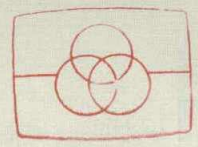


TC-63

UK Model
AEP Model
E Model
AUS Model



Free service manuals
Gratis schema's
Digitized by

www.freesevicemanuals.info

CASSETTE-CORDER

SPECIFICATIONS

Power Requirements: 240 V ac ~, 50 Hz (UK, AUS model)
220 V ac, 50 Hz (AEP model)
110 - 120 or 220 - 240 V ac,
50/60 Hz (E model)
6 V dc ---, four size-C batteries
(IEC designation R14)

Power Consumption: 6 W ac

Power Output: 700 mW (Total Harmonic Distortion
10 %) (UK, AUS model)
1,000 mW (max.) (AEP, E model)

Speaker: 7.7 cm (3 inches) dia.

Recording System: 2-track 1-channel monaural

Fast Winding Time: Approx. 2 min. with Sony Cassette C-60

Frequency Response: 150 - 8,000 Hz

Input: Microphone input jack . . . 1 (minijack)
sensitivity 0.2 mV (-72 dB)
for low impedance microphone

Output: Earphone jack 1 (minijack)
8 Ω earphone or load impedance
10 k Ω or higher

Other Jack: Remote control jack 1

Battery Life: Approx. 6 hours of continuous recording
from the Built-in MICROPHONE with
Sony Long-life Batteries, size C

Dimensions: Approx. 144 (w) x 68 (h) x 280 (d) mm
Approx. 5 $\frac{7}{8}$ (w) x 2 $\frac{5}{8}$ (h) x 11 (d) inches
Including projecting parts and controls, with
Carrying Handle put back in place

Weight: Approx. 1.7 kg, 3 lb 12 oz
Including batteries

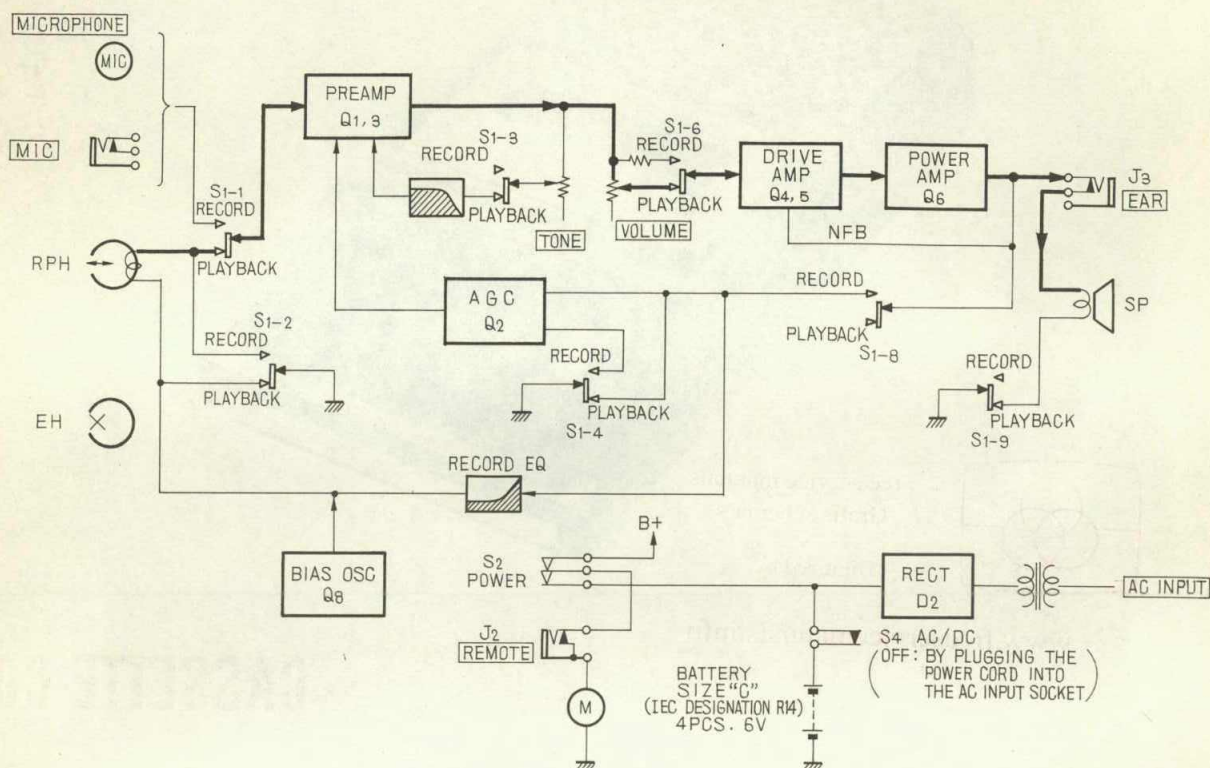
SAFETY-RELATED COMPONENT WARNING!!
COMPONENTS IDENTIFIED BY SHADING ON THE
SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE
CRITICAL TO SAFE OPERATION. REPLACE THESE
COMPONENTS WITH SONY PARTS WHOSE PART
NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR
IN SUPPLEMENTS PUBLISHED BY SONY.

SONY[®]

SERVICE MANUAL

SECTION 1

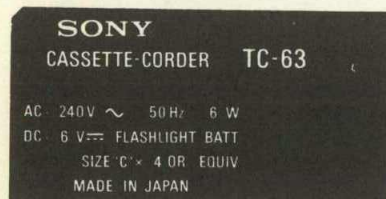
BLOCK DIAGRAM



MODEL IDENTIFICATION

— Specification Labels —

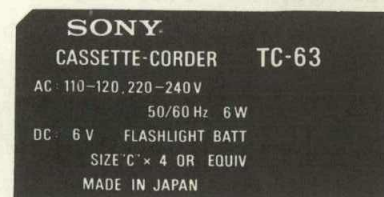
UK model



AEP model



E model



AUS model

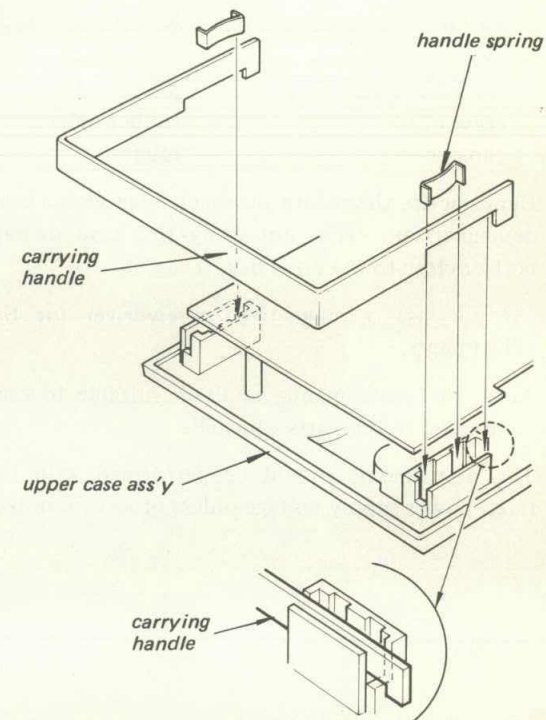


SECTION 2 DISASSEMBLY AND REPLACEMENT

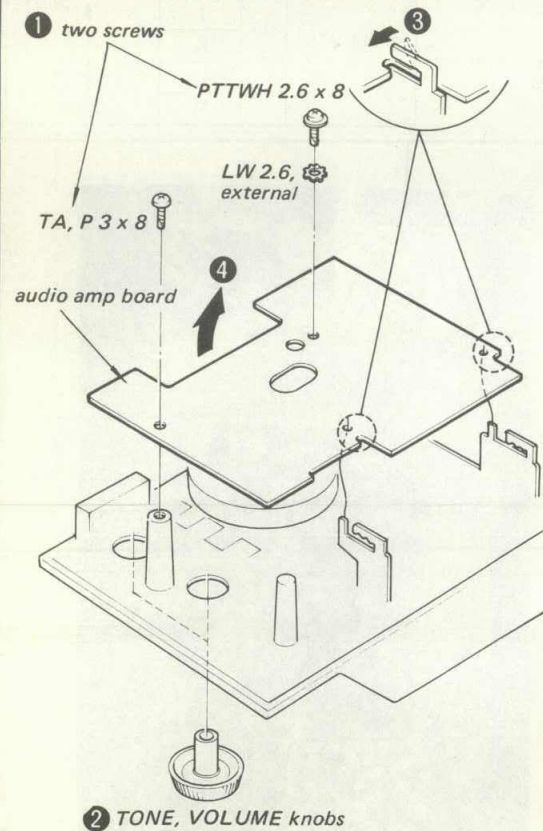
LOWER CASE REMOVAL

Remove four TA, P 3 x 14 screws.

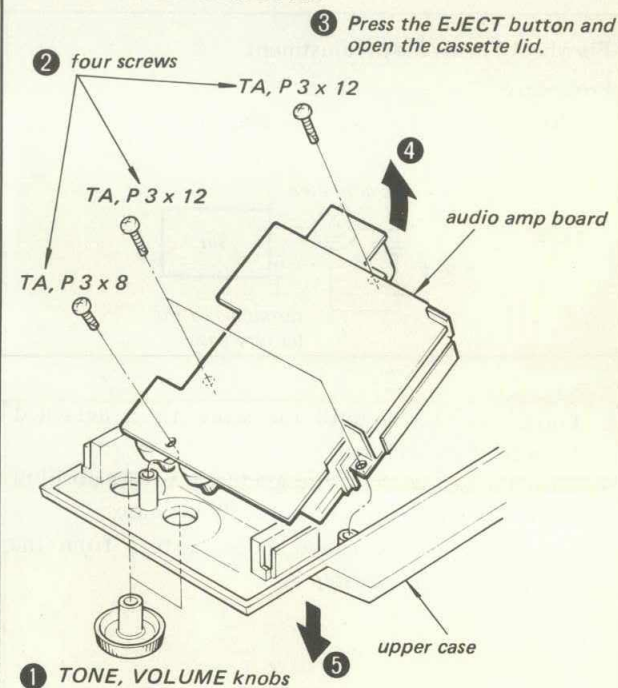
CARRYING HANDLE REMOVAL



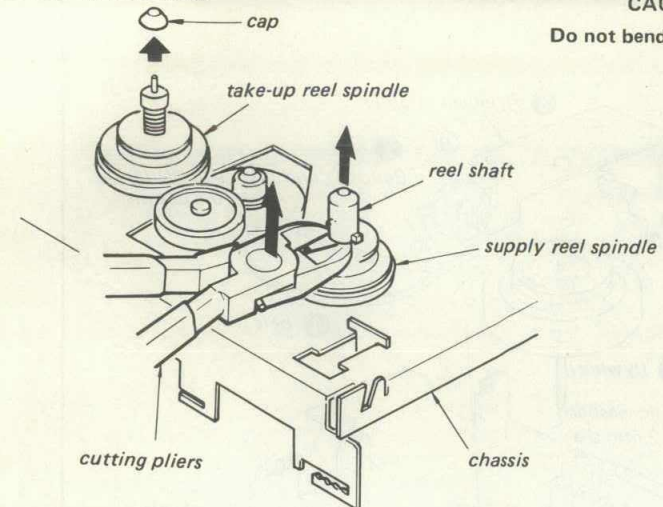
AUDIO AMP BOARD REMOVAL



UPPER CASE REMOVAL

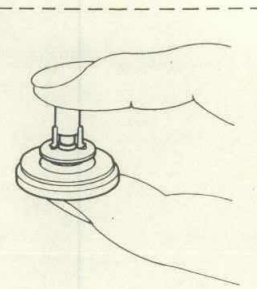


REEL SPINDLES REMOVAL



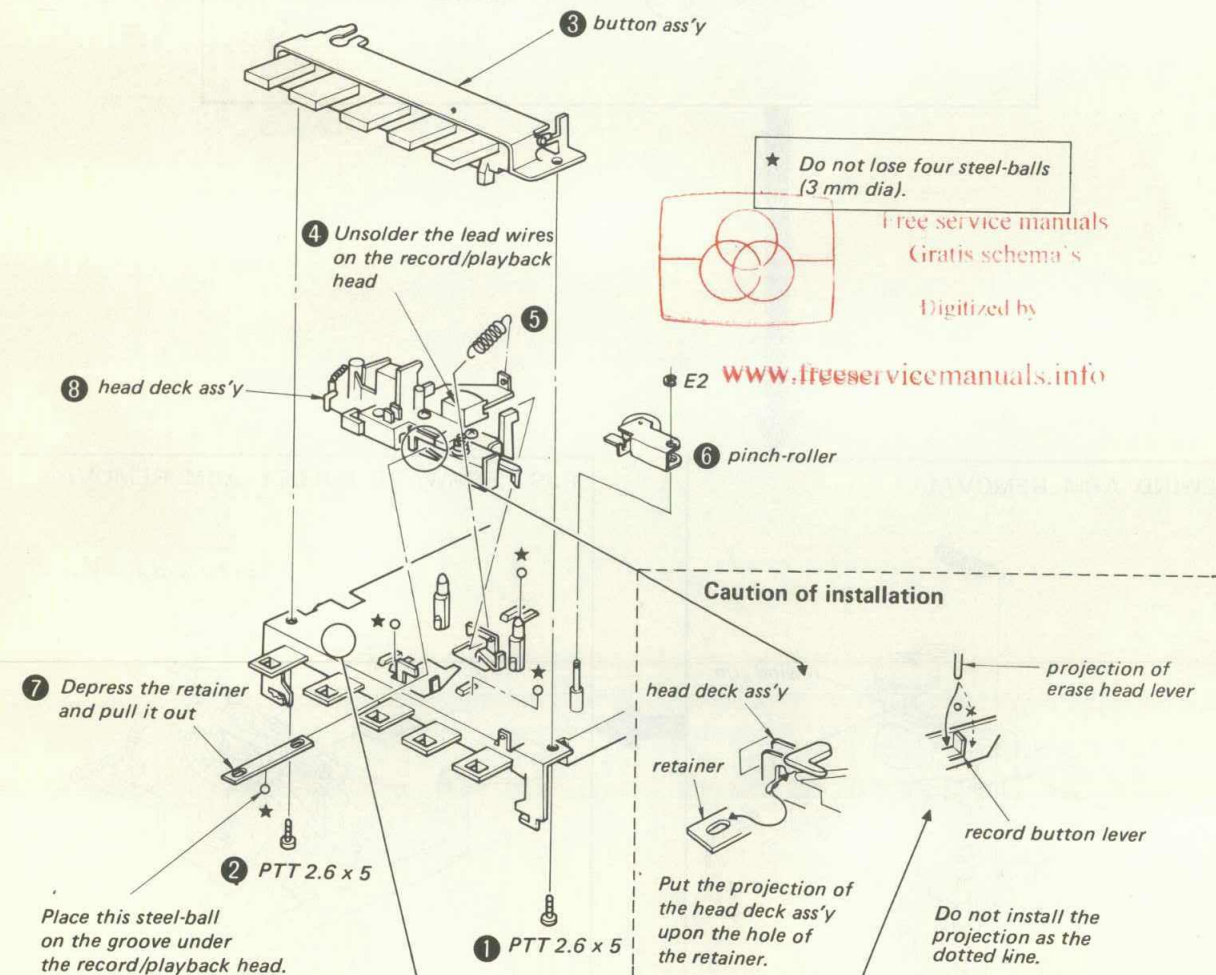
CAUTION

Do not bend the reel shaft.



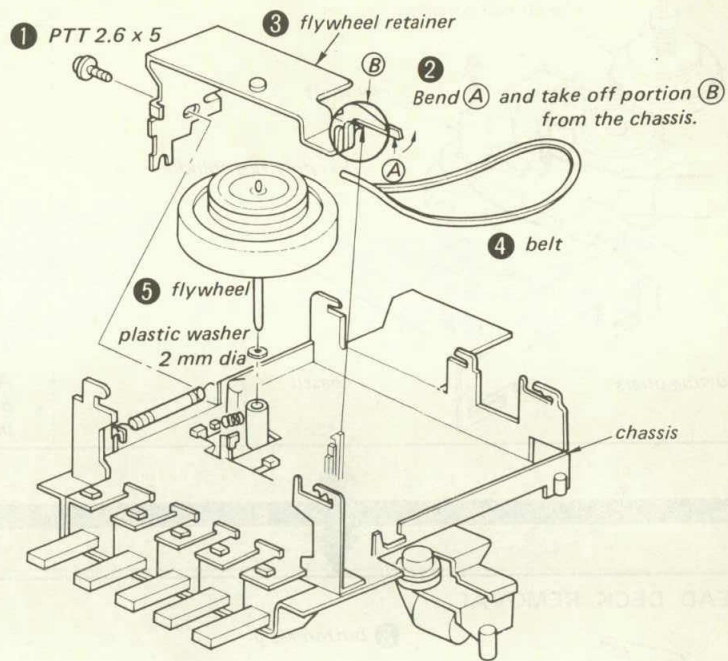
After assembling the reel shaft on the supply reel spindle, install them on the chassis.

BUTTONS AND HEAD DECK REMOVAL



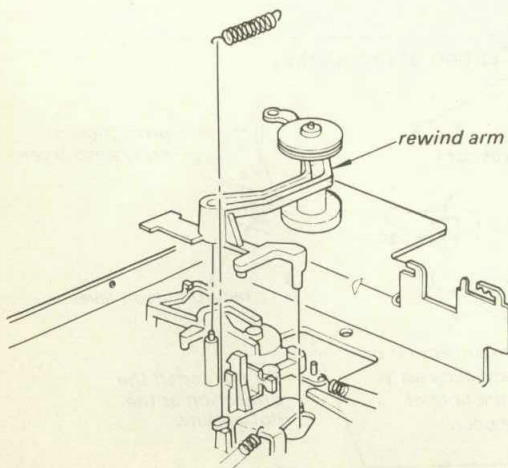
SECTION 3
ADJUSTMENTS

FLYWHEEL AND BELT REMOVAL

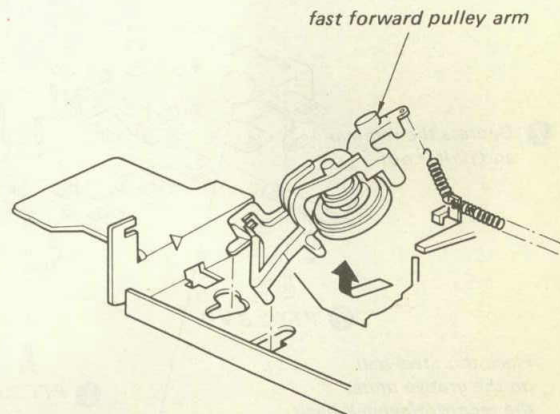


Continued from page 4.

REWIND ARM REMOVAL



FAST FORWARD PULLEY ARM REMOVAL



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.

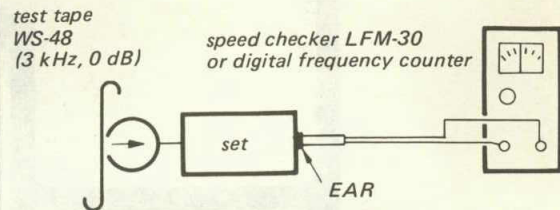
Tape Speed Adjustment

Settings:

Power source: 6 V dc
VOLUME control: mechanical mid

Procedure:

1. Mode: playback

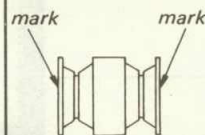


Specification:

Speed checker	Digital frequency counter
± 3 %	2910 Hz ~ 3090 Hz

Frequency difference between beginning and end of tape should be within 1 % (30 Hz).

If necessary, replace the motor pulley.



Motor Pulley

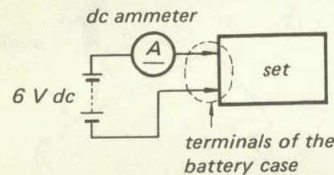
Part No.	Mark	Tape Speed
9-911-875-	04 H	down
	05 J	↑
	06 K	↓
	06 L	up

Note:
Perform the motor pulley height adjustment.

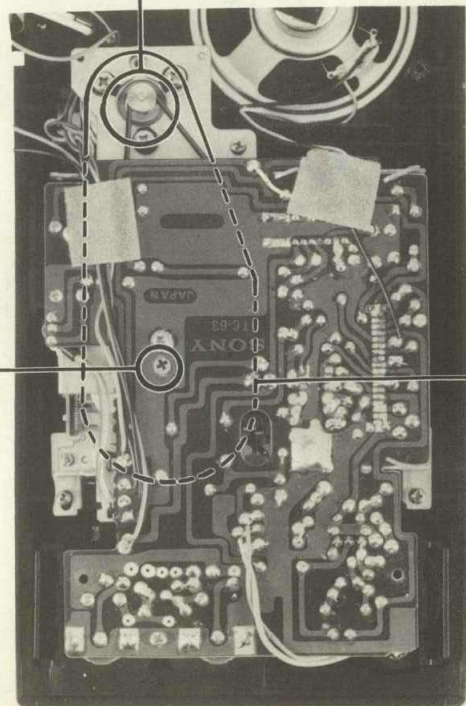
Flywheel Thrust Play Adjustment

Procedure:

1. Mode: playback



2. Loosen the screw until the screw tip is detached from the flywheel shaft.
3. Turn the screw clockwise gradually to the position where the motor current suddenly increases.
4. Then, loosen the screw about ¼ turn from the position obtained in step 3.

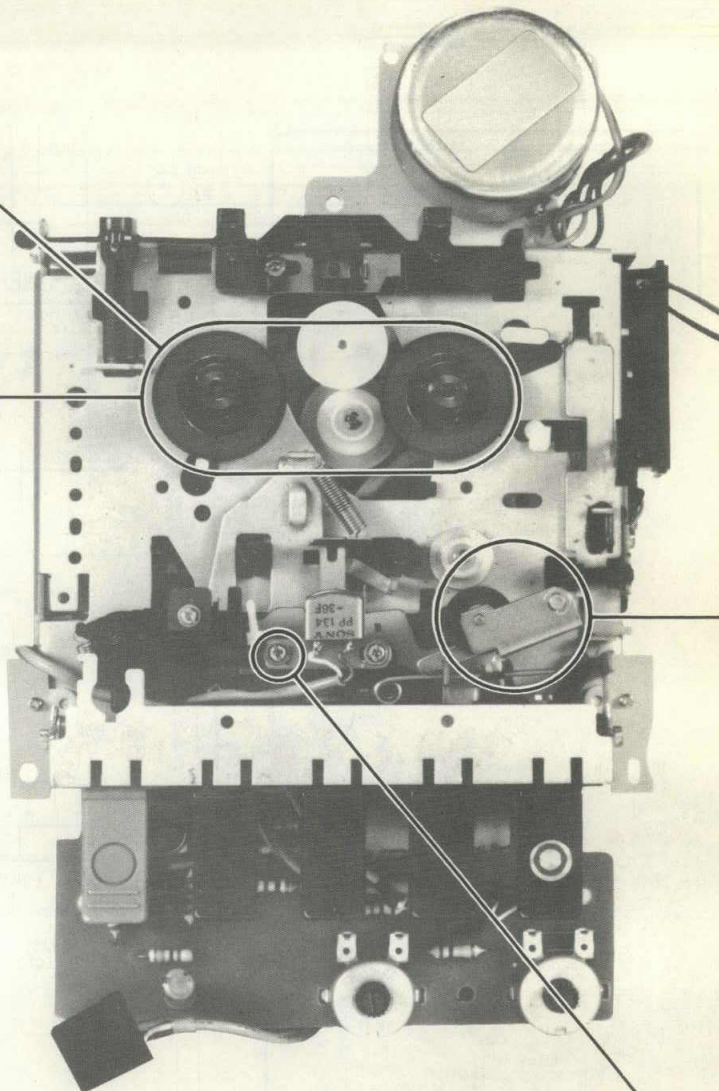


Fast Forward and Rewind Torque Measurement

Torque meter	Meter reading
SONY CQ-201A	more than 60 g . cm (more than 0.84 oz . inch)

Forward Torque Measurement

Torque meter	Meter reading
SONY CQ-101A, CQ-102A, CQ-103A	25 ~ 55 g . cm (0.35 ~ 0.77 oz . inch)

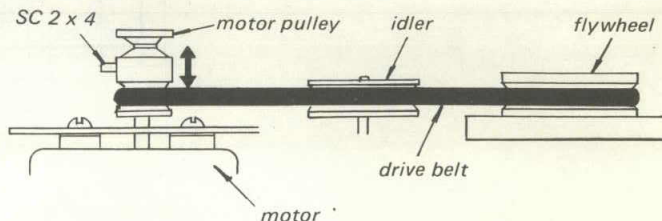


Motor Pulley Height Adjustment

After replacing the motor pulley or the flywheel, this adjustment should be performed.

Procedure:

1. Keep the set horizontal.
2. Adjust the motor pulley height so that the drive belt is straight without twist.

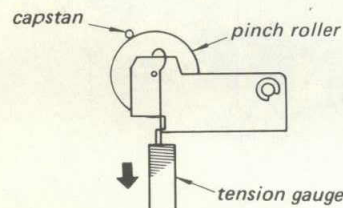


Pinch Roller Pressure Adjustment
— playback mode —

1. Depressing the forward button slowly, confirm the center of the pinch roller to touch the capstan at first.



2. Pull the pinch roller away from the capstan using a tension gauge as shown by the arrow. Make the pinch roller return to the capstan slowly. The pressure should be measured at the point where the pinch roller just contacts the capstan.



Specification:

290 ~ 370 g (10 ~ 13 oz)

Wow and Flutter Measurement

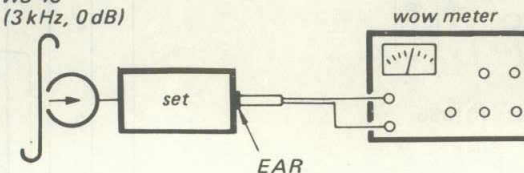
Settings:

VOLUME control: mechanical mid
Power source: 6 V dc

Procedure:

1. Mode: playback

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



Specification:

less than 0.38 % (RMS)

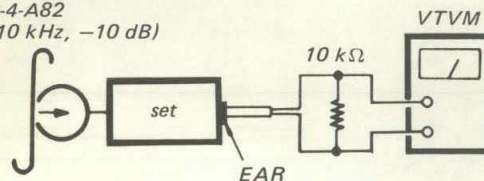
Note: Measure wow and flutter for beginning and end portion of the test tape (WS-48).

Record/playback Head Azimuth Adjustment

Procedure:

1. Mode: playback

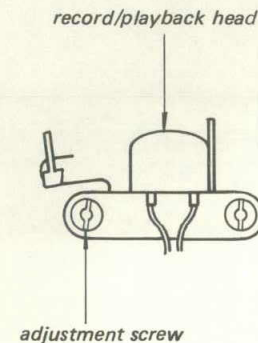
test tape
P-4-A82
(10 kHz, -10 dB)



2. Turn the adjustment screw for the highest VTVM reading.

Note: Several peaks may appear, take the highest.

Adjustment Location:

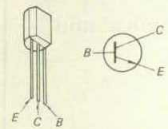


SECTION 4

DIAGRAMS

4-1. MOUNTING DIAGRAM — Conductor Side —

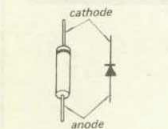
Q1, 3: 2SC1362
Q2, 4: 2SC1364
Q5, 8: 2SC1364



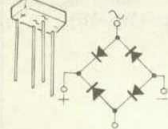
Q6: BX324



D1: 1S1555

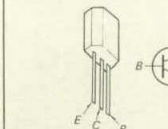


D2: S1RB10



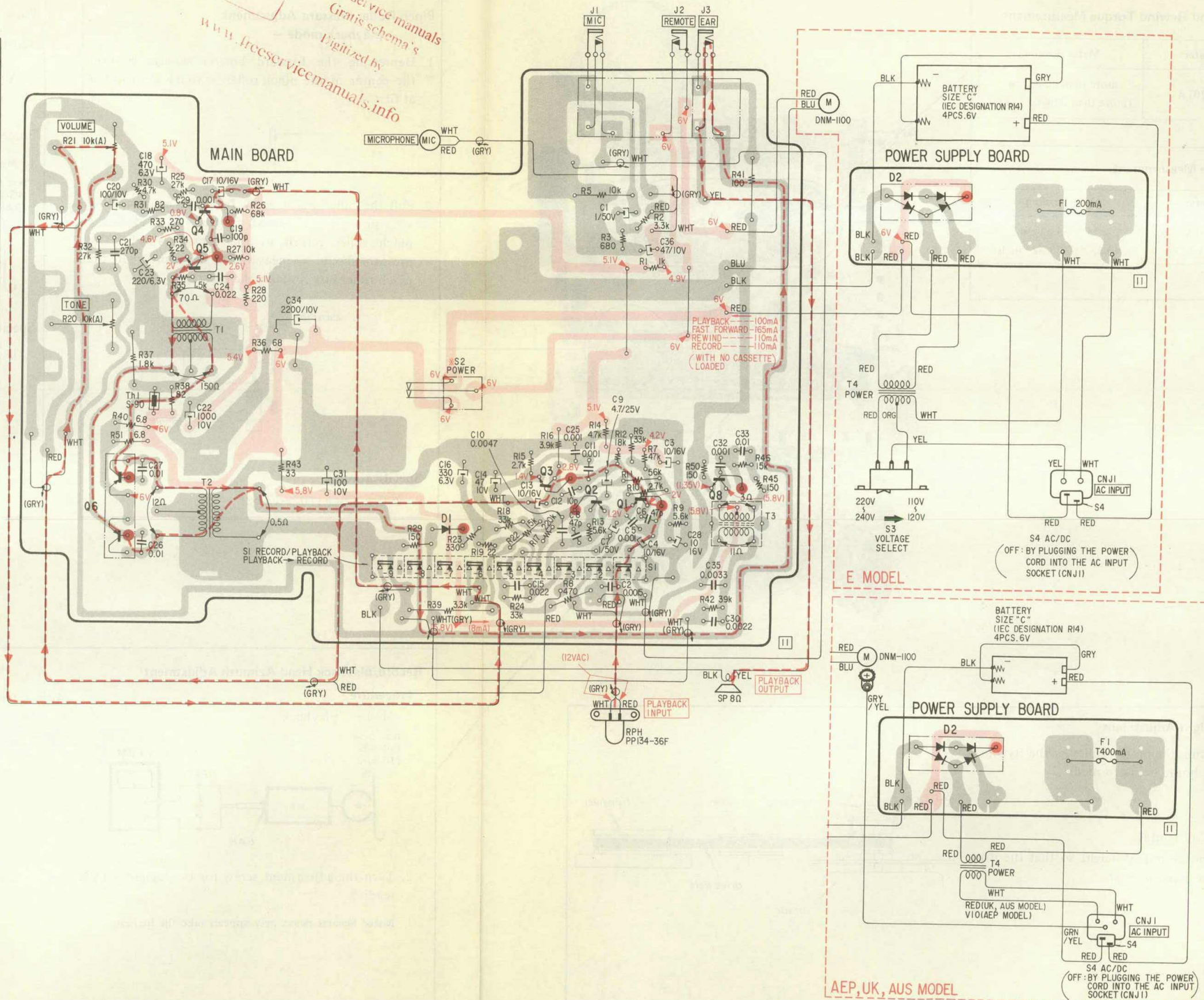
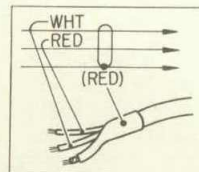
Replacement Semiconductors

Q2, 4 } 2SC634A
Q5, 8 }

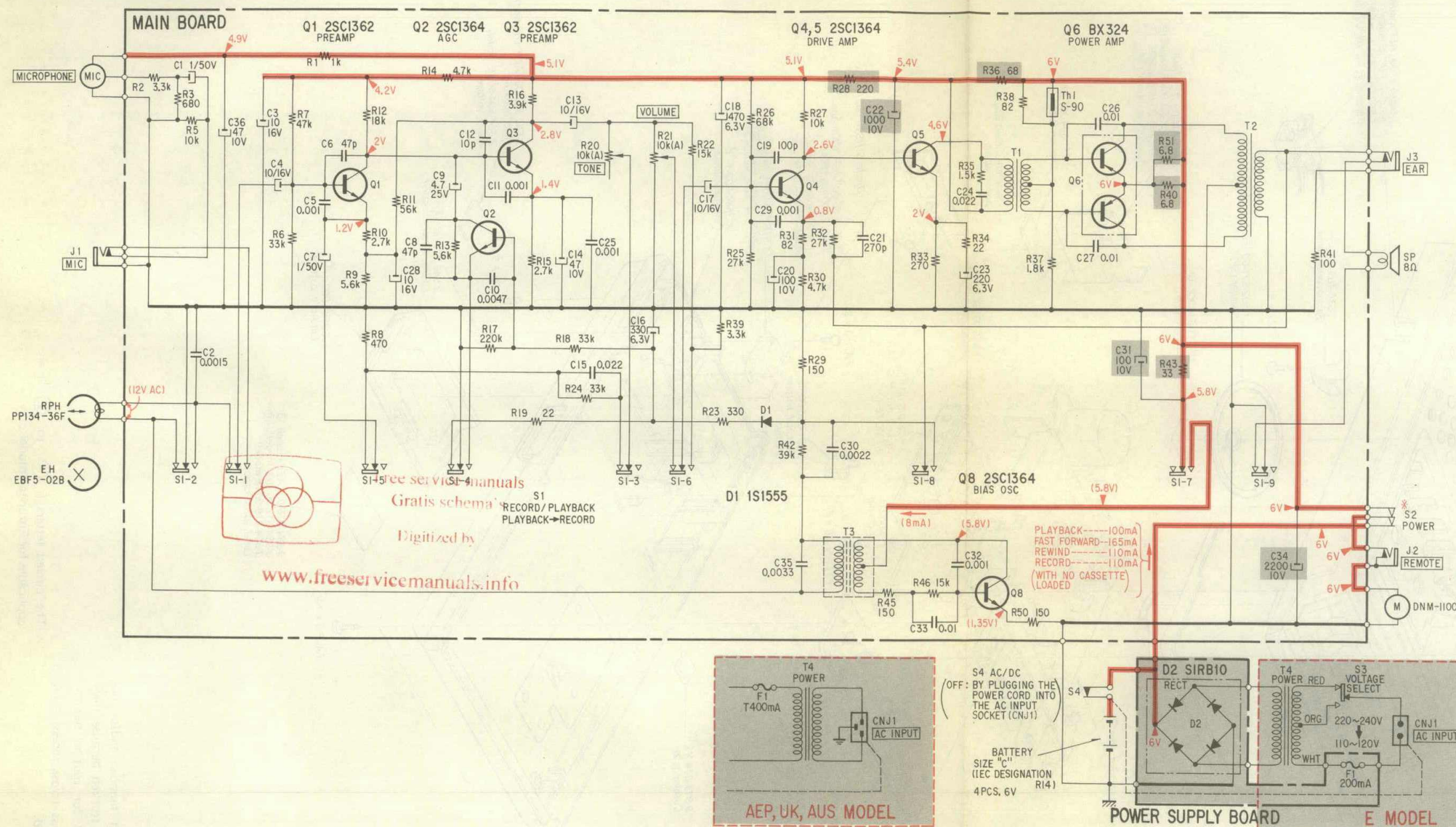


Note:

-  : B+ pattern
-  : Playback Signal Path



4.2. SCHEMATIC DIAGRAM

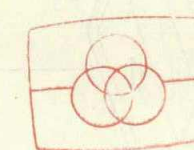


Note:

- All capacitors are in μF unless otherwise noted. 50 or less working voltages are not indicated except for electrolytic type. $\text{p} = \mu\text{F}$
- All resistors are in Ω , $\frac{1}{4}\text{W}$, unless otherwise noted. $\text{k} = 1,000$ $\text{M} = 1,000\text{k}$
- --- : direct connection to points marked --- on the chassis.
- --- indicates chassis ground.
- --- indicates B+ circuit.
- Voltages are DC with respect to ground unless otherwise noted. Readings are taken under no-signal conditions with a VOM (20k Ω /V). Readings in () are in record mode. no mark: common
- Voltage variations may be noted due to normal production tolerances.
- AC voltage readings on bias oscillator circuit are taken with a VTVM.
- DC resistance of transformer is measured on the mounted board. The average value is indicated.
- --- indicates designation on the panel.
- Switch Mode:

Ref. No.	Switch	Position
S1-1 ~ 6	RECORD/PLAYBACK	PLAYBACK
* S2	POWER	OFF
S3	VOLTAGE SELECT	220 ~ 240 V
S4	AC/DC	DC

* S2 operates so that a motor turns on first and then an amplifier circuit operates. In STOP/EJECT mode, S2 operates in reverse order.



Free service manuals
 Gratis schema's
 Digitized by

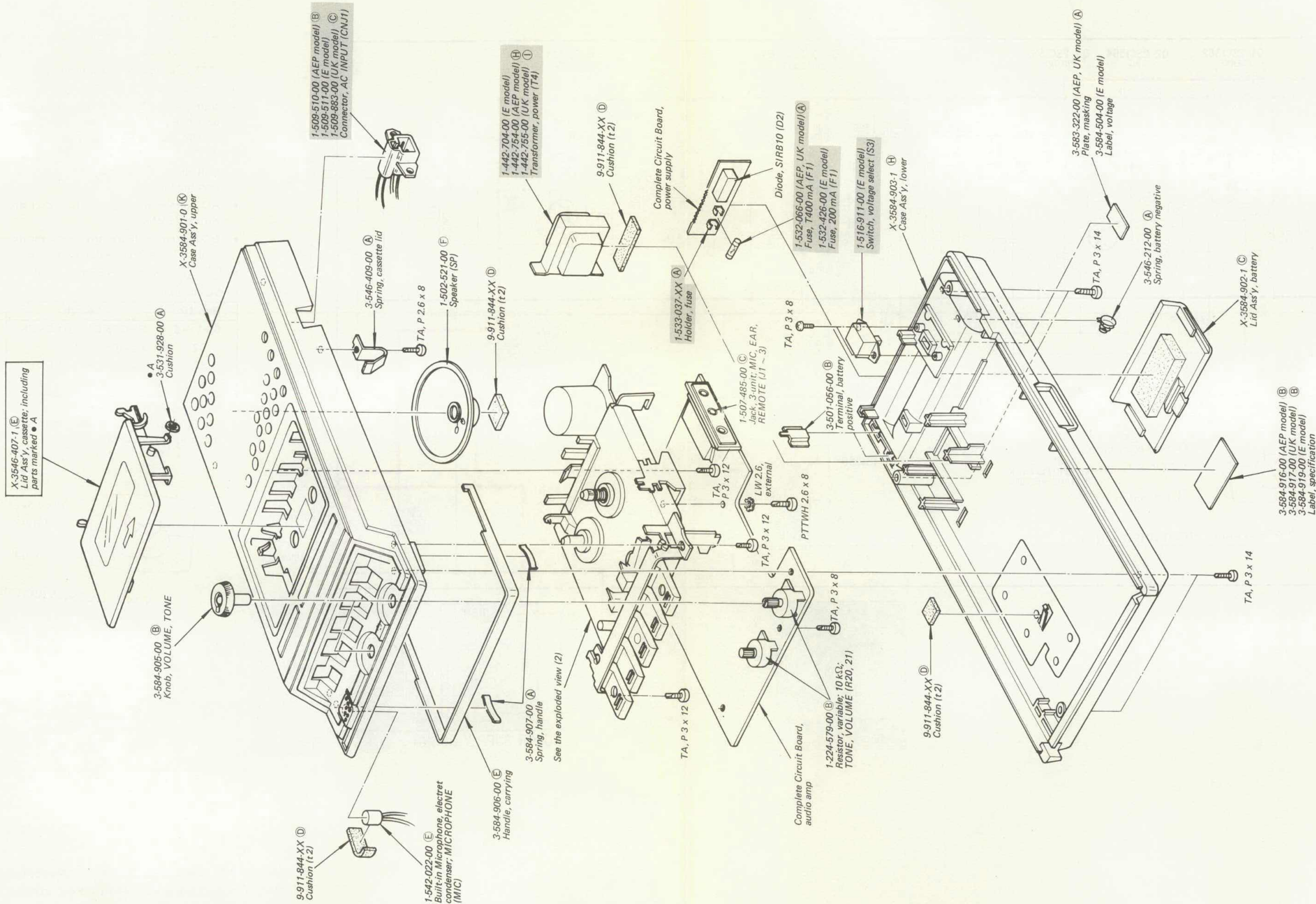
www.freesevicemanuals.info

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

SECTION 5
EXPLODED VIEWS

(1)

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



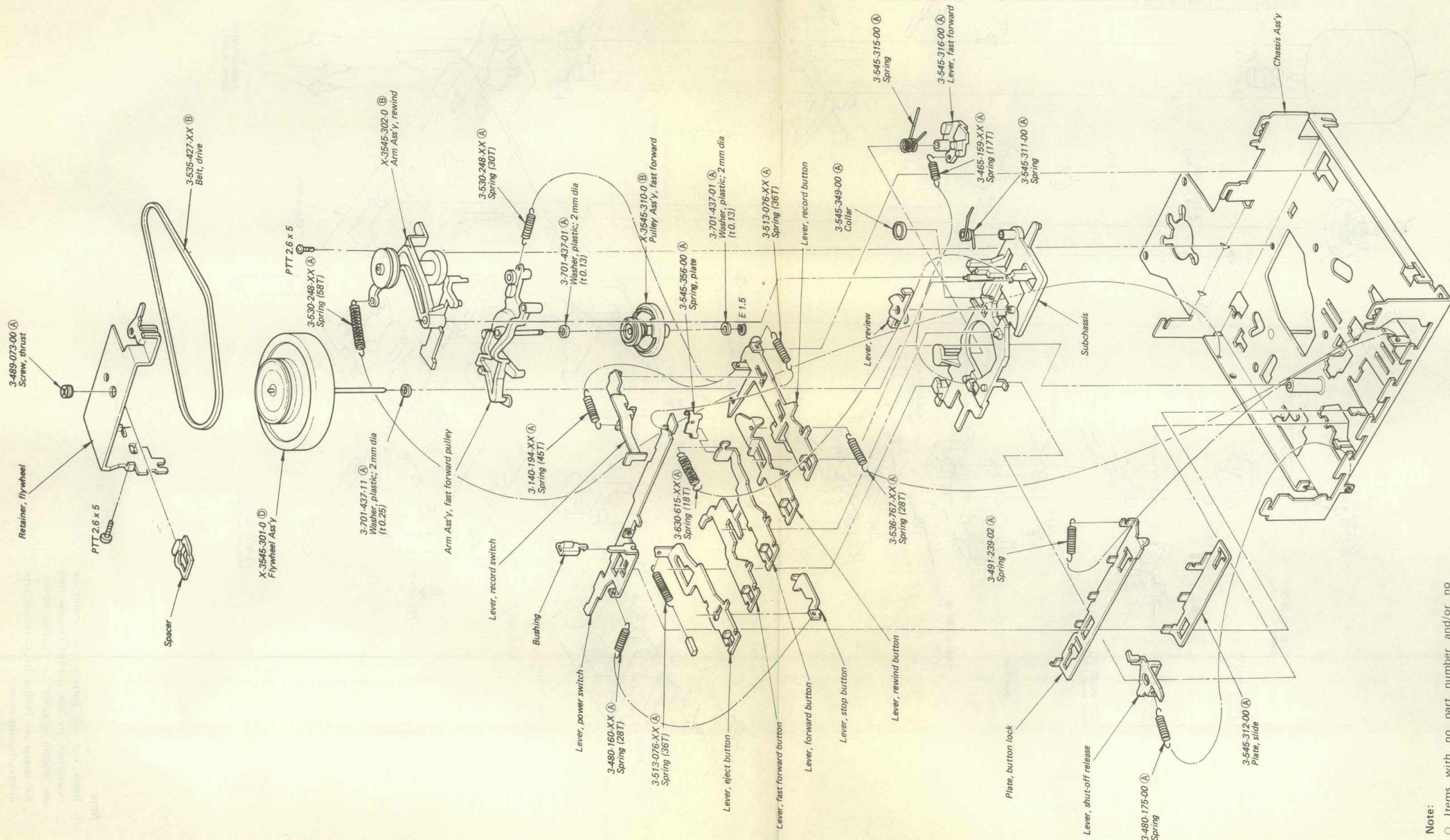
Note:

- 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

○ The circled letters (A) to (Z) are applicable for European model only.

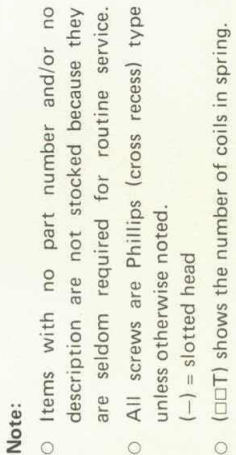
A B C D E

(2)



- 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
 - (□□T) shows the number of coils in spring.

○ The circled letters (A) to (Z) are applicable for European model only.



The circled letters (A to Z) are applicable for the European models only.

SECTION 6

ELECTRICAL PARTS LIST

○ The circled letters (A to Z) are applicable for the European model only.

Ref. No. Part No. Description

SEMICONDUCTORS

Transistors

Q1	2SC1362
⇒ Q2	2SC634A
Q3	2SC1362
⇒ Q4, 5	2SC634A
Q6, 7	BX324
⇒ Q8	2SC634A

Diodes

D1	1S1555
D2	S1RB10

Thermistor

Th1	S-90
-----	------

TRANSFORMERS

T1	1-423-212-00	(C) Driver
T2	1-427-392-00	(C) Output
T3	1-433-168-00	(C) Bias OSC
T4	1-442-704-00	(H) Power (E model)
	1-442-754-00	(H) Power (AEP model)
	1-442-755-00	(I) Power (UK model)

CAPACITORS

All capacitors are in μF and of ceramic unless otherwise noted. 50 and/or less working voltages are not noted except for electrolytic type. (p = μF , elect = electrolytic)

C1	1-121-391-11	(A) 1	50 V	elect
C2	1-106-119-12	(A) 0.0015		mylar
C3, 4	1-121-651-11	(A) 10	16 V	elect
C5	1-101-001-11	(A) 0.001		
C6	1-101-881-11	(A) 47 p		
C7	1-121-391-11	(A) 1	50 V	elect
C8	1-101-881-11	(A) 47 p		
C9	1-121-395-11	(A) 4.7	25 V	elect
C10	1-101-003-11	(A) 0.0047		
C11	1-101-001-11	(A) 0.001		

Ref. No. Part No. Description

C12	1-102-954-11	(A) 10 p		
C13	1-121-651-11	(A) 10	16 V	elect
C14	1-121-352-11	(I) 47	10 V	elect
C15	1-106-147-12	(A) 0.022		mylar
C16	1-121-751-11	(A) 330	6.3 V	elect
C17	1-121-651-11	(A) 10	16 V	elect
C18	1-121-424-11	(B) 470	6.3 V	elect
C19	1-102-975-11	(A) 100 p		
C20	1-121-414-11	(A) 100	10 V	elect
C21	1-102-984-11	(A) 270 p		
C22	1-121-736-11	(B) 1000	10 V	elect
C23	1-121-419-11	(A) 220	6.3 V	elect
C24	1-106-147-12	(A) 0.022		mylar
C25	1-101-001-11	(A) 0.001		
C26, 27	1-106-139-12	(A) 0.01		mylar
C28	1-121-651-11	(A) 10	16 V	elect
C29	1-101-001-11	(A) 0.001		
C30	1-106-123-12	(A) 0.0022		mylar
C31	1-121-414-11	(A) 100	10 V	elect
C32	1-106-115-12	(A) 0.001		mylar
C33	1-106-139-12	(A) 0.01		mylar
C34	1-121-659-11	(B) 2200	10 V	elect
C35	1-106-127-12	(A) 0.0033		mylar
C36	1-121-352-11	(I) 47	10 V	elect

RESISTORS

All resistors are in ohms. Regular-type $\frac{1}{4}\text{W}$ carbon resistors are omitted. Check the schematic diagram for the resistance values. (k = 1000)

R20	1-224-579-00	(B) 10 k, variable; TONE
R21	1-224-579-00	(B) 10 k, variable; VOLUME

SWITCHES

S1	1-514-813-XX	(C) Slide, record/playback
S2	1-516-886-00	(B) Reaf, power
S3	1-516-911-00	(J) Voltage Select (E model)
S4		Included in CNJ1

⇒: Due to replacement parts, the descriptions are different from the diagrams.

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

- The circled letters (A to Z) are applicable for the European model only.

Ref. No. Part No. Description

MISCELLANEOUS

CNJ1	1-509-510-00	(B) Connector, AC INPUT (AEP, AUS model)
	1-509-511-00	(B) Connector, AC INPUT (E model)
	1-509-883-00	(C) Connector, AC INPUT (UK model)
EH	8-825-566-00	(B) Head, erase; EBF5-02B
F1	1-532-066-00	(A) Fuse, T400 mA (AEP, UK, AUS model)
	1-532-426-00	(B) Fuse, 200 mA (E model)

Ref. No. Part No. Description

J1 ~ 3	1-507-485-00	(C) Jack, 3-unit; MIC, EAR, REMOTE
M	8-834-009-10	(K) Motor, DNM-1200A
MIC	1-542-022-00	(E) Built-in Microphone, electret condenser; MICROPHONE
RPH	8-829-336-06	(F) Head, record/playback; PP134-36F
SP	1-502-521-00	(F) Speaker
	1-533-037-XX	(A) Holder, fuse

ACCESSORIES & PACKING MATERIALS

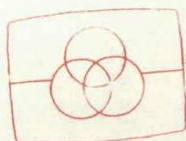
Part No. Description

1-506-309-00	(B) Plug, shorting; SP-100
1-526-565-00	(B) Adaptor, ac plug (E model)
1-534-830-00	(C) Cord, power; DK-33H (E model)
1-534-840-XX	(D) Cord, power; DK-38 (AEP model)
1-534-879-00	(G) Cord, power; DK-44 (UK model)
3-584-941-00	(C) Carton

Part No. Description

3-584-942-00	(B) Cushion, left
3-584-943-00	(B) Cushion, right
3-584-990-41	(B) Manual, instruction (UK, AUS model)
3-584-990-51	(C) Manual, instruction (AEP, E model)
3-793-828-11	(A) Card, caution; cassette
8-890-205-00	(D) Tape, cassette; C-30

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



Free service manuals
Gratis schema's

Digitized by

www.freeservicemanuals.info

Sony Corporation

9-954-452-11

© 1976

610563-1
Printed in Japan