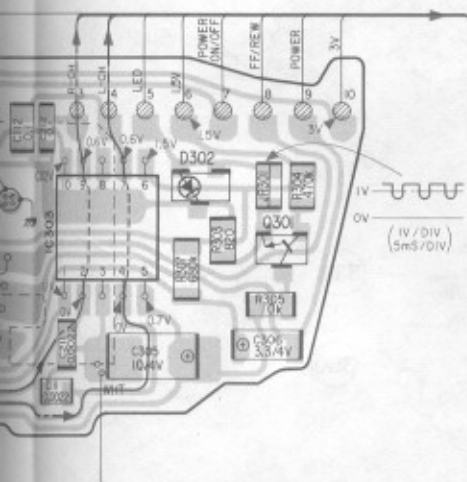


## 4-4. MOUNTING DIAGRAM

— Component Side —

(Refer to page 18 for semiconductor lead layouts.)



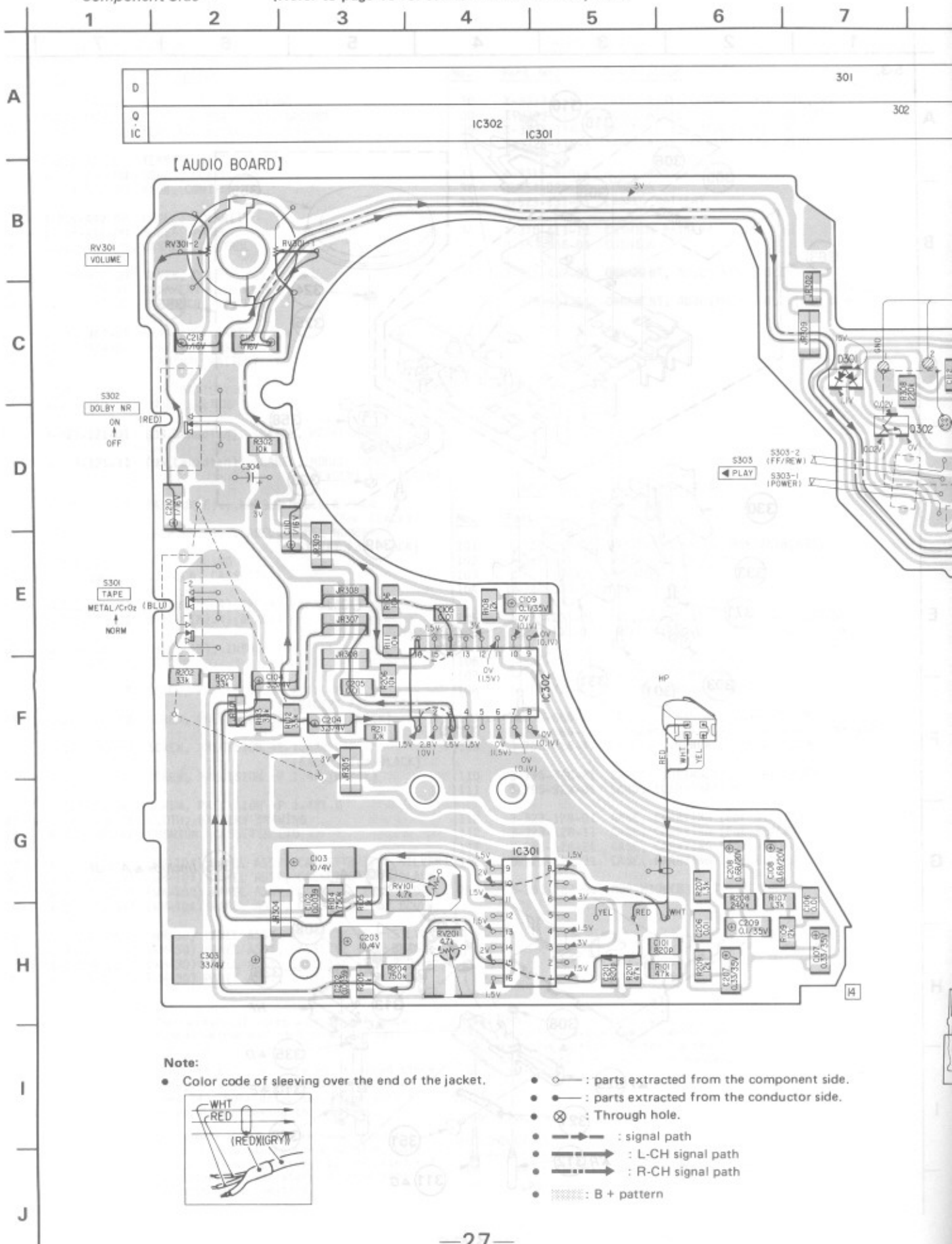




## 4-4. MOUNTING DIAGRAM

— Component Side —

(Refer to page 18 for semiconductor lead layouts.)



302

401

IC303

301

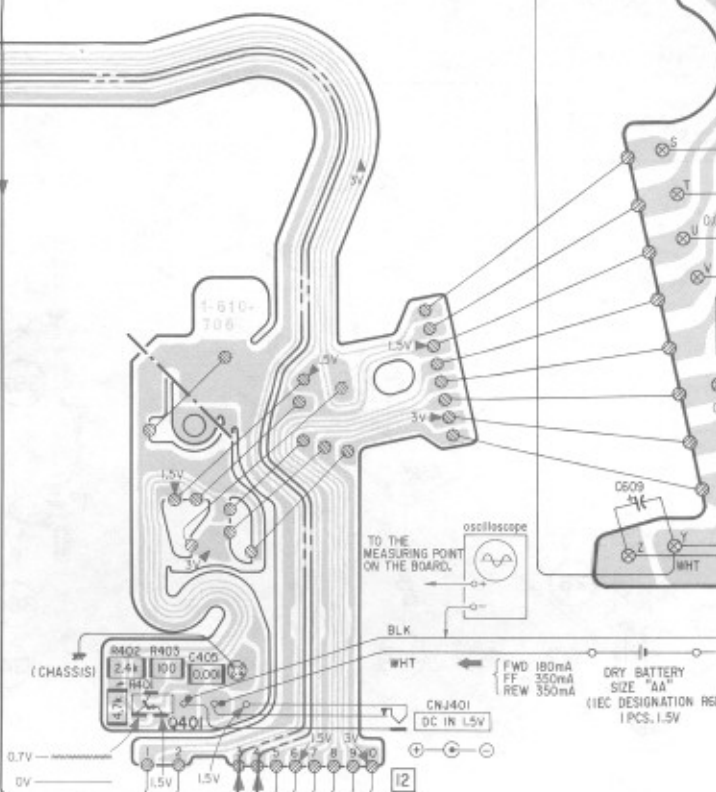
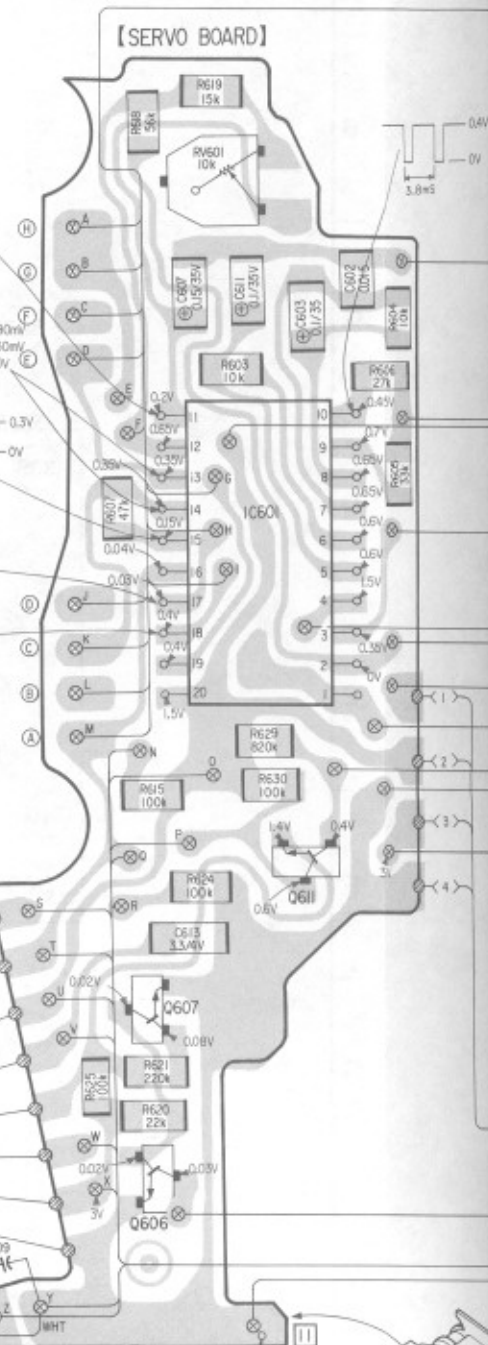
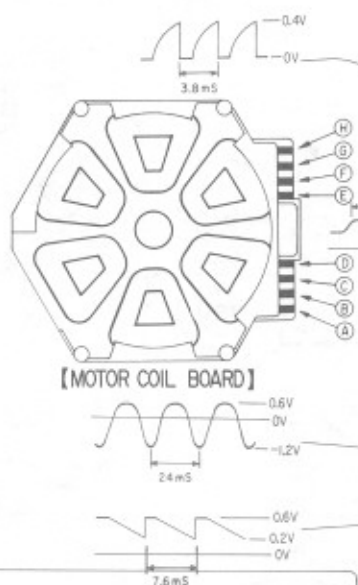
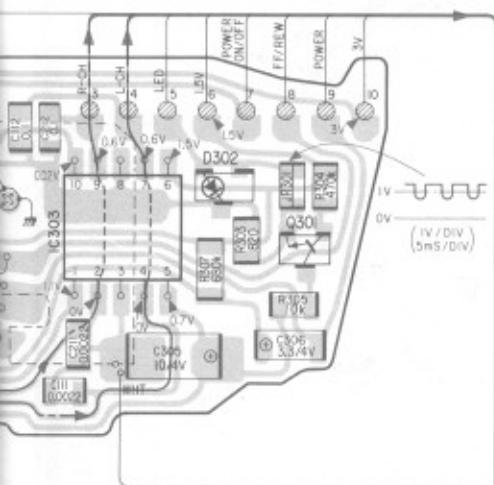
401

607

606

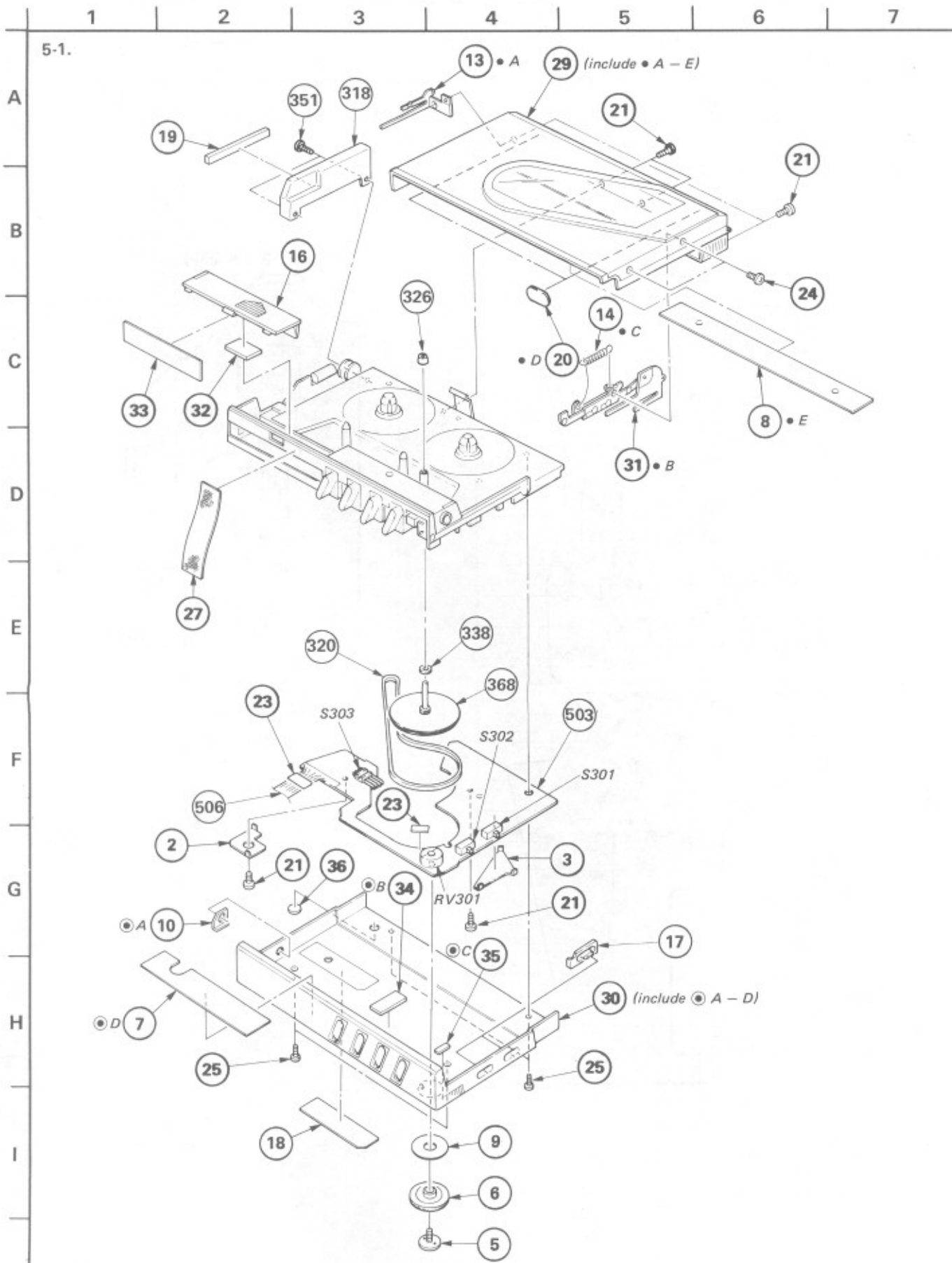
1060

611

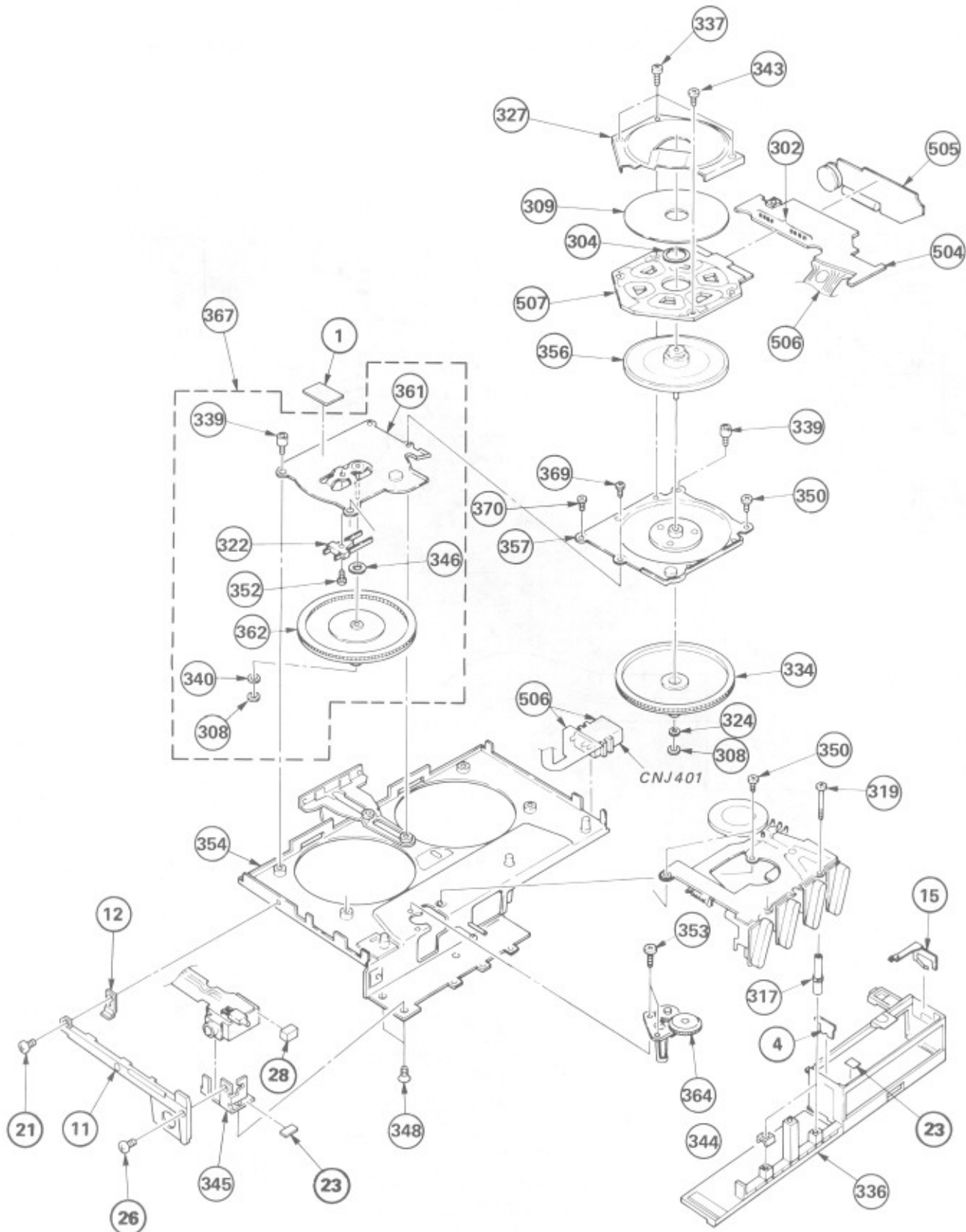


[illegible]

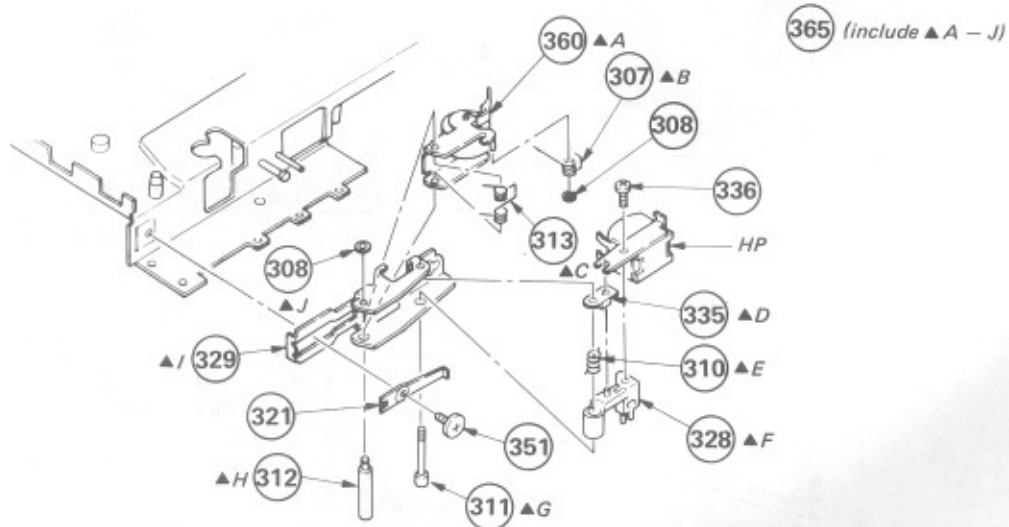
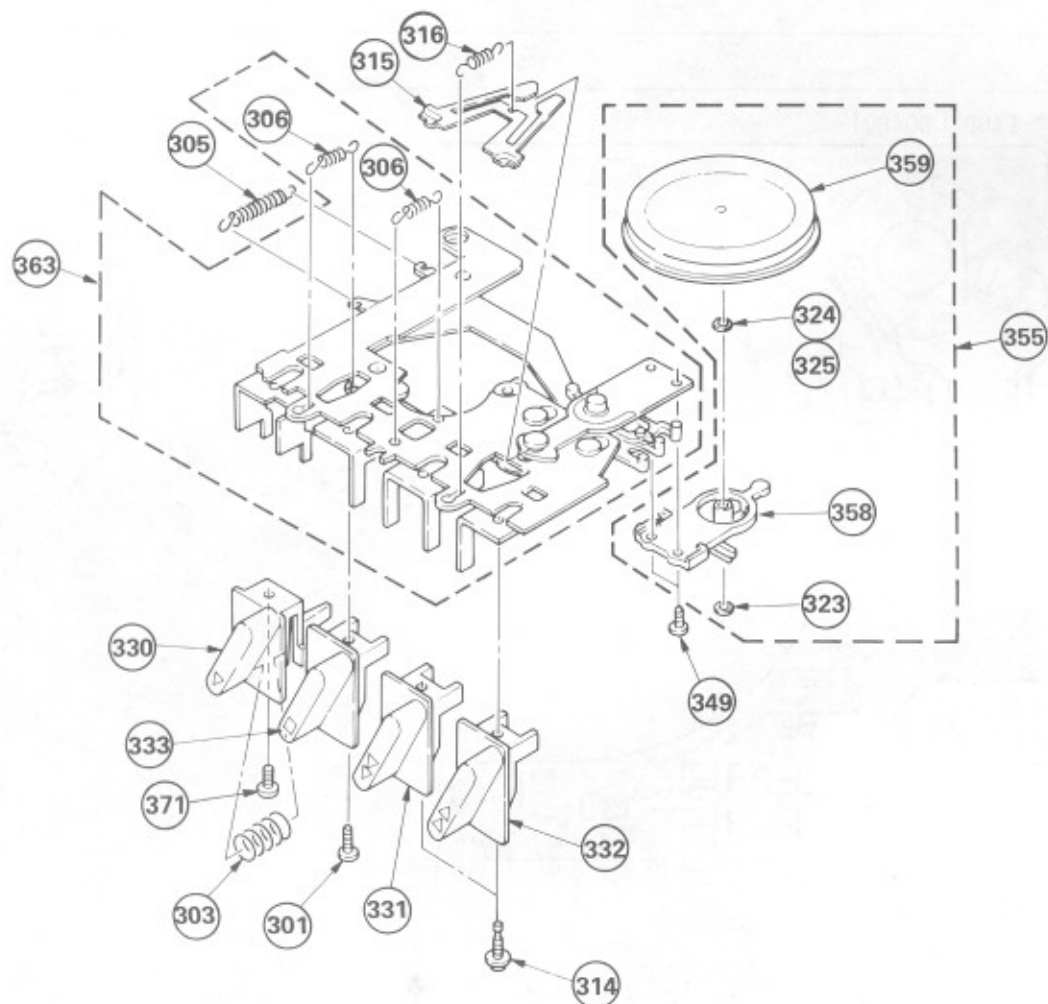
# SECTION 5 EXPLODED VIEWS AND PARTS LIST



5-2.



5-3.





## GENERAL SECTION

No.	Part No.	Description
1	*3-312-754-00	SHEET (A), INSULATING
2	*3-315-302-00	TERMINAL BOARD (C), GROUND
3	*3-315-303-00	TERMINAL BOARD (B), GROUND
4	3-315-306-00	TERMINAL (A), BATTERY
5	3-315-308-00	SCREW, CONTROL
6	3-315-322-00	KNOB, CONTROL
7	3-315-442-00	LABEL, POLARITY
8	3-315-466-00	SHEET, PANEL
9	3-315-467-00	WASHER, CONTROL
10	3-315-922-00	COVER, DC.J
11	3-315-929-31	ORNAMENT (B), REEL
12	3-315-942-00	RETAINER, STOPPER
13	3-315-944-01	RETAINER, PANEL
14	3-315-974-01	SPRING, TENSION
15	3-317-704-11	TERMINAL BATTERY
16	3-319-305-31	LID, BATTERY CASE
17	3-323-120-01	KNOB, SWITCH
18	3-323-121-01	(US,Canadian)...LABEL, MODEL NUMBER (For BLACK)
18	3-323-121-11	(US,Canadian)...LABEL, MODEL NUMBER (EXCEPT For BLACK)
18	3-323-127-01	(AEP,UK,E)...LABEL, MODEL NUMBER (For BLACK)
18	3-323-127-11	(AEP,UK,E)...LABEL, MODEL NUMBER (EXCEPT For BLACK)
19	3-323-129-01	PLATE, BLIND
20	3-323-130-07	CUSHION, CASSETTE
21	3-703-816-01	SCREW (M1.4)(EXCEPT For BLACK)
21	3-703-816-02	SCREW (M1.4)(BLACK)
22	3-703-929-01	SHEET (B), INSULATING
23	3-831-441-XX	SPACER
24	7-627-551-07	SCREW, PRECISION +P 1.4X1.6 (EXCEPT For BLACK)
24	7-627-551-08	SCREW, PRECISION +P 1.4X1.6(BLACK)
25	7-627-551-17	SCREW, PRECISION +P 1.4X2 (EXCEPT For BLACK)
25	7-627-551-18	SCREW, PRECISION +P 1.4X2(BLACK)
26	7-627-850-47	SCREW, PRECISION +P 1.4X1.6
27	9-911-816-01	CLOTH, BATTERY DRAWING
28	9-911-841-XX	CUSHION, CASSETTE LID
29	X-3323-112-1	(WM-10II) PANEL ASSY, CASSETTE (For SILVER)
29	X-3323-113-1	(WM-10II) PANEL ASSY, CASSETTE (For BLACK)
29	X-3323-122-1	(WM-10II) PANEL ASSY, CASSETTE (For RED)
29	X-3323-123-1	(WM-10II) PANEL ASSY, CASSETTE (For BLUE)
29	X-3323-124-1	(WM-30) PANEL ASSY, CASSETTE (For SILVER)
29	X-3323-125-1	(WM-30) PANEL ASSY, CASSETTE (For BLACK)
29	X-3323-126-1	(WM-30) PANEL ASSY, CASSETTE (For RED)
29	X-3323-127-1	(WM-30) PANEL ASSY, CASSETTE (For BLUE)

## NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

## GENERAL SECTION

No.	Part No.	Description
30	X-3323-110-1	PANEL ASSY, CONTROL (For SILVER)
30	X-3323-111-1	PANEL ASSY, CONTROL (For BLACK)
30	X-3323-114-1	PANEL ASSY, CONTROL (For RED)
30	X-3323-115-1	PANEL ASSY, CONTROL (For BLUE)
31	X-3315-910-0	PLATE ASSY, SLIDE
32	3-454-023-00	CUSHION
33	3-523-131-01	LABEL, BATTERY
34	3-370-611-11	CUSHION BATTERY
35	3-553-566-01	CUSHION
36	3-315-457-01	ORNAMENT, ADJUSTMENT HOLE (EXCEPT For BLACK)
36	3-315-457-11	ORNAMENT, ADJUSTMENT HOLE (For BLACK)
ACCESSORY & PACKING MATERIAL		
No.	Part No.	Description
101	1-528-052-00	BATTERY, ALKALINE MANGANIN(AM3)
102	3-323-101-01	SHEET, PROTECTION
103	3-323-102-01	CUSHION (A)
104	3-323-103-01	CUSHION (B)
105	3-323-104-01	(US,Canadian)...INDIVIDUAL CARTON
105	3-323-113-01	(AEP,UK,E)...INDIVIDUAL CARTON
106	3-527-213-00	LABEL, SERIAL NUMBER
107	3-701-622-00	BAG, POLYETHYLENE
108	3-703-710-01	STICKER, SONY SYMBOL (12)
109	3-760-086-11	(E).....MANUAL, INSTRUCTION
109	3-760-086-21	(US,Canadian,AEP,UK)...MANUAL, INSTRUCTION
109	3-760-086-41	(AEP)....MANUAL, INSTRUCTION
110	3-795-748-21	SAFETY INSTRUCTIONS, HEADPHONE
111	3-795-922-01	CARD, ILLUSTRATION
112	3-323-128-01	CASE, CARRYING (For SILVER)
112	3-323-128-11	CASE, CARRYING (For BLACK)
112	3-323-128-21	CASE, CARRYING (For RED)
112	3-323-128-31	CASE, CARRYING (For BLUE)
113	8-951-187-91	MDR-W30L(B) SET

## CAPACITORS:

- All capacitors are in  $\mu\text{F}$ . Common capacitors are omitted. Refer to the following lists for their part numbers.
- MF:  $\mu\text{F}$ , PF:  $\mu\text{pF}$ .

## COILS

- MMH : mH, UH :  $\mu\text{H}$

## SEMICONDUCTORS

- In each case, U :  $\mu$ , for example:  
UA....:  $\mu\text{A}$ ..., UPA....:  $\mu\text{PA}$ ..., UPC....:  $\mu\text{PC}$ ,  
UPD....:  $\mu\text{PD}$ ...



## MECHANISM SECTION

No.	Part No.	Description
301	3-305-528-11	SCREW, STOPPER
302	3-315-301-00	TERMINAL BOARD, MOTOR
303	3-315-331-00	SPRING, COMPRESSION
304	3-315-332-01	SPACER (t=0.05)
304	3-315-332-11	SPACER (t=0.1)
304	3-315-332-21	SPACER (t=0.125)
305	3-315-341-00	SPRING, TENSION (POWER TENSION)
306	3-315-343-00	SPRING, TENSION
307	3-315-357-00	SPRING
308	3-315-384-01	WASHER, STOPPER (t=0.13)
308	3-315-384-11	WASHER, STOPPER (t=0.25)
308	3-315-384-21	WASHER, STOPPER (t=0.2)
308	3-315-384-41	WASHER, STOPPER (t=0.35)
309	3-315-390-00	PLATE, HYSTERESIS
310	3-315-391-00	SPRING
311	3-315-392-00	SCREW, ADJUSTMENT
312	3-315-393-00	SHAFT, PINCH LEVER
313	3-315-394-00	SPRING
314	3-315-395-00	SCREW, BUTTON
315	3-315-396-00	LEVER (C), F.R
316	3-315-397-00	SPRING, TENSION (POWER TENSION)
317	3-315-399-00	COLLAR, BUTTON
318	3-315-402-11	COVER, CONVERTER
319	3-315-404-00	SCREW
320	3-315-405-00	BELT
321	3-315-406-00	SPRING
322	3-315-412-00	CONTACT, OUTSERT
323	3-315-414-00	WASHER (t=0.25)
323	3-315-414-11	WASHER (t=0.19)
323	3-315-414-21	WASHER (t=0.13)
324	3-315-415-00	WASHER (1.5-2.3)(t=0.08)
324	3-315-415-11	WASHER (1.5-2.3)(t=0.1)
325	3-315-416-00	WASHER (t=0.1)
325	3-315-416-21	WASHER (t=0.19)
326	3-315-417-00	BUSHING, CAPSTAN
327	*3-315-419-00	PLATE, SHIELD
328	3-315-430-00	TABLE, HEAD
329	3-315-431-00	CHASSIS, HEAD
330	3-315-432-00	BUTTON, PLAY
331	3-315-433-00	BUTTON, FF
332	3-315-434-00	BUTTON, REW
333	3-315-435-00	BUTTON, STOP
334	3-315-436-00	GEAR (OUTSERT), SUPPLY REEL
335	3-315-463-00	PLATE, GROUND, HEAD
336	3-315-484-02	SCREW (M2X3), HEAD, WASHER
337	3-315-485-01	SCREW (M1.4X2.3), PRECISION

## NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

## MECHANISM SECTION

No.	Part No.	Description
338	3-315-495-01	WASHER (t=0.25)
338	3-315-495-11	WASHER (t=0.13)
338	3-315-495-21	WASHER (t=0.18)
338	3-315-495-31	WASHER (t=0.3)
339	3-315-990-01	SHAFT, STOPPER, PANEL
340	3-317-701-01	WASHER (t=0.45)
340	3-317-701-11	WASHER (t=0.25)
341	3-317-702-01	SPACER (D)(t=0.2)
341	3-317-702-11	SPACER (D)(t=0.05)
342	3-317-703-01	SPACER (E)(t=0.08)
342	3-317-703-11	SPACER (E)(t=0.2)
343	3-317-706-01	SCREW (M1.4X2.3)
344	*3-319-301-01	RETAINER, LEAD, HEAD
345	3-323-115-01	BRACKET, H.P.J
346	3-701-438-21	WASHER (t=0.2)
346	3-701-438-31	WASHER (t=0.3)
346	3-701-438-41	WASHER (t=0.35)
347	3-701-443-01	WASHER (t=0.13)
347	3-701-443-11	WASHER (t=0.25)
348	7-627-455-07	SCREW, PRECISION +K 1.4X1.4
349	7-627-551-47	SCREW, PRECISION +P 1.4X1.4
350	7-627-850-07	SCREW, PRECISION +P 1.4X2
351	7-627-850-37	SCREW, PRECISION +P 1.4X1.4
352	7-627-850-48	+P 1.4X1.6
353	7-627-850-78	PRECISION SCREW +P 1.4X1.8
354	A-3125-009-A	CHASSIS ASSY, REEL
355	A-3125-002-A	WHEEL BLOCK ASSY, REVERSE
356	A-3133-205-A	WHEEL ASSY BLOCK ASSY, MOTOR
357	A-3133-206-A	RIVETING ASSY, MOTOR SLEEVE
358	X-3315-307-0	LEVER (B) ASSY, FR
359	X-3315-308-0	WHEEL ASSY, REVERSE
360	X-3315-311-0	PINCH LEVER ASSY
361	X-3315-314-0	CHASSIS ASSY, TAKE-UP REEL
362	X-3315-315-0	GEAR ASSY, TAKE-UP REEL
363	X-3315-360-1	PLATE ASSY, CONTROL
364	X-3315-343-1	SLEEVE COMP ASSY
365	X-3315-346-1	CHASSIS ASSY, HEAD
366	3-315-939-31	ORNAMENT, REEL
367	A-3163-080-A	CHASSIS BLOCK ASSY, T REEL
368	X-3317-508-1	FLYWHEEL ASSY
369	7-627-551-17	SCREW, PRECISION +P 1.4X2.0
370	7-627-451-37	SCREW, PRECISION +K 1.4X2.0
371	3-305-528-21	SCREW, STOPPER

## CAPACITORS:

All capacitors are in  $\mu\text{F}$ . Common capacitors are omitted. Refer to the following lists for their part numbers.  
MF:  $\mu\text{F}$ , PF:  $\mu\text{pF}$ .

## COILS

MMH : mH, UH :  $\mu\text{H}$

## SEMICONDUCTORS

In each case, U :  $\mu$ , for example:  
UA...:  $\mu\text{A}$ ..., UPA...:  $\mu\text{PA}$ ..., UPC...:  $\mu\text{PC}$ ...,  
UPD...:  $\mu\text{PD}$ ...

## ELECTRICAL PARTS

Ref.No.	Part No.	Description			
501	1-462-209-00	COIL, MOTOR (STATOR)			
502	*1-610-702-00	PC BOARD, CONVERTER			
503	*A-3015-198-A	MOUNTED PCB, AUDIO			
504	A-3065-035-A	SERVO UNIT			
504	A-3015-319-A	SERVO UNIT (SIRIAL No.77,001 and later)			
505	A-3065-038-A	MOUNTED PCB, CONVERTER			
506	A-3089-055-A	PC BOARD ASSY, FLEXIBLE			
507	A-3133-207-A	COIL BLOCK ASSY, MOTOR			
C101	1-163-008-00	CERAMIC CHIP 820PF	10%	50V	
C102	1-163-016-00	CERAMIC CHIP 0.0039MF	10%	50V	
C103	1-135-104-00	TANTAL. CHIP 10MF	10%	4V	
C104	1-135-103-00	TANTAL. CHIP 3.3MF	20%	4V	
C105	1-163-021-00	CERAMIC CHIP 0.01MF	5%	50V	
C106	1-163-021-00	CERAMIC CHIP 0.01MF	5%	50V	
C107	1-135-073-00	TANTAL. CHIP 0.33MF	10%	35V	
C108	1-135-087-21	TANTAL. CHIP 0.68MF	10%	20V	
C109	1-135-070-00	TANTAL. CHIP 0.1MF	10%	35V	
C110	1-135-091-00	TANTAL. CHIP 1MF	20%	16V	
C111	1-163-013-00	CERAMIC CHIP 0.0022MF	10%	50V	
C112	1-163-038-00	CERAMIC CHIP 0.1MF		25V	
C113	1-135-091-00	TANTAL. CHIP 1MF	20%	16V	
C303	1-135-107-00	TANTAL. CHIP 33MF	20%	4V	
C304	1-124-413-00	ELECT 220MF	20%	4V	
C305	1-135-104-00	TANTAL. CHIP 10MF	10%	4V	
C306	1-135-103-00	TANTAL. CHIP 3.3MF	20%	4V	
C401	1-124-413-00	ELECT 220MF	20%	4V	
C402	1-124-413-00	ELECT 220MF	20%	4V	
C405	1-163-141-00	CERAMIC CHIP 0.001MF	10%	50V	
C407	1-163-141-00	CERAMIC CHIP 0.001MF	10%	50V	
C601	1-163-986-00	CERAMIC CHIP 0.027MF	10%	25V	
C602	1-163-986-00	CERAMIC CHIP 0.027MF	10%	25V	
C603	1-135-091-00	TANTAL. CHIP 1MF	20%	16V	
C604	1-135-103-00	TANTAL. CHIP 3.3MF	20%	4V	
C605	1-163-038-00	CERAMIC CHIP 0.1MF		25V	
C606	1-135-073-00	TANTAL. CHIP 0.33MF	10%	35V	
C607	1-135-091-00	TANTAL. CHIP 1MF	20%	16V	
C608	1-135-070-00	TANTAL. CHIP 0.1MF	10%	35V	
C609	1-124-413-00	ELECT 220MF	20%	4V	
C610	1-135-103-00	TANTAL. CHIP 3.3MF	20%	4V	
C611	1-135-103-00	TANTAL. CHIP 3.3MF	20%	4V	
C612	1-163-038-00	CERAMIC CHIP 0.1MF		25V	
C801	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V	
C802	1-163-021-00	CERAMIC CHIP 0.01MF	10%	50V	
C803	1-135-104-00	TANTAL. CHIP 10MF	20%	4V	
C804	1-135-103-00	TANTAL. CHIP 3.3MF	20%	4V	
C805	1-124-413-00	ELECT 220MF	20%	4V	

## NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

## ELECTRICAL PARTS

Ref.No.	Part No.	Description			
CNJ401	1-507-894-00	JACK, EXTERNAL POWER			
D301	8-719-100-03	DIODE 1S2835			
D302	8-719-908-30	DIODE DA106K			
D401	8-719-908-40	DIODE GL-2PR7			
D601	8-719-908-30	DIODE DA106K			
D801	8-719-105-65	DIODE RD4.3M-B3			
HP	8-825-507-11	HEAD (PP227-3602H)			
IC301	8-759-910-18	IC BA3304F			
IC302	8-759-908-08	IC CX20085			
IC303	8-759-600-67	IC CX20089			
IC601	8-759-700-75	IC NJM2901MB			
J401	1-507-895-00	JACK, HEADPHONE (WITH SW)			
JR301	1-216-295-00	METAL CHIP	0	5%	1/10W
JR302	1-216-295-00	METAL CHIP	0	5%	1/10W
JR303	1-216-296-00	METAL CHIP	0	5%	1/8W
JR304	1-216-296-00	METAL CHIP	0	5%	1/8W
JR305	1-216-296-00	METAL CHIP	0	5%	1/8W
JR306	1-216-296-00	METAL CHIP	0	5%	1/8W
JR307	1-216-296-00	METAL CHIP	0	5%	1/8W
JR308	1-216-296-00	METAL CHIP	0	5%	1/8W
JR309	1-216-296-00	METAL CHIP	0	5%	1/8W
JR310	1-216-295-00	METAL CHIP	0	5%	1/10W
JR801	1-216-295-00	METAL CHIP	0	5%	1/10W
L801	1-408-946-00	INDUCTOR CHIP	56UH		
Q301	8-729-100-66	TRANSISTOR 2SC1623			
Q302	8-729-216-22	TRANSISTOR 2SA1162			
Q401	8-729-216-22	TRANSISTOR 2SA1162			
Q402	8-729-216-22	TRANSISTOR 2SA1162			
Q601	8-729-216-22	TRANSISTOR 2SA1162			
Q602	8-729-100-66	TRANSISTOR 2SC1623			
Q603	8-729-900-51	TRANSISTOR DTA114TK			
Q604	8-729-100-66	TRANSISTOR 2SC1623			
Q605	8-729-100-66	TRANSISTOR 2SC1623			
Q606	8-729-900-52	TRANSISTOR DTC114			
Q607	8-729-100-66	TRANSISTOR 2SC1623			
Q608	8-729-102-44	TRANSISTOR 2SB624			
Q609	8-729-100-66	TRANSISTOR 2SC1623			
Q610	8-729-216-22	TRANSISTOR 2SA1162			
Q611	8-729-216-22	TRANSISTOR 2SA1162			
Q612	8-729-100-66	TRANSISTOR 2SC1623			
Q613	8-729-100-66	TRANSISTOR 2SC1623			
Q614	8-729-102-44	TRANSISTOR 2SB624			

## CAPACITORS:

- All capacitors are in  $\mu$ F. Common capacitors are omitted. Refer to the following lists for their part numbers.
- MF:  $\mu$ F, PF:  $\mu$ F.

## COILS

- MMH: mH, UH:  $\mu$ H

## SEMICONDUCTORS

- In each case, U:  $\mu$ , for example:  
 UA...:  $\mu$ A..., UPA...:  $\mu$ PA..., UPC...:  $\mu$ PC,  
 UPD...:  $\mu$ PD...

## ELECTRICAL PARTS

Ref.No.	Part No.	Description	QTY	UNIT	PRICE
Q615	8-729-100-66	TRANSISTOR 2SC1623	1	PCB	1000
Q616	8-729-100-66	TRANSISTOR 2SC1623	1	PCB	1000
Q617	8-729-100-66	TRANSISTOR 2SC1623	1	PCB	1000
Q801	8-729-102-44	TRANSISTOR 2SB624	1	PCB	1000
Q802	8-729-100-66	TRANSISTOR 2SC1623	1	PCB	1000
Q803	8-729-159-64	TRANSISTOR 2SD596	1	PCB	1000
Q804	8-729-102-44	TRANSISTOR 2SB624	1	PCB	1000
Q805	8-729-100-66	TRANSISTOR 2SC1623	1	PCB	1000
R101	1-216-089-00	METAL CHIP 47K 5%	1	1/10W	
R102	1-216-085-00	METAL CHIP 33K 5%	1	1/10W	
R103	1-216-085-00	METAL CHIP 33K 5%	1	1/10W	
R104	1-216-118-00	METAL CHIP 750K 5%	1	1/10W	
R105	1-216-049-00	METAL CHIP 1K 5%	1	1/10W	
R106	1-216-073-00	METAL CHIP 10K 5%	1	1/10W	
R107	1-216-052-00	METAL CHIP 1.3K 5%	1	1/10W	
R108	1-216-099-00	METAL CHIP 120K 5%	1	1/10W	
R109	1-216-075-00	METAL CHIP 12K 5%	1	1/10W	
R111	1-216-073-00	METAL CHIP 10K 5%	1	1/10W	
R302	1-216-073-00	METAL CHIP 10K 5%	1	1/10W	
R303	1-216-047-00	METAL CHIP 820 5%	1	1/10W	
R304	1-216-113-00	METAL CHIP 470K 5%	1	1/10W	
R305	1-216-073-00	METAL CHIP 10K 5%	1	1/10W	
R307	1-216-266-00	METAL CHIP 680K 5%	1	1/8W	
R308	1-216-105-00	METAL CHIP 220K 5%	1	1/10W	
R401	1-216-063-00	METAL CHIP 3.9K 5%	1	1/10W	
R402	1-216-058-00	METAL CHIP 2.4K 5%	1	1/10W	
R403	1-216-025-00	METAL CHIP 100 5%	1	1/10W	
R601	1-216-090-00	METAL CHIP 51K 5%	1	1/10W	
R602	1-216-097-00	METAL CHIP 100K 5%	1	1/10W	
R603	1-216-085-00	METAL CHIP 33K 5%	1	1/10W	
R604	1-216-097-00	METAL CHIP 100K 5%	1	1/10W	
R605	1-216-092-00	METAL CHIP 62K 5%	1	1/10W	
R606	1-216-073-00	METAL CHIP 10K 5%	1	1/10W	
R607	1-216-073-00	METAL CHIP 10K 5%	1	1/10W	
R608	1-216-097-00	METAL CHIP 100K 5%	1	1/10W	
R609	1-216-047-00	METAL CHIP 820 5%	1	1/10W	
R610	1-216-097-00	METAL CHIP 100K 5%	1	1/10W	
R611	1-216-092-00	METAL CHIP 62K 5%	1	1/10W	
R612	1-216-118-00	METAL CHIP 750K 5%	1	1/10W	
R613	1-216-093-00	METAL CHIP 68K 5%	1	1/10W	
R614	1-216-083-00	METAL CHIP 27K 5%	1	1/10W	
R615	1-216-085-00	METAL CHIP 33K 5%	1	1/10W	
R616	1-216-103-00	METAL CHIP 180K 5%	1	1/10W	
R617	1-216-097-00	METAL CHIP 100K 5%	1	1/10W	
R618	1-216-091-00	METAL CHIP 56K 5%	1	1/10W	

## NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

## ELECTRICAL PARTS

Ref.No.	Part No.	Description	QTY	UNIT	PRICE
R619	1-216-097-00	METAL CHIP 100K 5%	1	1/10W	
R620	1-216-097-00	METAL CHIP 100K 5%	1	1/10W	
R621	1-216-047-00	METAL CHIP 820 5%	1	1/10W	
R622	1-216-049-00	METAL CHIP 1K 5%	1	1/10W	
R623	1-216-097-00	METAL CHIP 100K 5%	1	1/10W	
R624	1-216-001-00	METAL CHIP 10 5%	1	1/10W	
R625	1-216-094-00	METAL CHIP 75K 5%	1	1/10W	
R626	1-216-107-00	METAL CHIP 270K 5%	1	1/10W	
R627	1-216-097-00	METAL CHIP 100K 5%	1	1/10W	
R628	1-216-052-00	METAL CHIP 1.3K 5%	1	1/10W	
R629	1-216-107-00	METAL CHIP 270K 5%	1	1/10W	
R630	1-216-094-00	METAL CHIP 75K 5%	1	1/10W	
R631	1-216-097-00	METAL CHIP 100K 5%	1	1/10W	
R632	1-216-001-00	METAL CHIP 10 5%	1	1/10W	
R633	1-216-049-00	METAL CHIP 1K 5%	1	1/10W	
R634	1-216-065-00	METAL CHIP 4.7K 5%	1	1/10W	
R635	1-216-073-00	METAL CHIP 10K 5%	1	1/10W	
R636	1-216-073-00	METAL CHIP 10K 5%	1	1/10W	
R637	1-216-119-00	METAL CHIP 820K 5%	1	1/10W	
R638	1-216-097-00	METAL CHIP 100K 5%	1	1/10W	
R639	1-216-053-00	METAL CHIP 1.5K 5%	1	1/10W	
R640	1-216-079-00	RES, CHIP 18K	1		
R801	1-216-049-00	METAL CHIP 1K 5%	1	1/10W	
R802	1-216-113-00	METAL CHIP 470K 5%	1	1/10W	
R803	1-216-035-00	METAL CHIP 270 5%	1	1/10W	
R804	1-216-007-00	METAL CHIP 18 5%	1	1/10W	
R805	1-216-113-00	METAL CHIP 470K 5%	1	1/10W	
RV101	1-230-374-11	RES, ADJ, METAL GLAZE 4.7K	1		
RV201	1-230-374-11	RES, ADJ, METAL GLAZE 4.7K	1		
RV301	1-230-180-00	RES, VAR, CARBON 10K/10K	1		
RV601	1-230-182-00	RES, ADJ, METAL GLAZE 100K	1		
S301	1-554-585-00	SWITCH, SLIDE (M-N)	1		
S302	1-554-584-00	SWITCH, SLIDE (DOLBY)	1		
S303	1-554-586-00	SWITCH, LEAF	1		
T801	1-447-666-00	TRANSFORMER, DC-DC CONVERTER	1		
TH601	1-806-715-11	THERMISTOR	1		

## CAPACITORS:

- All capacitors are in  $\mu\text{F}$ . Common capacitors are omitted. Refer to the following lists for their part numbers.
- MF:  $\mu\text{F}$ , PF:  $\mu\text{pF}$ .

## COILS

- MMH : mH, UH :  $\mu\text{H}$

## SEMICONDUCTORS

- In each case, U :  $\mu$ , for example:  
 UA... :  $\mu\text{A}$ ..., UPA... :  $\mu\text{PA}$ ..., UPC... :  $\mu\text{PC}$ ,  
 UPD... :  $\mu\text{PD}$ ...

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C601	1-135-070-00	TANTAL. CHIP 0.1MF	10%	35V	
C602	1-163-023-00	CERAMIC CHIP 0.015MF	10%	50V	
C603	1-135-070-00	TANTAL. CHIP 0.1MF	10%	35V	
C604	1-135-087-21	TANTAL. CHIP 0.68MF	10%	20V	
C605	1-163-810-00	CERAMIC CHIP 0.03MF	10%	25V	
C606	1-163-810-00	CERAMIC CHIP 0.03MF	10%	25V	
C607	1-135-071-21	TANTAL. CHIP 0.15MF	10%	35V	
C608	1-135-091-00	TANTAL. CHIP 1MF	20%	16V	
C609	1-124-413-00	CAP, ELECT 220MF			
C610	1-163-038-00	CERAMIC CHIP 0.1MF		25V	
C611	1-135-091-00	TANTAL. CHIP 1MF	20%	16V	
C612	1-135-103-00	TANTAL. CHIP 3.3MF	20%	4V	
C613	1-135-103-00	TANTAL. CHIP 3.3MF	20%	4V	
IC601	8-752-012-32	IC CX20123			
Q601	8-729-102-44	TRANSISTOR 2SB624			
Q602	8-729-102-66	TRANSISTOR 2SC1623			
Q603	8-729-102-66	TRANSISTOR 2SC1623			
Q604	8-729-102-44	TRANSISTOR 2SB624			
Q605	8-729-901-46	TRANSISTOR DTA114YK			
Q606	8-729-102-66	TRANSISTOR 2SC1623			
Q607	8-729-102-66	TRANSISTOR 2SC1623			
Q608	8-729-900-51	TRANSISTOR DTA114TK			
Q609	8-729-102-66	TRANSISTOR 2SC1623			
Q610	8-729-102-66	TRANSISTOR 2SC1623			
Q611	8-729-102-66	TRANSISTOR 2SC1623			
Q612	8-729-102-66	TRANSISTOR 2SC1623			
R601	1-216-049-00	METAL CHIP 1K 5%		1/10W	
R602	1-216-097-00	METAL CHIP 100K 5%		1/10W	
R603	1-216-073-00	METAL CHIP 10K 5%		1/10W	
R604	1-216-073-00	METAL CHIP 10K 5%		1/10W	
R605	1-216-085-00	METAL CHIP 33K 5%		1/10W	
R606	1-216-083-00	METAL CHIP 27K 5%		1/10W	
R607	1-216-089-00	METAL CHIP 47K 5%		1/10W	
R608	1-216-097-00	METAL CHIP 100K 5%		1/10W	
R609	1-216-049-00	METAL CHIP 1K 5%		1/10W	
R610	1-216-001-00	METAL CHIP 10 5%		1/10W	
R611	1-216-101-00	METAL CHIP 150K 5%		1/10W	
R612	1-216-049-00	METAL CHIP 1K 5%		1/10W	
R613	1-216-049-00	METAL CHIP 1K 5%		1/10W	
R614	1-216-101-00	METAL CHIP 150K 5%		1/10W	
R615	1-216-097-00	METAL CHIP 100K 5%		1/10W	
R616	1-216-049-00	METAL CHIP 1K 5%		1/10W	
R617	1-216-001-00	METAL CHIP 10 5%		1/10W	
R618	1-216-091-00	METAL CHIP 56K 5%		1/10W	

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R619	1-216-077-00	METAL CHIP 15K 5%		1/10W	
R620	1-216-105-00	METAL CHIP 220K 5%		1/10W	
R621	1-216-105-00	METAL CHIP 220K 5%		1/10W	
R622	1-216-118-00	METAL CHIP 750K 5%		1/10W	
R623	1-216-097-00	METAL CHIP 100K 5%		1/10W	
R624	1-216-097-00	METAL CHIP 100K 5%		1/10W	
R625	1-216-097-00	METAL CHIP 100K 5%		1/10W	
R626	1-216-065-00	METAL CHIP 4.7K 5%		1/10W	
R627	1-216-073-00	METAL CHIP 10K 5%		1/10W	
R628	1-216-073-00	METAL CHIP 10K 5%		1/10W	
R629	1-216-119-00	METAL CHIP 820K 5%		1/10W	
R630	1-216-097-00	METAL CHIP 100K 5%		1/10W	
R631	1-216-053-00	METAL CHIP 1.5K 5%		1/10W	
R632	1-216-085-00	METAL CHIP 33K 5%		1/10W	
RV601	1-230-478-11	RES, ADJ, METAL GLAZE 10K			

NOTE:

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CAPACITORS:

- All capacitors are in  $\mu$ F. Common capacitors are omitted. Refer to the following lists for their part numbers.
- MF:  $\mu$ F, PF:  $\mu$ F.

COILS

- MMH : mH, UH :  $\mu$ H

SEMICONDUCTORS

- In each case, U :  $\mu$ , for example:  
UA... :  $\mu$ A..., UPA... :  $\mu$ PA..., UPC... :  $\mu$ PC,  
UPD... :  $\mu$ PD...