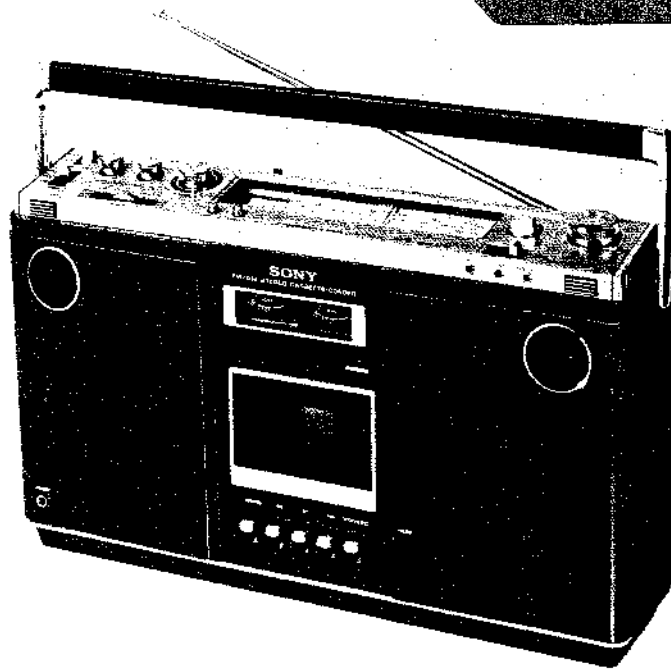
CF-570L

AEP Model
UK Model



FM/AM STEREO CASSETTE-CORDER

SPECIFICATIONS

GENERAL

Power Requirements:	240V ac, 50Hz (UK model) 110, 120, 220 or 240V ac, 50/60Hz (AEP model) 12V dc, Battery size-D, 8 pcs (IEC designation R20) Car battery cord DCC-9 for 12V car battery
Power Consumption:	14W ac (UK model) 13W ac (AEP model)
Power Output: (at dc operation)	2W×2 (at 10% harmonic distortion)
Speakers:	Two-way Two approx. 16cm (6½ inches) dia. woofer, 4Ω Two approx. 5cm (2 inches) dia. tweeter, 4Ω
Dimensions:	Approx. 475(w)×298(h)×128(d)mm Approx. 18¾(w)×11¾(h)×5⅛(d) inches including projecting parts and controls, not including handle
Weight:	Approx. 7 kg, 15 lb 7oz with batteries

RADIO SECTION

Antennas:	FM/SW: Telescopic antenna MW/LW: Built-in ferrite-rod antenna
Frequency Range:	FM: 87.5–108MHz (3.43–2.78m) SW: 6–18MHz (50–16.7m) MW: 530–1,605kHz (566–187m) LW: 150–350kHz (2,000–857m)

TAPE RECORDER SECTION

Track:	4-track 2-channel stereo or monaural
Fast Forward Rewind Time:	Approx. 2 min. with Sony Cassette C-60
Frequency Responce:	50–10,000Hz with standard cassette, with the TAPE SELECT switch set to NORMAL 50–13,000Hz with Chromium dioxide cassette, with the TAPE SELECT switch set to CrO_2
Wow and Flutter:	0.19% (WRMS)
S/N Ratio:	45dB

— Continued on page 2 —

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

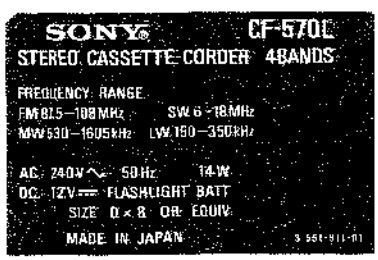
Total Harmonic Distortion:	2.5%
Battery Life:	In continuous recording with built-in microphone: Approx. 8 hours with Sony long-life batteries size D
Inputs:	MIC (two mini jacks) Sensitivity: 0.2mV (−72dB) Impedance: for low-impedance microphone
Output:	HEADPHONE (binaural jack) Load impedance: 8Ω
Other Jacks:	Record/playback jack (5-pin DIN jack) Remote control jack

0 dB = 0.775 V

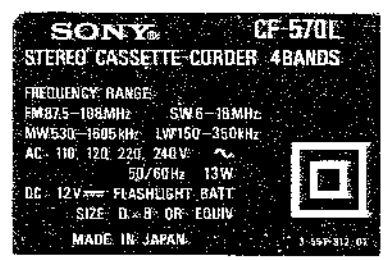
MODEL IDENTIFICATION

– Specification Label –

UK Model

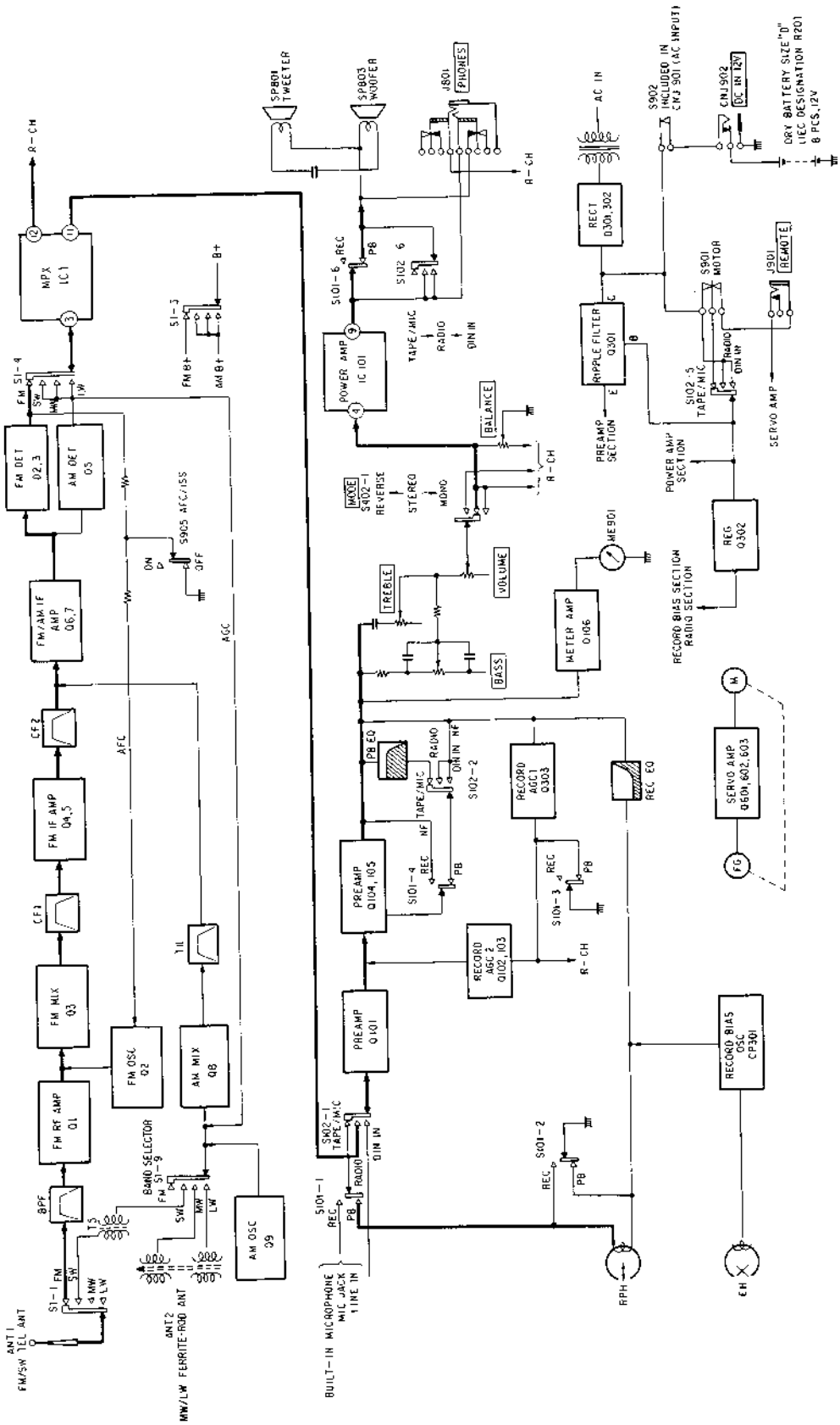


AEP Model



SECTION 1
OUTLINE

1-1. BLOCK DIAGRAM

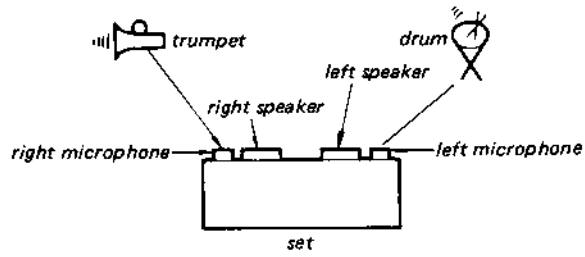


1-2. REVERSE POSITION OF MODE SWITCH

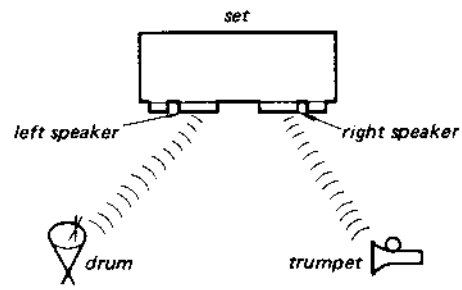
The MODE switch of CF-570L has the MONO, STEREO and REVERSE positions. The left and right sounds are reversely heard in the REVERSE position. And this set has two microphones at the both sides of front case. The sound which is recorded from the left microphone is played back from the left speaker, and the sound from the right microphone is played back from the right speaker.

Thus, when a recording is made with the recorder facing the sound sources as shown right, the playback sound of the left source is heard from the right speaker and the sound of right source is heard from the left speaker. So the playback sound is reversely heard. But setting the MODE switch to REVERSE position, the playback sound from the left and right speakers will be reversed and duplicate the original position correctly.

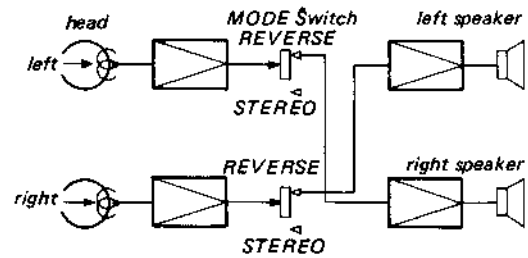
Stereo recording



Stereo playback (MODE switch: STEREO position)



Playback in REVERSE position



SECTION 2
DISASSEMBLY

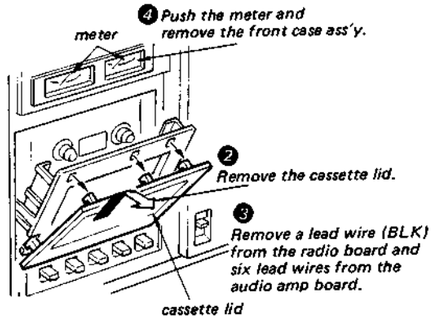
2-1. REMOVAL

Remove the parts in the numerical order.

Rear Case Removal

- *Remove eight screws on the rear case.*

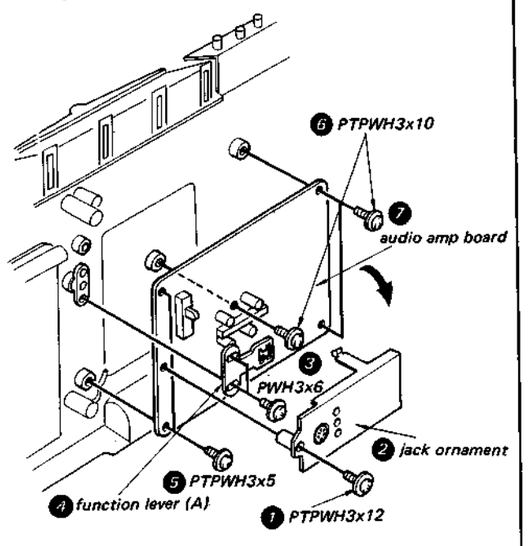
Front Case Ass'y Removal



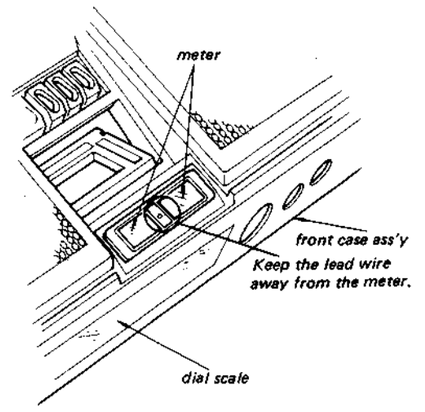
Dial Cord Stringing

See page 7.

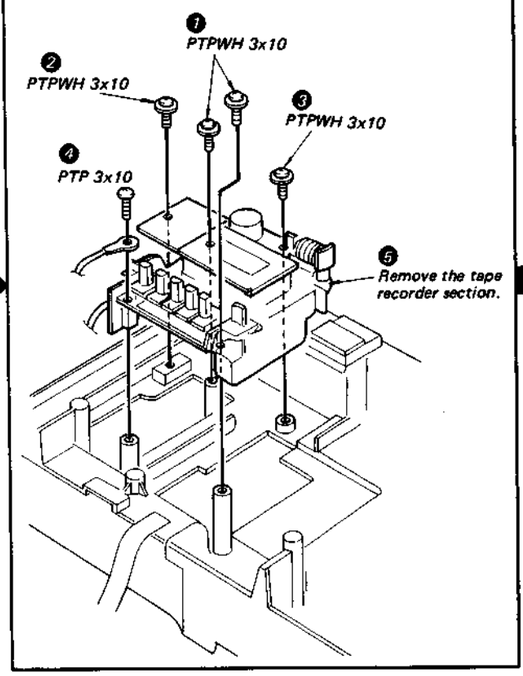
Audio Amp Board Removal



Notice of Front Case Ass'y Installation

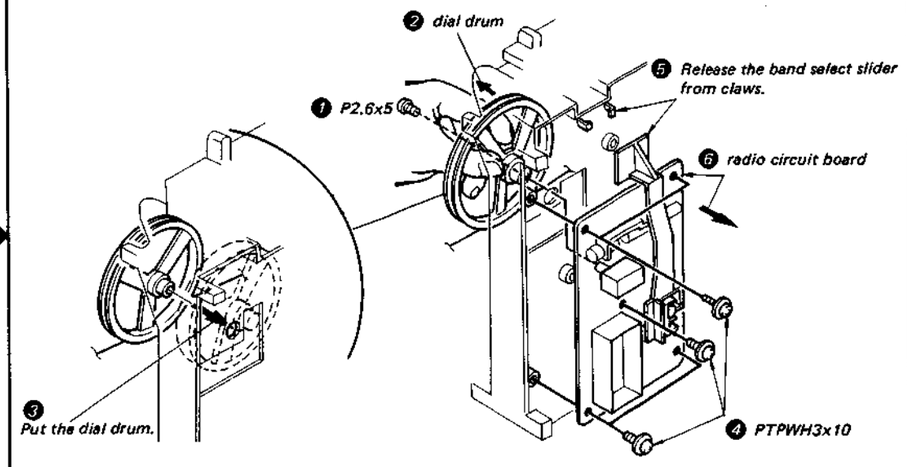


Tape Recorder Section Removal



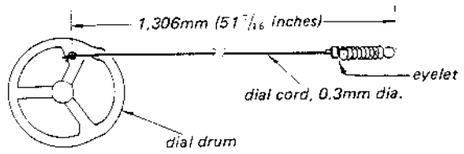
Motor, flywheel and rubber belt can be removed.

Radio Board Removal

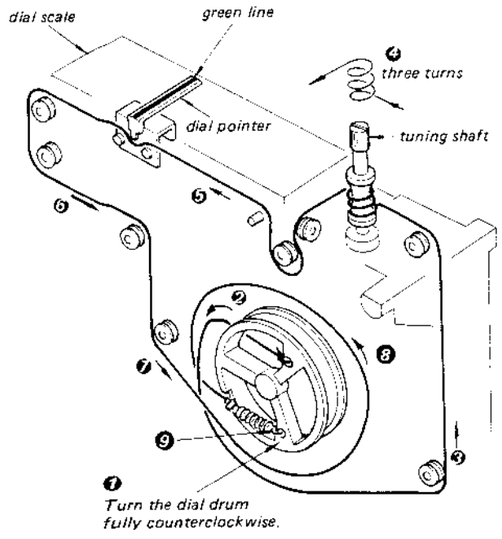


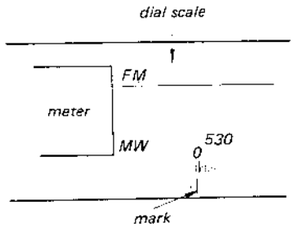
2-2. DIAL CORD STRINGING

1) Preparation



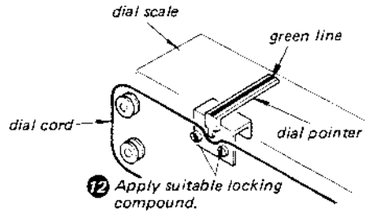
2) Stringing





Turn the tuning shaft fully counterclockwise.

Set the green line of dial pointer at the mark on the dial scale.



SECTION 3
ADJUSTMENTS

3-1. TAPE CORDER SECTION 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.
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.

Torque Measurement

Forward:

Torque meter	Meter reading
CQ-101A CQ-102A CQ-103A	22.5–55 g·cm (0.32–0.76 oz·inch)

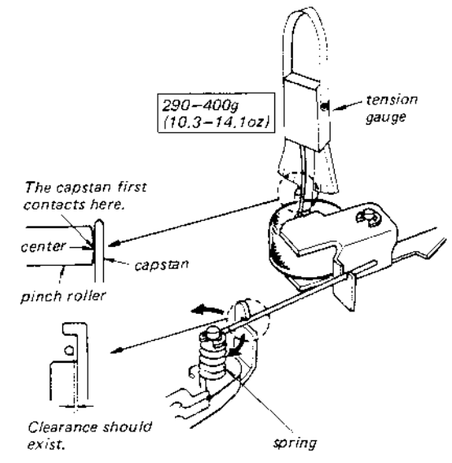
Fast Forward, Rewind:

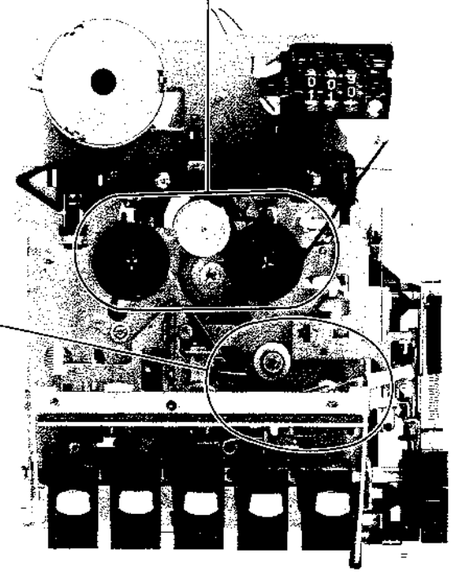
Torque meter	Meter reading
CQ-201A	55–100 g·cm (0.76 1.39 oz·inch)

Pinch Roller Pressure Adjustment

– playback mode –

1. Push the tension gauge.
2. Slowly return the pinch roller and read the tension gauge just when the pinch roller starts to rotate.
3. If necessary, bend or replace the spring.

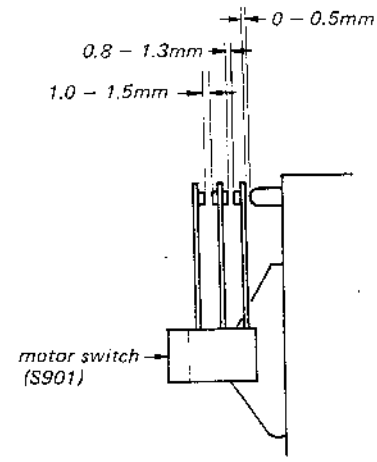


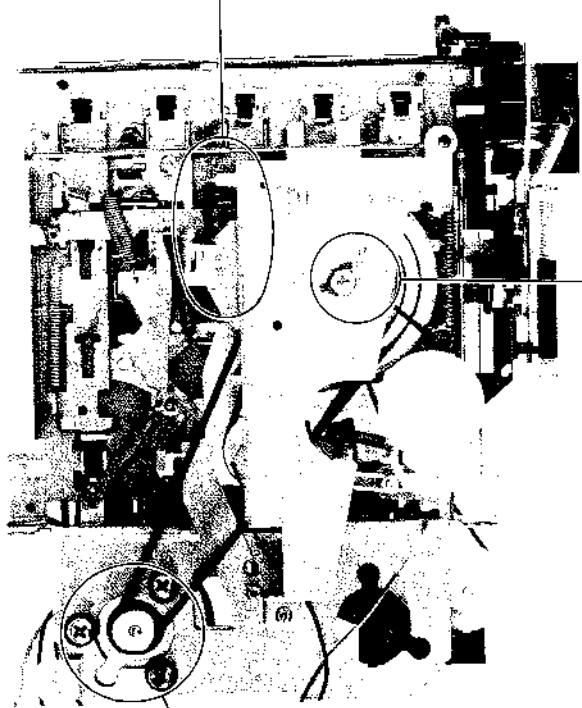


Motor Switch (S901) Position Adjustment

– stop mode –

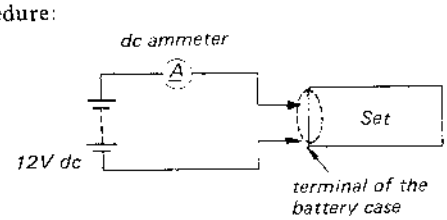
1. Bend the switch leaf so that the specified clearance is obtained between the switch lever and switch leaf.
2. After the adjustment, confirm that the motor switch turns ON in playback, fast forward and rewind modes.





Flywheel Thrust Play Adjustment

Procedure:



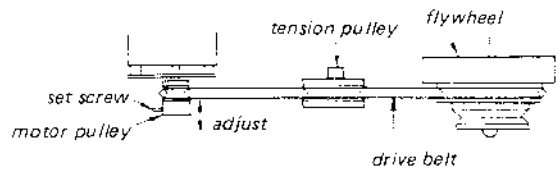
1. Place the set horizontally and reel-spindle-side-down.
2. Loosen the screw by turning it counterclockwise.
3. Carefully tighten the screw until current suddenly increases.
   Then, loosen the screw ¼ turn.

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.



3-2. TAPE RECORDER SECTION 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.

B+ Voltage Adjustment

Setting:

Power supply voltage: 12V dc
band select switch: FM
function switch: RADIO
VOLUME control: minimum

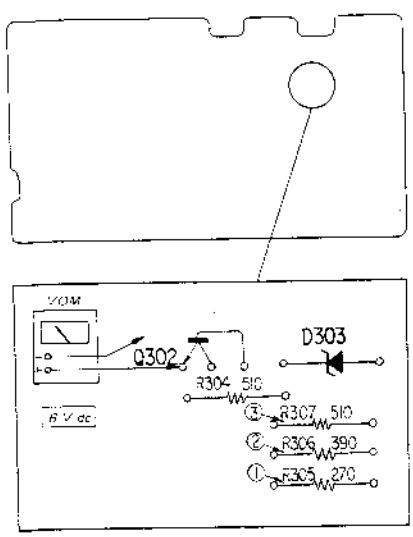
Procedure:

Adjust the pattern connection for 6V VOM reading.

Adjustment Location and Specification:

Pattern connection	B+Voltage
①	high
②	↓
③	low

– audio amp board –
(Conductor Side)



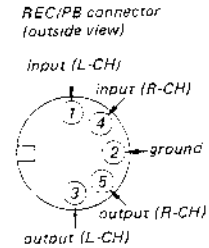
Tape Speed Adjustment

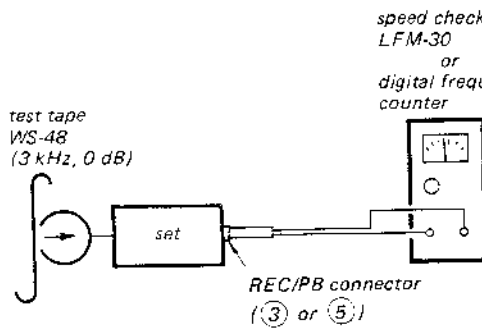
Setting:

function switch: TAPE/MIC

Procedure:

Mode: playback





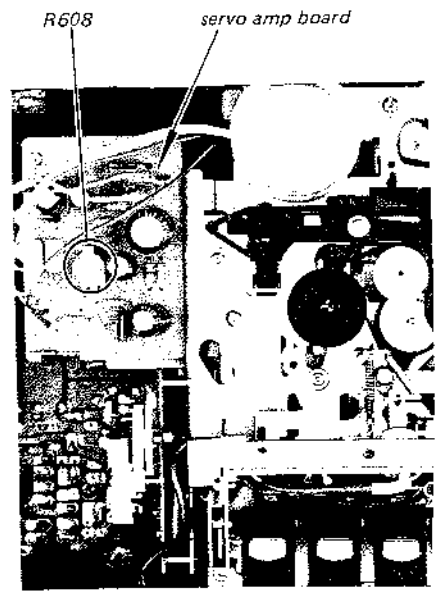
Adjust R608 to obtain the specified values below.

Specification:

Speed checker	Digital frequency counter
−2.5 – +3%	2,925 – 3,090 Hz

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

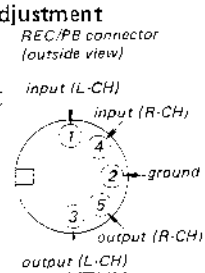
Adjustment Location:



Record/playback Head Azimuth Adjustment

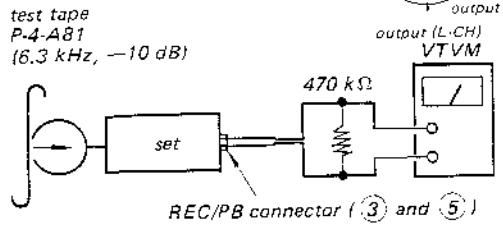
Setting:

function switch: TAPE/MIC
MODE switch: STEREO

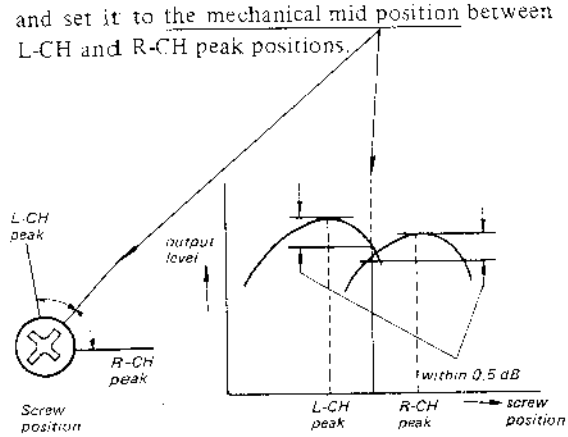


Procedure:

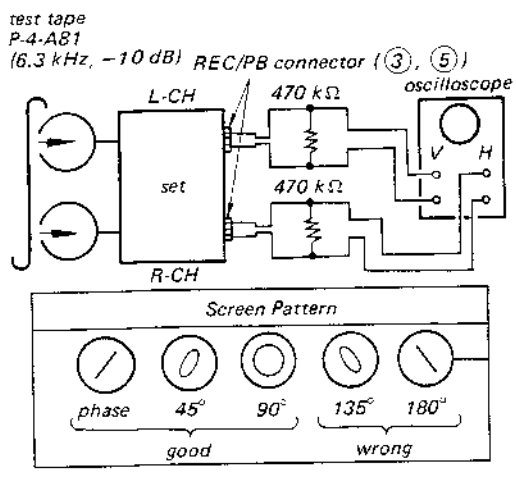
1. Mode: playback



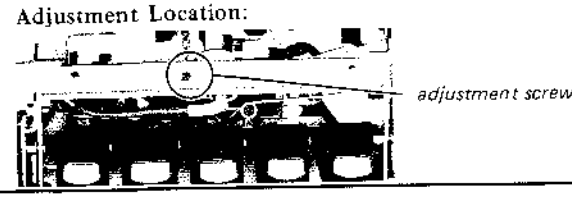
2. Turn the adjustment screw for the maximum level and set it to the mechanical mid position between L-CH and R-CH peak positions.



3. Mode: playback



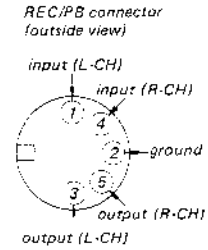
Adjustment Location:



Playback Level Adjustment

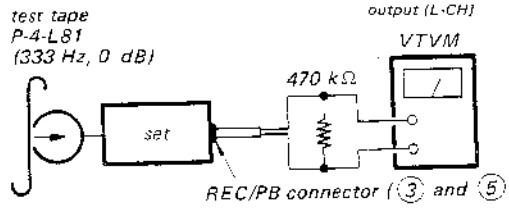
Setting:

function switch: TAPE/MIC
MODE switch: STEREO



Procedure:

1. Mode: playback



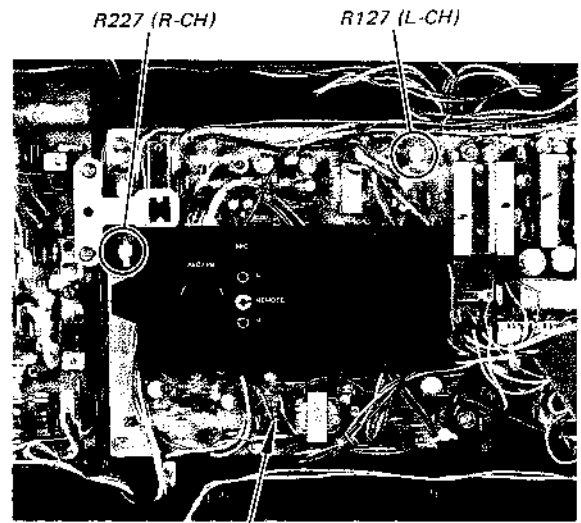
Adjust R127 (L-CH) and R227 (R-CH) to obtain 0.55V (−3dB) VTVM reading.

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

Specification:

LINE OUT level: 0.44–0.69V
(-1 – -5dB)
Level difference between channels:
less than 1.0dB

Adjustment Location:



Level Meter Calibration

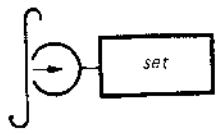
Setting:

Power supply voltage:	12V dc
function switch:	TAPE/MIC
MODE switch:	STEREO

Procedure:

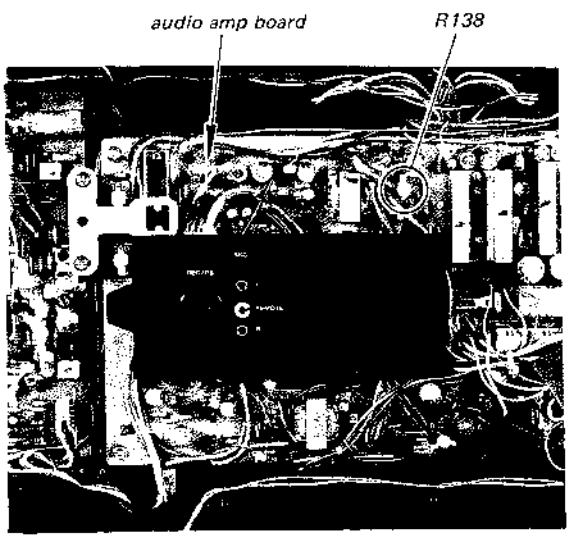
1. Mode: playback

test tape
P-4-L81
(333Hz, 0dB)



Adjust R138 so that level meter indication of L-CH becomes the same as R-CH.

Adjustment Location:



Battery Meter Calibration

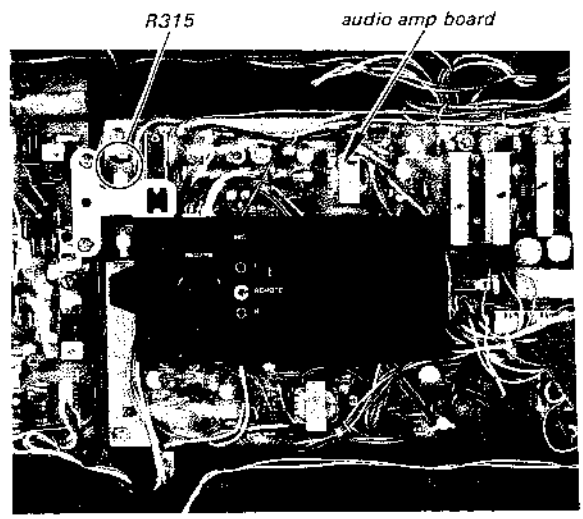
Setting:

Power supply voltage:	8.8V dc
function switch:	TAPE/MIC
VOLUME control:	minimum

Procedure:

1. Mode: playback with no cassette loaded
2. Adjust R315 for specified pointer position on the TUNING/BATT meter as shown below.

Adjustment Location:



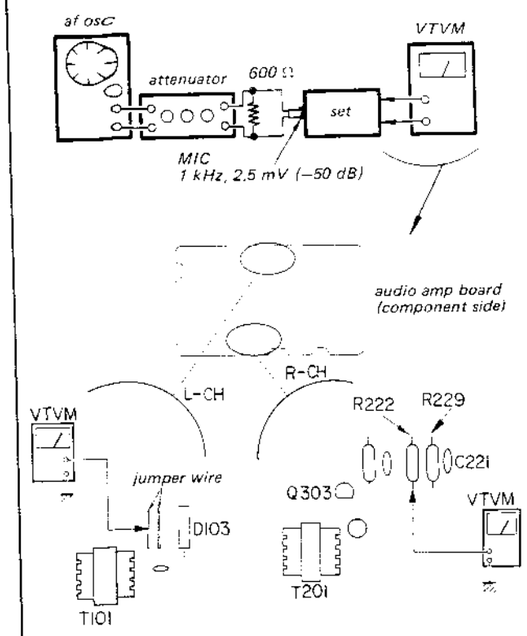
AGC Balance Adjustment

Setting:

function switch: TAPE/MIC
MODE switch: STEREO

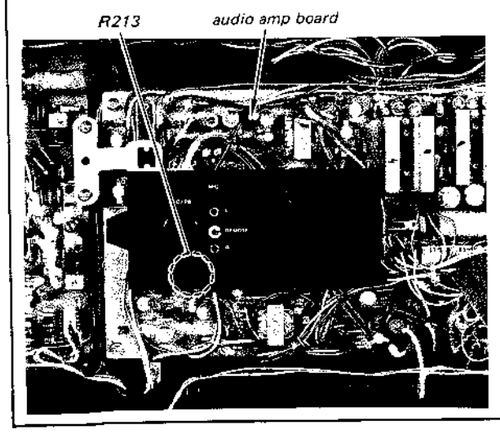
Procedure:

1. Mode: record



2. Adjust R213 so that the VTVM reading of R-CH becomes the same as L-CH.

Adjustment Location:



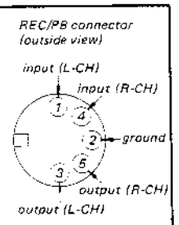
Record Bias Adjustment

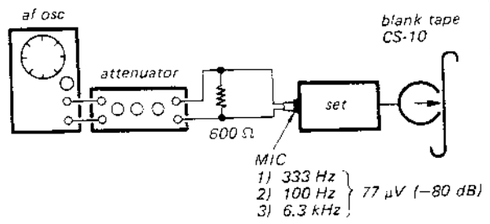
Setting:

function switch: TAPE/MIC
TAPE SELECT switch: NORMAL

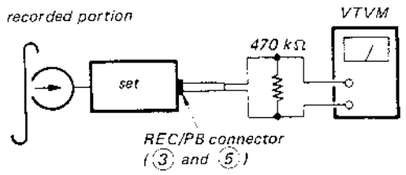
Procedure:

1. Mode: record





2. Mode: playback

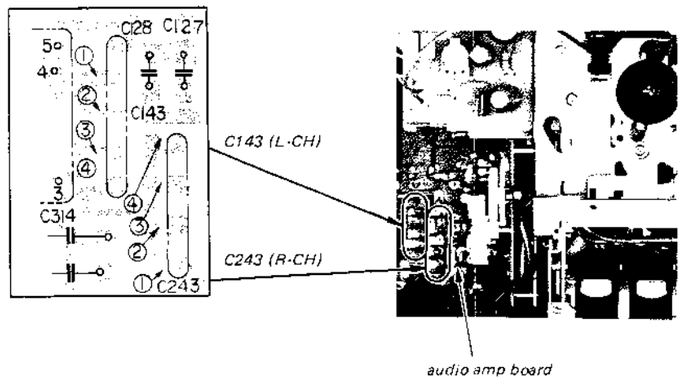


Specification:

100 Hz and 6.3 kHz level difference from 333 Hz:
0 dB ± 1.5 dB

Adjustment Location:

Pattern connection	6.3 kHz VTVM reading
①	down
②	↑
③	↓
④	up



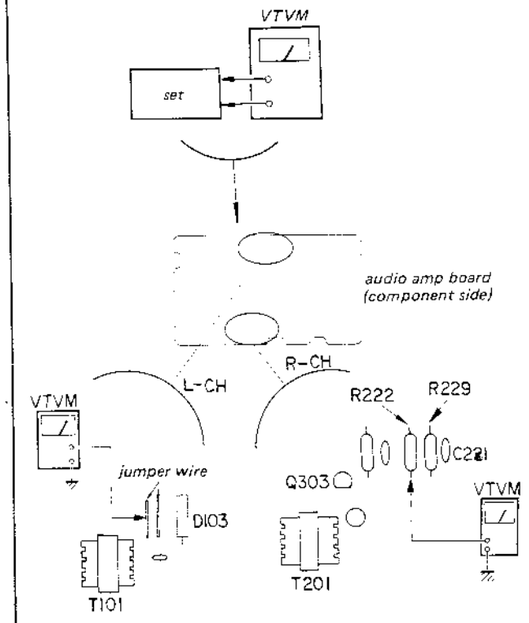
Bias Trap Adjustment

Setting:

function switch: DIN IN
AFC/ISS switch: OFF

Procedure:

1. Mode: record (no signal input)

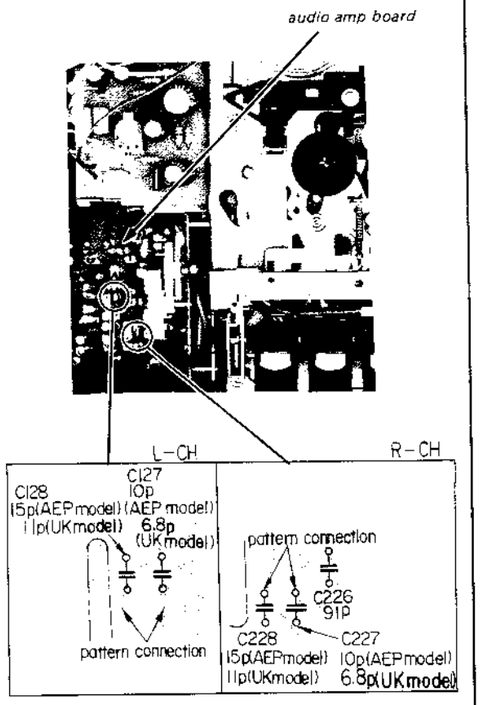


2. Adjust pattern connection for the specified reading on VTVM.

Specification:

less than 25 mV (–30 dB)

Adjustment Location:



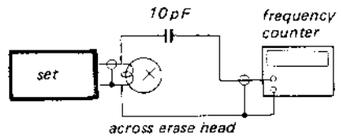
Bias Osc Frequency Adjustment

Setting:

function switch: DIN IN
AFC/ISS switch: OFF

Procedure:

Mode: record (no signal input)



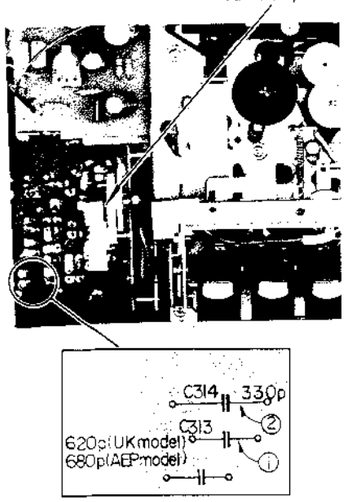
Adjust the pattern connection for the specified reading on frequency counter.

Specification:

frequency counter: 89–91kHz (UK model)
87–89kHz (AEP model)

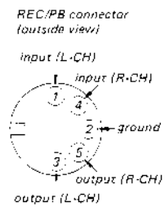
Adjustment Location:

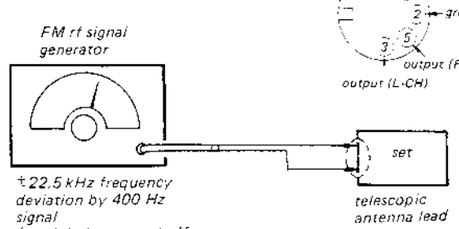
Pattern connection	Bias Osc frequency
Open	high
①	↓
②	
① and ②	low

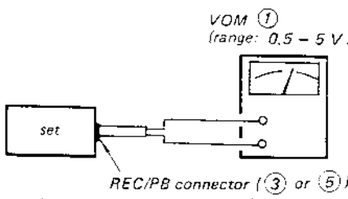


3-3. RADIO SECTION

1) FM and SW Adjustments
Setting:
function switch: RADIO
band select switch: FM or SW

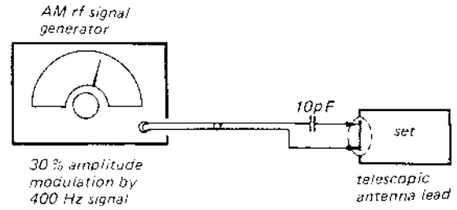






Note:

- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.



FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VOM ①.	
108.5MHz (108MHz)	CT1
87.1MHz (87.5MHz)	L2

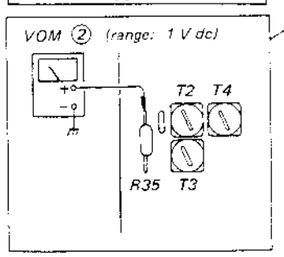
( ): in West Germany

FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VOM ①.	
108.5MHz (108MHz)	CT2
87.1MHz (87.5MHz)	L3

( ): in West Germany

FM IF ALIGNMENT 1 (10.7MHz with modulation)
Adjust for a maximum reading on VOM ①.
T1
T2
T3

FM IF ALIGNMENT 2 (10.7MHz with no modulation)
Adjust for 0V reading on VOM ②.
T3



SW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VOM ①.	
CT5	18.4MHz
T5	5.8MHz

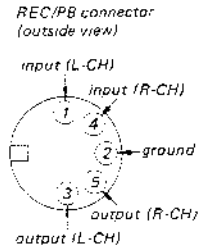
SW FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VOM ①.	
T6	5.8MHz
CT7	18.4MHz

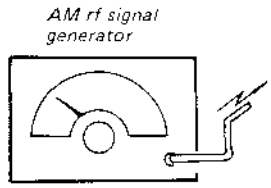
2) MW, LW and AM IF Adjustment

setting:

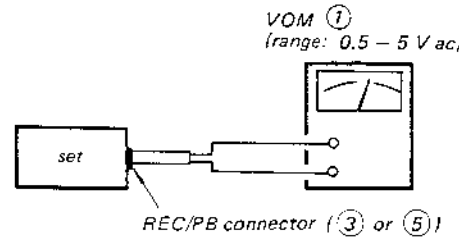
function switch: RADIO

band select switch: MW or LW





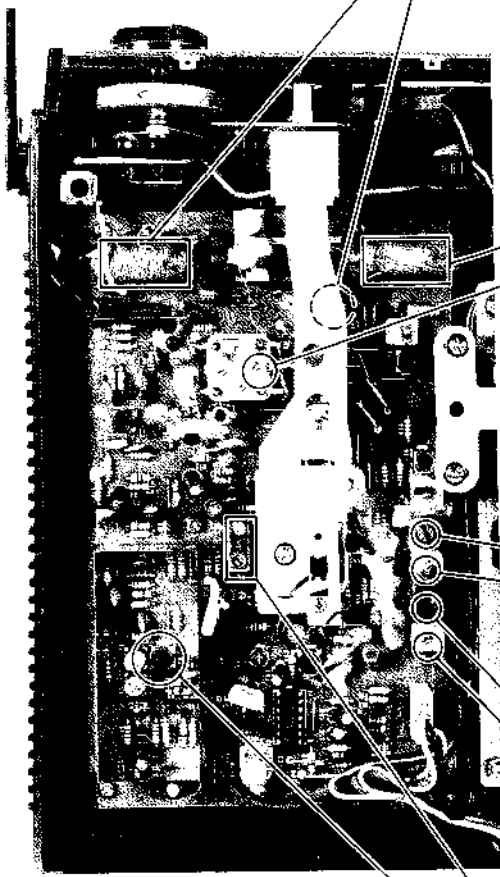
Put the lead-wire antenna close to the set.



Note:

- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

LW TRACKING ADJUSTMENT	
Adjust for a maximum readking on VOM ①.	
ANT2	160kHz
CT6	330kHz



MW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VOM ①.	
ANT2	620kHz
CT3	1,400kHz

MW FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VOM ①.	
T7	515kHz
CT8	1,680kHz

LW FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VOM ①.	
T8	145kHz
CT9	350kHz

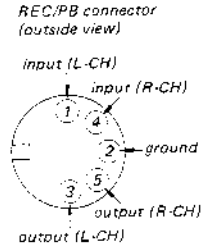
AM IF ALIGNMENT	
Adjust for a maximum reading on VOM ①.	
T11	455kHz (468kHz)
T4	

( ): UK Model

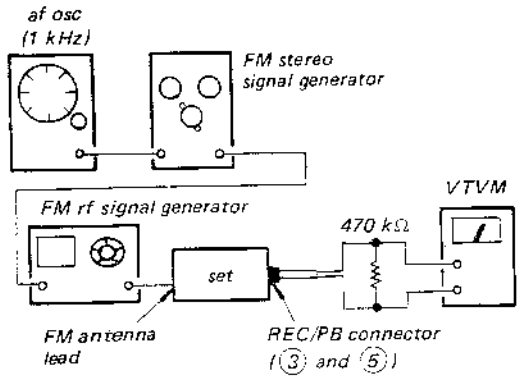
FM Stereo Separation Adjustment

Setting:

function switch: RADIO
band select switch: FM
MODE switch: STEREO



Procedure:



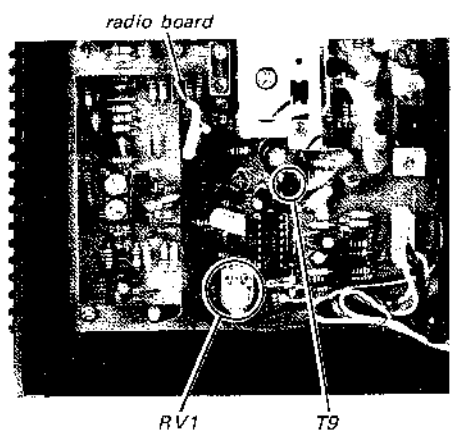
Carrier frequency: 98 MHz
Modulation frequency: 1 kHz
Output level: 1,000μV (60dB)

1. With L-CH (or R-CH) input signal, adjust T9 for maximum output level at L-CH (or R-CH).
2. With L-CH input signal, adjust RV1 for minimum output level at R-CH.

Specification:

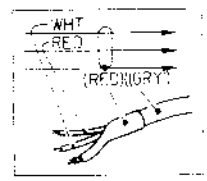
Level difference between step 1 and 2 should be more than 28 dB. If not, repeat the above steps.

Adjustment Location:



Note:

- Color code of sleeving over the end of the jacket.

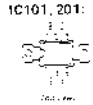


- ■ : part mounted on the conductor side.
- : indicates side identified with part number.
- : B+pattern
- Readings are taken under no-signal conditions with a VOM (20kΩ/V).
  ( ) : RECORD
  < > : AM
  no mark: FM or PLAYBACK

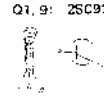
Replacement Semiconductors
For replacement, use semiconductors except as noted.

IC1: LA3301

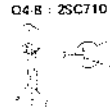
IC101, 201: HA1306W



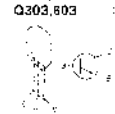
Q1, 9: 2SC930



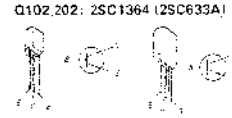
Q4-8: 2SC710



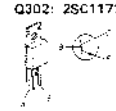
Q101,201 : 2SC632A (2SC631A)
Q103,105 :
Q106,203 : 2SC634A (2SC633A)
Q205,206,301 :
Q104,204 : 2SC632A (2SC631)
Q303,603 : 2SC634A (2SC633)



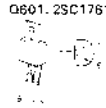
Q102,202: 2SC1364 (2SC633A)



Q302: 2SC1173



Q601: 2SC1761

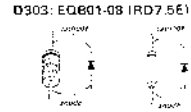


Q602, 3SB324 (2SA475)

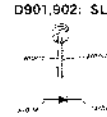
D1: 2SC634A

D2,3 : 1T261
D4,5 : 1T22A
D101,201,602 : 1S1555 (1T40)
D102, 103 : 1T22A (1T22)
D202,203,304 :
D301,302 : 10E2
D601 : 10E2 (10E1)

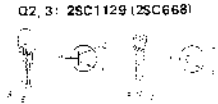
D303: EQ601-08 (RD7.5E)



D901,902: SLP24B



Q2, 3: 2SC1129 (2SC668)

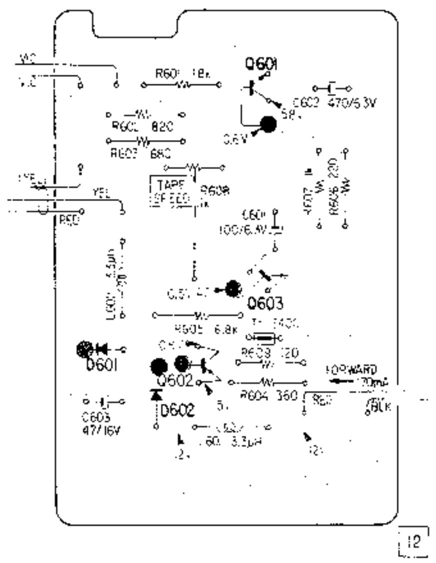


SECTION 4
DIAGRAMS

4-1. MOUNTING DIAGRAM

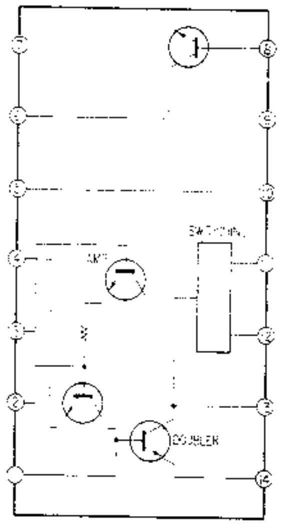
— Servo Amp, Radio and Audio Amp Boards —

【SERVO AMP BOARD】(CONDUCTOR SIDE)

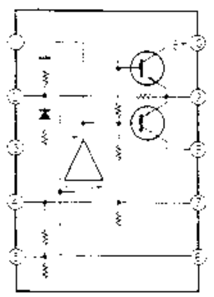


D · Q	D601	D602	Q602	Q601 Q603

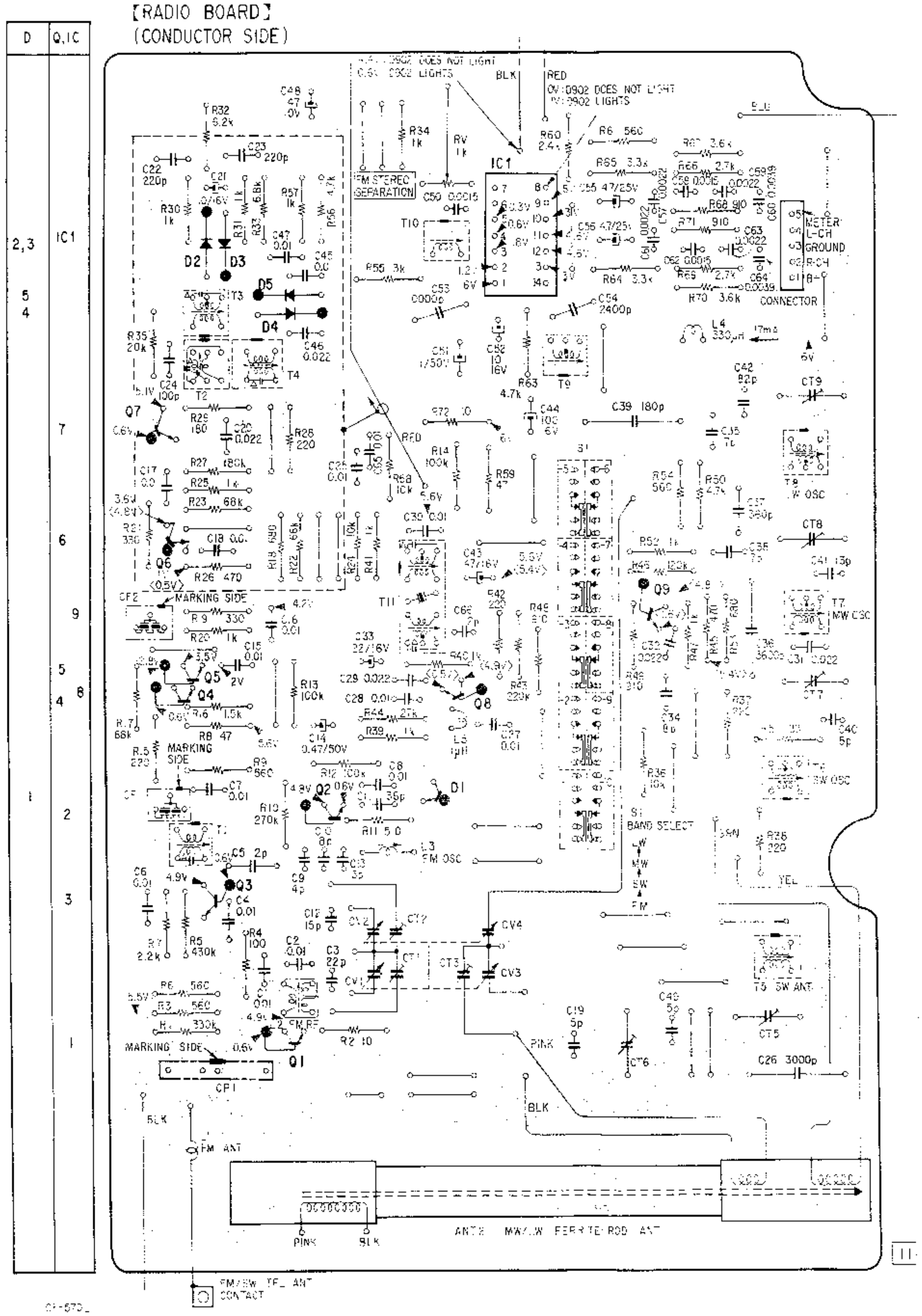
IC LA3301



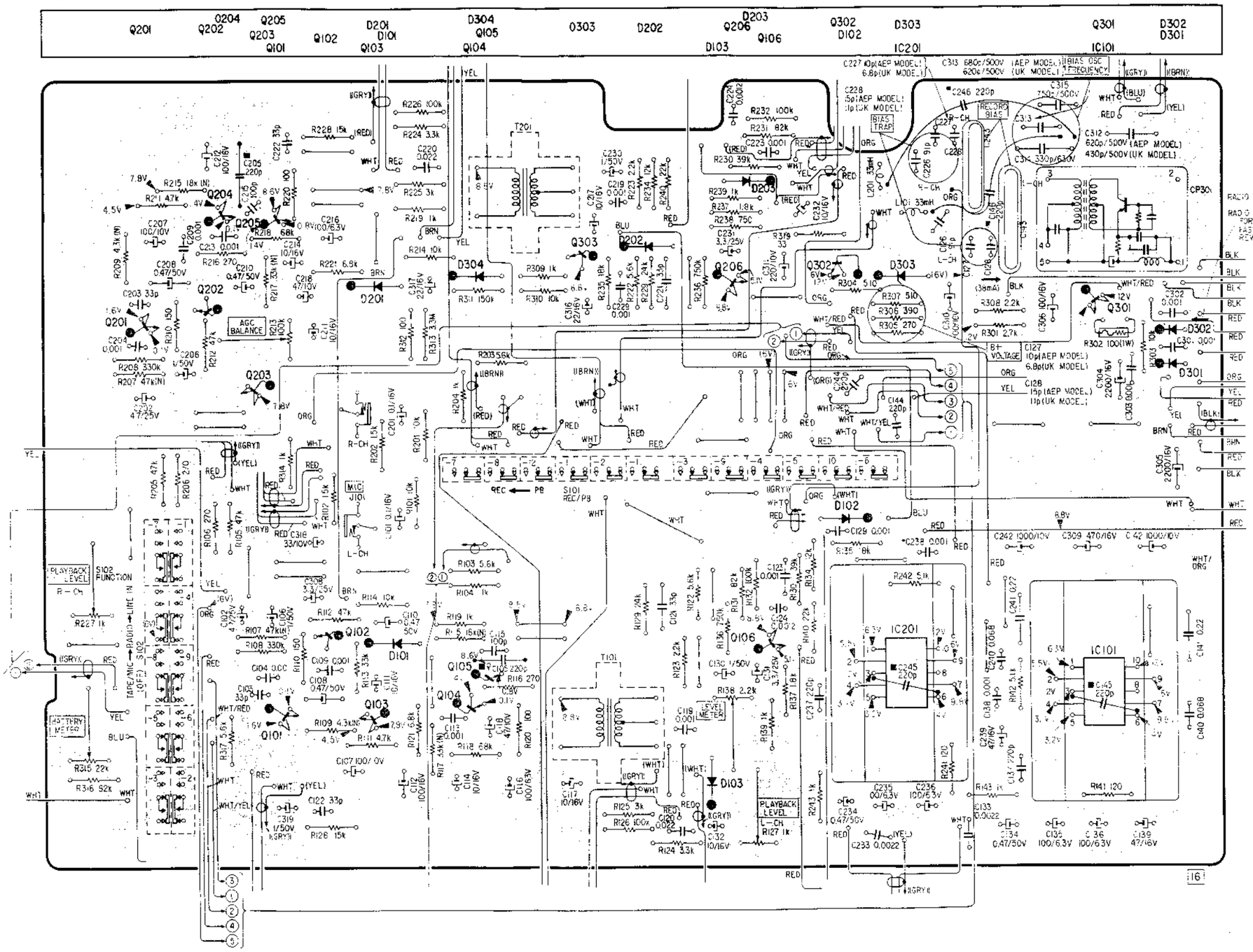
IC101, 201 HA1306W



【RADIO BOARD】
(CONDUCTOR SIDE)



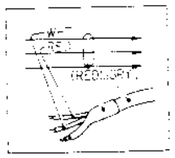
[AUDIO AMP BOARD] (CONDUCTOR SIDE)



4-2. MOUNTING DIAGRAM

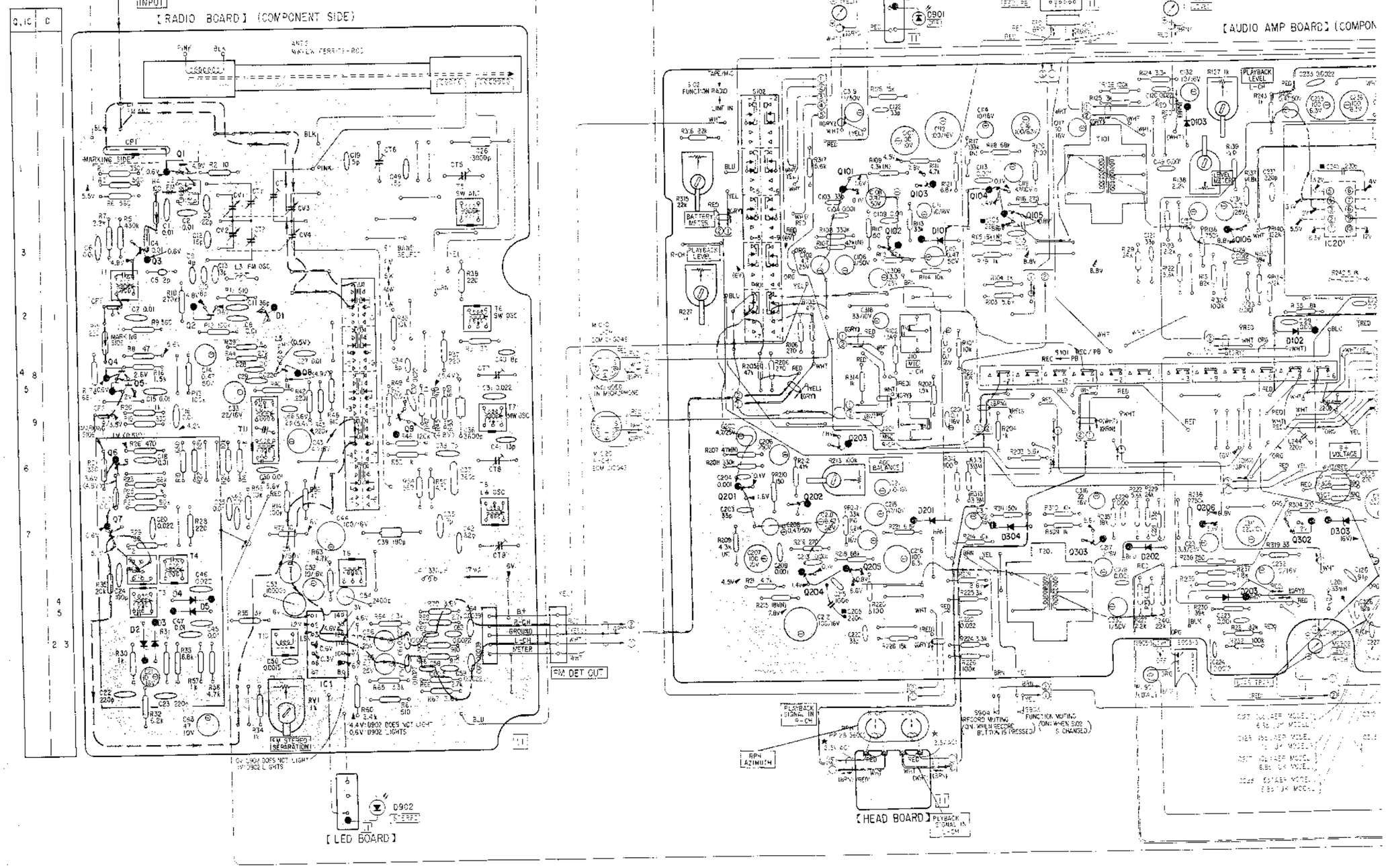
Note:

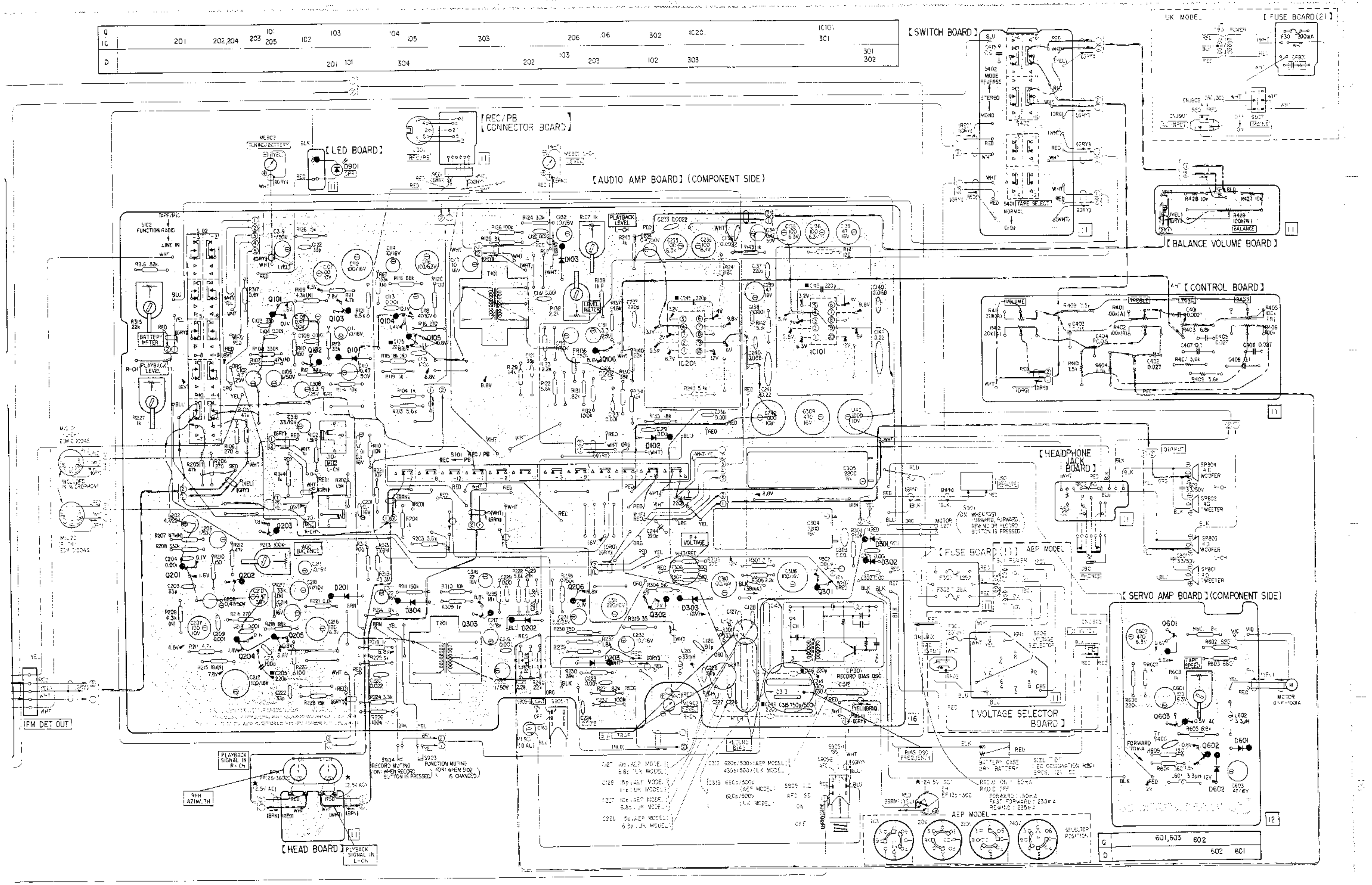
- Color code of sleeving over the end of the jacket.



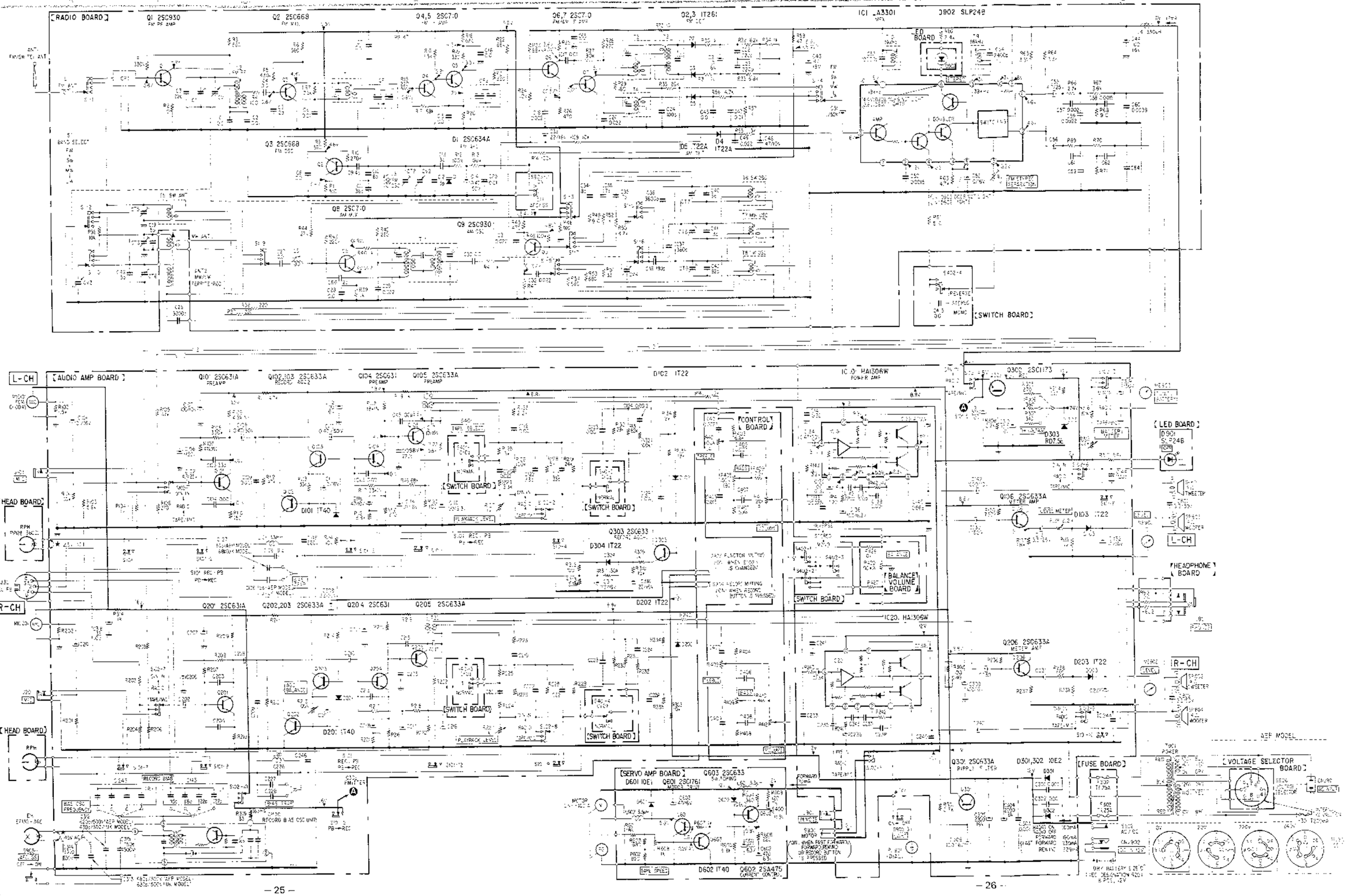
- ■ : part mounted on the conductor side.
- [ ]— : indicates side identified with part number.
- : B+ pattern
- Signal Path
  - —— : FM
  - ——— : L-CH } audio playback
  - ——— : R-CH }
- Ⓕ : fusible resistor.
- Readings are taken under no-signal conditions

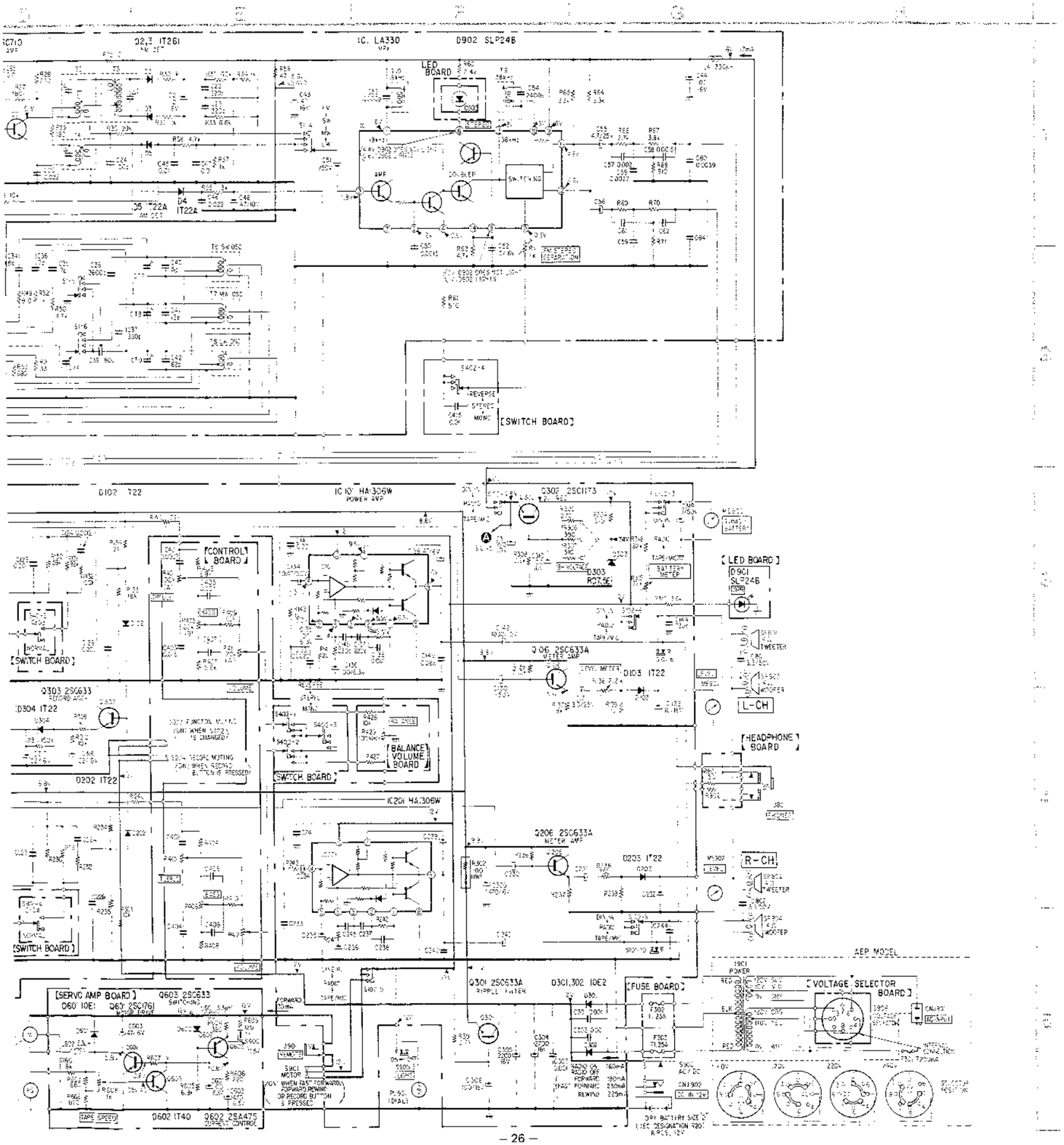
  with a VOM (20kΩ/V).
  ( ) : RECORD
  < > : AM
  no mark : FM or PLAYBACK




[SWITCH BOARD]
[FUSE BOARD (2)]
UK MODEL
[REC/PB CONNECTOR BOARD]
[LED BOARD]
[AUDIO AMP BOARD] (COMPONENT SIDE)
[BALANCE VOLUME BOARD]
[CONTROL BOARD]
[HEADPHONE JACK BOARD]
[FUSE BOARD (1)]
AEP MODEL
[SERVO AMP BOARD] (COMPONENT SIDE)
[VOLTAGE SELECTOR BOARD]
[HEAD BOARD]
FM DET OUT
PLAYBACK SIGNAL IN R-CH
PLAYBACK SIGNAL IN L-CH
RECORD BIAS OSC
BIAS OSC FREQUENCY
MOTOR

4-3. SCHEMATIC DIAGRAM



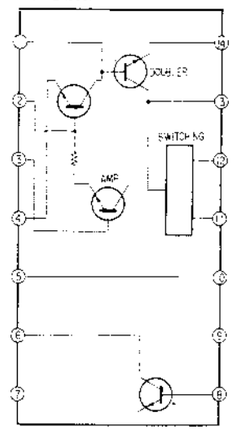


Note:

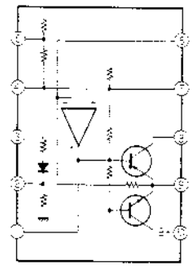
- Components for right channel have the same values as for left channel. Reference numbers are coded from 200.
- All capacitors are in μF unless otherwise noted. pF = μμF. 50 WV or less are not indicated except for electrolytics.
- All resistors are in ohms, ¼ W unless otherwise noted. kΩ = 1000Ω, MΩ = 1000 kΩ
- ⚡ : fusible resistor.
- (N) : low-noise capacitor and resistor.
- ⚠ : internal component.
- ——— : B+ bus.
- ▭ : panel designation.
- ▭ : adjustment for repair.
- Transistor is used for D1.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM (20kΩ/V).
  ( ) : RECORD
  < > : AM
  no mark: FM or PLAYBACK
- AC voltage readings indicated by * in the bias oscillator circuit are taken with a VTVM.
- Transistor base-emitter voltages are measured on the 2.5V range.
- Total current is measured with no cassette installed.
- Voltage variations may be noted due to normal production tolerances.
- Switch

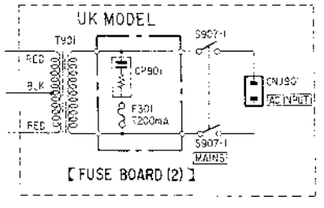
Ref. No.	Switch	Position
S1	BAND SELECT	FM
S101	REC/PB	PB
S102	FUNCTION	TAPE/MIC
S401	TAPE SELECT	NORMAL
S402	MODE	STEREO
S901	MOTOR	OFF
S902	AC/DC	DC
S903	FUNCTION MUTING	OFF
S904	RECORD MUTING	OFF
S905-1,2	AFC/ISS	OFF
S905-3,4	LIGHT	OFF
S906	VOLTAGE SELECTOR (AEP MODEL)	–
S907	MAINS (UK MODEL)	OFF

IC1 LA3301



IC101, 201 HA1306W

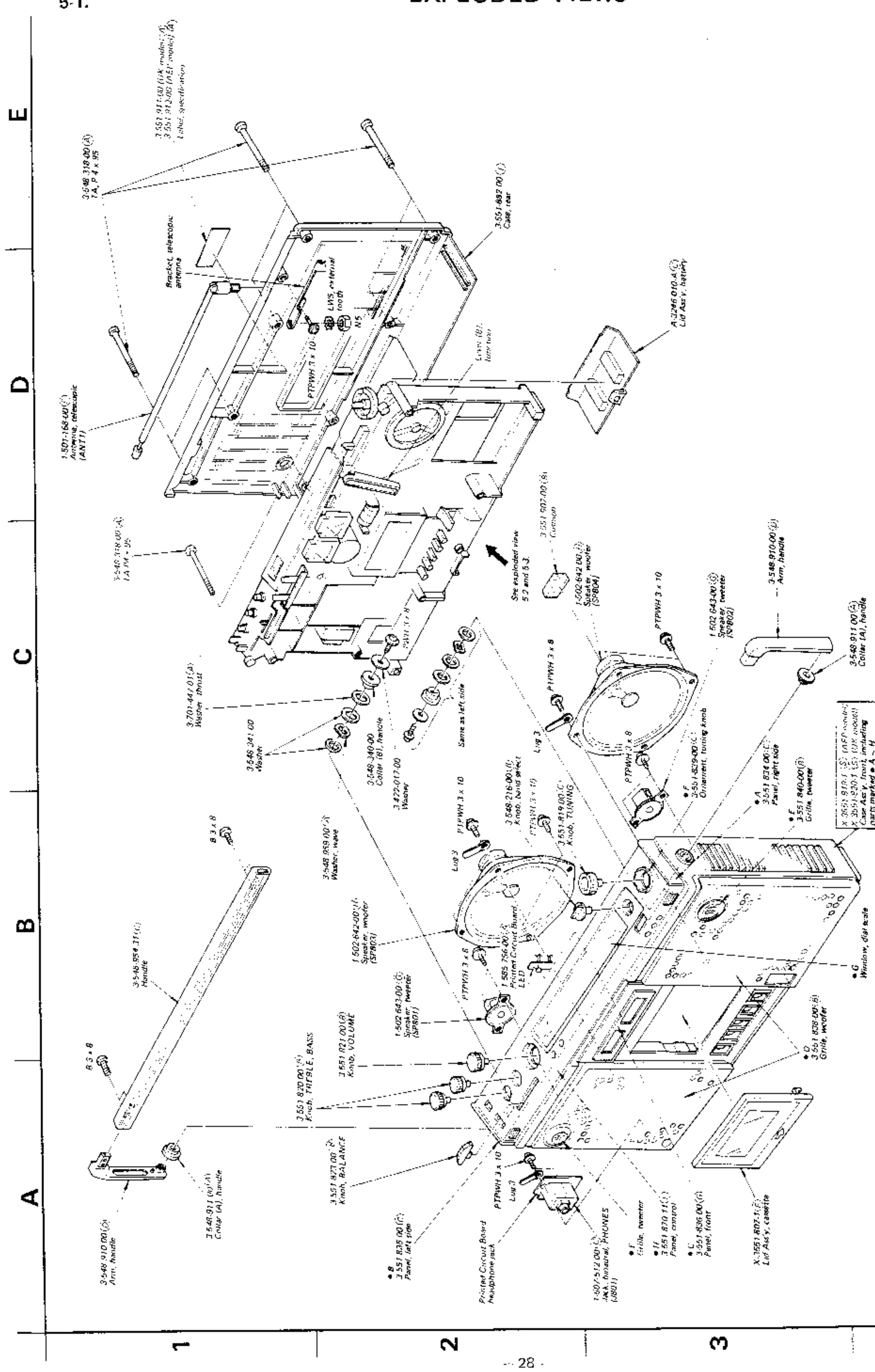




Note: The components identified by shading are critical for safety. Replace only with part number specified.

SECTION 5
EXPLODED VIEWS

5-1.

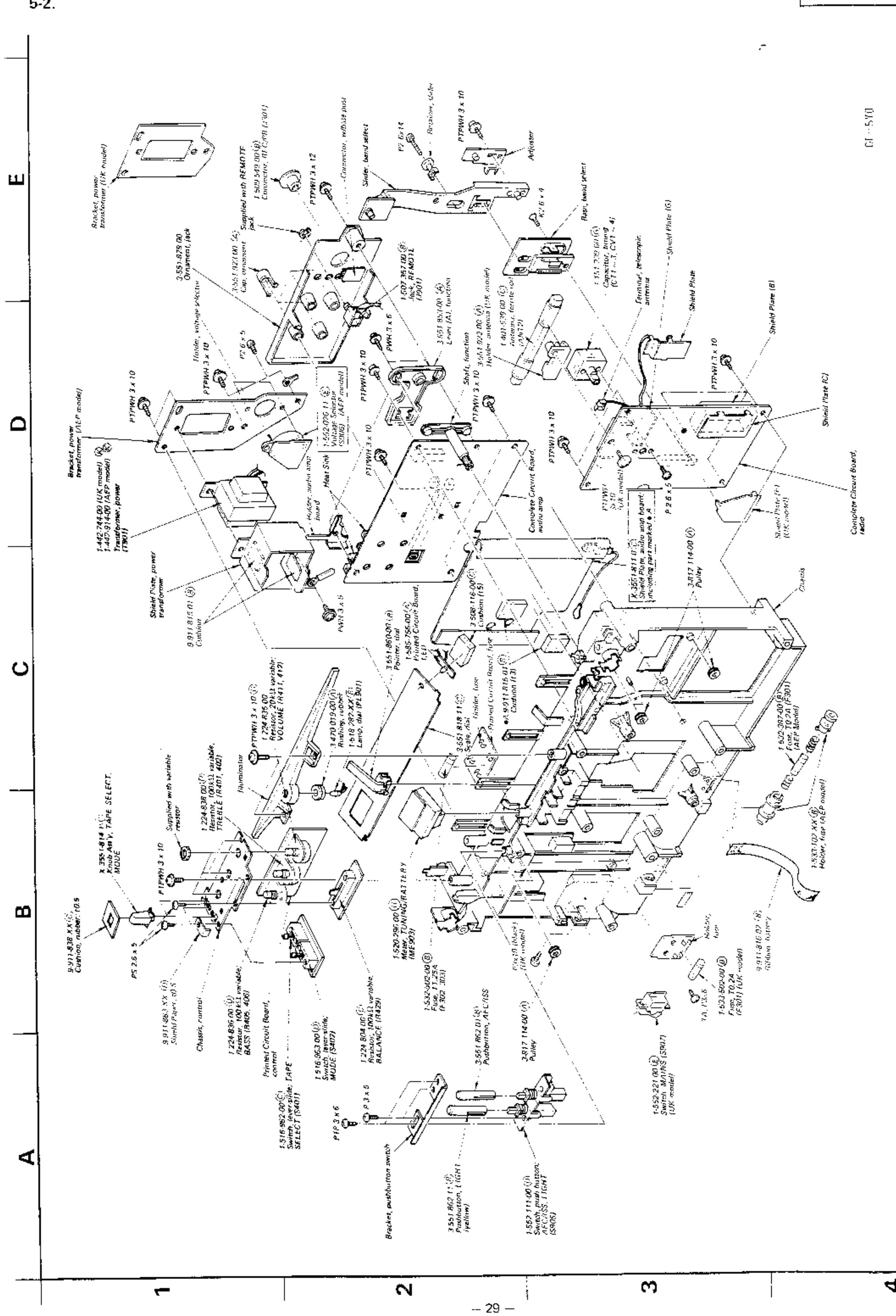


CF-570

- 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 (A) to (Z) are applicable to European models only.

5-2.



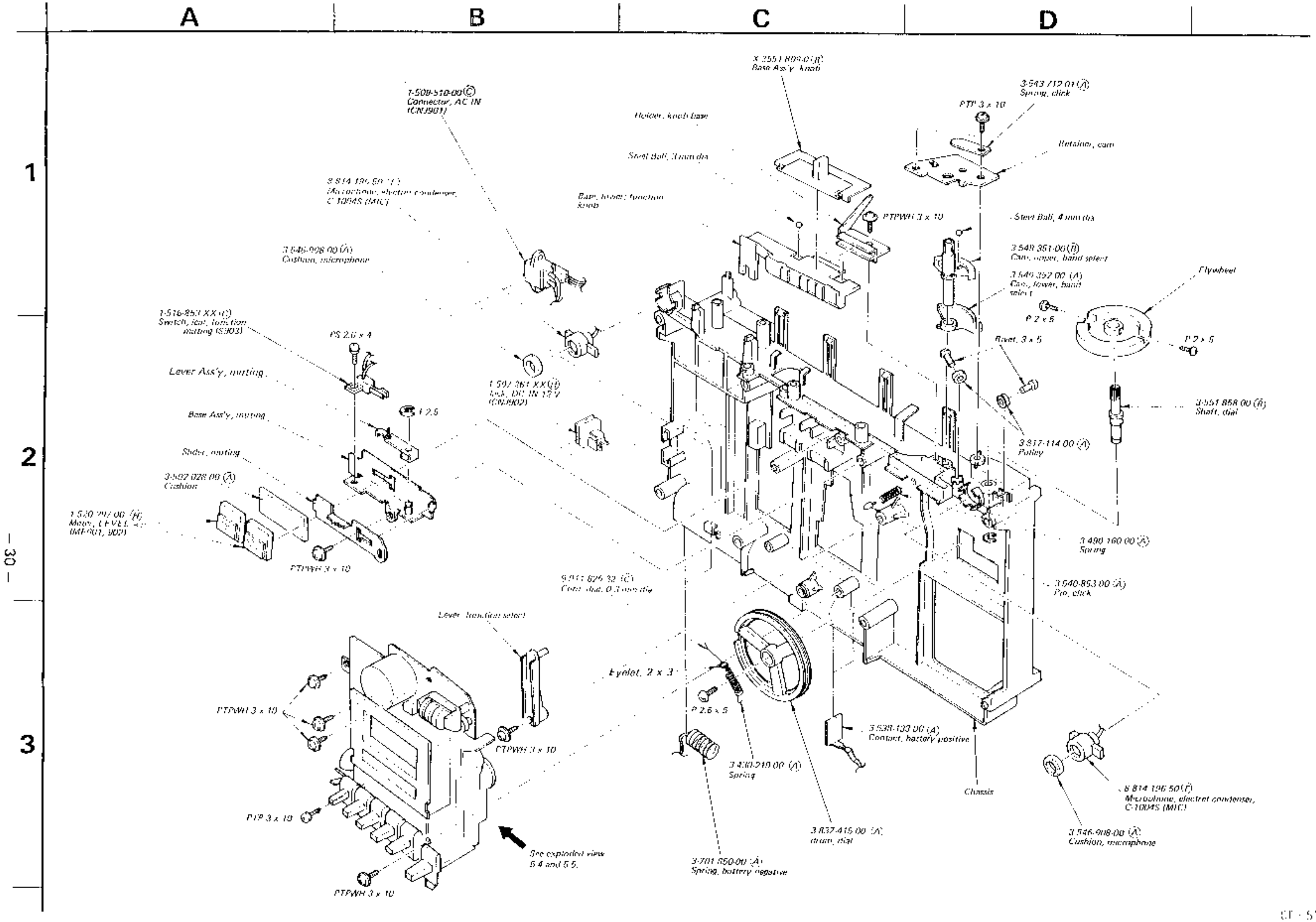
CF-570

- 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 (A) to (Z) are applicable to European models only.

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

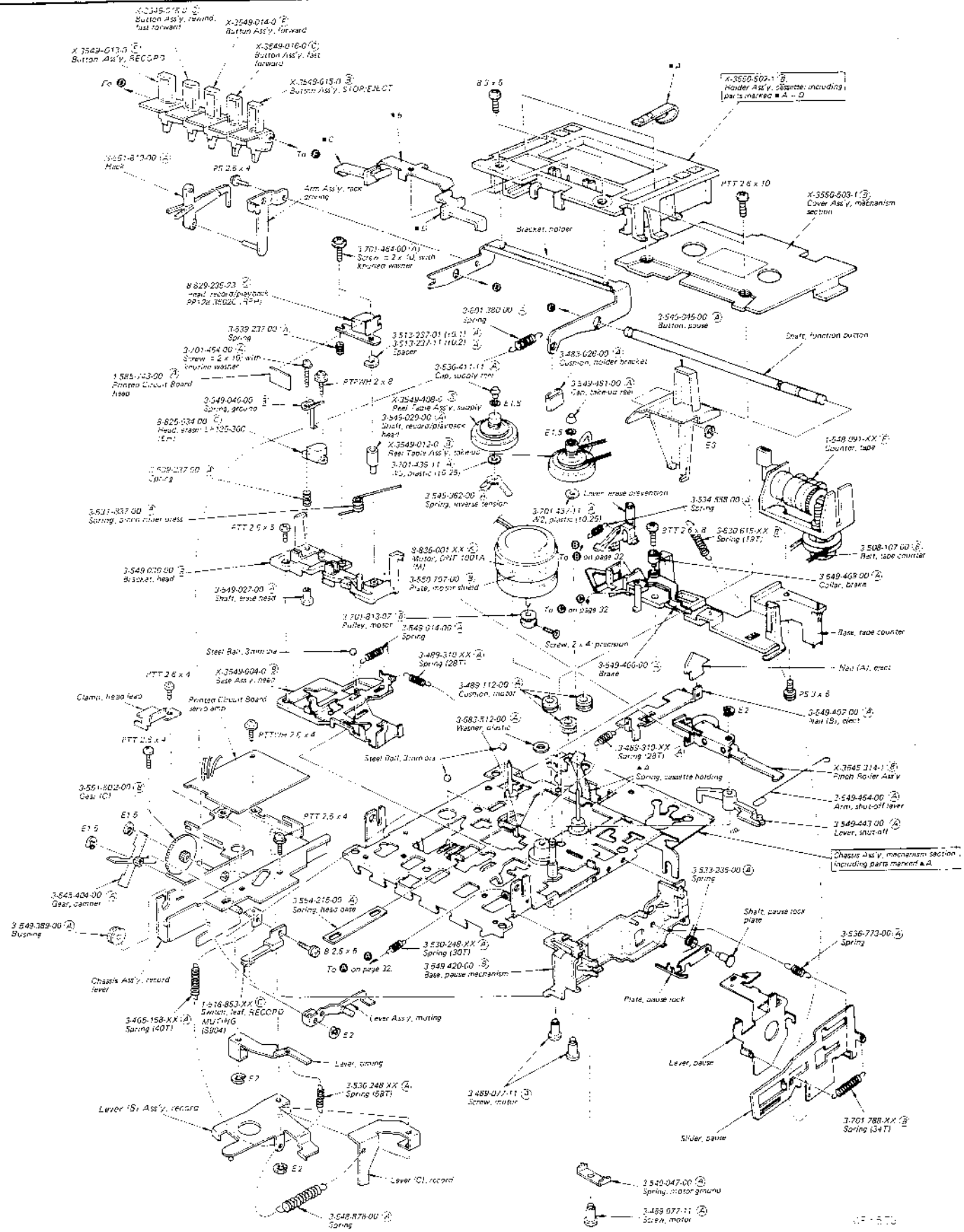
5-3.



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

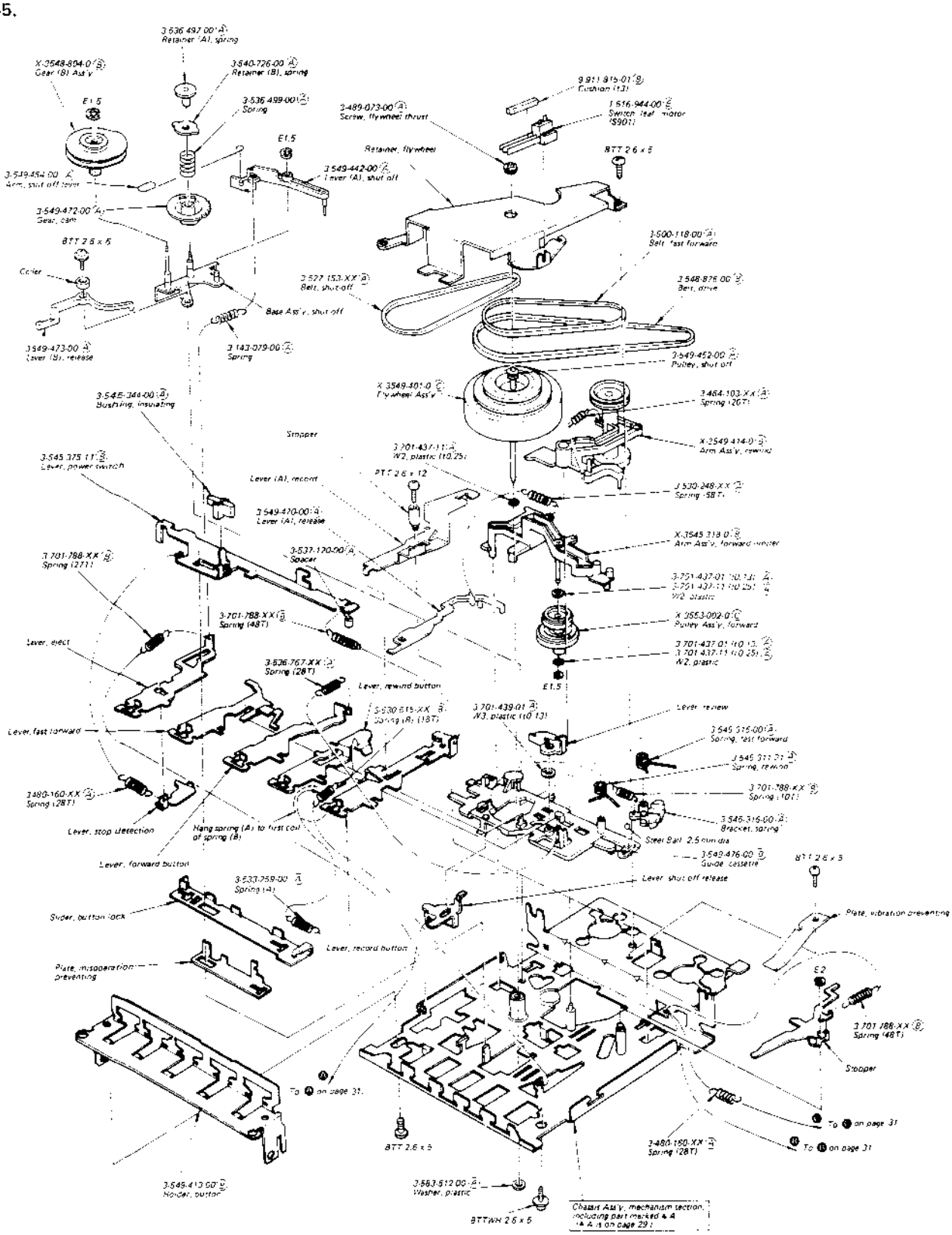
- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (-) = slotted head.

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



- 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 (A) to (E) are applicable to European models only.

5-5.



- 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.
  –t = slotted head.
- Circled letters (A) to (Z) are applicable to European models only.

SECTION 6
ELECTRICAL PARTS LIST

• Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Ref. No.	Part No.	Description
		PRINTED CIRCUIT BOARDS
	1-585-743-00	Ⓐ Head
	1-585-756-00	Ⓐ LED
	1-586-277-00	Ⓑ Voltage Selector (AEP Model)
		SEMICONDUCTORS
		Transistors
Q1		Ⓑ 2SC930
⇒Q2, 3		Ⓒ 2SC1129
Q4 ~ 8		Ⓑ 2SC710
Q9		Ⓑ 2SC930
⇒Q101, 201		Ⓑ 2SC632A
⇒Q102, 202		Ⓑ 2SC1364 (blue)
⇒Q103, 203		Ⓑ 2SC634A
⇒Q104, 204		Ⓑ 2SC632A
⇒Q105, 205, ⇒Q106, 206		Ⓑ 2SC634A
⇒Q301		Ⓑ 2SC634A
Q302		Ⓒ 2SC1173
⇒Q303		Ⓑ 2SC634A
Q601		Ⓒ 2SC1761
⇒Q602		Ⓑ 2SB324
⇒Q603		Ⓑ 2SC634A
		Diodes
D1		Ⓑ 2SC634A
D2, 3		Ⓑ 1T261
D4, 5		Ⓑ 1T22A
⇒D101, 201		Ⓑ 1S1555
⇒D102, 202, ⇒D103, 203		Ⓑ 1T22A
D301, 302		Ⓑ 10E2
⇒D303		Ⓑ EQB01-08
⇒D304		Ⓑ 1T22A
⇒D601		Ⓑ 10E2
⇒D602		Ⓑ 1S1555
D901, 902		Ⓒ SLP24B
		ICs
IC1		Ⓕ LA3301
IC101, 201		Ⓗ HA1306W
TH601	1-800-071-XX	Ⓐ Thermistor S-400
		COILS
L2	1-425-632-00	Ⓑ FM RF
L3	1-459-157-00	Ⓑ FM Osc
L4	1-407-175-XX	Ⓐ Microinductor, LF-1: 330 μH
L5	1-407-178-XX	Ⓐ Microinductor, LF-4: 1 μH
L101, 201	1-407-212-XX	Ⓑ Microinductor, 33 μH
L601, 602	1-407-484-00	Ⓑ Microinductor, 3.3 μH
		TRANSEORMERS
T1	1-403-872-00	Ⓑ FM IFT
T2	1-403-952-00	Ⓑ FM Discriminator, primary
T3	1-403-953-00	Ⓑ FM Discriminator, secondary
T4	1-404-041-00	Ⓑ AM IFT, detect stage
T5	1-401-538-00	Ⓑ SW ANT
T6	1-405-740-00	Ⓑ SW Osc
T7	1-405-520-00	Ⓑ MW Osc
T8	1-405-772-00	Ⓑ LW Osc
T9	1-425-956-00	Ⓒ MPX
T11	1-403-144-00	Ⓒ AM IFT, 455 kHz (AEP model)
T11	1-403-827-00	Ⓒ AM IFT, 468 kHz (UK model)
T101, 201	1-427-420-00	Ⓒ Output
T901	1-442-744-00	Ⓚ Power (UK model)
T901	1-442-917-00	Ⓚ Power (AEP model)
CF1, 2	1-527-184-XX	Ⓑ Filter, ceramic: 10.7 MHz

⇒ : 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.

• Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Ref. No.	Part No.	Description		
		CAPACITORS		
		All capacitors are in μF and ceramic unless otherwise noted. 50WV or less are not indicated except for electrolytics. pF = μμF, elect = electrolytic		
C1,2	1-101-923-11 Ⓐ	0.01		
C3	1-102-959-11 Ⓐ	22 p		
C4	1-101-923-11 Ⓐ	0.01		
C5	1-102-935-11 Ⓐ	2 p		
C6 - 8	1-101-923-11 Ⓐ	0.01		
C9	1-102-504-11 Ⓐ	4 p		
C10	1-102-865-11 Ⓐ	8 p		
C11	1-102-964-11 Ⓐ	36 p		
C12	1-102-851-11 Ⓐ	15 p		
C13	1-102-503-11 Ⓐ	3 p		
C14	1-121-726-11 Ⓐ	0.47	50 V	elect
C15 – 18	1-101-923-11 Ⓐ	0.01		
C19	1-102-942-11 Ⓐ	5 p		
C20	1-101-924-11 Ⓐ	0.022		
C21	1-121-651-11 Ⓐ	10	16 V	elect
C22, 23	1-102-978-11 Ⓐ	220 p		
C24	1-102-973-11 Ⓐ	100 p		
C25	1-101-923-11 Ⓐ	0.01		
C26	1-103-736-11 Ⓐ	0.003		pdystyrol
C27	1-101-923-11 Ⓐ	0.01		
C28	1-161-013-11 Ⓐ	0.01		boundary layer
C29	1-101-924-11 Ⓐ	0.022		
C30	1-101-923-11 Ⓐ	0.01		
C31, 32	1-101-924-11 Ⓐ	0.022		
C33	1-121-479-11 Ⓐ	22	16 V	elect
C34	1-102-945-11 Ⓐ	8 p		
C35	1-102-944-11 Ⓐ	7 p		
C36	1-103-738-11 Ⓐ	0.0036		pdystyrol
C37	1-107-231-11 Ⓐ	360 p		silvered mica
C38	1-102-944-11 Ⓐ	7 p		
C39	1-103-707-11 Ⓐ	180 p		pdystyrol
C40	1-102-945-11 Ⓐ	8 p		
C41	1-102-950-11 Ⓐ	13 p		
C42	1-102-971-11 Ⓐ	82 p		
C43	1-121-409-11 Ⓐ	47	16 V	elect
C44	1-121-415-11 Ⓑ	100	16 V	elect
C45	1-161-013-11 Ⓐ	0.01		(boundary layer)
C46	1-101-924-11 Ⓐ	0.022		
C47	1-161-013-11 Ⓐ	0.01		(boundary layer)
C48	1-121-409-11 Ⓐ	47	10 V	elect
C49	1-102-951-11 Ⓐ	15 p		
C50	1-161-003-11 Ⓐ	0.0015		
C51	1-121-391-11 Ⓐ	1		
C52	1-121-651-11 Ⓐ	10	16 V	elect
C53	1-103-749-11 Ⓑ	0.01		pdystyrol
C54	1-103-734-11 Ⓐ	0.0024		pdystyrol
C55, 56	1-121-395-11 Ⓐ	4.7	25 V	elect
C57	1-161-005-11 Ⓐ	0.0022		(boundary layer)
C58	1-161-003-11 Ⓐ	0.0015		(boundary layer)
C59	1-161-005-11 Ⓐ	0.0022		(boundary layer)
C60	1-161-008-11 Ⓐ	0.0039		(boundary layer)
C61	1-161-005-11 Ⓐ	0.0022		(boundary layer)
C62	1-161-003-11 Ⓐ	0.0015		(bondary layer)
C63	1-161-005-11 Ⓐ	0.0022		(boundary layer)
C64	1-161-008-11 Ⓐ	0.0039		(boundary layer)
C65	1-101-923-11 Ⓐ	0.01		
C66	1-102-935-11 Ⓐ	2 p		
C101, 201	1-127-019-11 Ⓑ	0.1	16 V	solid aluminium
C102, 202	1-121-395-11 Ⓐ	4.7	25 V	elect
C103, 203	1-107-073-11 Ⓐ	33 p		silvered mica
C104, 204	1-101-918-11 Ⓐ	0.001		
C105, 205	1-102-110-11 Ⓐ	220 p		
C106, 206	1-121-391-11 Ⓐ	1	50 V	elect
C107, 207	1-121-414-11 Ⓐ	100	10 V	elect
C108, 208	1-121-726-11 Ⓐ	0.47	50 V	elect
C109, 209	1-102-074-11 Ⓐ	0.001		
C110, 210	1-121-726-11 Ⓐ	0.47	50 V	elect
C111, 211	1-121-651-11 Ⓐ	10	16 V	elect
C112, 212	1-121-415-11 Ⓑ	100	16 V	elect
C113, 213	1-101-918-11 Ⓐ	0.001		
C114, 215	1-121-651-11 Ⓐ	10	16 V	elect
C115, 215	1-107-085-11 Ⓐ	100 p		silvered mica

• Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Ref. No.	Part No.	Description		
C116, 216	1-121-414-11 Ⓐ	100	6,3 V	elect
C117, 217	1-121-651-11 Ⓐ	10	16 V	elect
C118, 218	1-121-409-11 Ⓐ	47	10 V	elect
C119, 219	1-161-001-11 Ⓐ	0,001		(boundary layer)
C120, 220	1-161-017-11 Ⓐ	0,022		(boundary layer)
C121, 221, C122, 222	1-107-073-11 Ⓐ	33 p		silvered mica
C123, 223	1-161-001-11 Ⓐ	0,001		(boundary layer)
C124, 224	1-161-002-11 Ⓐ	0,0012		(boundary layer)
C126, 226	1-107-130-11 Ⓐ	91 p		silvered mica
C127, 227	1-107-061-11 Ⓐ	10 p		silvered mica (AEP model)
C127, 227	1-107-104-11 Ⓐ	7 p		silvered mica (UK model)
C128, 228	1-107-065-11 Ⓐ	15 p		silvered mica (AEP model)
C128, 228	1-107-108-11 Ⓐ	11 p		silvered mica (UK model)
C129, 229	1-102-074-11 Ⓐ	0,001	50 V	
C130, 230	1-121-391-11 Ⓐ	1	50 V	elect
C131, 231	1-121-392-11 Ⓐ	3,3	25 V	elect
C132, 232	1-121-651-11 Ⓐ	10	16 V	elect
C133, 233	1-161-005-11 Ⓐ	0,0022		(boundary layer)
C134, 234	1-121-726-11 Ⓐ	0,47	50 V	elect
C135, 235	1-121-414-11 Ⓐ	100	6,3V	elect
C136, 236	1-121-414-11 Ⓐ	100	6,3 V	elect
C137, 237	1-102-110-11 Ⓐ	220 p		
C138, 238	1-161-001-11 Ⓐ	0.001		(boundary layer)
C139, 239	1-121-409-11 Ⓐ	47	16 V	elect
C140, 240	1-108-249-12 Ⓐ	0,068		mylar
C141, 241	1-108-254-12 Ⓑ	0.22		mylar
C142, 242	1-121-943-11 Ⓑ	1000	10 V	elect
C143, 243	1-107-253-11 Ⓑ	(15 + 18 + 22 + 27) p	50V	silvered mica
C144, 244	1-102-110-11 Ⓐ	220 p		
C145, 245	1-102-110-11 Ⓐ	220 p		
C146, 246	1-102-110-11 Ⓐ	220 p		
C301 – 303	1-101-918-11 Ⓐ	0,001		
C304, 305	1-123-070-11 Ⓒ	2200	16 V	elect

Ref. No.	Part No.	Description		
C306	1-121-415-11 Ⓑ	100	16 V	elect
C308	1-121-392-11 Ⓐ	3,3	25 V	elect
C309	1-121-940-11 Ⓑ	470	16 V	elect
C310	1-121-415-11 Ⓑ	100	16 V	elect
C311	1-123-072-11 Ⓑ	220	10 V	elect
C312	1-107-188-11 Ⓐ	620 p	500 V	silvered mica (AEP model)
C312	1-107-200-11 Ⓐ	430 p	500 V	silvered mica (UK model)
C313	1-107-200-11 Ⓐ	430 p		silvered mica (UK model)
C313	1-107-213-11 Ⓑ	680 p		silvered mica (AEP model)
C314	1-129-702-11 Ⓐ	330 p		mica
C315	1-107-258-11 Ⓑ	750 p	500 V	silvered mica
C316, 317	1-121-479-11 Ⓐ	22	16 V	elect
C318	1-121-402-11 Ⓐ	33	10 V	elect
C319	1-121-391-11 Ⓐ	1	50 V	elect
C401, 402	1-161-006-11 Ⓐ	0,0027		(boundary layer)
C403, 404	1-161-015-11 Ⓐ	0,015		(boundary layer)
C405, 406	1-161-018-11 Ⓐ	0.027		(boundary layer)
C407, 408	1-108-251-12 Ⓑ	0.1		mylar
C415	1-101-004-11 Ⓐ	0,01		
C601	1-121-414-11 Ⓐ	100	6,3 V	elect
C602	1-123-077-11 Ⓑ	470	6,3 V	elect
C603	1-121-409-11 Ⓐ	47	16 V	elect
C801, 802	1-119-426-11 Ⓑ	3,3	50 V	elect
CT1 – 3	1-151-239-00 Ⓖ			Trimmer
CT5 – 9	1-141-171-XX Ⓑ			Trimmer
CV1 – 4	1-151-239-00 Ⓖ			Tuning

RESISTORS

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

R127	1-224-642-XX Ⓑ	1 k	adjustable
R138	1-224-643-XX Ⓑ	2,2 k	adjustable
R213	1-224-648-XX Ⓑ	100 k	adjustable

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

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

Ref. No.	Part No.	Description		
R227	1-224-642-XX Ⓑ	1 k		adjustable
R302	1-213-084-11 Ⓐ	100	1 W	fusible
R315	1-224-646-XX Ⓑ	22 k		adjustable
R401, 402	1-224-838-00 Ⓓ	100 k, variable; TREBLE		
R405, 406	1-224-836-00 Ⓓ	100 k, variable; BASS		
R411, 412	1-224-835-00 Ⓓ	20 k, variable; VOLUME		
R429	1-224-804-00 Ⓒ	100 k, variable; BALANCE		
R608	1-224-642-XX Ⓑ	1 k		adjustable
RV1	1-224-642-XX Ⓑ	1 k		adjustable

SWITCHES

S1	1-514-316-00 Ⓓ	Slide, BAND SELECT
S101	1-552-113-00 Ⓓ	Slide, record/playback
S102	1-552-112-00 Ⓕ	Slide, FUNCTION
S401	1-516-962-00 Ⓒ	Lever, slide; TAPE SELECT
S402	1-516-963-00 Ⓒ	Lever, slide; MODE
S901	1-516-944-00 Ⓔ	Leaf, MOTOR
S902		Included in CNJ901, AC/DC
S903	1-516-853-XX Ⓒ	Leaf, MUTING
S904	1-516-853-XX Ⓒ	Leaf, RECORD MUTING
S905	1-552-111-00 Ⓓ	Push botton, AFC/ISS, LIGHT
S906	1-552-026-00 Ⓔ	Voltage Selector (AEP model)
S907	1-552-221-00 Ⓔ	MAINS (UK model)

JACKS

J101, 201	1-507-450-00 Ⓑ	MIC
J301	1-509-549-00 Ⓑ	Record/playback
J801	1-507-512-00 Ⓒ	PHONES
J901	1-507-357-00 Ⓑ	REMOTE
CNJ901	1-509-510-00 Ⓒ	Connector, 2-p AC INPUT
CNJ902	1-507-261-XX Ⓑ	DC IN 12 V

FUSES

F301	1-532-387-00 Ⓑ	Fuse, T0,2 A (AEP model)
	1-533-502-00 Ⓑ	Fuse, T0.2A (UK model)
F302, 303	1-532-502-00 Ⓑ	Fuse, T1,25 A

Ref. No.	Part No.	Description

MISCELLANEOUS

ANT-1	1-501-168-00 Ⓕ	FM/SW telescopic antenna
ANT-2	1-401-539-00 Ⓒ	Ferrite-rod antenna
CP301	1-464-025-00 Ⓖ	Bias Osc Unit
CP901	1-231-057-00 Ⓑ	Encapsulated Component (UK model)
EH	8-825-634-00 Ⓒ	Head, erase; EF135-36C
M	8-835-001-XX Ⓚ	Motor DNF-1001 A
ME901, 902	1-520-297-00 Ⓗ	Meter, level
ME903	1-520-296-00 Ⓗ	Meter, tuning
MIC	8-814-196-50 Ⓕ	Microphone, electret condenser; C-1004S
PL901	1-518-282-XX Ⓑ	Lamp, pilot
RPH	8-829-236-23 Ⓚ	Head, record/playback; PP128-3602C
SP801, 802	1-502-643-00 Ⓖ	Speaker, tweeter; 4 Ω
SP803, 804	1-502-642-00 Ⓗ	Speaker, woofer; 4 Ω
	1-231-286-00 Ⓑ	Band-pass Filter
	1-533-102-XX Ⓑ	Holder, fuse (AEP model)
	1-533-131-00 Ⓐ	Holder, fuse

ACCESSORES & PACKING MATERIALS

Part No.	Description
X-3701-105-0	Ⓐ Tips Ass'y, cleaning
1-534-840-XX	Ⓔ Cord, power; DK-38 (AEP model)
1-551-218-00	Ⓔ Cord, power (UK model)
3-551-880-00	Ⓒ Cushion (right)
3-551-881-00	Ⓒ Cushion (left)
3-551-895-00	Ⓑ Bag, protection
3-551-917-00	Ⓔ Carton
3-701-632-00	Ⓐ Bag, plastic
3-701-684-11	Ⓐ Card, power supply voltage
3-703-133-00	Ⓐ Tag, caution; antenna
3-770-350-11	Ⓕ Manual, instruction (AEP model)
3-770-350-41	Ⓒ Manual, instruction (UK model)
3-793-828-11	Ⓐ Card, cassette caution
8-893-511-00	Ⓕ Tape, demonstration CD-806

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

Sony Corporation

7710271-1
Printed in Japan

![SIEMENS]

SIEMENS

RADIO

QUALITÄTSSUPER 54

832 W

PHONOSUPER 54

833 W

ABGLEICH-VORSCHRIFT
UND
STROMLAUF

ALLGEMEINES

Alle Abgleichpunkte sind nach Abnahme der Rückwand und Bodenplatte zugänglich. Lautstärkeregler voll aufdrehen, Höhen- und Tiefenregister voll aufdrehen. Drehko-Bündigkeit und Zeigerstellung prüfen. Zum Abgleich Zeiger jeweils auf Abgleichmarke der Skala stellen. L-Abgleich stets beim ersten Maximum. Mit L-Abgleich beginnen, L- und C-Abgleich nach Bedarf mehrfach wiederholen, stets mit C-Abgleich enden.

A) AM-Abgleich

I. ZF (468 kHz)

Taste „M" einschalten, Drehko ganz herausdrehen, Meßsender (468 kHz) über 5 nF an Punkt (J) (Gitter 1 Hexode ECH 81) und Masse anschließen. Ausgangsspannungsmesser an Buchsen für 2. Lautsprecher.

Beim Nachgleichen der AM-ZF-Filter ist die Stellung des gewindelosen Ferritkernes durch eine schraubende Bewegung mit Hilfe einer spitzen Pinzette zu verändern. Ersatz-Abgleichhalme liegen dem Gerät bei.

Bei Geräten mit 4-mm Kernen ist vorher die Verschmelzung des Innen- und Außenhalmes mittels eines Spiral-Bohrers zu beseitigen. Nach Beendigung des Abgleichs sind die Halme durch Lack zu sichern oder durch einen erhitzten Draht miteinander zu verschweißen.

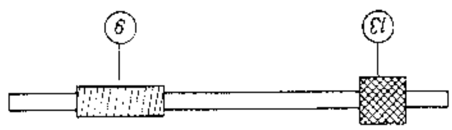
Bei Geräten mit 2-mm-Halmen entfallen diese Maßnahmen.

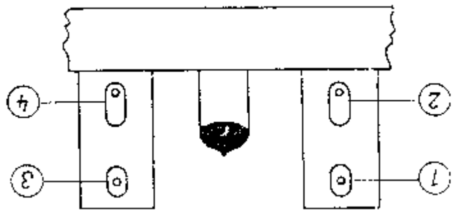
ZF-Filter 2	Diodenseite (1) Anodenseite (2)
ZF-Filter 1	Gitterseite (3) Anodenseite (4)

Saugkreis

Meßsender (468 kHz) über Ersatzantenne (400 Ω in Reihe mit 200 pF) an Antennen- und Erdbuchse anschließen.

(5) Saugkreisspule auf Minimum abgleichen.





II. HF-Abgleich

Meßsender wie bei Saugkreis-Abgleich anschließen.

		L-Seite		C-Seite	
Kurz	Oszi-Kreis	(6)	6,67 MHz	—	—
	Vorkreis	(7)	6,67 MHz	—	—
Mittel	Oszi-Kreis	(8)	600 kHz	(10)	1500 kHz
	Vorkreis*)	(9)	600 kHz	(11)	1500 kHz
Lang	Oszi-Kreis	(12)	191 kHz	·	—
	Vorkreis*)	(13)	191 kHz	·	—

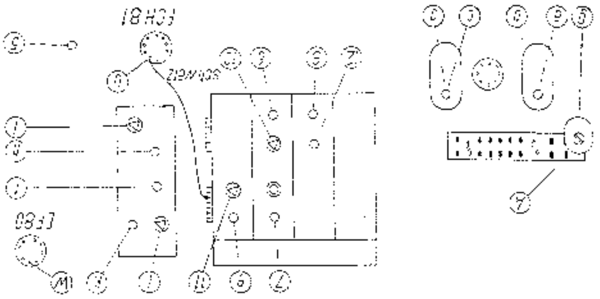
*) Zum Nachgleich des Vorkreises, der jedoch nur in den seltensten Fällen erforderlich ist, Spule auf der Ferritantenne mit wenig Azeton oder Trichloräthylen loslösen. Abgleich erfolgt dann durch Verschieben der Spule auf dem Ferritstab. Anschließend Spule mit Lack oder „Uhu" festlegen.

B) FM-Abgleich mit einfachen Mitteln

I. ZF (10,7 MHz)

Taste „U" einschalten, Ausgangsspannungsmesser an Buchse für zweiten Lautsprecher, Meßsender (Ri = 75 Ω) 10,7 MHz amplitudenmoduliert über 5 nF und 1 kΩ in Reihe an Punkt „W" (Schirmgitter EF 80) und an Erdpunkt der EF 80 anschließen. Die nicht abgeschirmten Enden des Senderkabels müssen so kurz wie möglich sein.

Drehko-Stellung beliebig. Kern (b) zu Beginn um 3 bis 5 Gewindegänge herausdrehen. Potentiometer (g) nicht verstellen! Alle Kerne außer Kern „b" auf Maximum am Ausgangsspannungsmesser einstellen.



Gestrichelt gezeichnete Positionen von Chassisoberseite aus abgleichen.

Diskr.-Filter	Anodenseite	(a)
ZF-Filter 2	Gitterseite Anodenseite	(c) (d)
ZF-Filter 1	Gitterseite Anodenseite	(e) (f)

Meßsender abklemmen, Gerät auf einen schwächeren FM-Rundfunksender einstellen. Optimale Einstellung durch Summenspannungsmessung zwischen Punkt „A" und Masse feststellen (Maximum). Summenspannung soll etwa 5 V betragen.

Diskr.-Filter	Diodenseite	(b)	auf Ton (NF)-Maximum nach Gehör einstellen*)
Potentiometer		(g)	Rauschminimum

*) In den meisten Fällen sind 3 Maxima feststellbar, von denen das Mittlere, zwischen zwei Minima liegende Maximum das Richtige ist.

Abgleich (b) und (g) wechselseitig wiederholen, bis optimale Einstellung erreicht.

II. HF-Abgleich

1. Oszillator

Gehäuse- oder Außendipol anschließen. Skalenzeiger auf Mitte Raute des am Empfangsort gut zu hörenden UKW-Senders einstellen (möglichst bei etwa 87,75 MHz bzw. bei etwa 99 MHz). Der Sendekanal des eingestellten Senders ist aus der dem Gerät beiliegenden UKW-Sender-Tabelle zu ersehen.

(h) Abgleich auf Maximum am Magischen Auge (88,75 MHz).

(i) Abgleich auf Maximum am Magischen Auge (99 MHz).

2. Vorkreis

Diodenzuführungen herausziehen, Zeiger auf Abgleichmarke 87,75 MHz stellen.

(k) auf Rauschmaximum abgleichen.

Zeiger auf Abgleichmarke 99 MHz stellen.

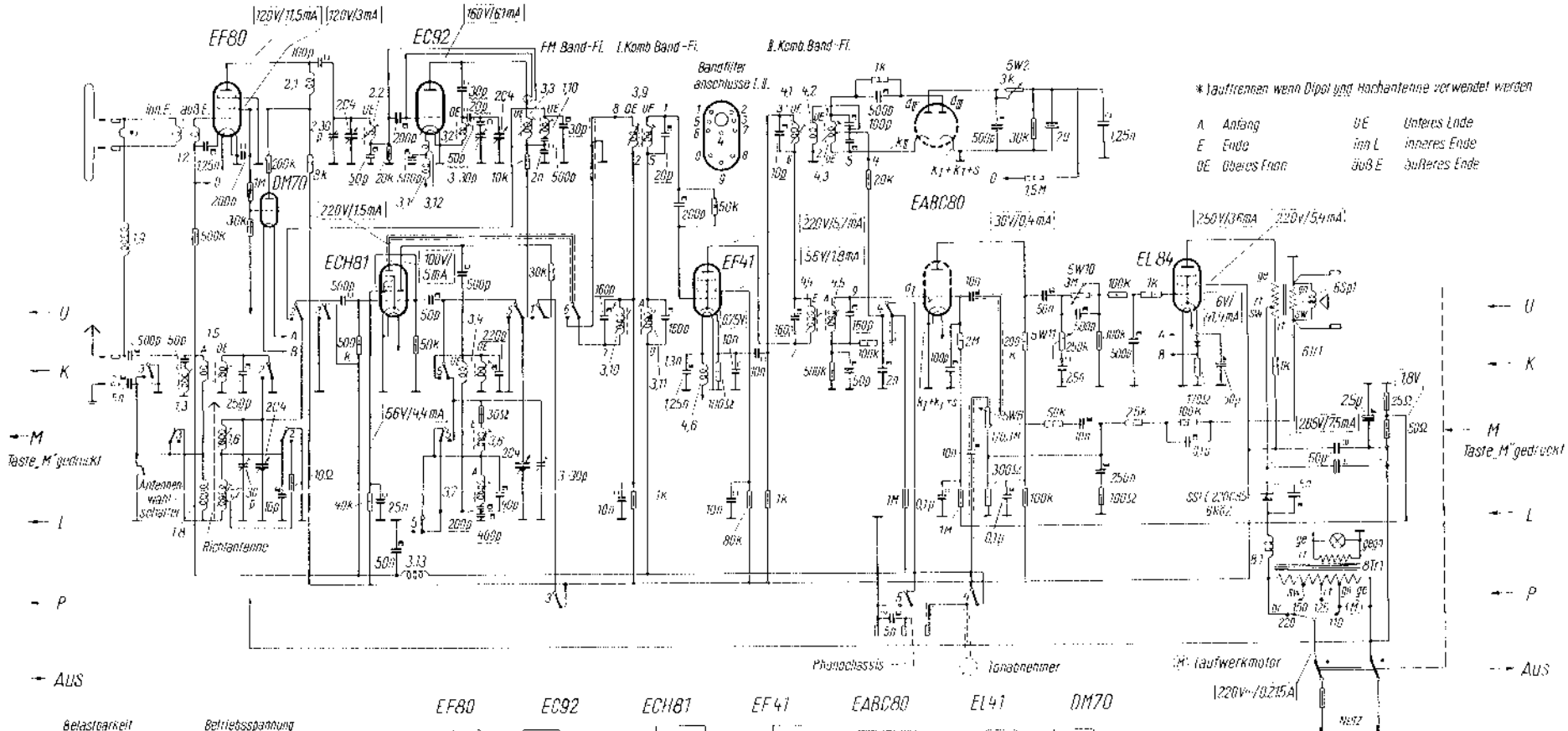
(l) auf Rauschmaximum abgleichen.

C) FM-Abgleich ohne Meßsender und Instrumente

In folgenden Fällen ist ein Nachgleichen des gesamten UKW-Teiles rein gehörmäßig auf Rauschmaximum möglich.

1. Wenn auf dem UKW-Bereich ein Rauschen noch hörbar ist und nur eine geringere Unempfindlichkeit beseitigt werden soll.
2. Wenn z. B. durch Auswechseln von Spulen (aus mechanischen Gründen) bekannt ist, welcher UKW-Kreis nachgeglichen werden muß.

SIEMENS & HALSKE AKTIENGESELLSCHAFT
WERNERWERK FÜR RADIOTECHNIK



Belastbarkeit der Widerstände		Betriebsspannung der Kondensatoren	
	0,1 W		12/15 V
	0,25 W		125 V
	0,5 W		250 V
	1 W		350/385 V
	2 W		500 V

Gezeichnete Tastenstellung: „M" gedrückt

Änderungen vorbehalten

Röhrensockelschaltungen

Spannungen gemessen mit: Instrument Multiavet 1000Ω/V
Ströme gemessen mit: Multizet 1000Ω/V
Gemessen bei Mittelbereich

SIROMLAUF: QUALITÄTSSUPER 54, 832 W
PHONOSUPER 54, 833 W