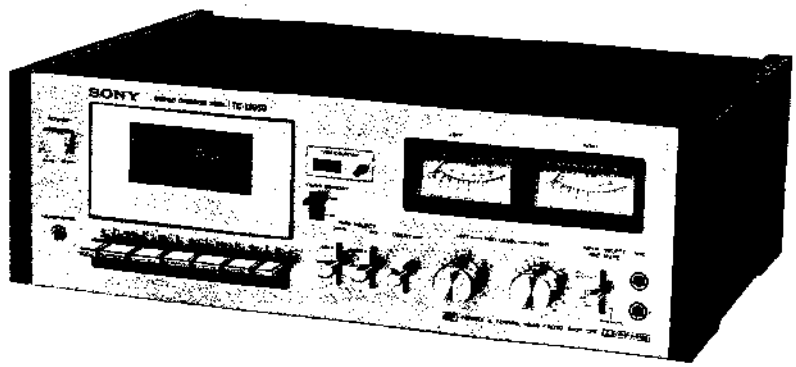
TC-188SD

669

AEP Model
UK Model
E Model



STEREO CASSETTE DECK

SPECIFICATIONS

GENERAL

Power Requirements: 110V, 120V, 220V, 240V ac, 50/60 Hz

Power Consumption: 11W

Dimensions: Approx. 440 (w) x 145 (h) x 290 (d) mm
17 1/4 (w) x 5 3/4 (h) x 11 3/8 (d) inches

Weight: Approx. 6.3 kg, 13 lb 14 oz

TAPE RECORDER SECTION

Track: 4-track 2-channel stereo

Fast Forward Rewind Time: Approx. 90 seconds with Sony cassette C-60

Frequency Response: DOLBY NR OFF
With Ferri-Chrome cassette
20–16,000 Hz (NAB)
30–15,000 Hz ±3 dB (NAB)
30–15,000 Hz (DIN)
With chromium dioxide cassette
20–16,000 Hz (NAB)
30–15,000 Hz ±3 dB (NAB)
30–15,000 Hz (DIN)
With regular cassette
20–14,000 Hz (NAB)
30–13,000 Hz (DIN)

Wow and Flutter: 0.08% WRMS (NAB)
±0.2% (DIN)

S/N Ratio: DOLBY NR OFF
With Ferri-Chrome cassette
58 dB at peak level (NAB)
56 dB (DIN, 1975 rev.)
48 dB (DIN, old)
With chromium dioxide cassette
54 dB at peak level (NAB)
DOLBY NR ON
Improved by 5 dB at 1 kHz, 10 dB above 5 kHz

– Continued on next page –

* 'Dolby' and the double-D symbol are the trade marks of Dolby Laboratory Inc. Noise reduction system manufactured under license from Dolby Laboratory Inc.
*0 dB = 0.775V

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SONY®

SERVICE MANUAL

669

Total Harmonic Distortion: 1.3%

Bias Frequency: 105 kHz

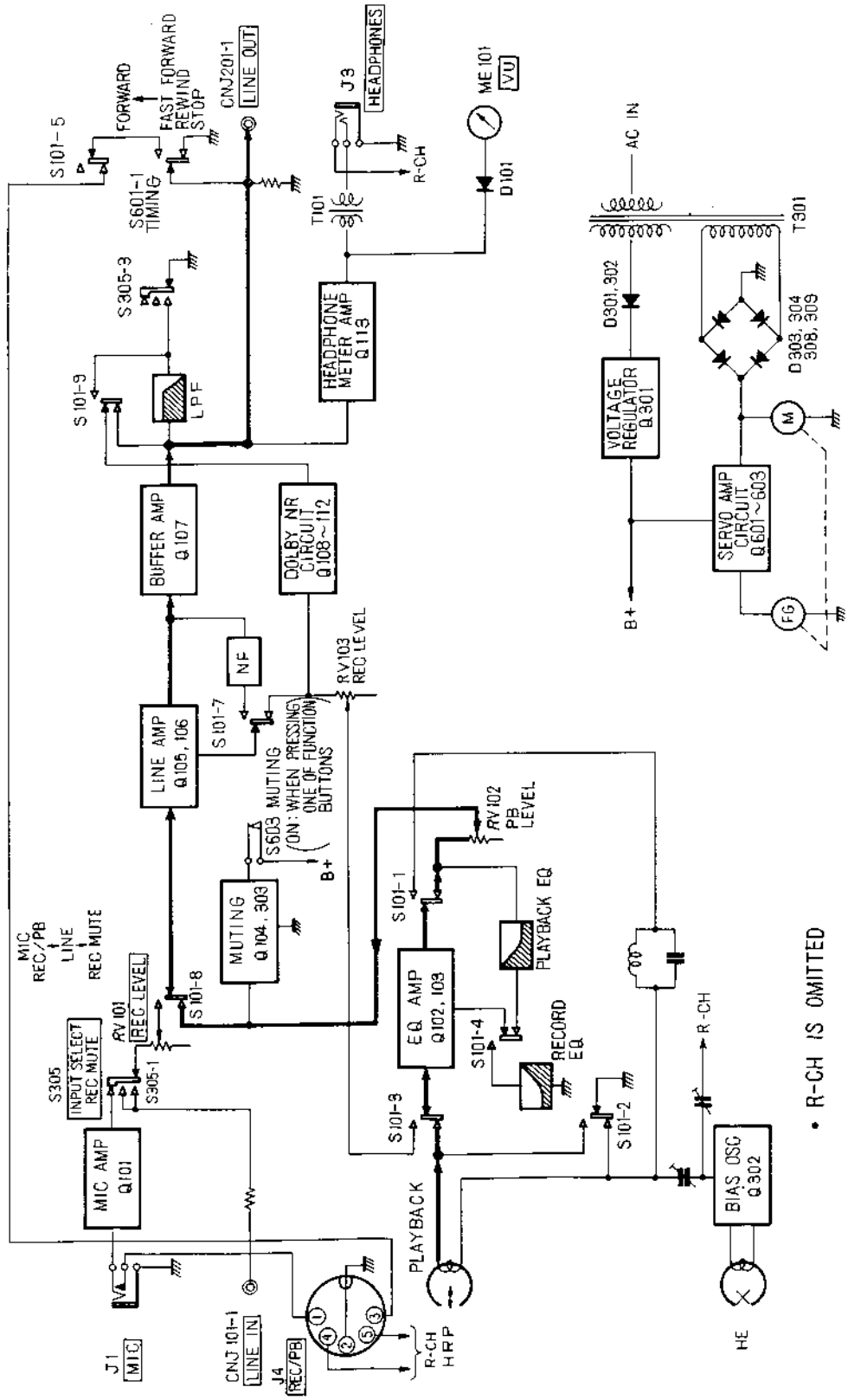
Inputs:
MIC (two phone jacks)
Sensitivity: 0.2 mV (-72 dB)
Impedance: for low-impedance microphone
LINE IN (two phono jacks)
Sensitivity: 0.06 V (-22 dB)
Impedance: 100 kΩ
REC/PB (connector)
Input impedance: less than 10 kΩ

Outputs:
LINE OUT (two phono jacks)
Normal level: 0.435 V (-5 dB)
Load impedance: 100 kΩ
suitable load impedance more than 10 kΩ
HEADPHONES (binaural jack)
Load impedance: for low-impedance headphones
REC/PB (connector)
Output impedance: less than 10 kΩ

0 dB = 0.775 V

SECTION 1
OUTLINE

1-1. BLOCK DIAGRAM

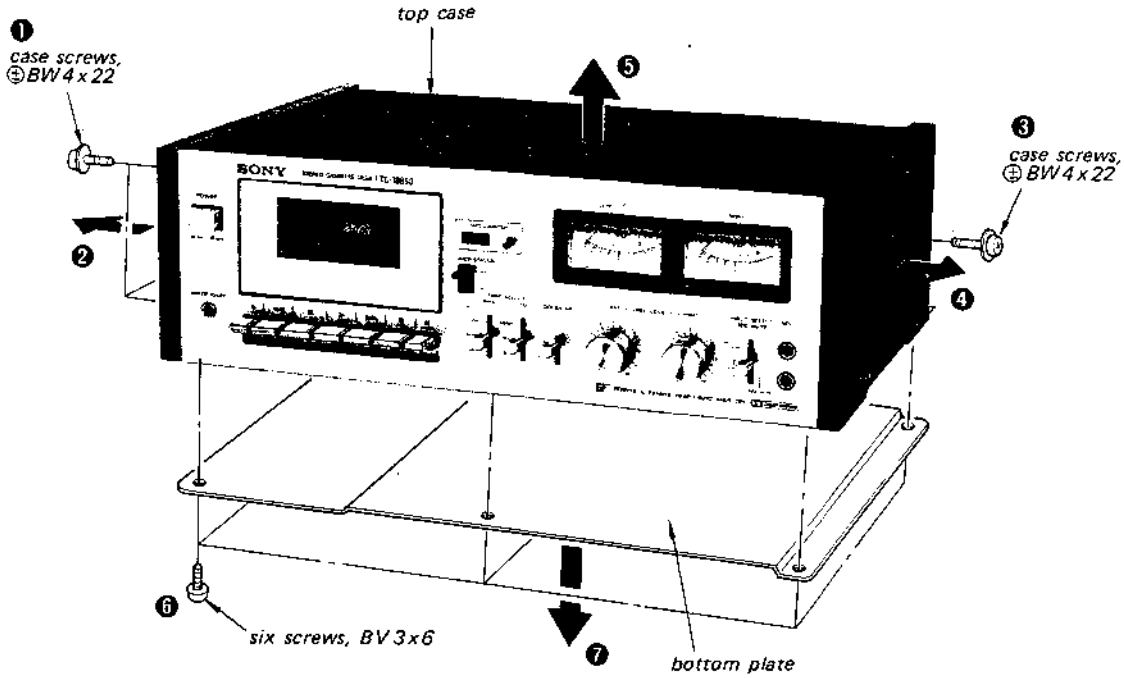


SECTION 2
DISASSEMBLY

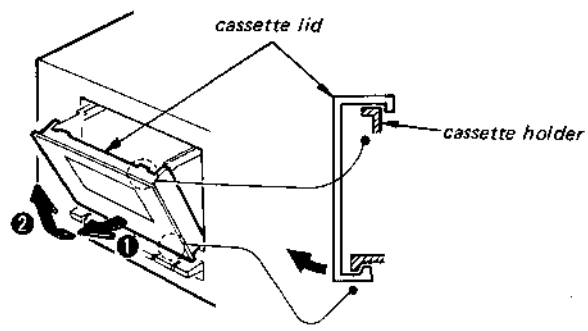
2-1. REMOVAL

Top Case and Bottom Cover Removal

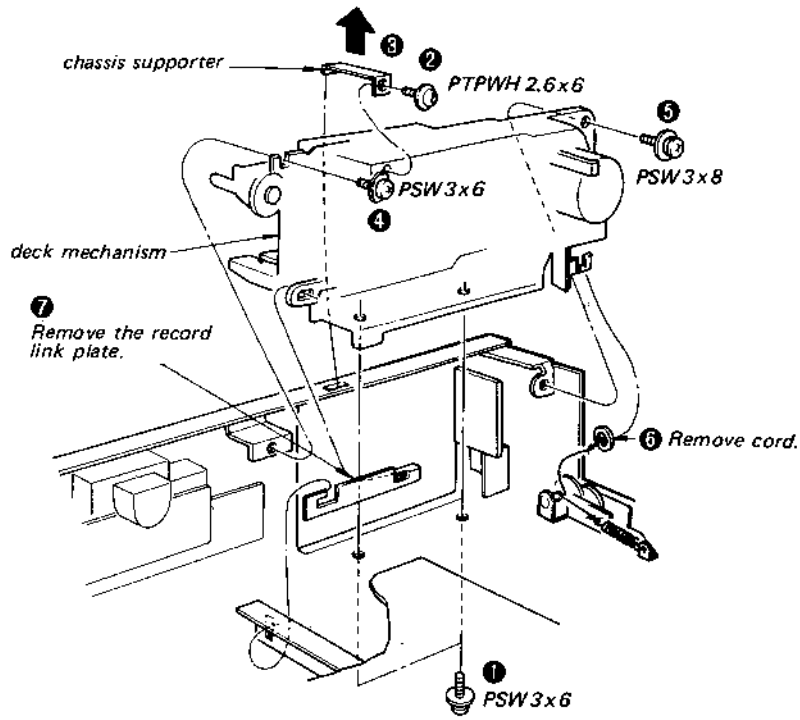
Top Case Removal: ❶ – ❺
Bottom Plate Removal: ❻, ❼



Cassette Lid Removal

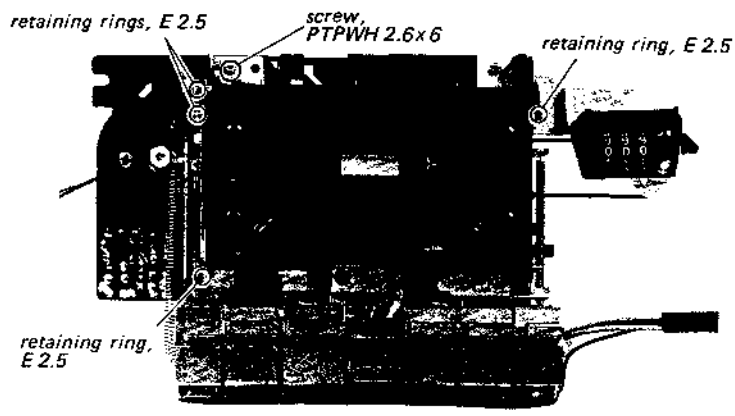


Deck Mechanism Removal

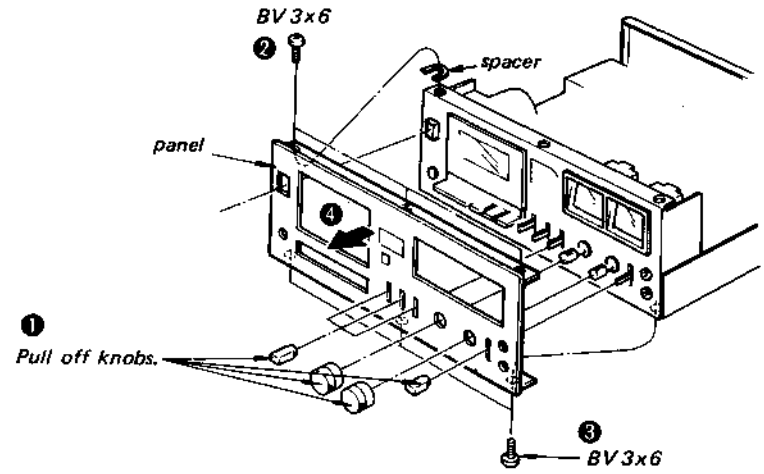


Cassette Holder Removal

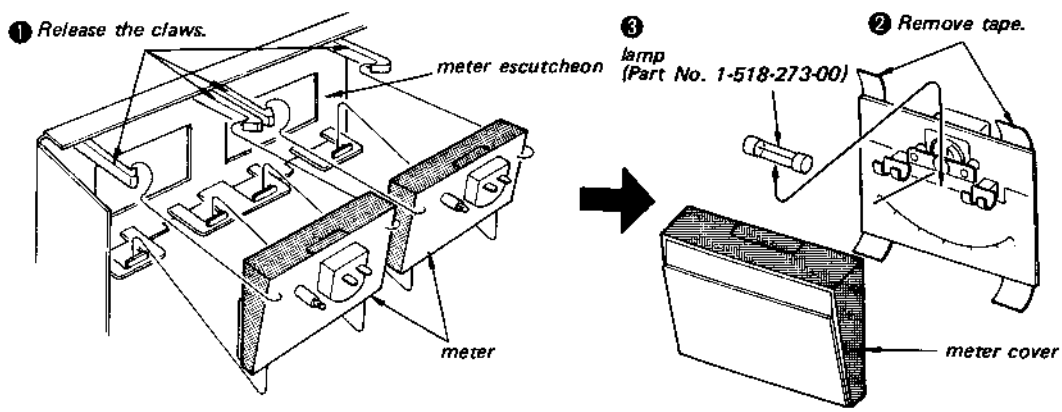
Remove four retaining rings and a screw.



Panel Removal



VU Meter Lamp Removal



SECTION 3
ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

PRECAUTION

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

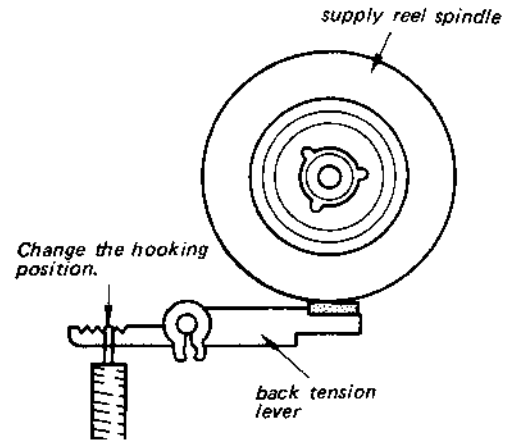
record/playback head	pinch roller
erase head	rubber belts
capstan	idlers

2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply a suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Playback Back Tension Torque Adjustment

– Playback Mode –

Use type CQ-102A cassette torque meter.

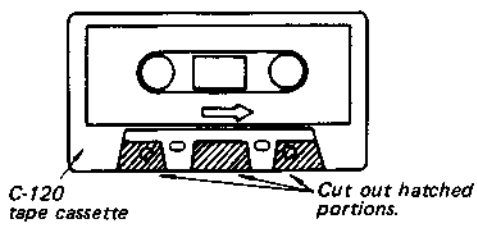


Specification: 2.5–3.5 g·cm
(0.035–0.048 oz·inch)

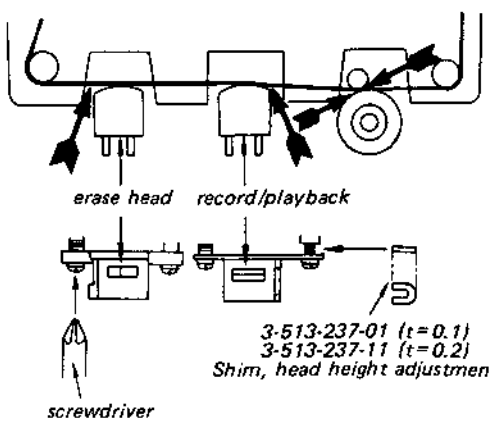
Tape Path Adjustment

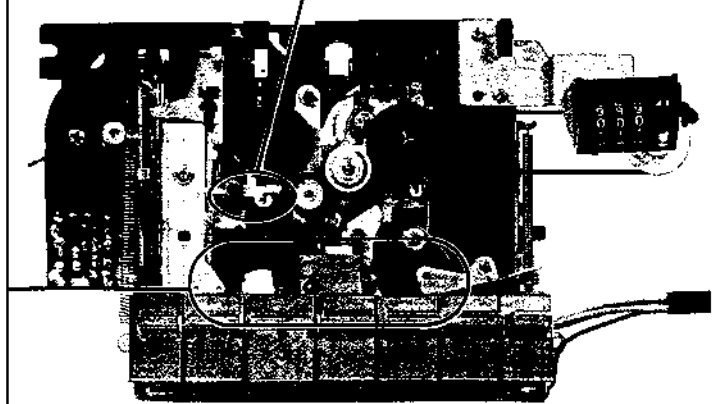
– Playback Mode –

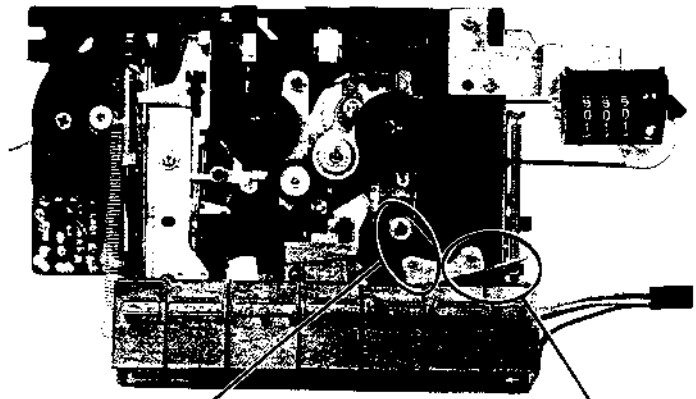
1. Make an adjustment cassette as shown below.



2. In playback mode and viewing from the front, adjust the head heights to eliminate tape curl and tape twist at arrowed portions.



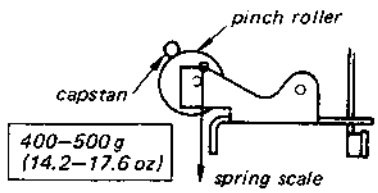




Pinch Roller Pressure Adjustment

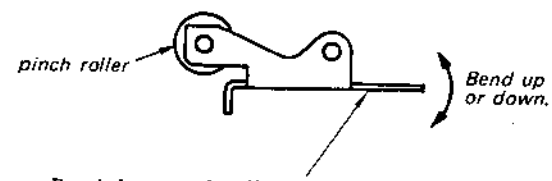
– Playback Mode –

1. Hook the pinch roller with a spring scale.
2. Pull the spring scale.
3. Slowly return the pinch roller and read the spring scale just when the pinch roller starts to rotate.



PAUSE Timing Adjustment

– PAUSE Mode –



Bend here and adjust the position of pinch roller so that the rotations of pinch roller and reel spindles stop at the same time when slowly depressing PAUSE button.

Shut-off Time Measurement

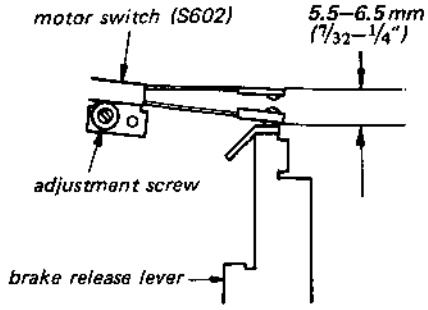
Specification: Within six seconds

Motor Switch (S602) Position Adjustment

– Stop Mode –

Loosen adjustment screw and adjust the position of the switch for the specified clearance between the switch leaves.

After the adjustment, tighten and lock the screw with a suitable locking compound.

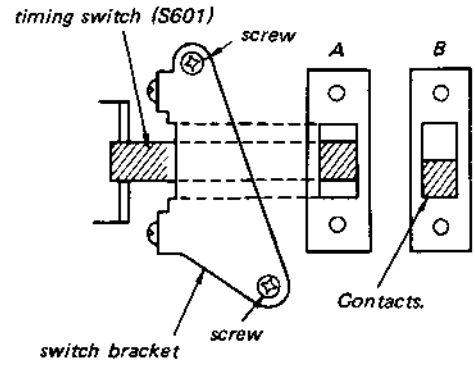


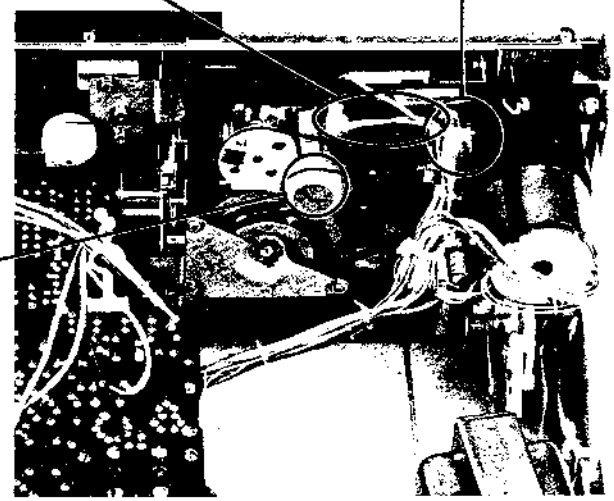
Timing Switch (S601) Position Adjustment

– Stop Mode –

Loosen the screws and adjust position of the switch bracket as marked B in figure below.

After the adjustment, tighten the screws.

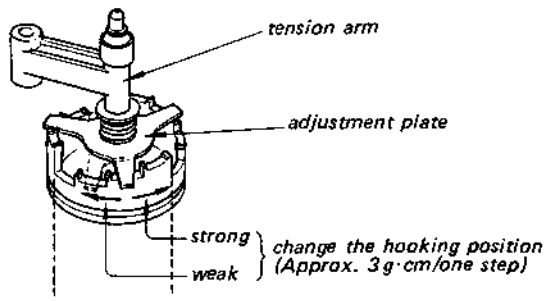




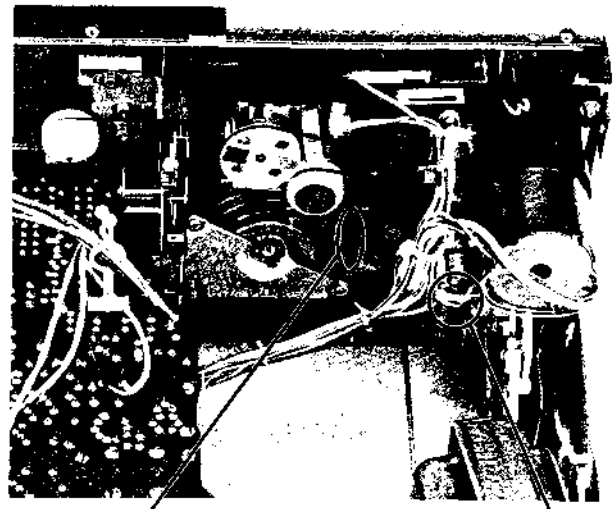
Forward Torque Adjustment

– Playback Mode –

Use type CQ-102A cassette torque meter.



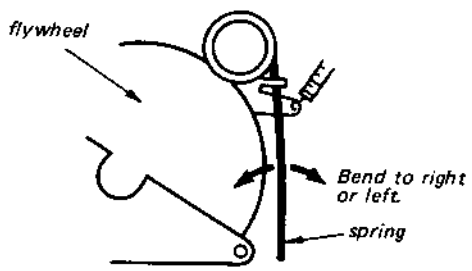
Specification: 28–50 g·cm
(0.39–0.69 oz·inch)



Fast Forward and Rewind Torque Adjustment

– Fast Forward and Rewind Modes –

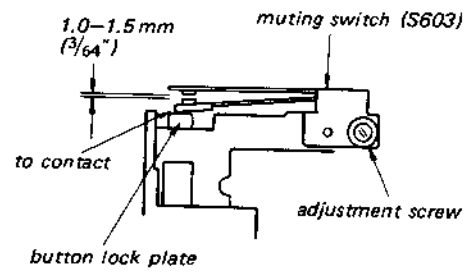
Use type CQ-201A cassette torque meter. Bend the spring for the torque of 55–95 g·cm (0.77–1.3 oz·inch).



Muting Switch (S603) Position Adjustment

– Stop Mode –

Loosen the adjustment screw and adjust the position of the switch as specified.



3-2. ELECTRICAL ADJUSTMENTS

Note: The adjustments should be performed in the order given in this service manual.
The adjustments should be performed for both L-CH and R-CH.

Switches should be set as follows unless otherwise specified.

DOLBY NR switch: OFF
EQ switch: NORMAL
BIAS switch: NORMAL

BIAS and EQ switch settings in accordance with tape used are as follows.

Tape	BIAS switch	EQ switch
CS-10	NORMAL	NORMAL
CS-20	HIGH	CrO_2
CS-30	NORMAL	Fe-Cr

Standard Record

Supply the standard input level signal to the LINE IN jack and set the REC LEVEL control to obtain the standard output level.

Standard Input Level

	MIC	LINE IN	REC/PB
source impedance	300 Ω	10 kΩ	100 kΩ
input level	0.77 mV (–60 dB)	0.25 V (–10 dB)	17 mV (–33 dB)

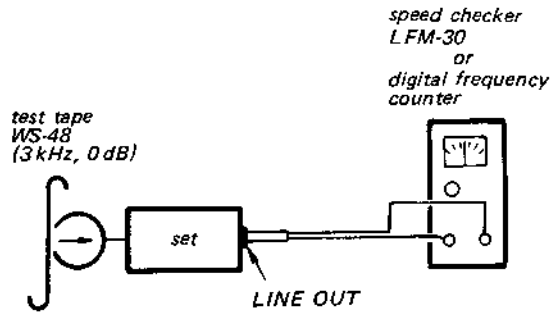
Standard Output Level

	LINE OUT	HEAD-PHONES	REC/PB
load impedance	100 kΩ	8 Ω	50 kΩ
output level	0.44 V (–5 dB)	39 mV (–26 dB)	0.44 V (–5 dB)

Tape Speed Adjustment

Procedure:

Mode: Playback



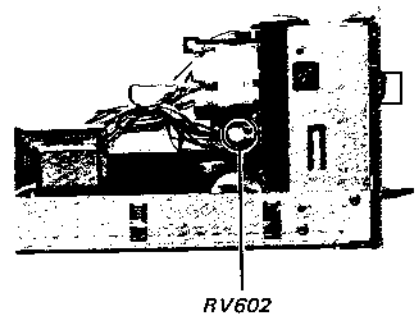
Adjust RV602 to obtain the specified values below.

Specification:

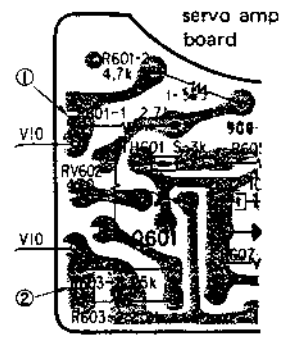
Speed checker	Digital frequency counter
±0.7%	2,980–3,020 Hz

Frequency difference between beginning and end of tape should be within 0.7% (20 Hz).

Adjustment Location:



If correct tape speed cannot be obtained by adjusting RV602, Solder ① or ②.

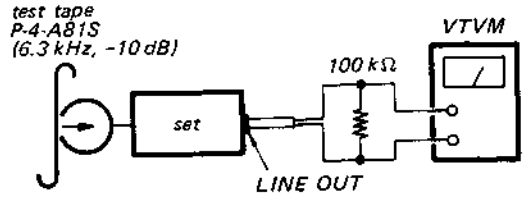


Solder portion	Tape speed
①	up
②	down

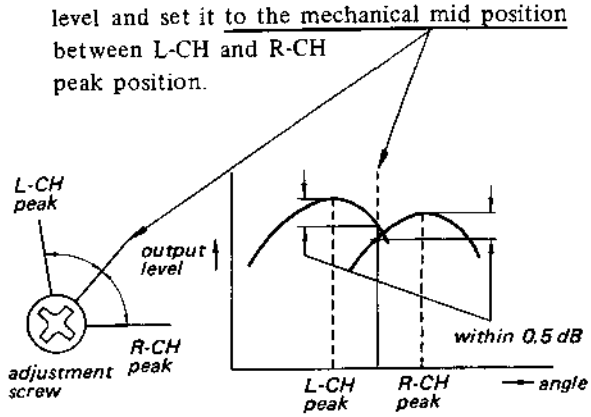
Record/playback Head Azimuth Adjustment

Procedure:

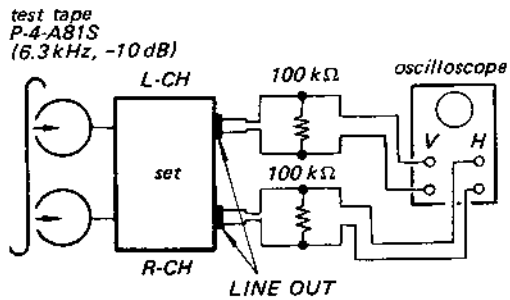
1. Mode: Playback

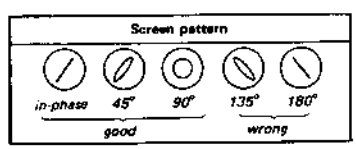


2. Turn the adjustment screw for the maximum level and set it to the mechanical mid position between L-CH and R-CH peak position.

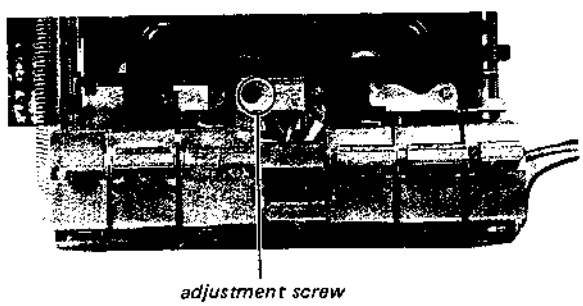


3. Mode: Playback





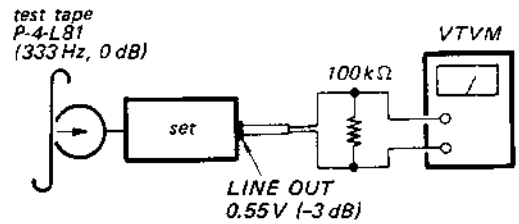
Adjustment Location:



Playback Level Adjustment

Procedure:

1. Mode: Playback



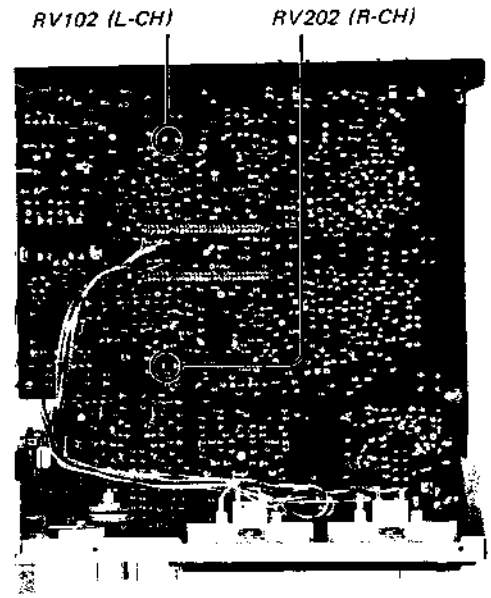
Adjust RV102 (L-CH) and RV202 (R-CH) to obtain 0.55 V (-3 dB) VTVM reading.

2. Assure that the LINE OUT level does not change when the mode is changed from playback to stop several times.

Specification:

LINE OUT level:	0.52–0.58 V (-2.5 – -3.5 dB)
Level difference between channels:	less than 0.5 dB

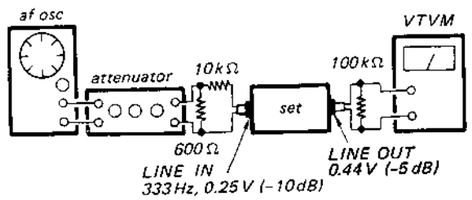
Adjustment Location:



VU Meter Calibration

Procedure:

1. Mode: Standard record (See page 11.)



2.

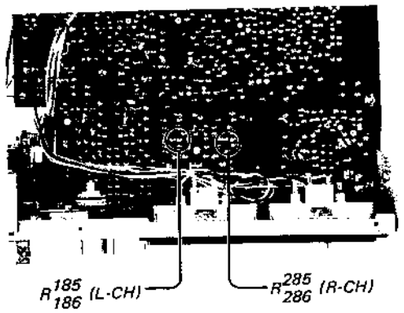
Adjust	VU meter reading: 0 VU
R^{185}_{186}	0
R^{285}_{286}	

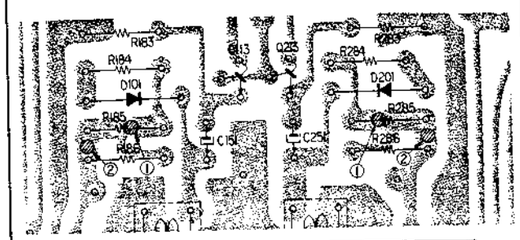
Adjust the pattern connection.

Specification:

When the LINE IN level is adjusted to make 0 VU indication, VTVM reading should be 0.44V (-5 dB).

Adjustment Location:



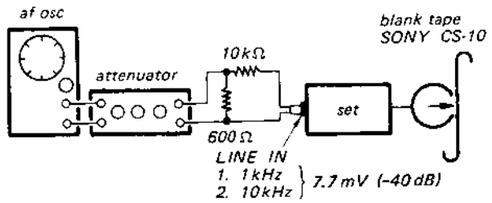


Pattern connection	Pointer deflection
open	down
① or ②	↑
both ① and ②	up

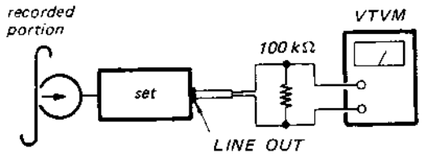
Record Bias Adjustment

Procedure:

1. Mode: Standard record (See page 11.)



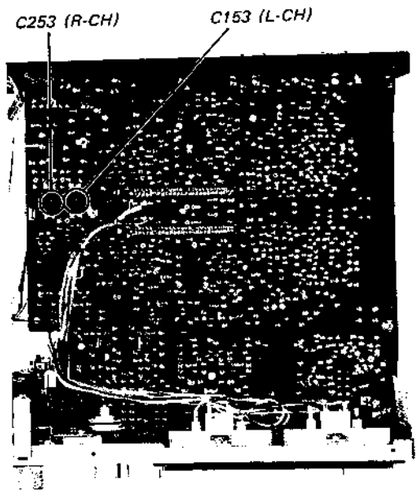
2. Mode: Playback



Adjust C153 (L-CH) and C253 (R-CH) to make 10 kHz and 1 kHz signal output levels equal.

Level difference between the two output levels: 0 dB ± 1 dB

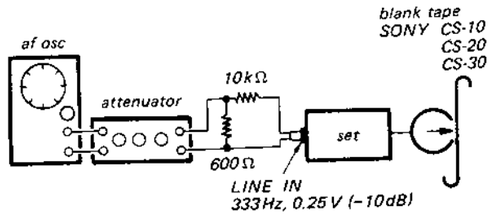
Adjustment Location:



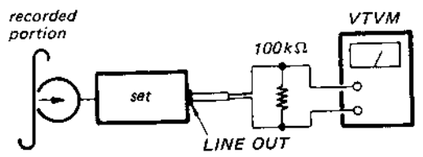
Record Level Adjustment

Procedure:

1. Mode: Standard record (See page 11.)



2. Mode: Playback



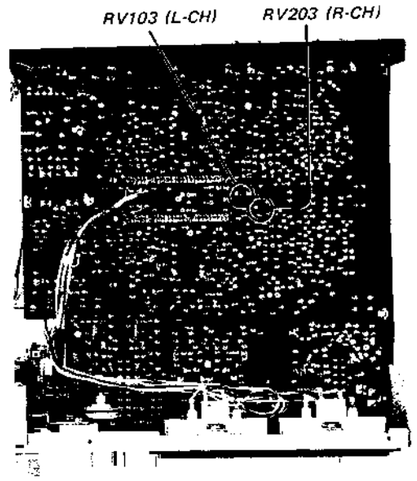
Adjust RV103 (L-CH) and RV203 (R-CH) to obtain 0.44 V (-5 dB) VTVM reading.

3. Change the blank tape to CS-20 and CS-30, and perform the same record and playback procedure. Measure LINE OUT level.

Specification:

SONY tape	LINE OUT level
CS-10	0.41–0.46V (-4.5 – -5.5 dB)
CS-20 CS-30	0.37–0.52V (-3.5 – -6.5 dB)

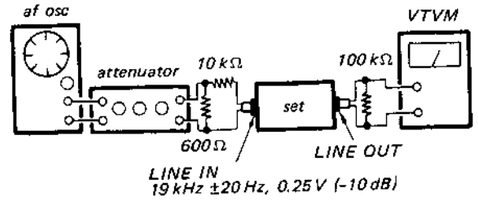
Adjustment Location:



19 kHz Filter Adjustment

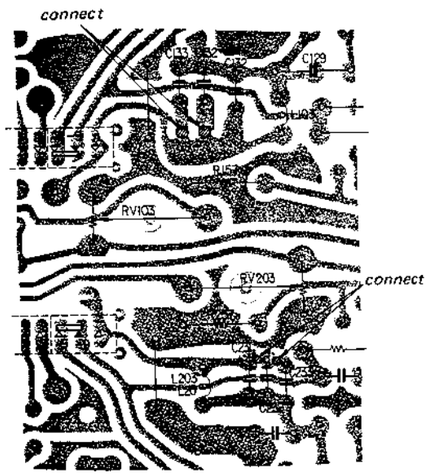
Procedure:

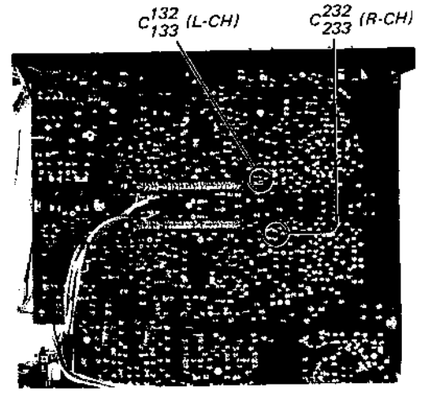
DOLBY NR switch: ON
Mode: Standard record (See page 11.)



Adjust the pattern connection for a minimum reading on VTVM.

Adjustment Location:





SECTION 4
DIAGRAMS

4-1. MOUNTING DIAGRAM

– Conductor Side –

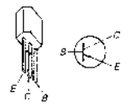
Replacement Semiconductors

For replacement, use semiconductors except in ( ).

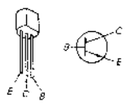
Q101–103, 105, 109
Q201–203, 205, 209: 2SC632A (2SC631A)

Q104, 106–108, 110–113
Q204, 206–208, 210–213: 2SC634A (2SC633A)

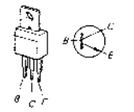
Q303, 601, 602



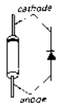
Q302: 2SC1475



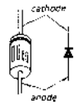
Q301: 2SC1760
Q603: 2SC1761



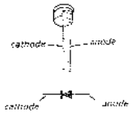
D101, 201: 1T22A (1T22)
D102, 104
D202, 204: 1S1555 (1S2076)
D103, 203: 1T22A
D301–304
D308, 309: 10E2 (10E1)
D307, 601: 1S1555 (1T40)



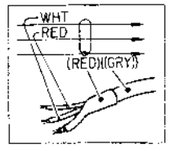
D305: EQB01-21 (EQA01-21R)



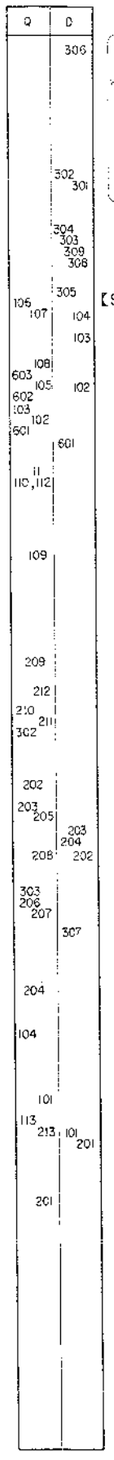
D306: SLP24B
(LED)

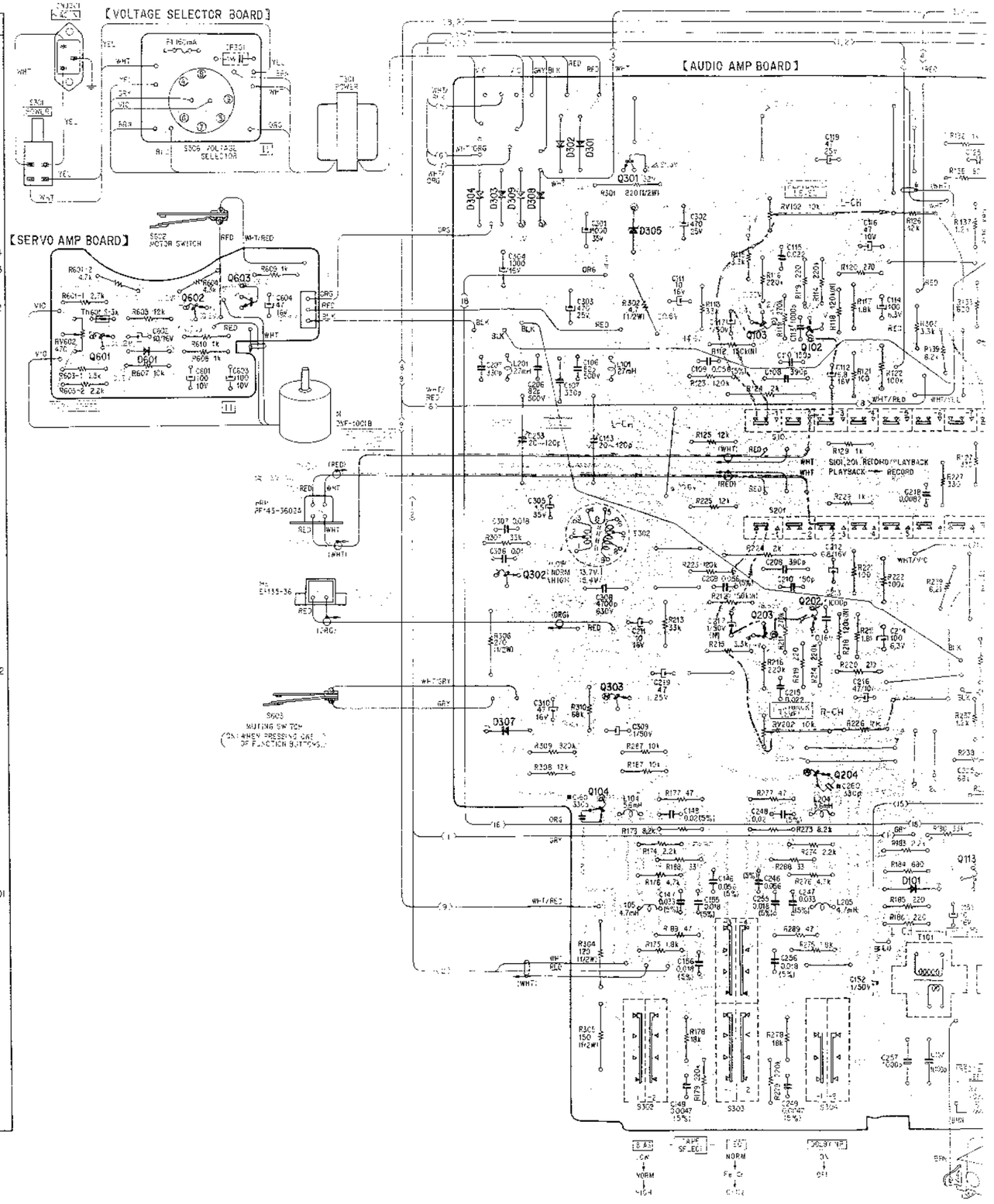


Note:
- ○— : parts extracted from the component side.
- ●— : parts extracted from the conductor side.
- ● : part mounted on the conductor side.
- : B+ pattern.
- : signal path.
- Color code of sleeving over the end of the jacket.



- Readings are taken under no-signal conditions with a VOM (20 kΩ/V).
  : record/FORWARD
  : FORWARD
- AC voltage readings indicated by ' in the bias oscillator circuit are taken with a VTVM.





【VOLTAGE SELECTOR BOARD】

【AUDIO AMP BOARD】

【SERVO AMP BOARD】

【LED BOARD】

D305 (LED)

S603 MUTING SWITCH (ON: WHEN PRESSING ONE OF FUNCTION BUTTONS.)

S601 TIMING SWITCH

S602 MOTOR SWITCH

S201 RECORD/PLAYBACK

S101 REC LEVEL LEFT

RV101 20k(B)

RV201 20k(B)

S501 INPUT SELECT REC MODE

S502 TAPE SELECT

S503 FL NORM Hi-Cr CrO2

S504 DOLBY NR ON Off

J1 MIC

J3 HEADPHONES

MIC REC/PB LINE REC MUTE

REC LEVEL LEFT

REC LEVEL RIGHT

MIC

LINE OUT

LINE IN

MECH. LEFT

MECH. RIGHT

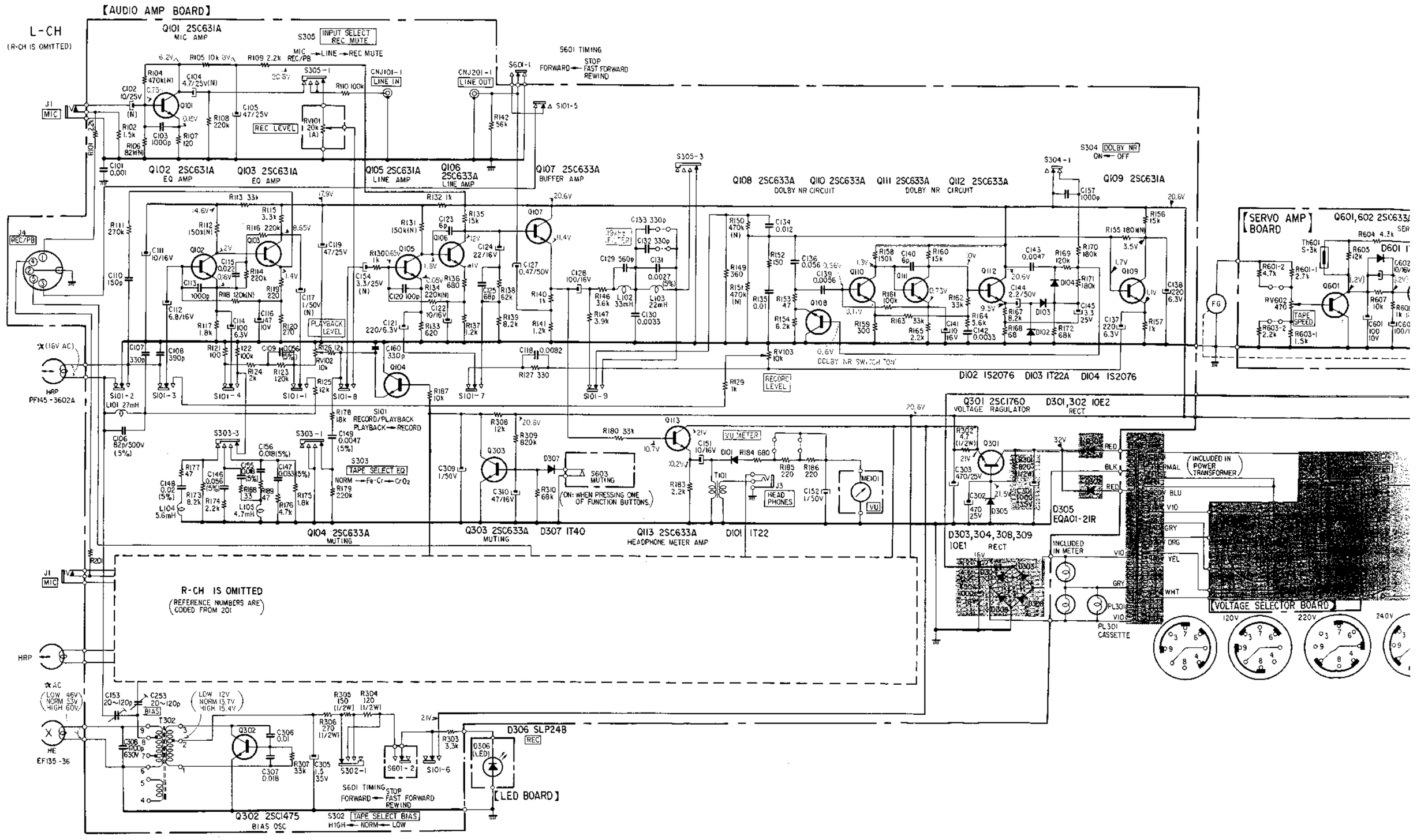
STOP FAST FORWARD REW NC FORWARD

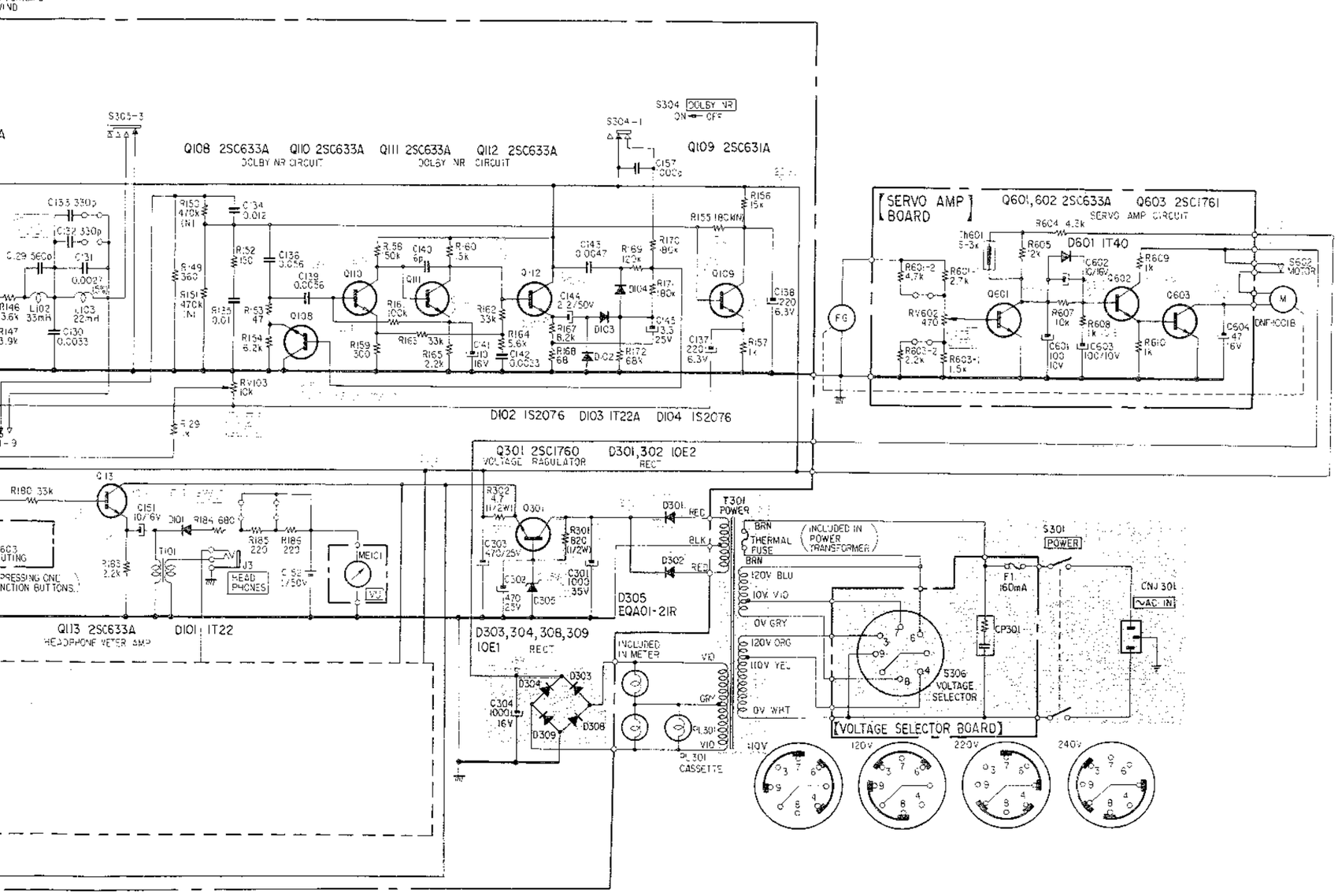
LOW NORM HIGH

NORM Hi-Cr CrO2

ON Off

4-2. SCHEMATIC DIAGRAM





Note:

- Components for right channel have the same values as for left channel. Reference numbers are coded from 201.
- All capacitors are in μF unless otherwise noted. pF = μμF 50WV or less are not indicated except for electrolytics.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ = 1000Ω, MΩ = 1000 kΩ
- Adjustable resistors have characteristic curve B, unless otherwise noted.
- (N) : low-noise capacitor and resistor.
- 5% indicates component tolerance.
- : B+ bus.
- : panel designation.
- : adjustment for repair.
- : direct connection to points marked on the chassis.
- : chassis ground.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM (20 kΩ/V).
  - : record/FORWARD
  - : FORWARD
- AC voltage readings indicated by * in the bias oscillator circuit are taken with a VTVM.
- Voltage variations may be noted due to normal production tolerances.
- Switch

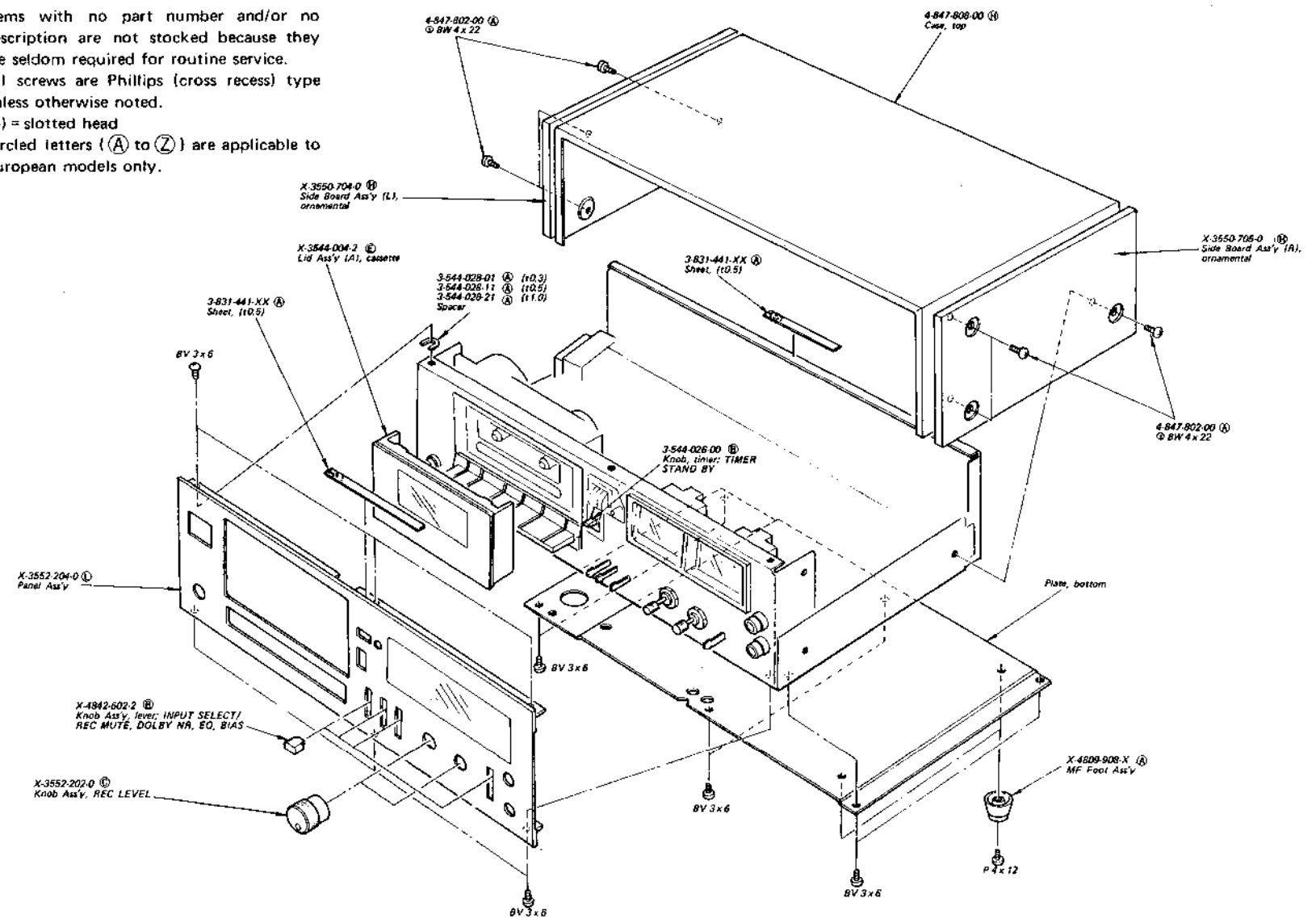
Ref. No.	Switch	Position
S101	RECORD/PLAYBACK (L-CH)	PLAYBACK
S201	RECORD/PLAYBACK (R-CH)	PLAYBACK
S301	POWER	OFF
S302	TAPE SELECT BIAS	LOW
S303	TAPE SELECT EQ	NORM
S304	DOLBY NR	OFF
S305	INPUT SELECT REC MUTE	MIC
S306	VOLTAGE SELECTOR	
S601	TIMING	STOP FAST FORWARD REWIND
S602	MOTOR	OFF
S603	MUTING	OFF

Note: The components identified by shading are critical for safety. Replace only with part number specified.

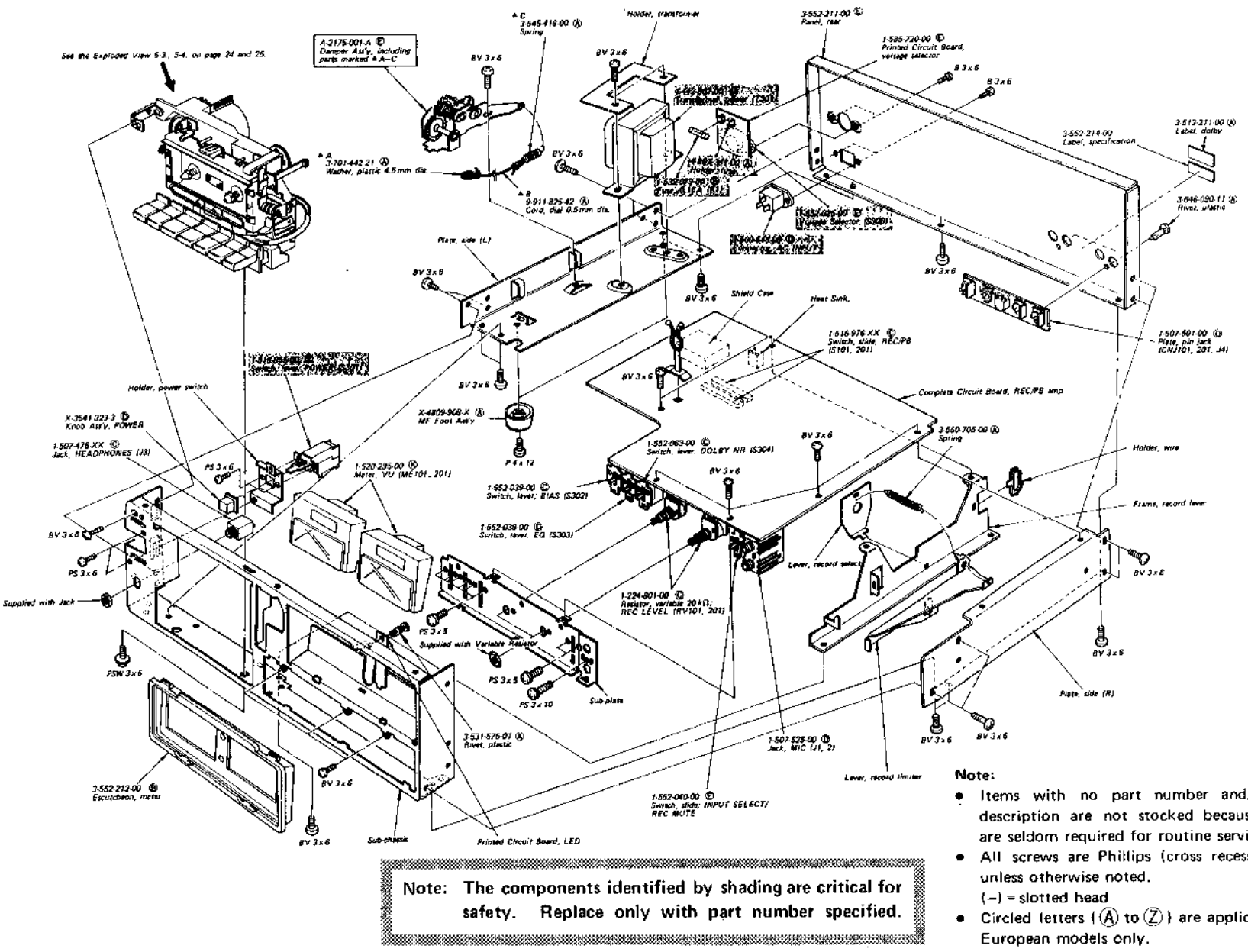
5-1.

Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.



5-2.

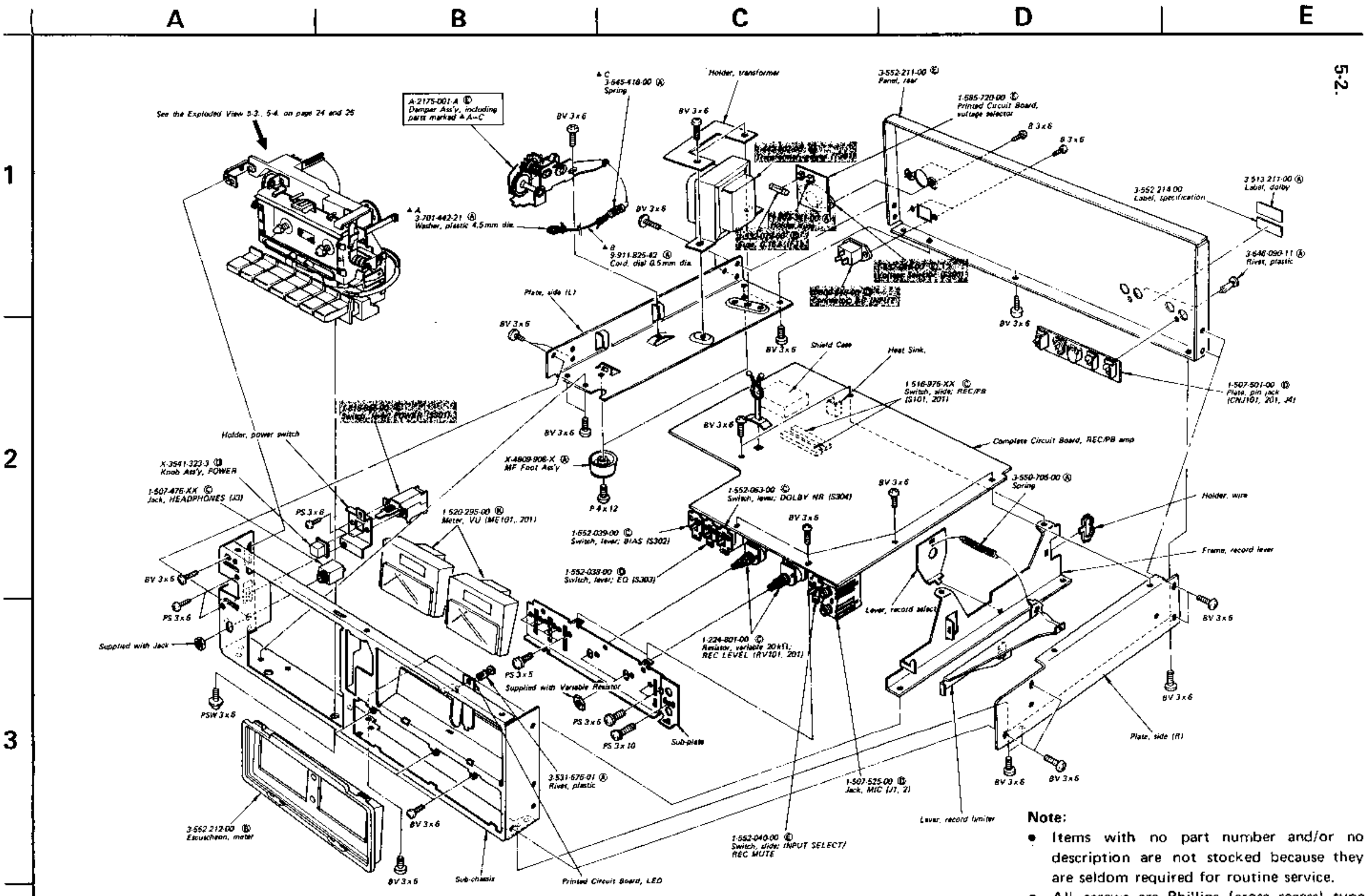


Note: The components identified by shading are critical for safety. Replace only with part number specified.

Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

5-2.



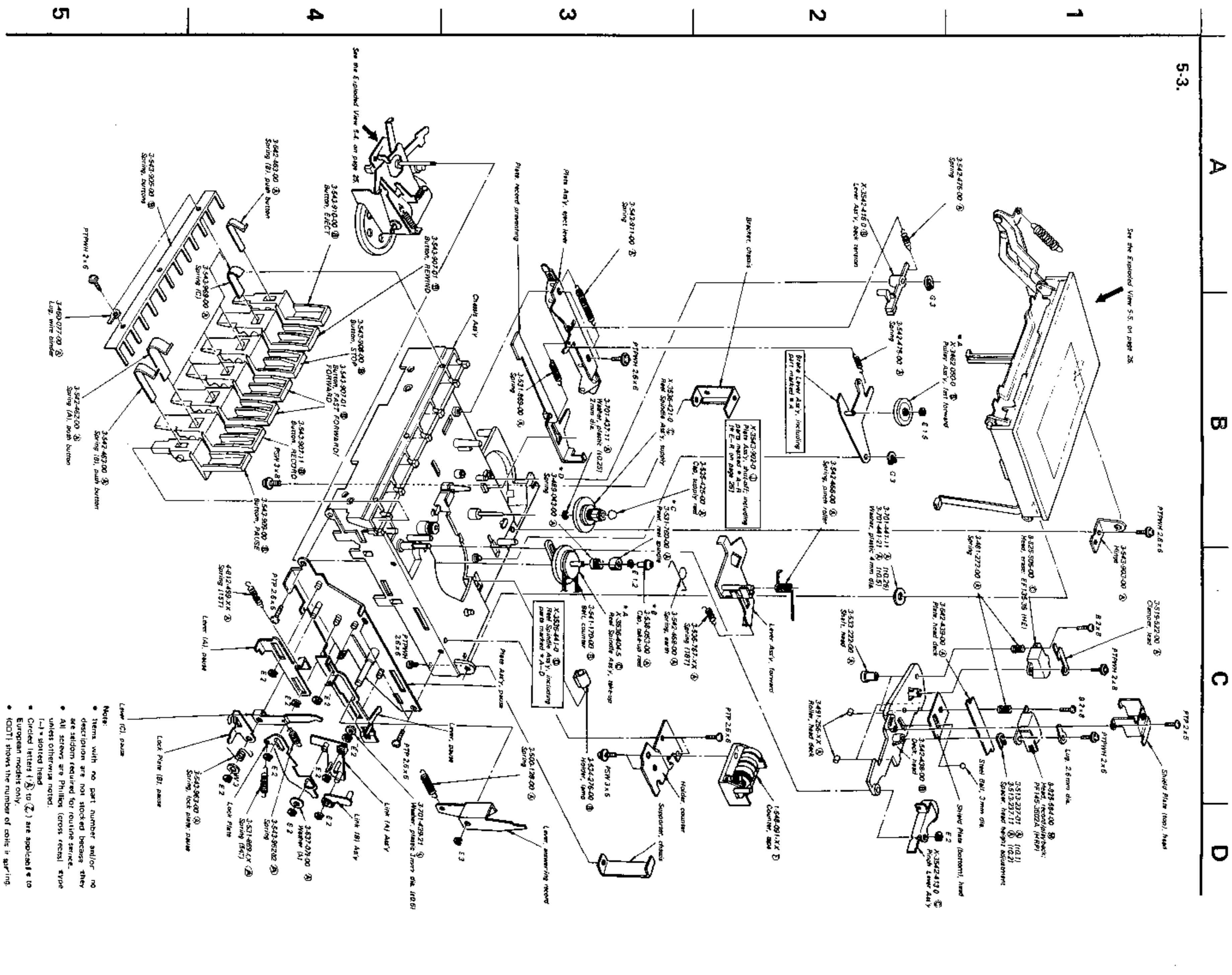
Note: The components identified by shading are critical for safety. Replace only with part number specified.

Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted. (—) = slotted head
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

TC-188SD TC-188SD

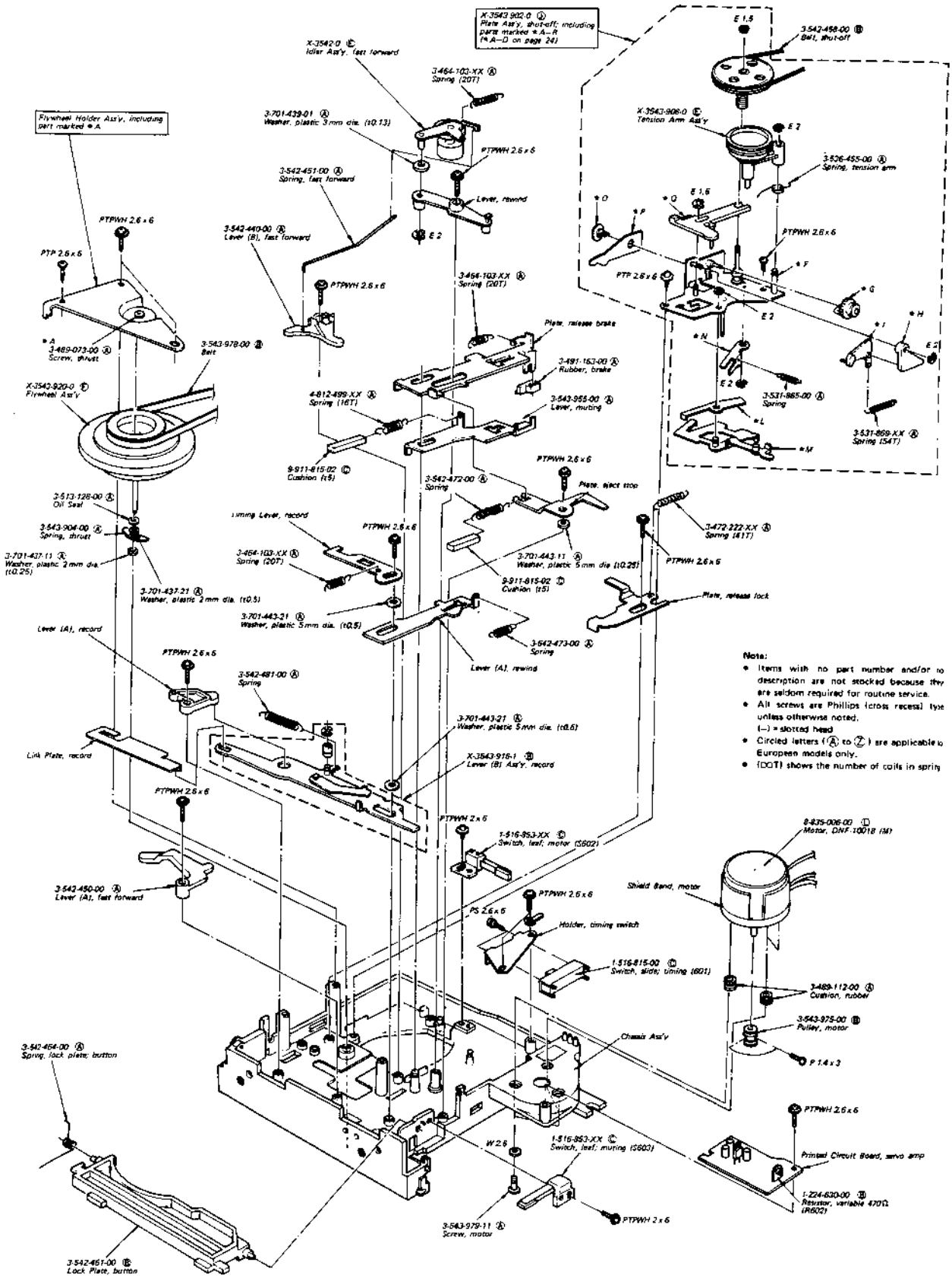
5-3.



Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted. (—) = slotted head
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.
- (OOT) shows the number of coils in spring.

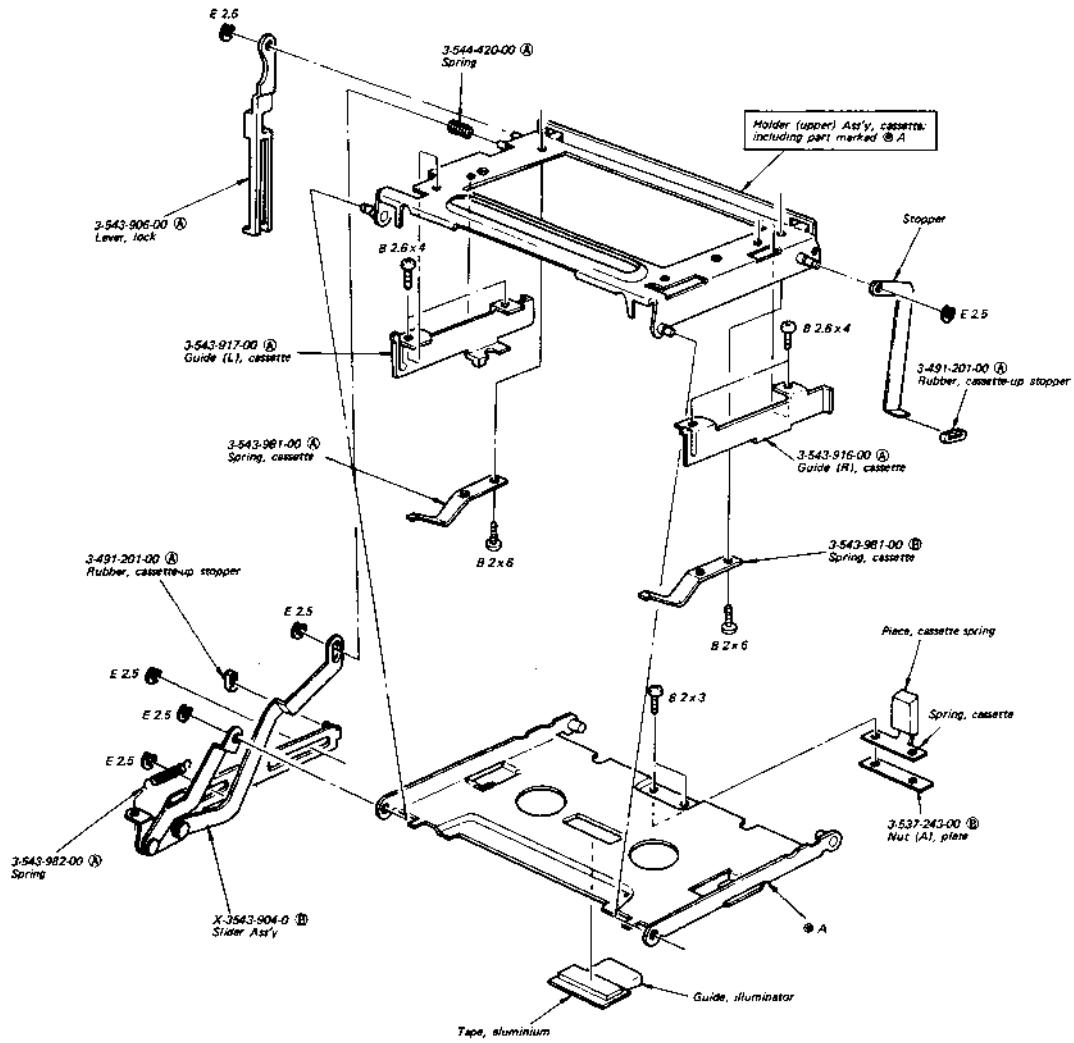
5-4.


X-3543-902-0 Ⓘ
Plate Ass'y, shut-off; including parts marked * A–R
(* A–O on page 24)
Flywheel Holder Ass'y, including part marked * A
X-3542-0 Ⓒ
Idler Ass'y, fast forward
3-464-103-XX Ⓐ
Spring (20T)
3-701-439-01 Ⓐ
Washer, plastic 3mm dia. (t0.13)
PTPWH 2.6 x 6
3-542-451-00 Ⓐ
Spring, fast forward
Lever, rewind
E 2
3-542-440-00 Ⓐ
Lever (B), fast forward
PTP 2.6 x 5
* A
3-469-073-00 Ⓐ
Screw, thrust
3-543-978-00 Ⓑ
Belt
X-3542-920-0 Ⓕ
Flywheel Ass'y
4-812-499-XX Ⓐ
Spring (16T)
Plate, release brake
3-491-163-00 Ⓐ
Rubber, brake
3-543-955-00 Ⓐ
Lever, muting
9-911-815-02 Ⓒ
Cushion (t5)
3-542-472-00 Ⓐ
Spring
Plate, eject stop
3-513-128-00 Ⓐ
Oil Seal
3-543-904-00 Ⓐ
Spring, thrust
3-701-437-11 Ⓐ
Washer, plastic 2mm dia. (t0.25)
3-701-437-21 Ⓐ
Washer, plastic 2mm dia. (t0.5)
Timing Lever, record
3-701-443-11 Ⓐ
Washer, plastic 5mm dia (t0.25)
3-472-222-XX Ⓐ
Spring (41T)
Plate, release lock
3-701-443-21 Ⓐ
Washer, plastic 5mm dia. (t0.5)
3-542-473-00 Ⓐ
Spring
Lever (A), rewind
Lever (A), record
3-542-481-00 Ⓐ
Spring
Link Plate, record
3-701-443-21 Ⓐ
Washer, plastic 5mm dia. (t0.6)
X-3543-916-1 Ⓑ
Lever (B) Ass'y, record
3-542-450-00 Ⓐ
Lever (A), fast forward
1-516-953-XX Ⓒ
Switch, leaf; motor (S602)
8-835-006-00 Ⓓ
Motor, DNF-10018 (M)
Shield Band, motor
PS 2.6 x 5
Holder, timing switch
1-516-815-02 Ⓒ
Switch, slide; timing (S601)
3-489-112-00 Ⓐ
Cushion, rubber
3-543-975-00 Ⓑ
Pulley, motor
P 1.4 x 3
Chassis Ass'y
3-542-464-00 Ⓐ
Spring, lock plate; button
W 2.6
1-516-953-XX Ⓒ
Switch, leaf; muting (S603)
Printed Circuit Board, servo amp
1-224-830-00 Ⓑ
Resistor, variable 470Ω (R602)
3-543-979-11 Ⓐ
Screw, motor
3-542-461-00 Ⓒ
Lock Plate, button
3-542-458-00 Ⓑ
Belt, shut-off
X-3543-906-0 Ⓔ
Tension Arm Ass'y
3-526-455-00 Ⓐ
Spring, tension arm
3-531-865-00 Ⓐ
Spring
3-531-869-XX Ⓐ
Spring (54T)
E 1.5
E 1.6
* O
* P
* Q
* F
* G
* H
* I
* J
* K
* L
* M
Note:
• Items with no part number and/or no description are not stocked because they are seldom required for routine service.
• All screws are Phillips (cross recess) type unless otherwise noted.
(–) = slotted head
• Circled letters (Ⓐ to Ⓩ) are applicable to European models only.
• (00T) shows the number of coils in spring

A B C D

1 2 3 4

5-5.



Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

SECTION 6
ELECTRICAL PARTS LIST

Note:
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Ref. No.	Part No.	Description

PRINTED CIRCUIT BOARD

	1-587-720-00	Ⓔ Voltage Selector

SEMICONDUCTORS

Transistors

⇒ Q101–103, ⇒ Q201–203		Ⓑ 2SC632A
⇒ Q104,204		Ⓑ 2SC634A
⇒ Q105,205		Ⓑ 2SC632A
⇒ Q106–108, ⇒ Q206–208		Ⓑ 2SC634A
⇒ Q109,209		Ⓑ 2SC632A
⇒ Q110–113, ⇒ Q210–213		Ⓑ 2SC634A
Q301		Ⓒ 2SC1760
Q302		Ⓒ 2SC1475
⇒ Q303		Ⓑ 2SC634A
⇒ Q601,602		Ⓑ 2SC634A
Q603		Ⓒ 2SC1761

Diodes

⇒ D101,201		Ⓑ 1T22A
⇒ D102,202		Ⓑ 1S1555
D103,203		Ⓑ 1T22A
⇒ D104,204		Ⓑ 1S1555
[illegible]		[illegible]
⇒ D305		Ⓑ EQB01-21
D306		Ⓒ SLP24B
⇒ D307		Ⓑ 1S1555
[illegible]		[illegible]
⇒ D601		Ⓑ 1S1555

Thermistor

Th601	1-800-200-00	Ⓑ S-3K

COILS

L101,201	1-407-211-XX	Ⓑ Microinductor, 27 mH
L102,202	1-407-212-XX	Ⓑ Microinductor, 33 mH
L103,203	1-407-210-XX	Ⓑ Microinductor, 22 mH
L104,204	1-407-203-XX	Ⓑ Microinductor, 5.60 mH
L105,205	1-407-202-XX	Ⓑ Microinductor, 4.70 mH

TRANSFORMERS

T101,201	1-427-424-00	Ⓒ Output
[illegible]	[illegible]	[illegible]
T302	1-433-132-00	Ⓒ Osc

CAPACITORS

All capacitors are in μF and ceramic unless otherwise noted.
50WV or less are not indicated except for electrolytics. pF = μμF, elect = electrolytic

C101	1-161-323-11	Ⓐ 0.001		
C102,202	1-121-748-11	Ⓐ 10	25V	elect
C103,203	1-102-074-11	Ⓐ 0.001		
C104,204	1-121-915-11	Ⓐ 4.7	25V	elect
C105,205	1-121-410-11	Ⓑ 47	25V	elect
C106,206	1-107-037-11	Ⓐ 82p	500V	silvered mica
C107	1-161-317-11	Ⓐ 330p		
C108,208	1-161-318-11	Ⓐ 390p		
C109,209	1-108-361-12	Ⓐ 0.056		mylar
C110,210	1-102-108-11	Ⓐ 150p		
C111,211	1-121-651-11	Ⓐ 10	16V	elect
C112,212	1-121-748-11	Ⓐ 10	25V	elect
C113,213	1-102-074-11	Ⓐ 0.001		
C114,214	1-121-414-11	Ⓐ 100	6.3V	elect
C115,215	1-108-242-12	Ⓐ 0.022		mylar
C116,216	1-121-352-11	Ⓐ 47	10V	elect
C117,217	1-121-912-11	Ⓐ 1	50V	elect
C118,218	1-102-128-11	Ⓐ 0.0082		
C119,219	1-121-410-11	Ⓑ 47	25V	elect
C120,220	1-102-106-11	Ⓐ 100p		

- ⇒ Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.

Note: The components identified by shading are critical for safety. Replace only with part number specified.

Note:
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Ref. No.	Part No.				
C121,221	1-121-419-11	Ⓑ	220	6.3V	elect
C122,222	1-121-651-11	Ⓐ	10	16V	elect
C123,223	1-102-943-11	Ⓐ	6p		
C124,224	1-121-479-11	Ⓐ	22	16V	elect
C125,225	1-101-888-11	Ⓐ	68p		
C127,227	1-121-726-11	Ⓐ	0.47	50V	elect
C128,228	1-121-415-11	Ⓑ	100	16V	elect
C129,229	1-161-320-11	Ⓐ	560p		
C130,230	1-102-123-11	Ⓐ	0.0033		
C131,231	1-108-353-12	Ⓐ	0.0027		mylar
C132,133 C232,233	1-102-112-11	Ⓐ	330p		
C134,234	1-108-357-12	Ⓐ	0.012		mylar
C135,235	1-108-239-12	Ⓐ	0.01		mylar
C136,236	1-108-361-12	Ⓐ	0.056		mylar
C137,138 C237,238	1-121-419-11	Ⓑ	220	6.3V	elect
C139,239	1-102-126-11	Ⓐ	0.0056		
C140,240	1-102-943-11	Ⓐ	6p		
C141,241	1-121-651-11	Ⓐ	10	16V	elect
C142,242	1-102-123-11	Ⓐ	0.0033		
C143,243	1-102-125-11	Ⓐ	0.0047		
C144,244	1-121-986-11	Ⓐ	2.2	50V	elect
C145,245	1-121-960-11	Ⓐ	3.3	25V	elect
C146,246	1-108-361-12	Ⓐ	0.055		mylar
C147,247	1-108-244-12	Ⓐ	0.033		mylar
C148,248	1-108-586-12	Ⓑ	0.02		mylar
C149,249	1-108-234-12	Ⓐ	0.0047		mylar
C151,251	1-161-323-11	Ⓐ	0.001		
C152,252	1-121-391-11	Ⓐ	1	50V	elect
C153,253	1-141-010-XX	Ⓑ			trimmer
C154,254	1-121-913-11	Ⓐ	3.3	25V	elect
C155,156 C255,256	1-108-358-12	Ⓐ	0.018		mylar
C201	1-102-074-51	Ⓐ	0.001		
C207	1-102-112-11	Ⓐ	330p		
C301	1-121-961-11	Ⓒ	1000	35V	elect
C302,303	1-121-940-11	Ⓑ	470	25V	elect
C304	1-121-944-11	Ⓔ	1000	16V	elect
C305	1-131-216-21	Ⓑ	1.5	35V	tantalum
C306	1-108-239-12	Ⓐ	0.01		mylar
C307	1-108-358-12	Ⓐ	0.018		mylar
C308	1-129-710-11	Ⓐ	0.0047	630V	
C309	1-121-391-11	Ⓐ	1	50V	elect
C310	1-121-970-11	Ⓐ	47	16V	elect
C601	1-121-414-11	Ⓐ	100	10V	elect
C602	1-121-651-11	Ⓐ	10	16V	elect
C603	1-121-414-11	Ⓐ	100	10V	elect
C604	1-121-409-11	Ⓐ	47	16V	elect

RESISTORS

All resistors are in ohms. Common ¼W carbon resistors are omitted.
Check schematic diagram for values.

R301	1-202-711-11	Ⓒ	120	½W	composition
R302	1-202-517-11	Ⓐ	4.70	½W	composition
R304	1-202-551-11	Ⓐ	120	½W	composition
R305	1-202-553-11	Ⓐ	150	½W	composition
R306	1-202-559-11	Ⓐ	270	½W	composition
RV101,201	1-224-801-00	Ⓒ	Variable, 20kΩ; RECORD LEVEL		
RV102,103 RV202,203	1-224-645-XX	Ⓑ	Adjustable, 10k		
RV202,203	1-224-645-XX	Ⓑ	Adjustable, 10k		
RV602	1-224-630-00	Ⓑ	Adjustable, 470		

SWITCHES

S101,201	1-514-976-XX	Ⓒ	Slide, REC/PB
S301	1-552-039-00	Ⓒ	Lever, BIAS
S302	1-552-039-00	Ⓒ	Lever, BIAS
S303	1-552-038-00	Ⓓ	Lever, EQ
S304	1-552-063-00	Ⓒ	Lever, DOLBY NR
S305	1-552-040-00	Ⓔ	Lever, INPUT SELECT/ RECORD MUTE
S306	1-552-040-00	Ⓔ	Voltage Selector
S601	1-516-815-00	Ⓒ	Lever, timing
S602,603	1-516-853-XX	Ⓒ	Leaf, motor

Note: The components identified by shading are critical for safety. Replace only with part number specified.

Note:
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Ref. No.	*Part No.*	*Description*
		FUSE
F1	1-532-079-00	Ⓑ 0.16A
		MISCELLANEOUS
CNJ101,102 J4	1-536-501-00	Ⓓ Jack, LINE IN, LINE OUT REC/PB
CP301	1-231-057-31	Ⓑ Encapsulated Component
HE	8-825-506-00	Ⓒ Head, erase; EF135-36
HRP	8-825-584-00	Ⓜ Head, record/playback; PF145-3602A
J1,2	1-507-525-00	Ⓓ Jack, MICROPHONE
J3	1-507-476-XX	Ⓒ Jack, HEADPHONES
M	8-835-006-00	Ⓛ Motor, DNF-1001B
ME101,201	1-520-295-00	Ⓚ Meter, VU
PL301	1-518-115-XX	Ⓑ Lamp. pilot 6V 35 mA
CNJ301	1-509-546-00	Ⓔ Connector [illegible]
	1-518-273-00	Ⓑ Lamp, VU meter

ACCESSORIES

Part No.	*Description*
X-3544-013-0	Ⓑ Cushion Ass'y
X-3701-105-0	Ⓐ Tips Ass'y, head cleaning
1-534-049-31	Ⓕ Cord, connection; RK-74H
[illegible]	[illegible] Cord, 3-p power (UK model)
[illegible]	[illegible] Cord, power with [illegible] plug ([illegible] model)
[illegible]	[illegible] Cord, power with parallel blade plug (E model)
3-552-221-00	Ⓔ Carton (AEP, UK model)
3-552-222-00	Carton (E model)
3-701-630-00	Ⓐ Bag, plastic
3-770-228-11	Ⓕ Manual, instruction

Note: The components identified by shading are critical for safety. Replace only with part number specified.

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STEREO
CASSETTE DECK

TC-188SD

AEP Model
UK Model
E Model

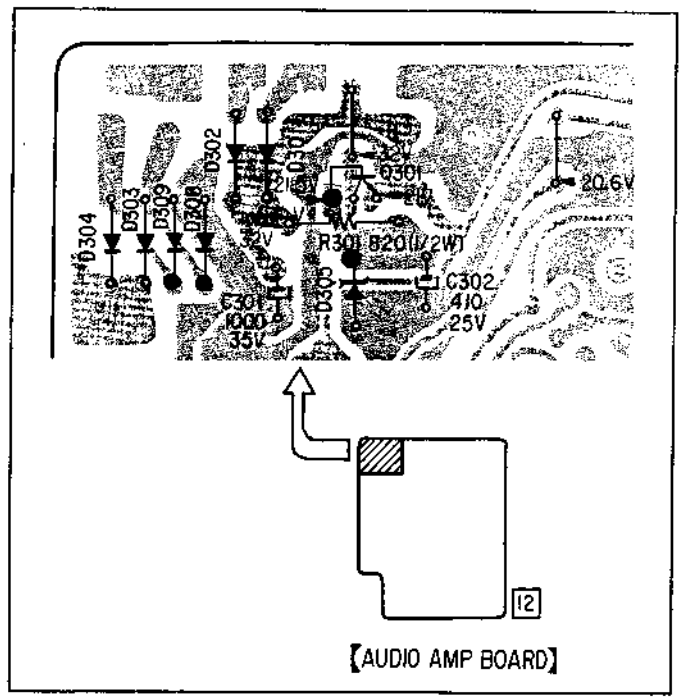
SUPPLEMENT

Subject: Pattern Change

No. 1
June, 1977

File this supplement with the service manual.

The pattern around Q301 is changed in the later set as shown below.
When installing Q301, be carefull of the base and the emitter position.



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