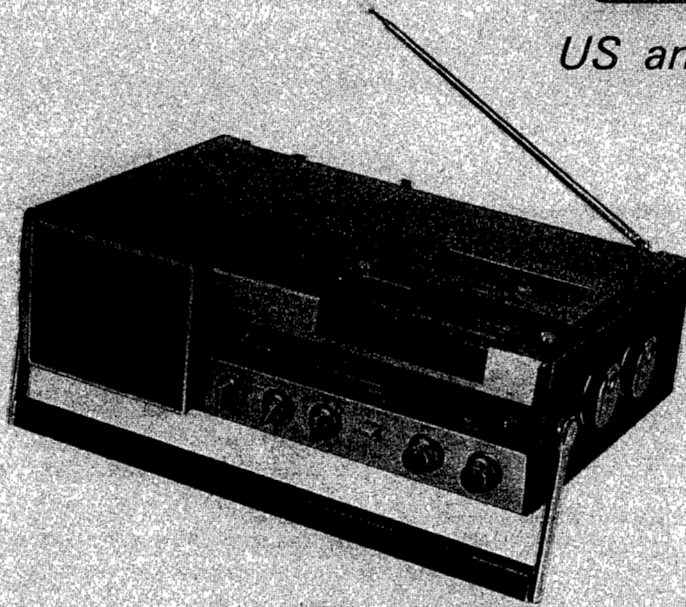


FX-412^{SV} AC-121W

US and Canadian Model



**TV-FM/AM
RECEIVER
CASSETTE-CORDER**

**ATTENTION AU COMPOSANT AYANT RAPPORT
À LA SÉCURITÉ!!**

LES COMPOSANTS IDENTIFIÉS PAR UN TRAMÉ ET UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHEMATIQUES, LES VUES EXPLOSEES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DES SUPPLÉMENTS PUBLIÉS PAR SONY. LES RÉGLAGES DU CIRCUIT QUI SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT SONT IDENTIFIÉS DANS CE MANUEL. SUIVRE LES PROCÉDURES QUAND LES COMPOSANTS CRITIQUES SONT REMPLACÉS OU LE FONCTIONNEMENT IMPROPRE EST SUSPECTÉ.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS 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. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

SONY[®]
SERVICE MANUAL

SPECIFICATIONS

Television System: American TV standards

Picture Tube: 9.4 cm, 4" (screen measured diagonally), 50° deflection

Semiconductors: 57 transistors, 43 diodes and 1 IC

Antennas: VHF/UHF: Built-in telescopic antenna with external antenna terminal (75 Ω unbalanced)

Channel Coverage: VHF channels: 2 – 13
UHF channels: 14 – 83

Intermediate Frequencies: Picture i-f carrier: 45.75 MHz
Sound i-f carrier: 41.25 MHz

Sound System: 4.5 MHz intercarrier
Output power: 2,000 mW (max.)
Speaker: 10 cm (4 inches) dia., 4 Ω

Input: MIC (minijack) 1
Sensitivity 0.2 mV (–72 dB) for low-impedance microphone

Output: EARPHONE (minijack) 1
for 8 Ω earphone or load impedance 10 kΩ or higher

0 dB = 0.775 V

Other Jack: REMOTE control jack

Automatic Controls: AFC (automatic frequency control)
AGC (automatic gain control)

Anode Voltage: 7 kV at zero beam current

Power Requirements: 120 V ac, 60 Hz, with AC-121W ac power adaptor
9 V dc, 6 batteries size D (IEC Designation R20)
12 V car battery with optional Sony car battery cord DCC-16W

Power Consumption: 14.5 W ac
9 W dc (in 12 V operation)

Dimensions: Approx. 315 (w) x 94 (h) x 222 (d) mm
12 ½ (w) x 3 ¾ (h) x 8 ¾ (d) inches
including projecting parts and controls, excluding handle or hood without batteries

Net Weight: Approx. 3 kg (6 lb 10 oz)

Battery Life

Battery life is dependent on operating conditions and the type of batteries used. The following table shows some example; the upper row shows the battery life with an intermittent use of two-hours on and two-hours off, and the lower shows that with continuous use.

	Eveready No. 1050	Eveready Heavy Duty No. 1250	Eveready alkaline No. E95
TV viewing	11 hours 8 hours	16 hours 16 hours	33 hours 24 hours
TV recording while viewing TV	7 hours 5 hours	10 hours 10 hours	21 hours 15 hours

RADIO SECTION

Frequency Range: FM: 87.5 – 108 MHz
AM: 530 – 1,605 kHz

Antennas: FM: Built-in telescopic antenna with external antenna terminal (75 Ω unbalanced)
AM: Built-in ferrite-rod antenna

TAPE RECORDER SECTION

Recording System: 2-track 1-channel monaural

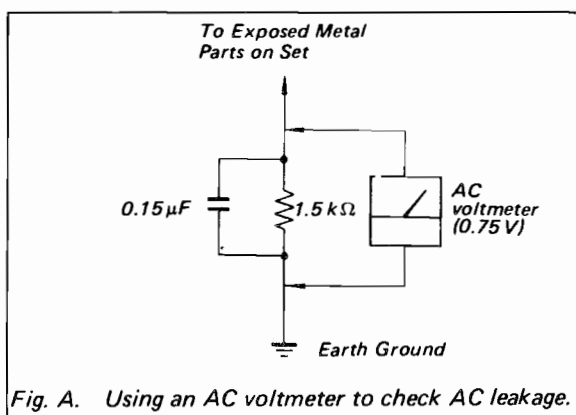
Fast Winding Time: Approx. 1 min, 50 sec. with Sony Cassette C-60

Accessories Supplied: Earphone (ME-20H)
Cassette tape
AC power adaptor (AC-121W)
Shorting plug (SP-100)
Head cleaning tips
Hood
Instruction manual

SAFETY CHECK-OUT (US model only)

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the condition of the monopole antenna (if any).
Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna's replacement.
8. Check the B+ and HV to see they are at the values specified. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
9. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.



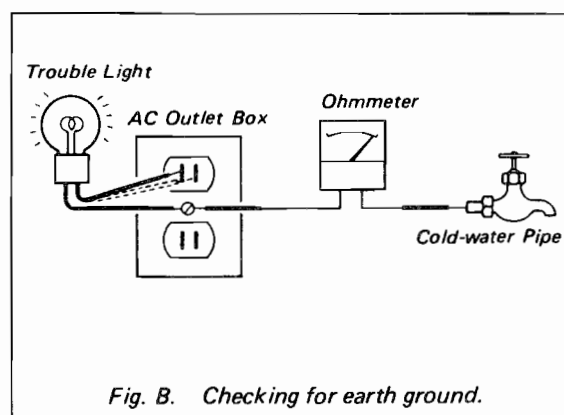
LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

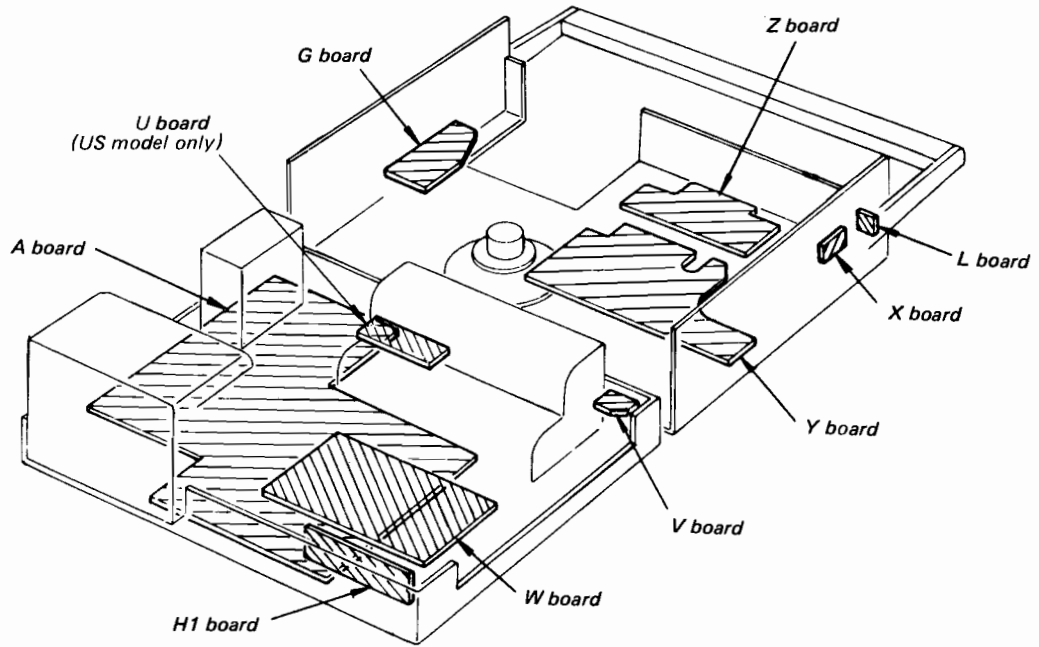
1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60-100 watt trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)

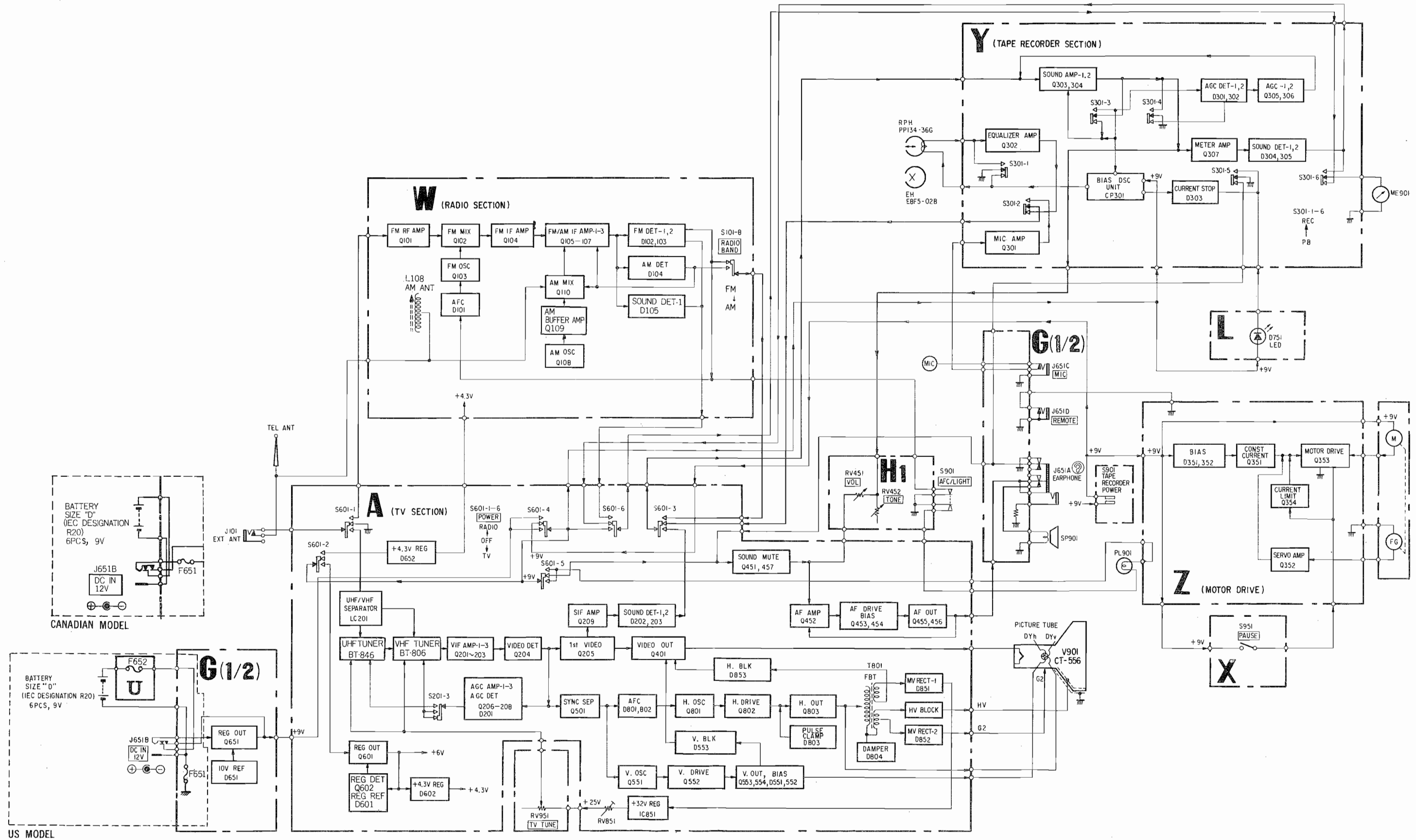


CIRCUIT BOARD LOCATIONS



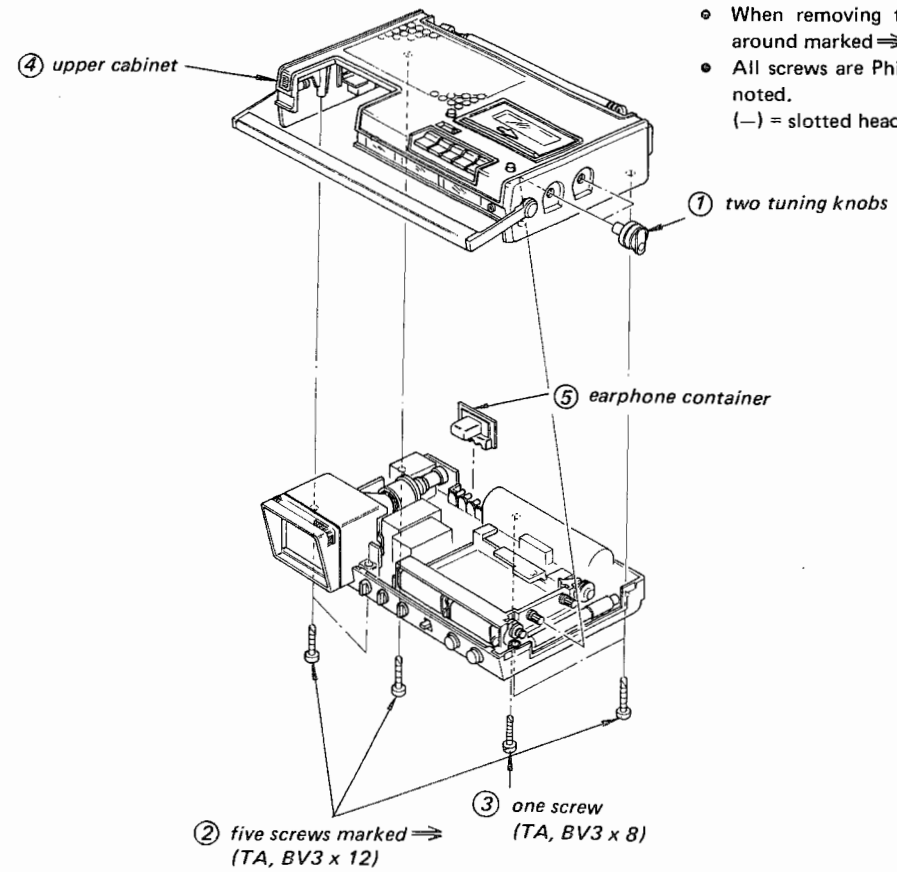
FX-412 FX-412

SECTION 1
BLOCK DIAGRAM



**SECTION 2
DISASSEMBLY**

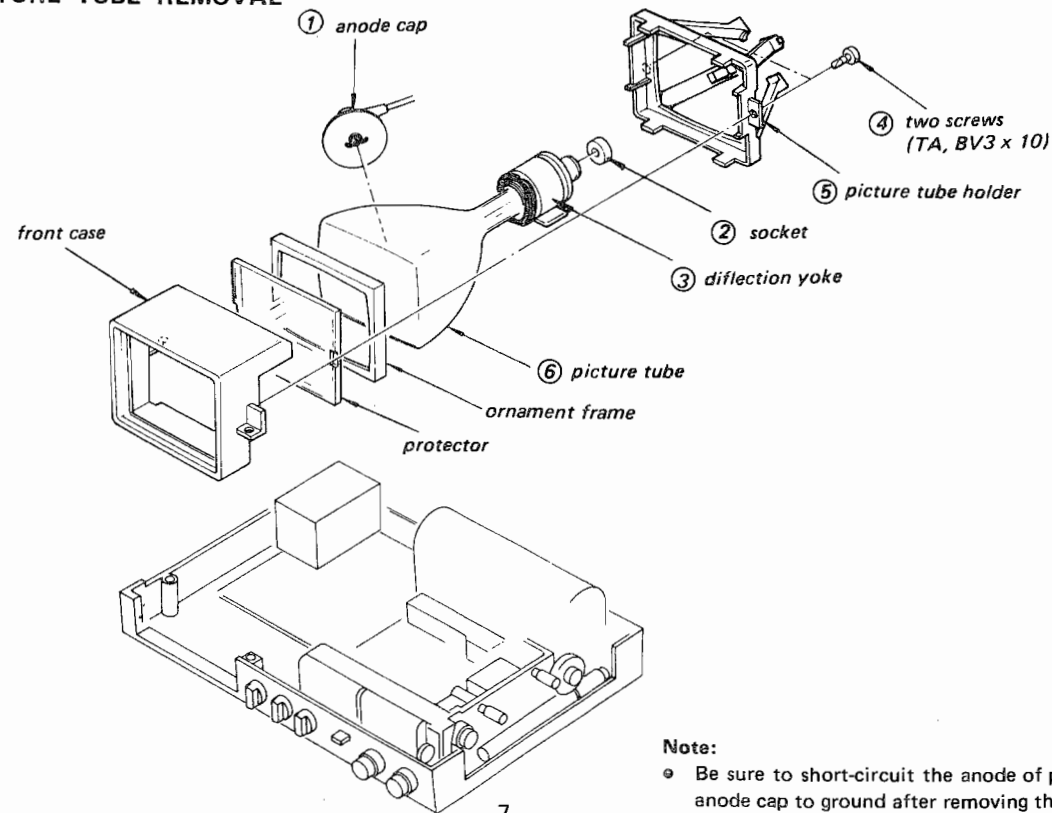
2-1. UPPER CABINET REMOVAL



Note:

- Follow the disassembly procedure in the numerical order given.
- When removing the rear cover, take out all the screws around marked \Rightarrow on it.
- All screws are Phillips (cross recess) type unless otherwise noted.
- (—) = slotted head

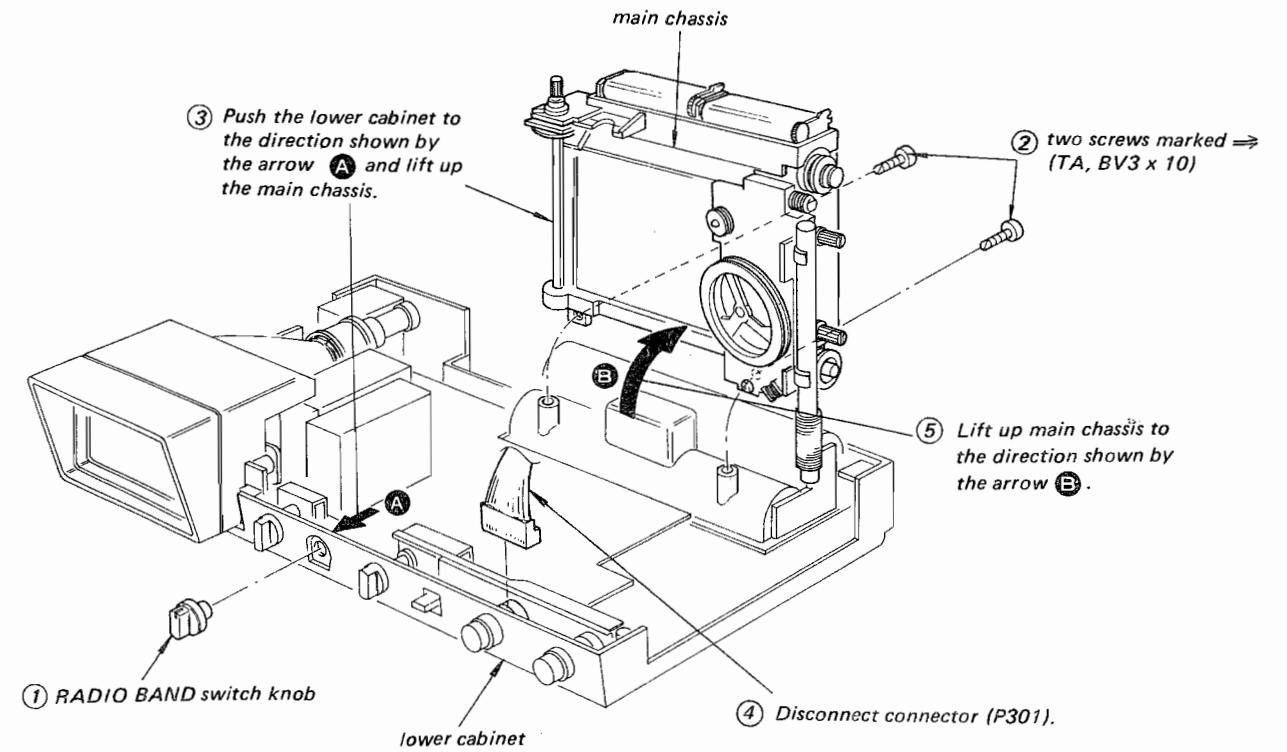
2-2. PICTURE TUBE REMOVAL



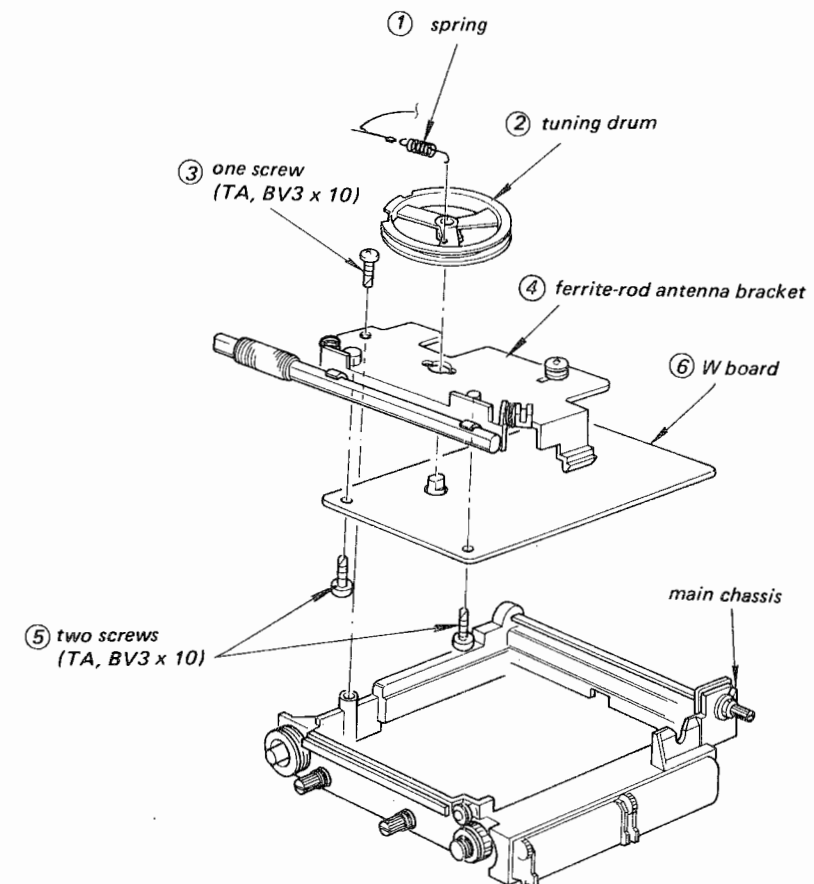
Note:

- Be sure to short-circuit the anode of picture tube and the anode cap to ground after removing the anode cap.

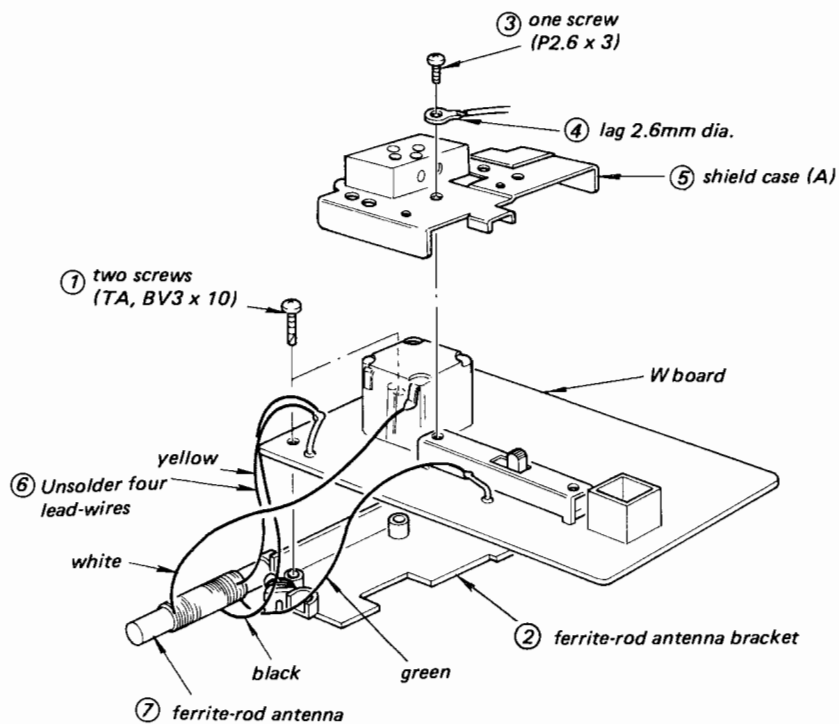
2-3. MAIN CHASSIS REMOVAL



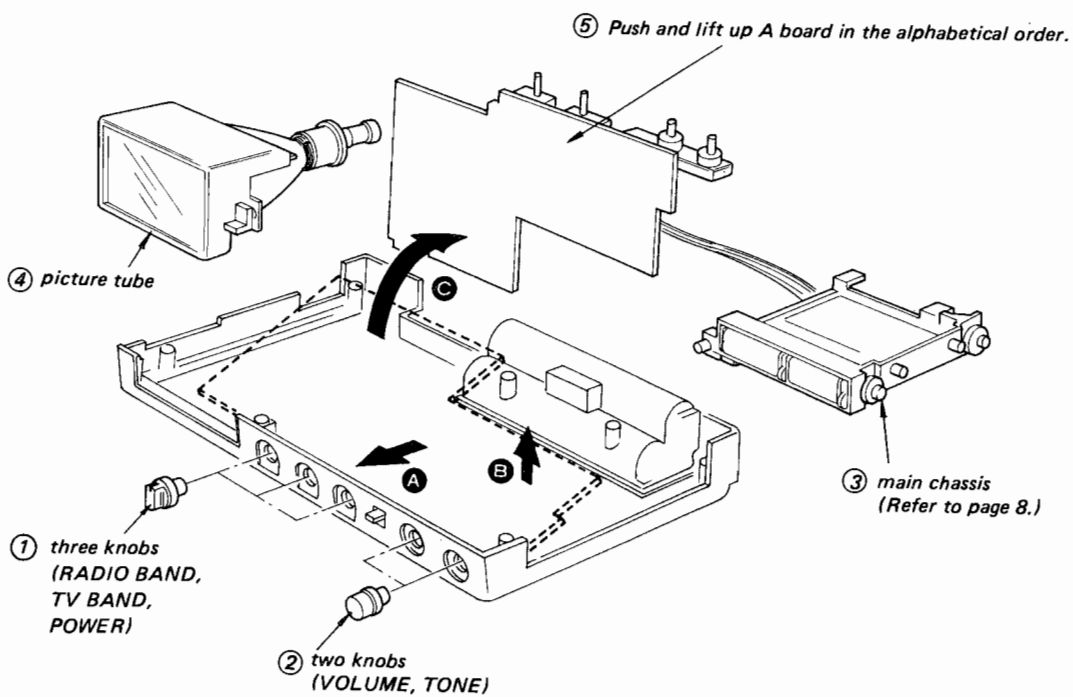
2-4. W BOARD REMOVAL



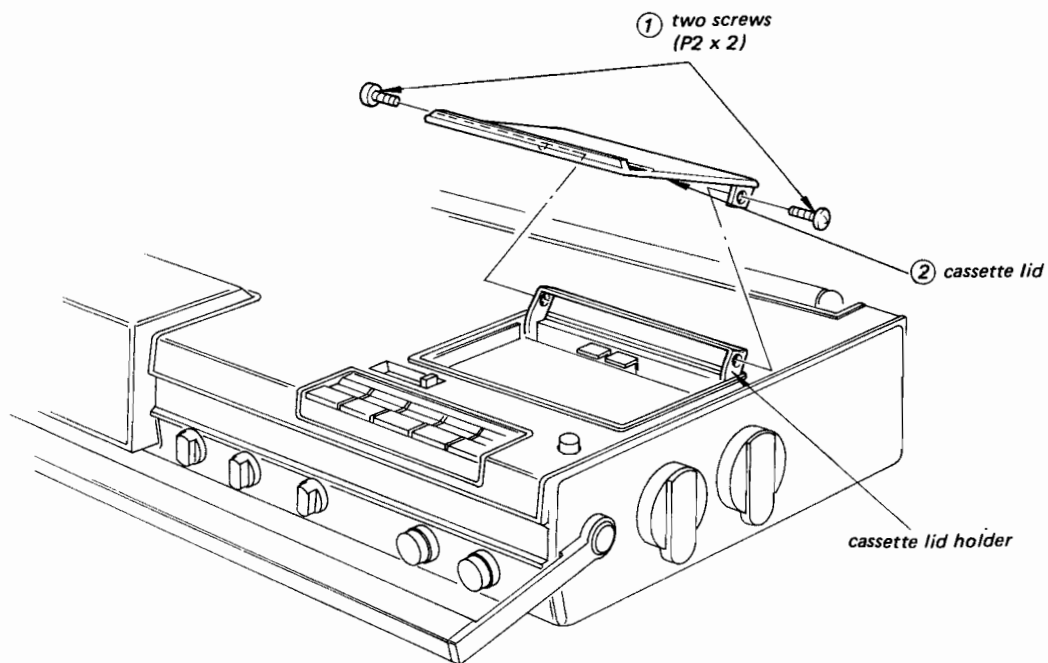
2-5. FERRITE-ROD ANTENNA REMOVAL



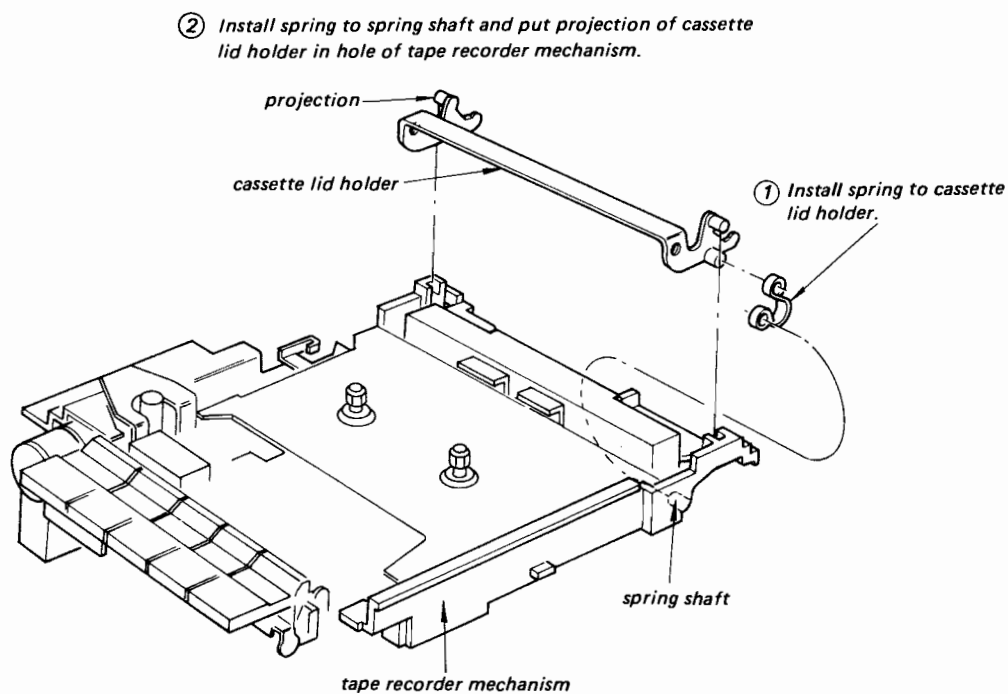
2-6. A BOARD REMOVAL (FOR CHECKING IT UP)



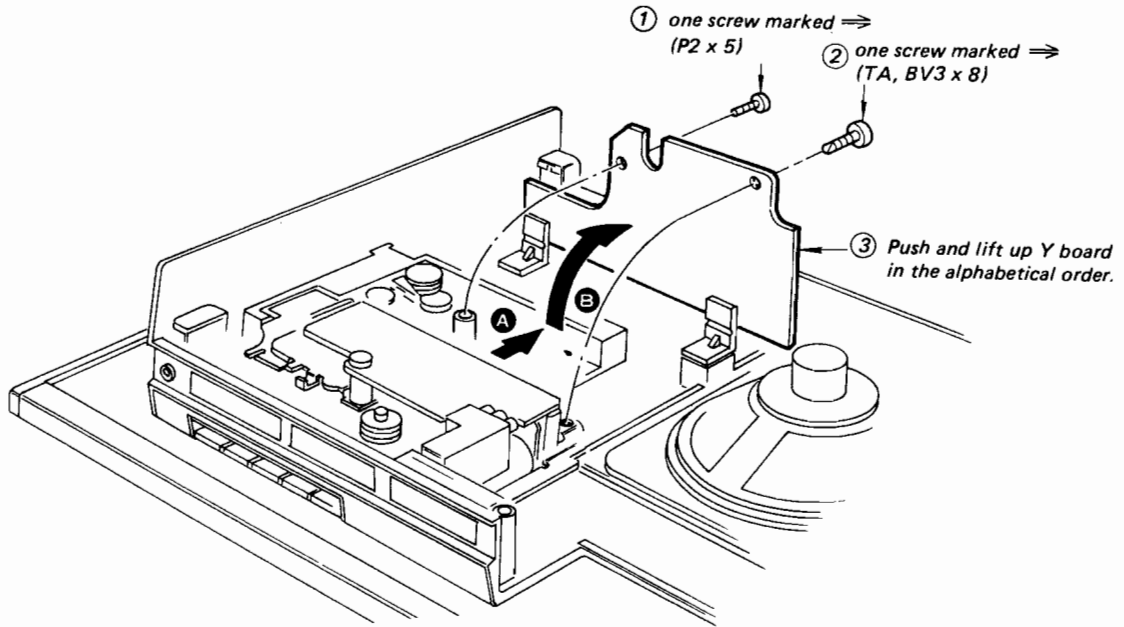
2-7. CASSETTE LID REMOVAL



2-8. CASSETTE LID HOLDER INSTALLATION

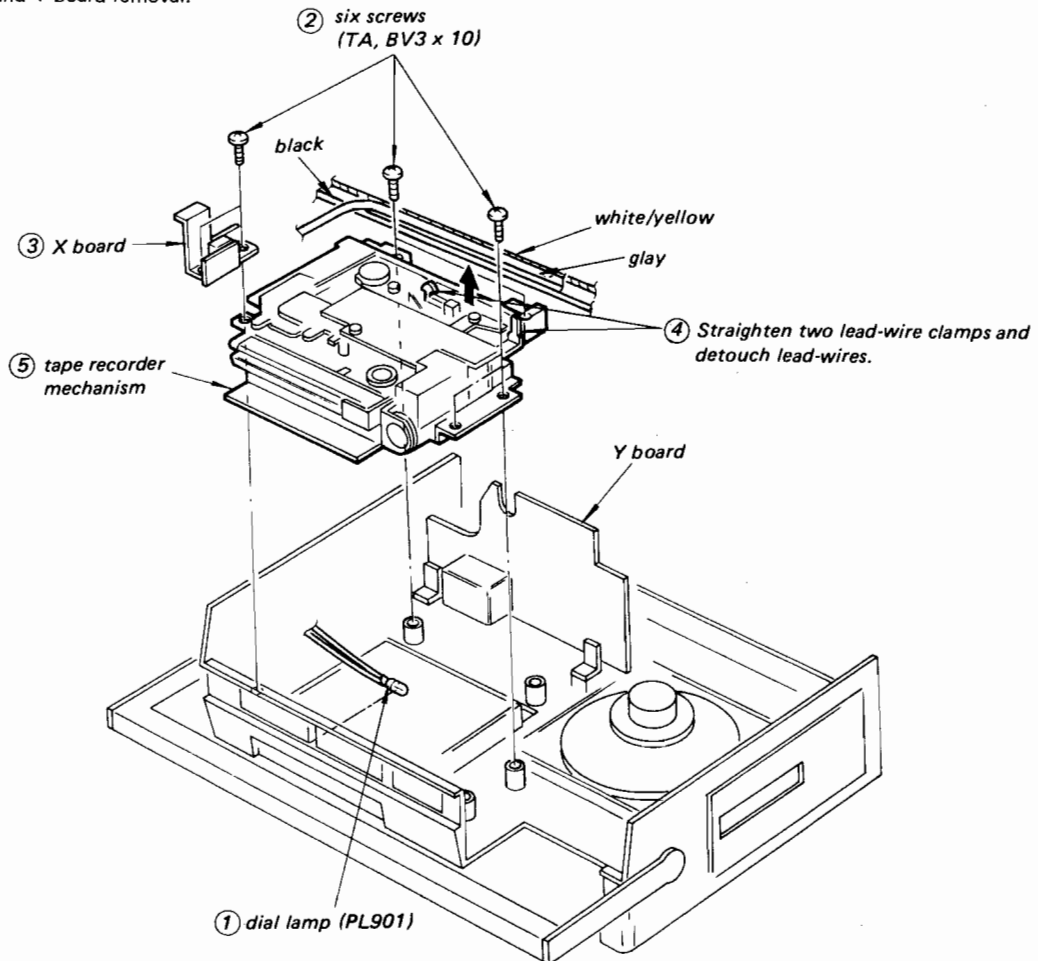


2-9 Y BOARD REMOVAL (FOR CHECKING IT UP)

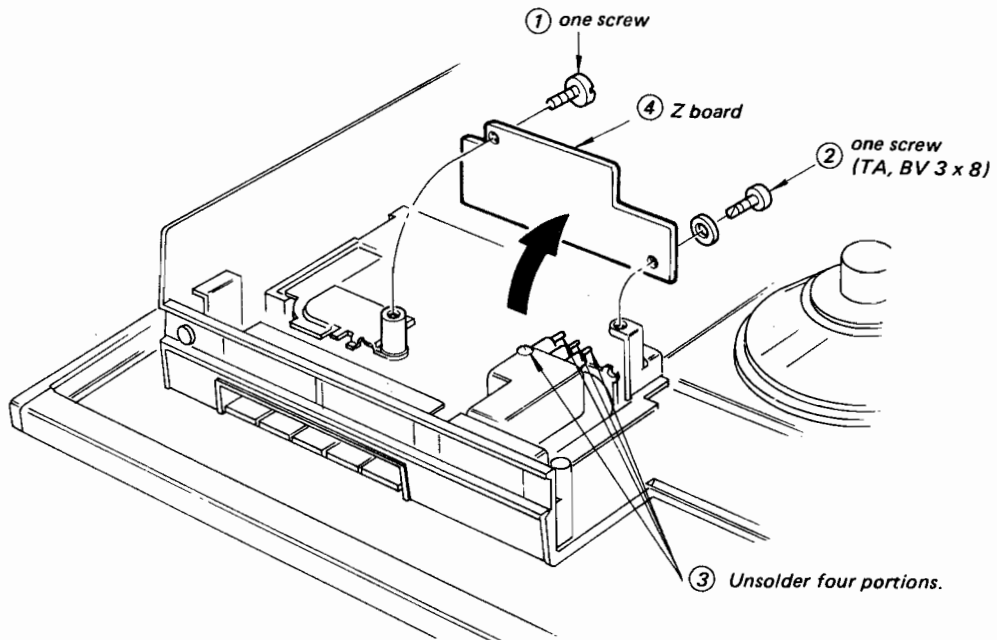


2-10. TAPE RECORDER MECHANISM REMOVAL

Note: Perform this removal after cassette lid removal (page 10) and Y board removal.

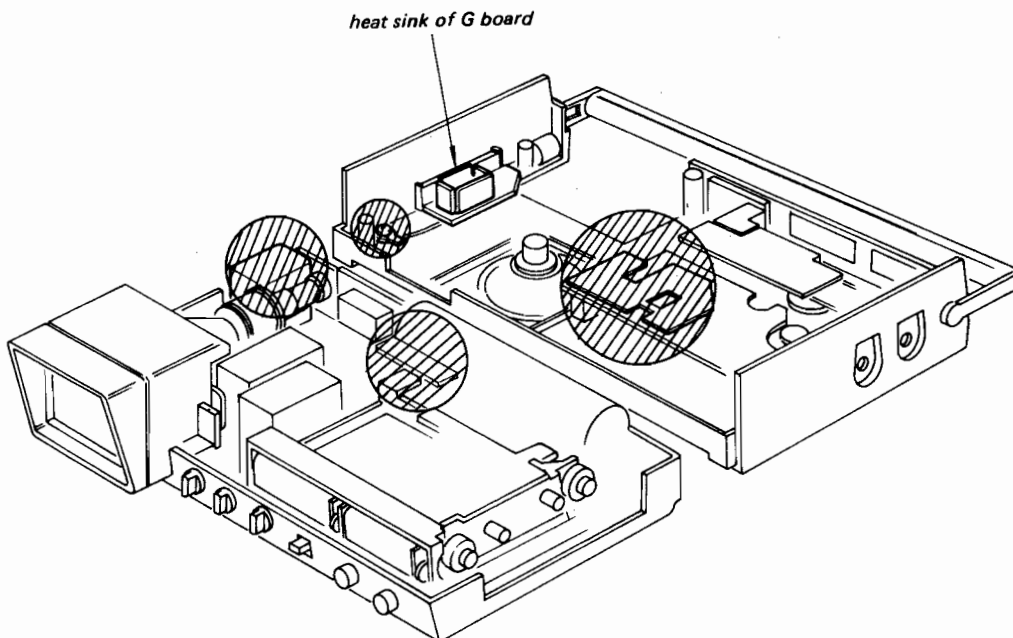


2-11. Z BOARD REMOVAL (FOR CHECKING IT UP)



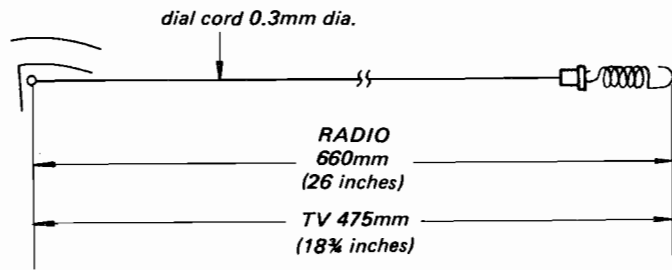
2-12. CAUTION ON REPAIRING

When repairing the set with battery installed or with DC power cord plugged, take care not to touch the ground portions marked with the heat sink of G board.

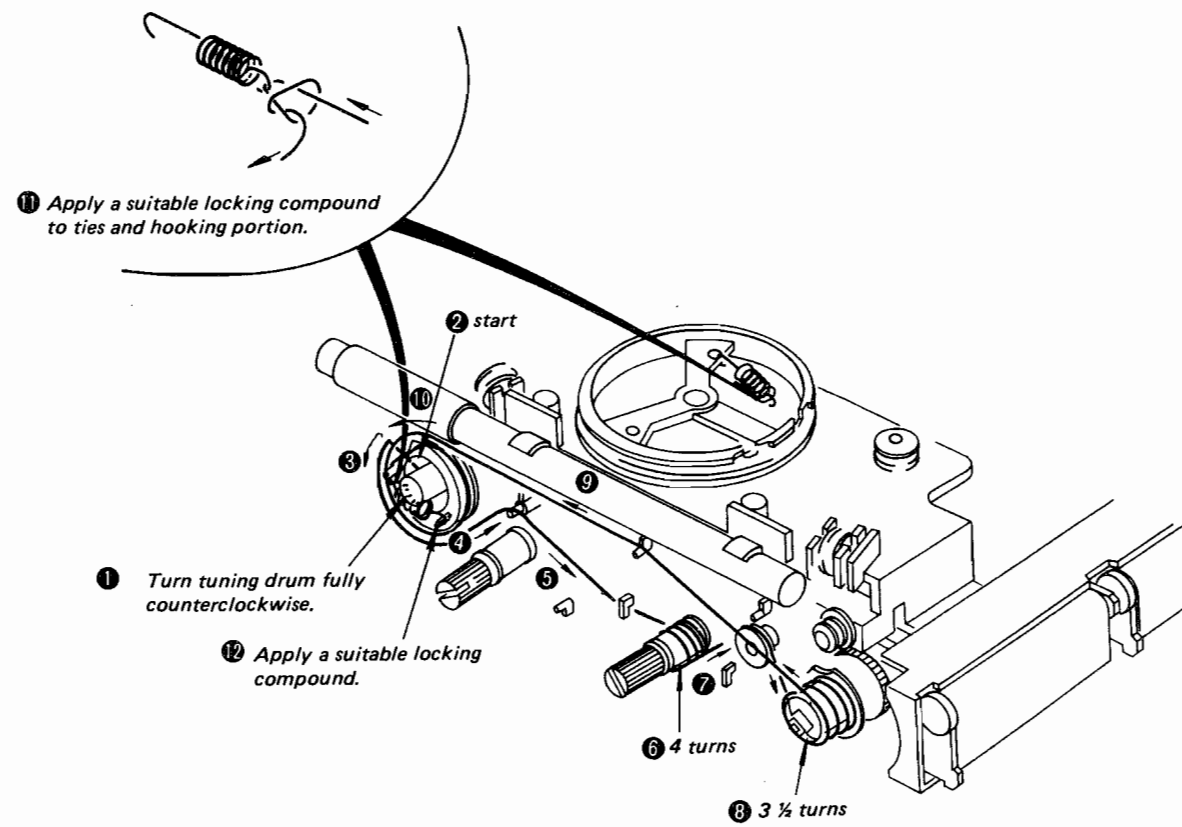


2-13. DIAL CORD STRINGING

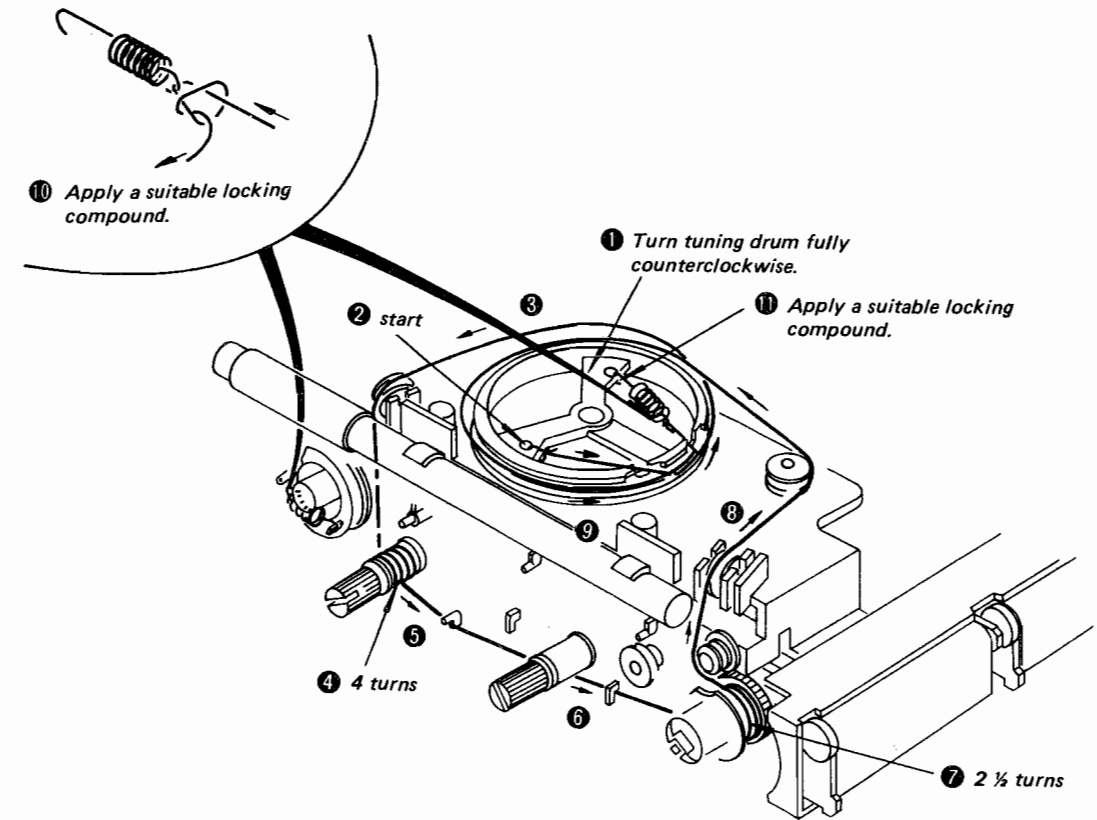
(1) Preparation



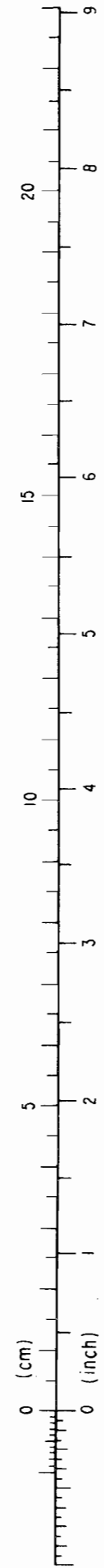
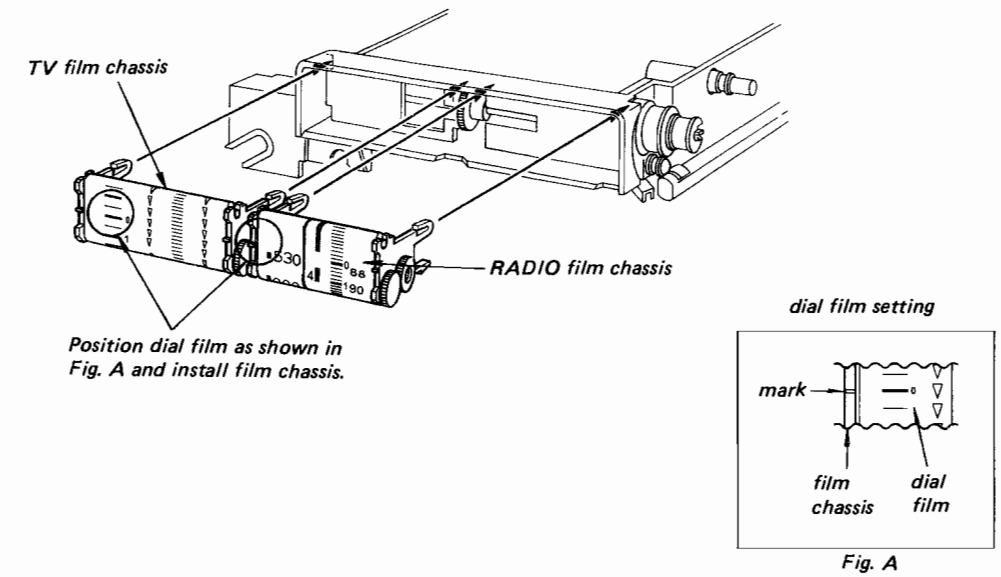
(2) TV Dial Cord Stringing



(3) RADIO Dial Cord Stringing



(4) Film Chassis Setting



SECTION 3
ADJUSTMENTS

MEMO

3-1. TAPE RECORDER SECTION

PRECAUTION

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

record/playback head	pinch roller
erase head	rubber belts
capstan	
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. These adjustments should be performed with 12V dc supplied to DC IN 12V jack, unless otherwise specified.

Note: Test Equipment Required

1. VTVM
2. Regulated DC Power Supply
3. Dc Ammeter
4. Speed Checker LFM-30 or Digital Frequency Counter
5. Af Oscillator
6. Attenuator
7. Spring Scale
8. Cassette Torque Meter CQ-102A and CQ-201A
9. Test Tape P-4-A81 and WS-48
10. Blank Tape CS-10

Torque Measurement

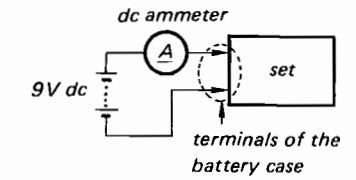
Keep the set horizontally.

Torque	SONY Torque Meter	Permissible Reading
Forward	CQ-102A	25 – 45 g·cm (0.35 – 0.6 oz·inch)
Fast Forward and Rewind	CQ-201A	more than 55 g·cm (0.77 oz·inch)
Cue and Review	CQ-201A	more than 55 g·cm (0.77 oz·inch)

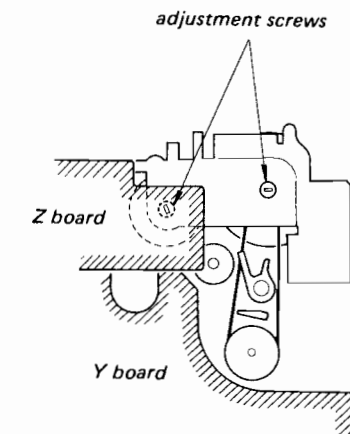
Flywheel Thrust Play Adjustment

— playback mode —

1. Remove the Z board and connect soldering portions between Z board and filter ass'y with extension leads.



2. Loosen the two adjustment screws.
3. Turn one of them clockwise carefully.
4. Stop turning it when the current suddenly increase and loosen it ¼ turn.
5. Adjust the other screw in the same way as step 3 and 4.
6. Secure the adjustment screws with locking compound.



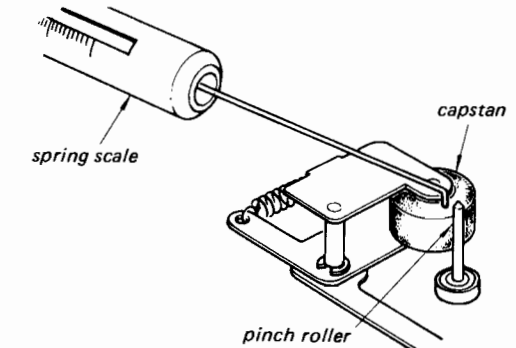
Pinch Roller Pressure Measurement

— playback mode —

Read the scale when the pinch roller just touches the capstan and starts to rotate.

Permissible reading:

200 – 300 g (7.1 – 10.5 oz)



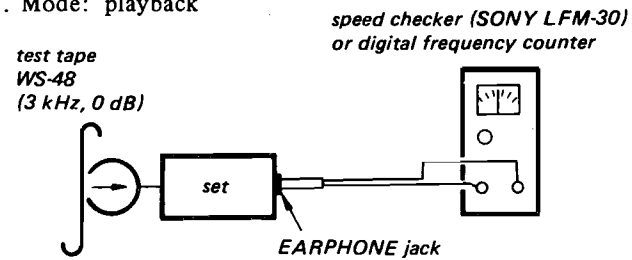
Tape Speed Adjustment

Setting:

POWER switch: OFF
 VOLUME control: mechanical mid
 TONE control: maximum (fully clockwise)

Procedure:

1. Mode: playback



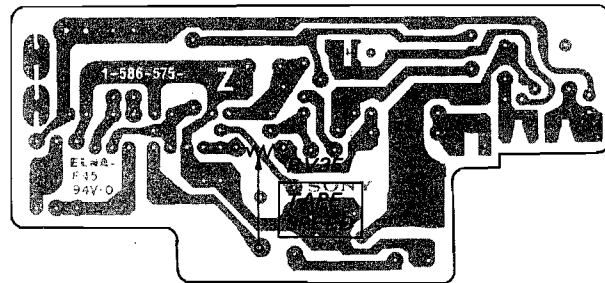
Specifications

1)	Speed checker	Digital frequency counter
	± 3 %	2910 Hz - 3090 Hz

2. If the above specification is not satisfied, adjust RV351.

Adjustment Location:

Z board



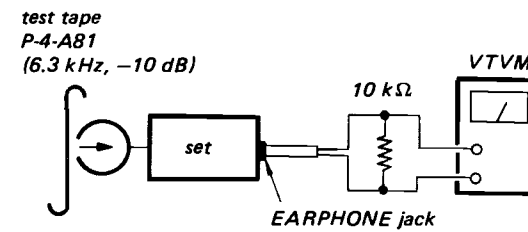
Record/playback Head Azimuth Adjustment

Setting:

POWER switch: OFF
 VOLUME control: mechanical mid
 TONE control: maximum (fully clockwise)

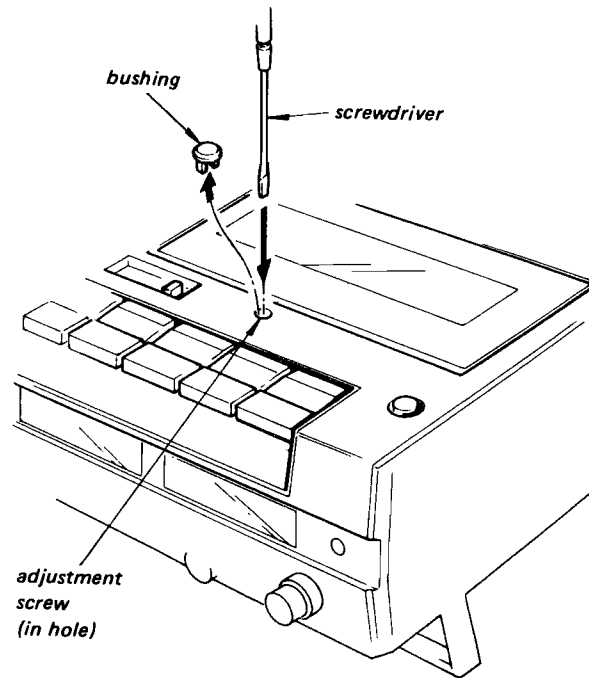
Procedure:

1. Mode: playback



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

Note: Several peaks may appear, take the highest.



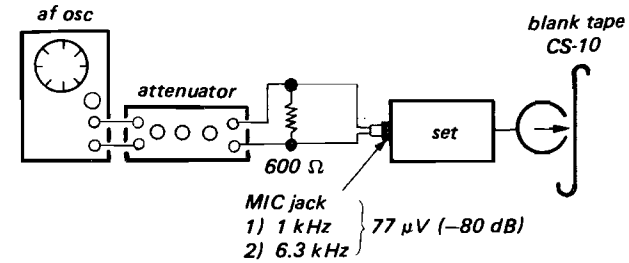
Record Bias Adjustment

Setting:

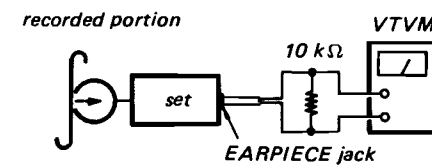
POWER switch: OFF
 TONE control: maximum (fully clockwise)

Procedure:

1. Mode: record



2. Mode: playback



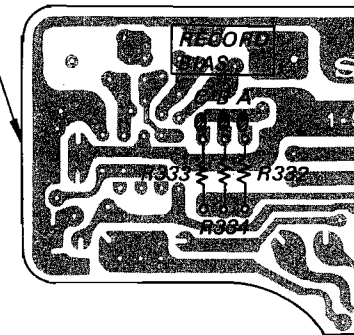
Playback the 1 kHz recorded portion and adjust VOLUME control for 0.25 V (-10 dB) VTVM reading.

3. Playback the 6.3 kHz recorded portion and confirm that VTVM reading is within 0.22 to 0.3 V (-11 to -8.5 dB).

4. If necessary, change the soldering portion.

Adjustment Locations:

Y board	Soldering portion	6.3 kHz level
	A	down
	B C	up



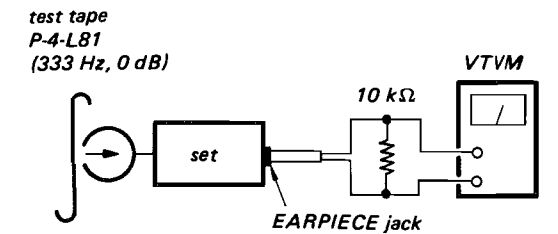
Level Meter Adjustment

Setting:

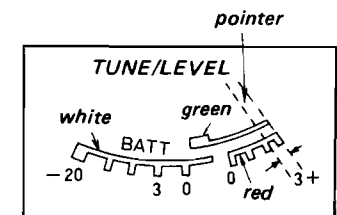
POWER switch: OFF

Procedure:

1. Mode: playback



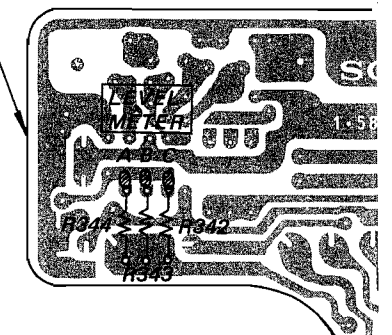
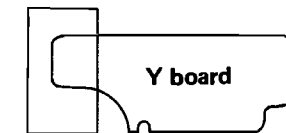
2. Confirm that pointer indicates as shown below.



3. If necessary, change the soldering portion.

Adjustment Locations:

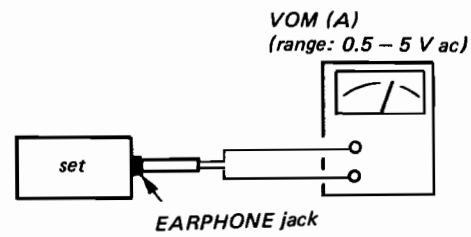
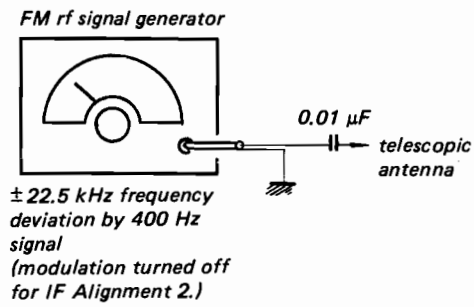
Soldering portion	Pointer deflection
A	↑
B	↓
C	↑



3-2. RADIO SECTION

(1) FM

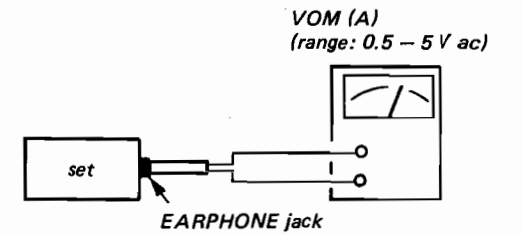
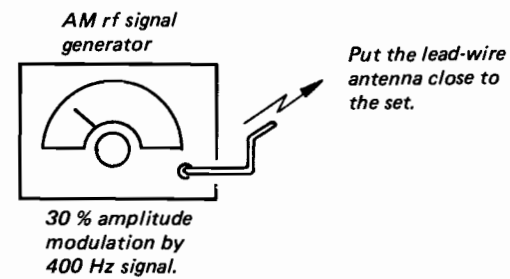
Setting: POWER switch: RADIO
RADIO BAND switch: FM



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

(2) AM

Setting: POWER switch: RADIO
RADIO BAND switch: AM



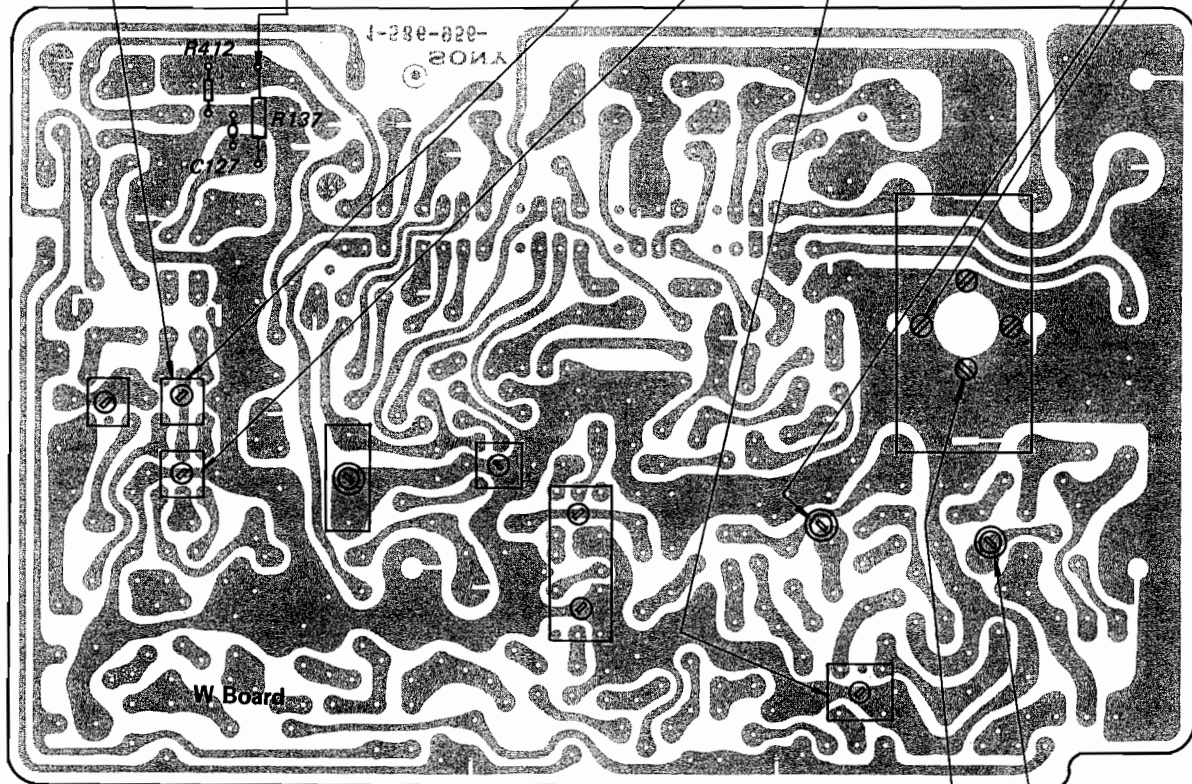
Note: Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

FM IF ALIGNMENT 2 (10.7MHz with no modulation)		
Adjust for 0V dc reading VOM (B).		
T103		

VOM (B) (range: 0.25 - 1 V dc)		

FM IF ALIGNMENT 1 (10.7MHz with modulation)		
Adjust for a maximum reading on VOM (A)		
T103	T102	T101

FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VOM (A).	
CT102	108.5MHz
L103	87.1MHz



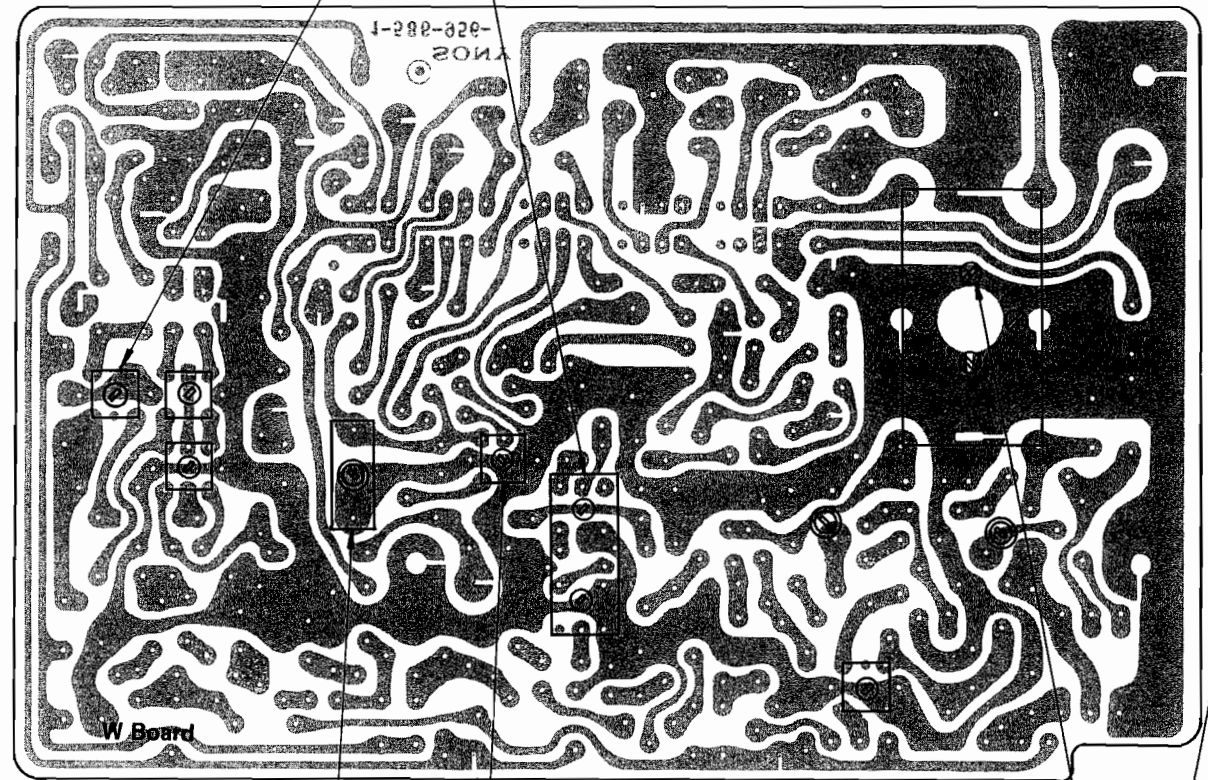
FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VOM (A).	
CT101	108.5MHz
L101	87.1MHz

AM IF ALIGNMENT	
Adjust for a maximum reading on VOM (A).	
455kHz	
T104	T108

AM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VOM (A).	
CT105	T107
1,680kHz	520kHz

AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VOM (A).	
CT103	L108
1,400kHz	620kHz

L108 AM Ferrite-rod antenna	



3-3. TV SECTION

- Note:
- Setting: POWER Switch: TV
 - Test Equipment Required
 - VOM
 - Regulated DC Power Supply
 - Oscilloscope
 - Preparations
 - Tune in an off-air signal.
 - Set V. HOLD and H. HOLD controls for correct sync.
 - Set CONTR and BRIGHT controls for best picture.
 - These adjustment should be performed with 12V dc supplied to DC IN 12V jack, unless otherwise specified.

H. SIZE

- Complete preparations.
- Select the capacitance of C816 for best picture size.

Capacitance	Picture size
0.0022/100V	narrow
0.0033/100V	↓
0.0047/100V	↓
0.0068/100V	↓
0.0082/100V	wide

V. SIZE

- Complete preparations.
- Adjust RV552 for best vertical size.

SCRN

Identification Mark	Soldering Portion
Black	A and B
Red	Open
No mark	A

DET OUTPUT LEVEL ADJ

- Complete preparations.
- When the output voltage is lower than 0.55 Vp-p, solder the portion marked.

4.5MHz TRAP

- Complete preparations.
- Turn tuning knob clockwise for 4.5MHz beat on the oscilloscope.
- Adjust L204 for minimum 4.5MHz beat.

SIF

Adjust T202 and T203 for maximum-clear sound.

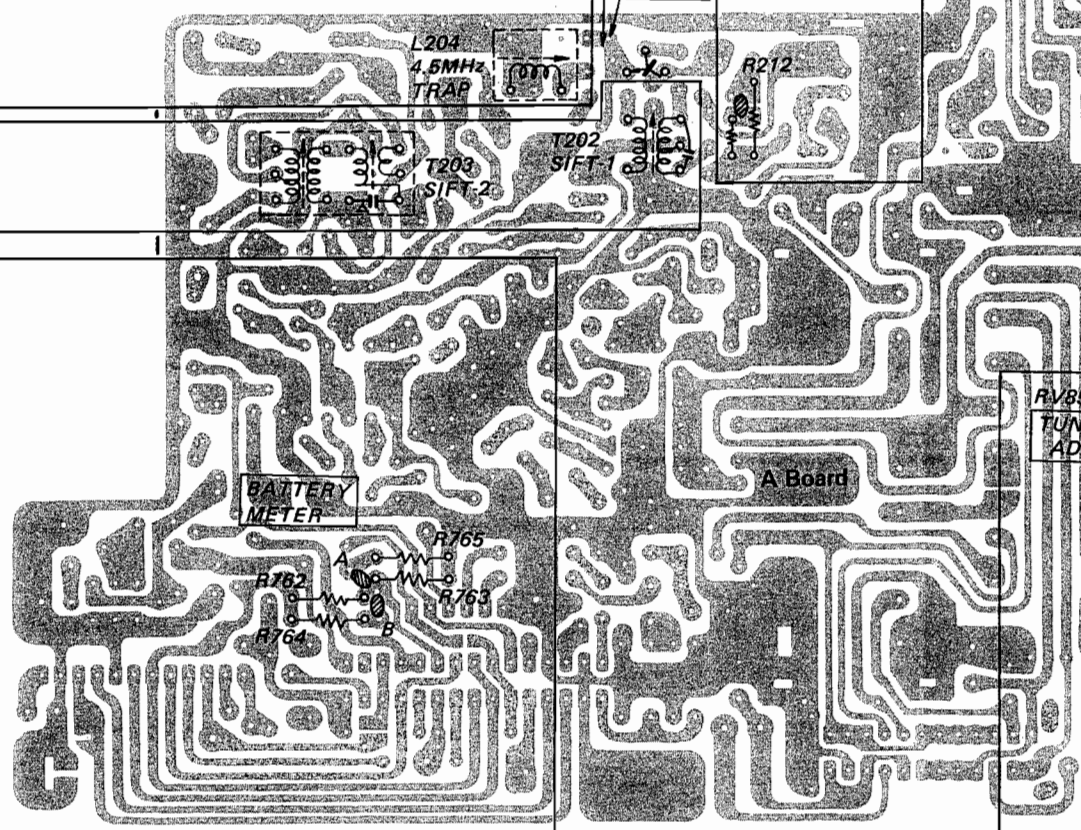
BATTERY METER

- Set POWER switch to TV position.
- Supply 6.6V dc to battery terminals regulated dc power supply

3. Confirm that pointer indicates as shown below.

4. If necessary, change the soldering portion.

Soldering portion	Pointer deflection
A	↑
OPEN	↓
B	↓



H. FREQ

- Complete preparations.
- Connect 3.3μF/16V electrolytic capacitor during this adjustment as shown.
- Adjust L801 to synchronize the picture.

+6V ADJ

- Adjust RV601 for 6.0V dc on VOM.

+25V ADJ

- Adjust RV851 for +25V dc reading on VOM.

TUNING ADJ

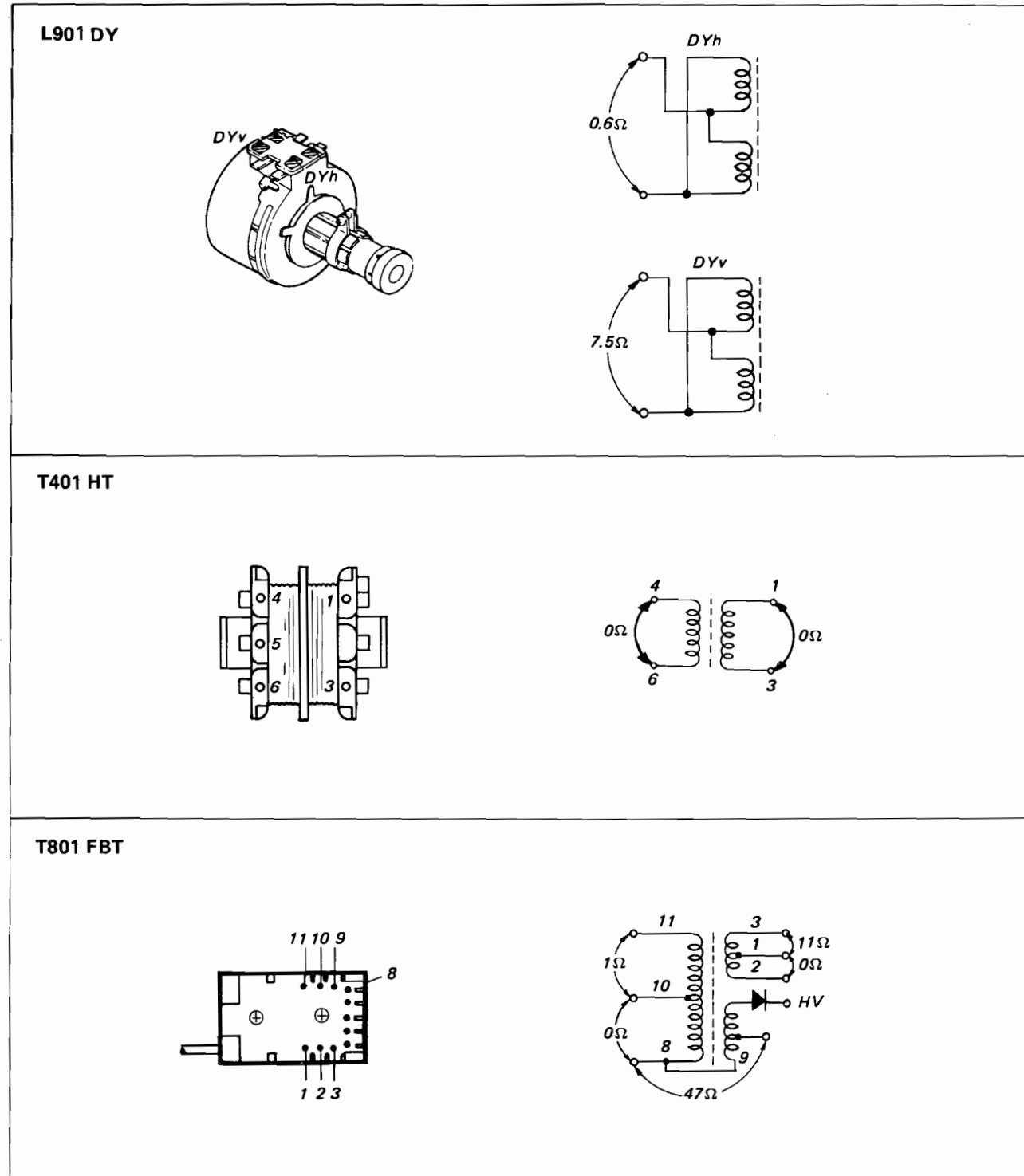
- Complete preparations.
- Set TV BAND switch to VHF-H position.
- Set dial film to lowest broadcast channel by turning tuning knob.
- Adjust RV852 so that best picture and best sound are obtained.

TUNER BIAS

- Complete preparations.
- Set TV BAND switch to VHF-L position.
- Set dial film lowest broadcasting channel.
- Solder or unsolder A, B and C portions so that best picture and best sound are obtained.

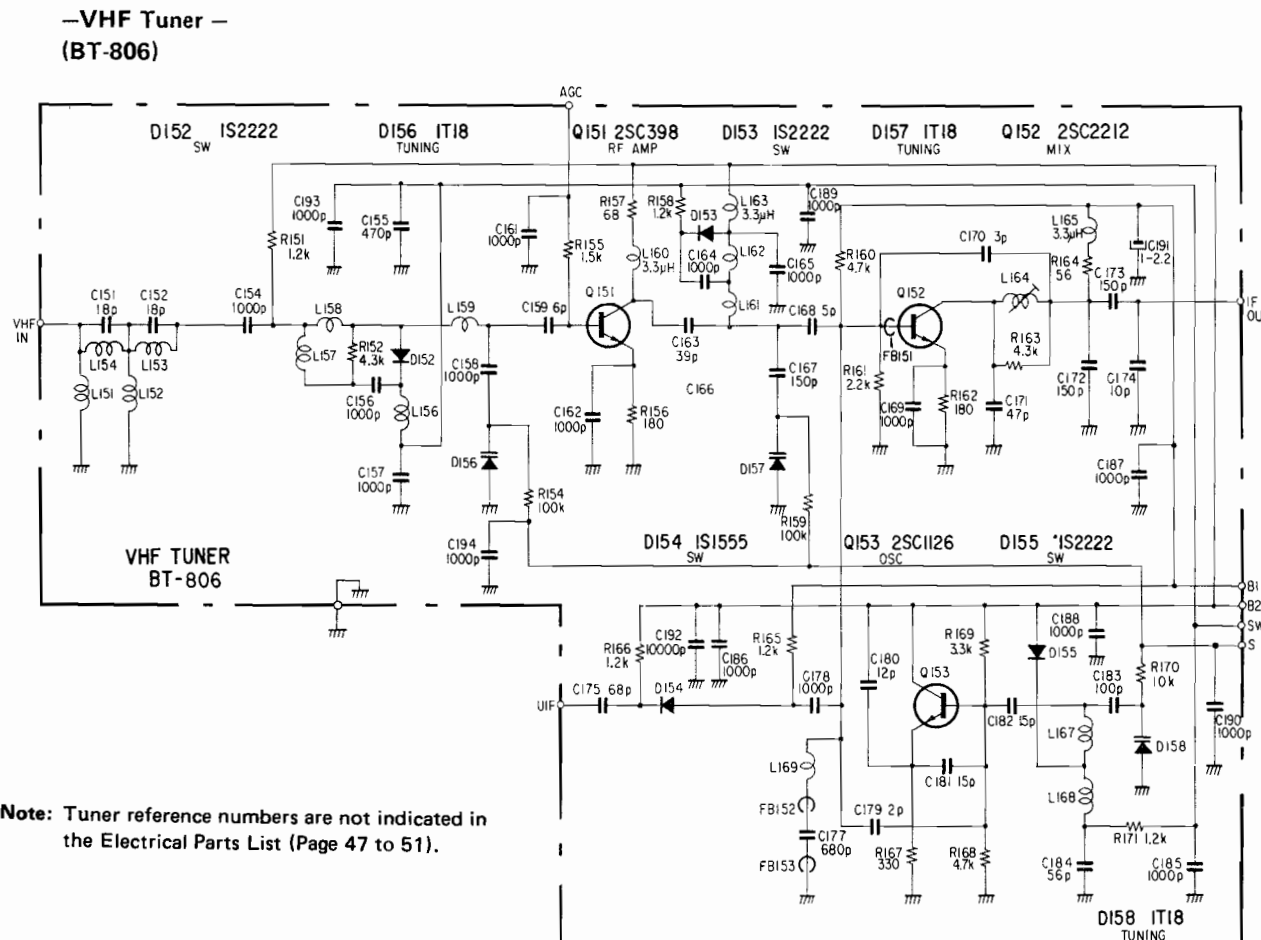
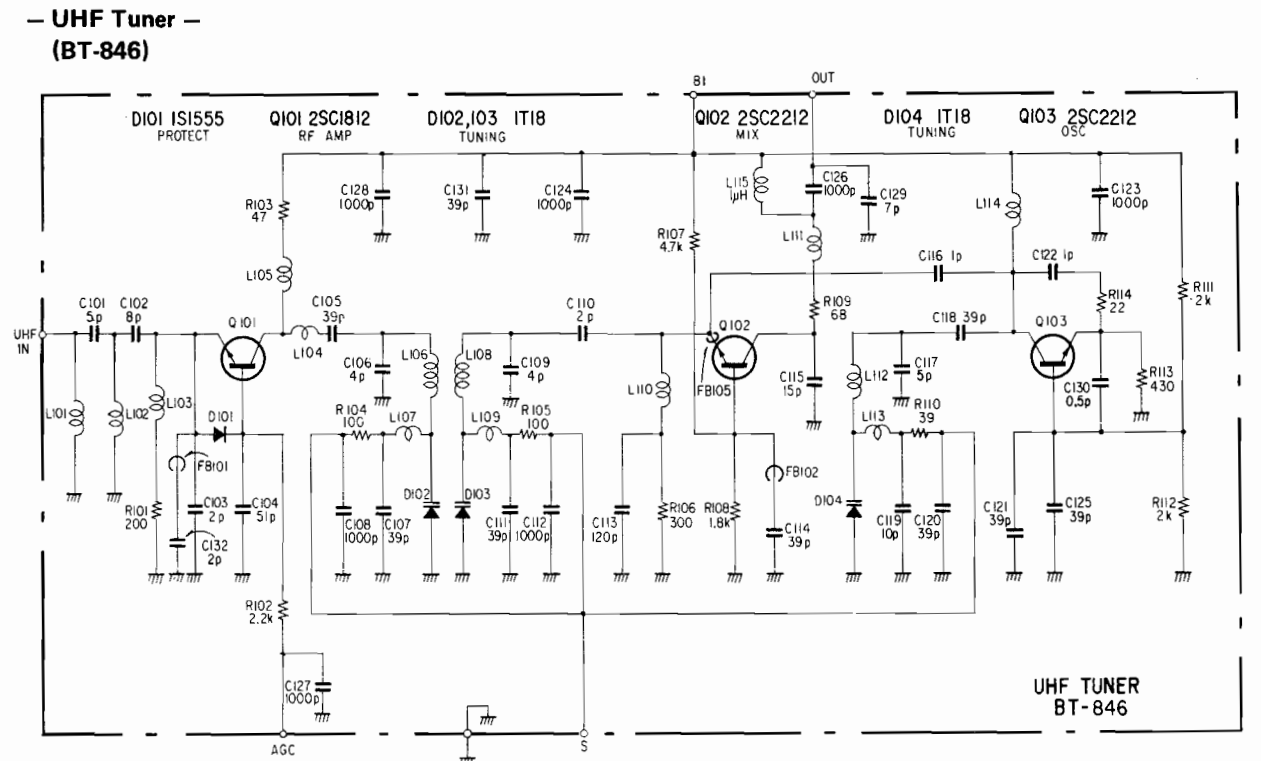
SECTION 4
DIAGRAMS

4-1. DC RESISTANCE AND WINDING DIAGRAMS OF COILS AND TRANSFORMERS



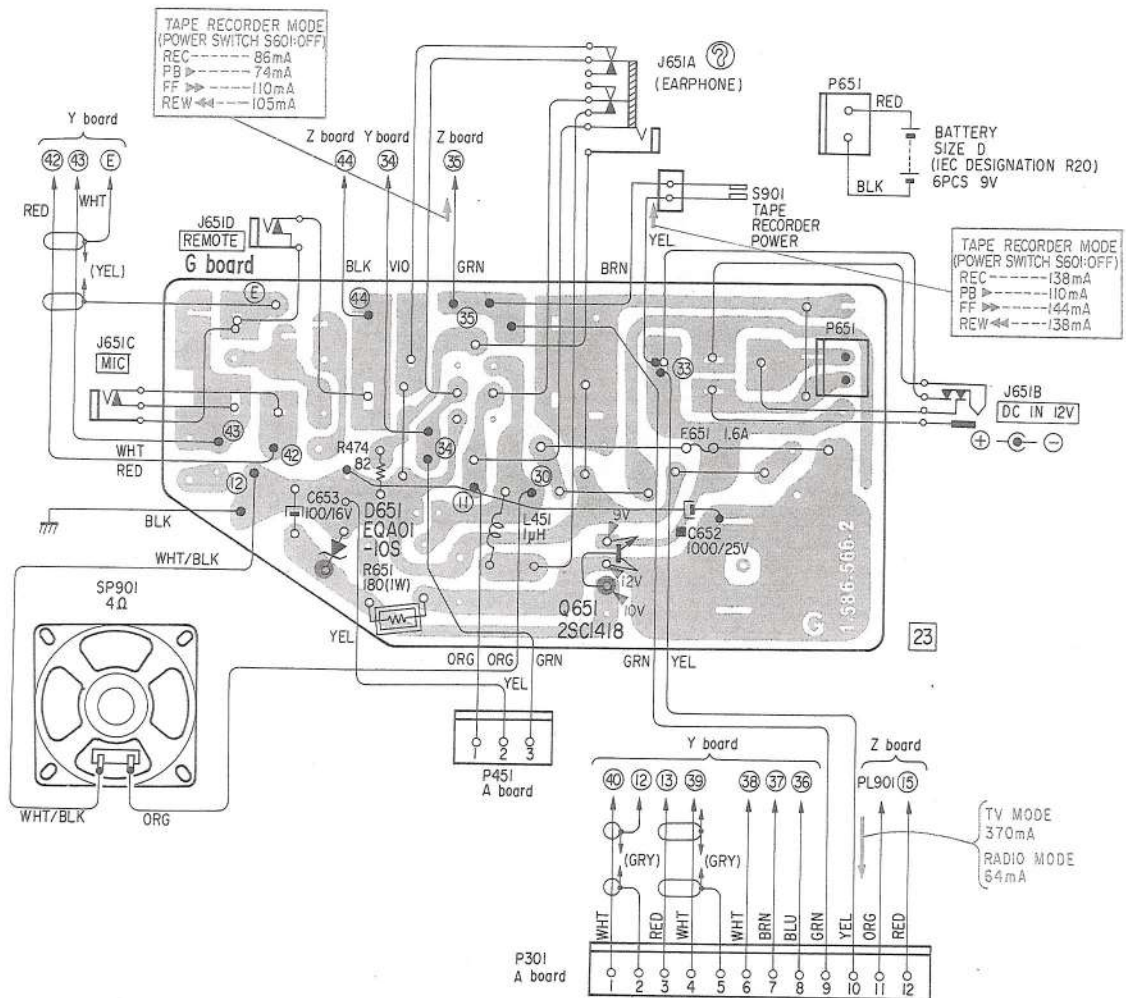
Note:
DC resistance measurements shown with coils and trans-
formers disconnected from circuit.

4-2. VHF AND UHF TUNER SCHEMATIC DIAGRAM



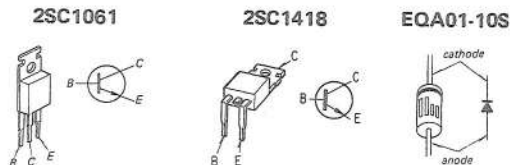
Note: Tuner reference numbers are not indicated in
the Electrical Parts List (Page 47 to 51).

4-3. MOUNTING DIAGRAMS
 - Conductor Side -
 - G Board - (Canadian Model)



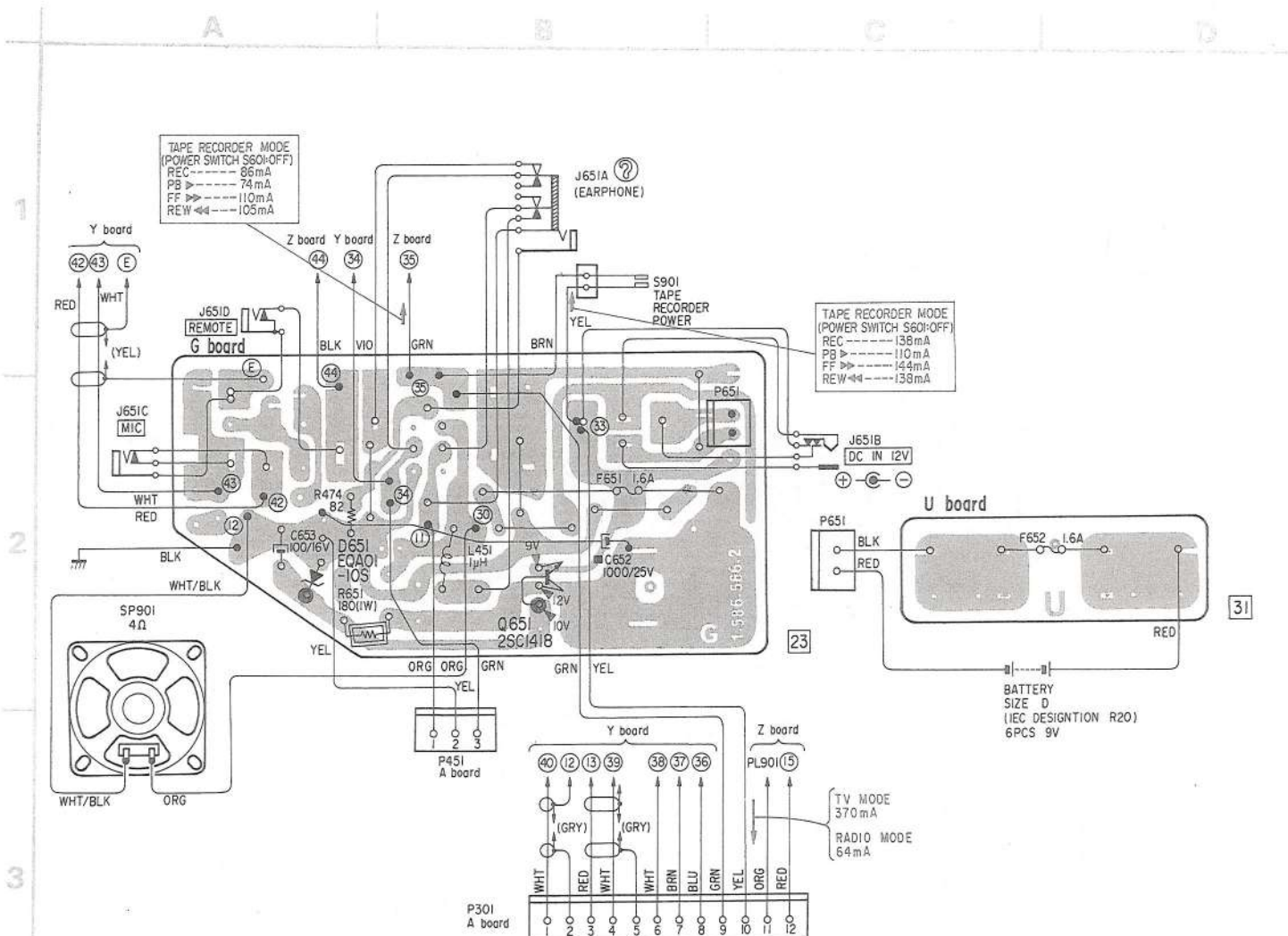
Note:

- — : parts extracted from the component side.
- — : parts extracted from the conductor side.
- : part mounted on the conductor side.



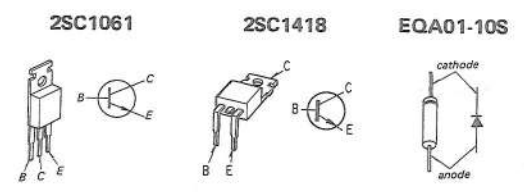
G [AF, REG] **U** [BATT]

— G and U Boards — (US Model)



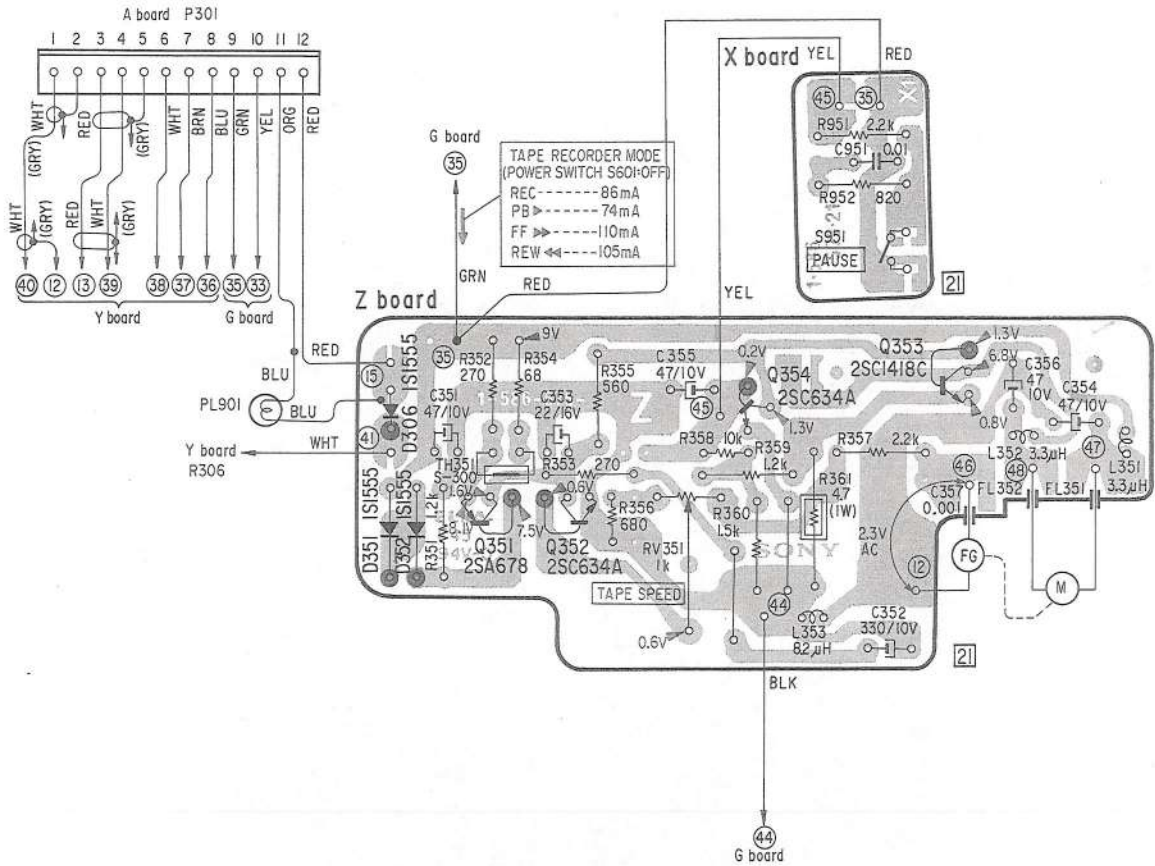
Note:

- — : parts extracted from the component side.
- — : parts extracted from the conductor side.
- — : part mounted on the conductor side.



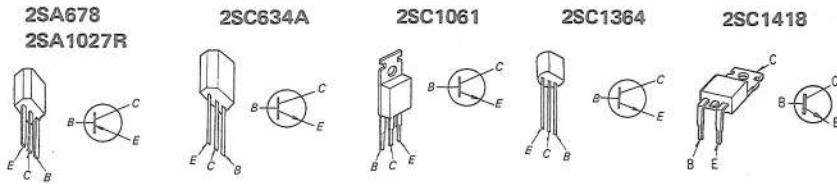
[PAUSE] **X** [MOTOR DRIVE] **Z**

— Z and X Boards —



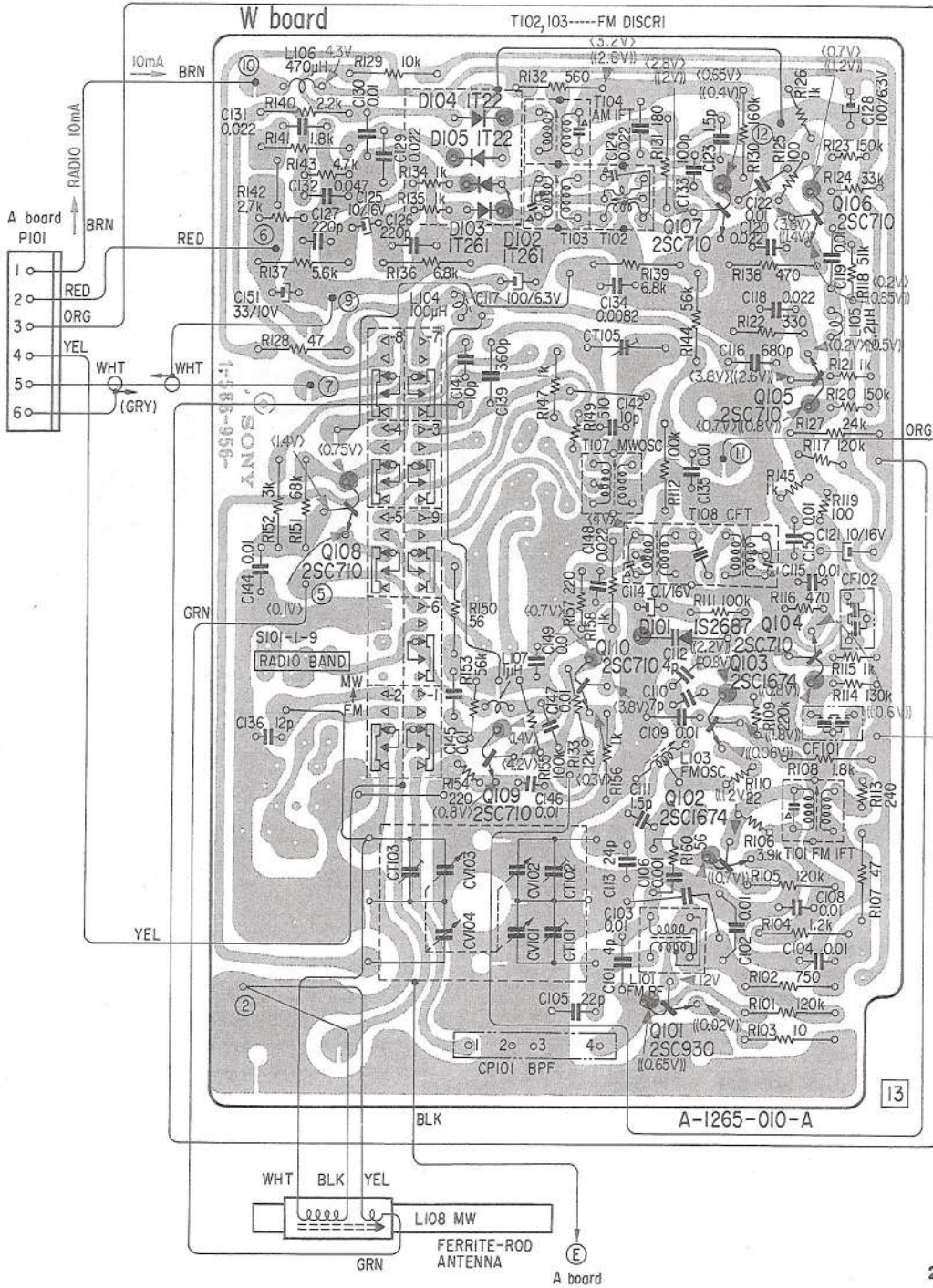
Note:

- — : parts extracted from the component side.
- — : parts extracted from the conductor side.
- Voltages are taken under no-signal conditions in playback mode with VOM (20k Ω /V).
- || : record mode



FX-412

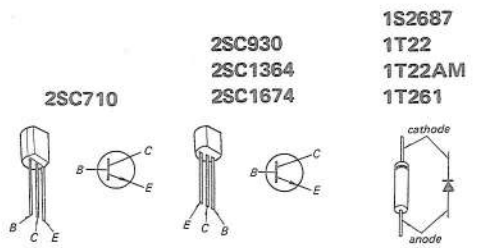
W RADIO SECTION
- W Board -



Q	D
	104
	105
107	102
106	103
	105
108	
	101
	104
110	
	103
109	
	102
	101
Q	D

Note:

- : parts extracted from the component side.
- : parts extracted from the conductor side.
- ⊖ : Voltages are taken under detuned conditions with VOM (20kΩ/V).
- (()) : FM
- ◇ : AM

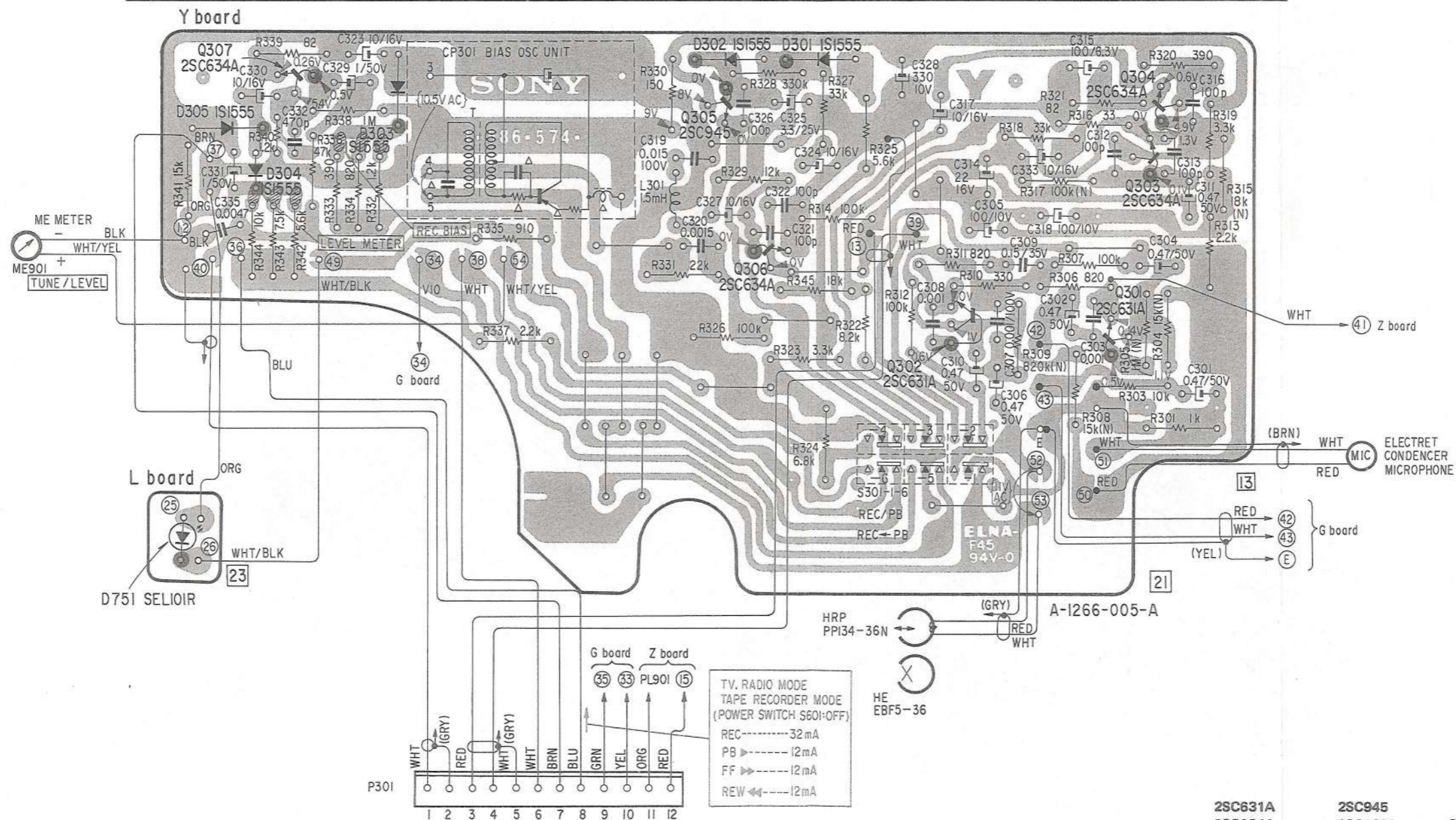


FX-412 FX-412

— Y and L Boards —

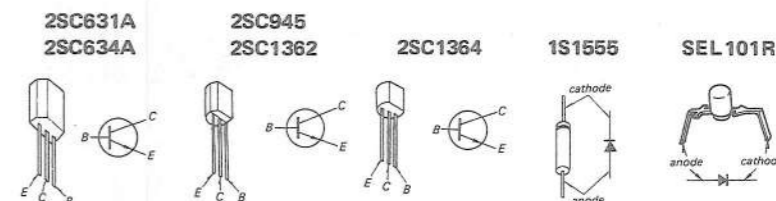
L TAPE RECORDER SECTION Y Y

Q	307	305	306	302	301	304	Q
D	751 304	303	302	301		303	D



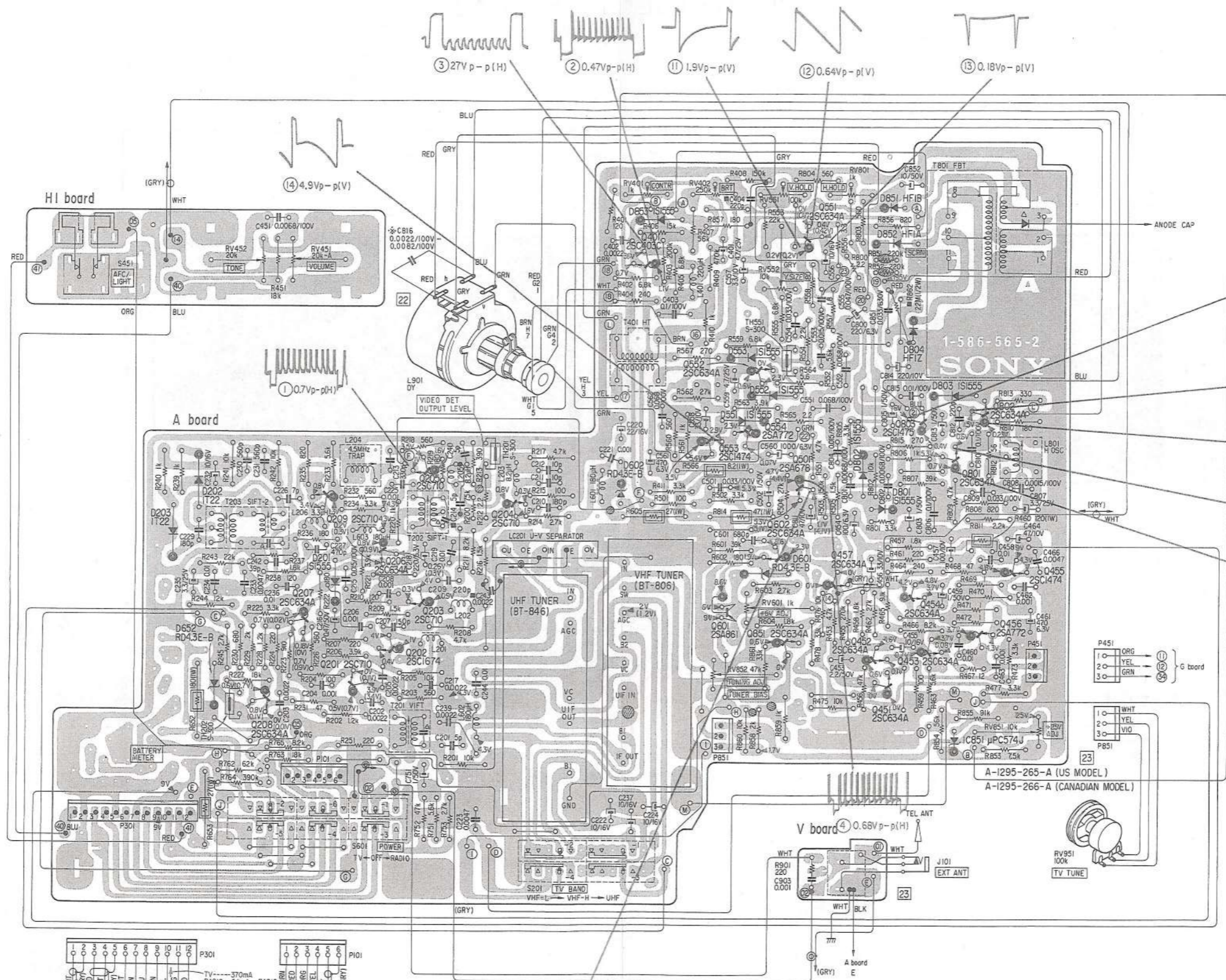
Note:

- : parts extracted from the component side.
- ◻ : parts extracted from the conductor side.
- : part mounted on the conductor side.
- : Voltages are taken under no-signal conditions in playback mode with VOM (20kΩ/V).
- ⌋ : record mode

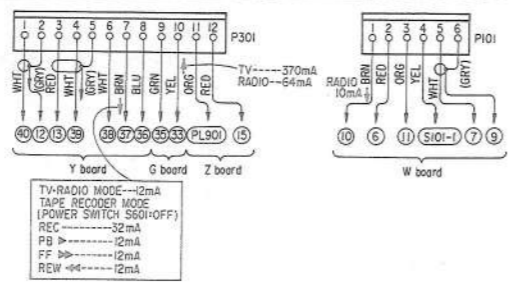


H1 TV SECTION A FX-412 FX-412 A V

IC, Q	D	ADJ
	851	RV401
	853	RV402
		RV551
		RV801
551	852	R851
		R852
401		RV552
	804	
	553	
552	803	
	552	
802	551	
803		
554		
553		
801	L204	
205	802	
501	202	T203
209	602	T202
204	801	R200
	203	
602		
206	601	
457	201	
454		
203	601	RV601
207		
202	456	
851		
453		
452		
201	451	652
208		
IC851		RV851
		R860
		R858
		R765
		R764
IC, Q	D	ADJ



- 2SA678
- 2SA772
- 2SA861
- 2SC403C
- 2SC634A
- 2SC710
- 2SC1364
- 2SC1474
- 2SC1475
- 2SC1674
- 1S1555
- 1T22
- RD4.3E-B



Note:

- : parts extracted from the component side.
- : parts extracted from the conductor side.
- : part mounted on the conductor side.
- ⌋ : Voltages are taken under no-signal conditions in playback mode with VOM (20kΩ/V).
- ⌋ : record mode

4-4. SCHEMATIC DIAGRAM

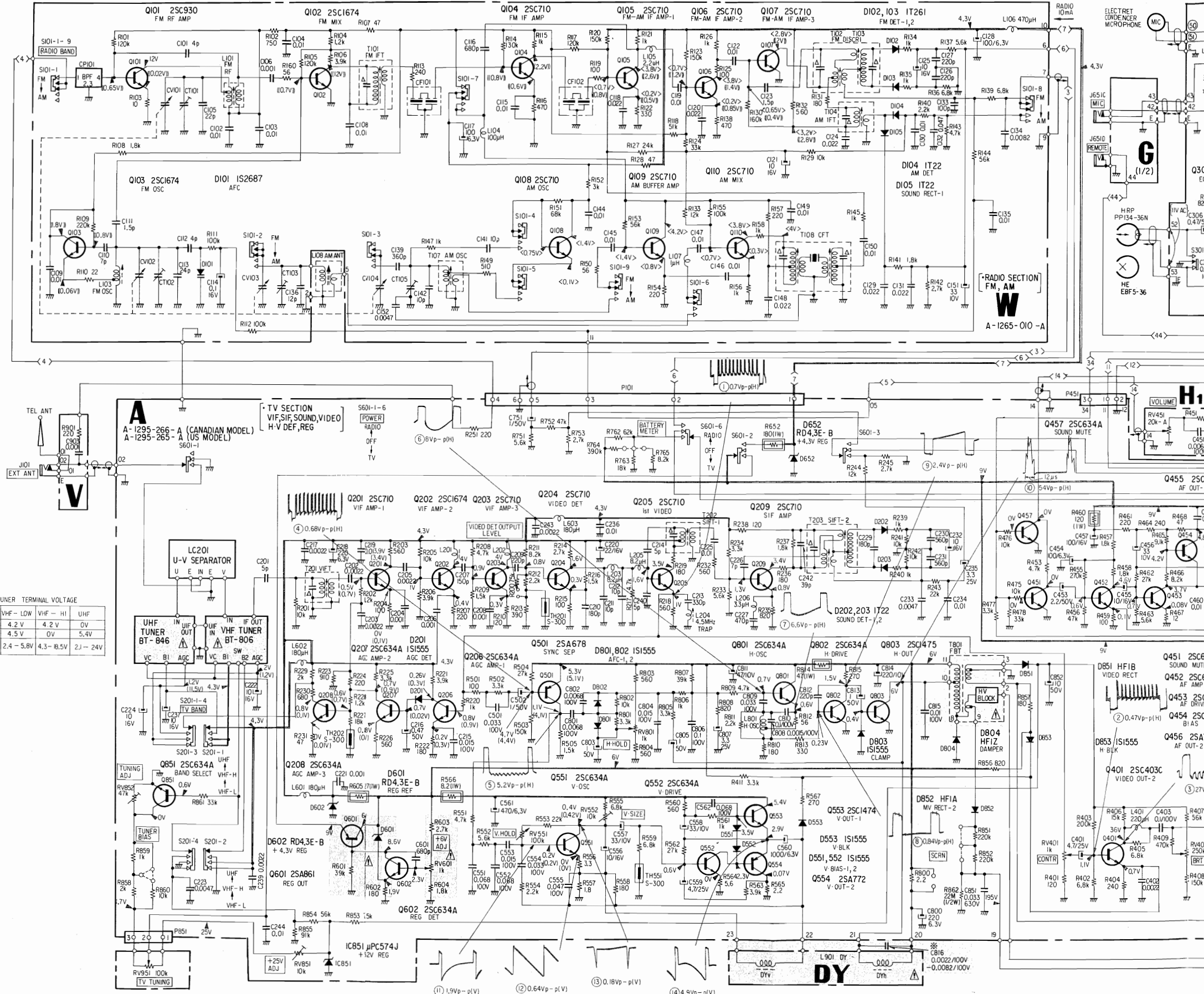
Note: The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

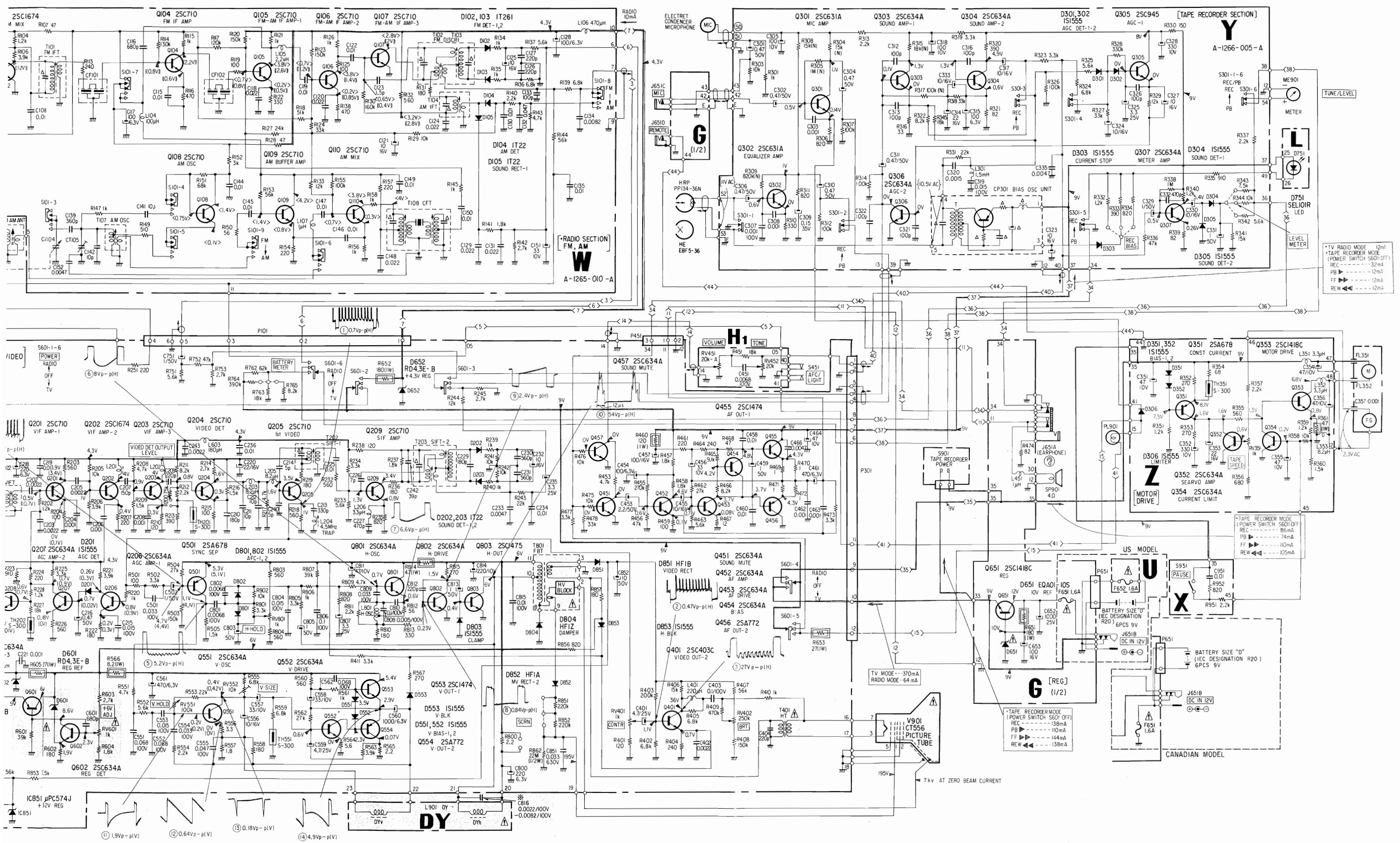
Note: Les composants identifiés par un trame et une marque **A** sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- Note:**
- All capacitors are in μF and ceramic unless otherwise noted. 50WV or less are not indicated except for electrolytics. p : μF , elect : electrolytic
 - All resistors are in ohms, $\frac{1}{2}\text{W}$ unless otherwise noted. k Ω : 1000 Ω , M Ω : 1000k Ω
 - : nonflammable resistor.
 - Δ : internal component.
 - : panel designation.
 - All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
 - Voltages are dc with respect to ground unless otherwise noted.
 - * : selected to yield optimum performance.
 - : adjustment for repair.
 - Total current is measured with no cassette installed.
 - : B+ bus.
 - Readings are taken with a 20,000-ohm-per-volt VOM.
 - Voltages in W board are taken under detuned conditions. () : FM < > : AM
 - Voltages in Y board are taken under no-signal conditions in playback mode. | | : record mode
 - Voltages in A board are taken under tuned conditions with CONTR and BRIGHT controls set for best picture. () : detuned conditions
 - Voltage variations may be noted due to normal production tolerances.
 - Switch

Ref. No.	Description	Position
S101-1-9	RADIO BAND	FM
S201-1-4	TV BAND	VHF-L
S301-1-6	REC/PB	PB
S451	AFC/LIGHT	ON/OFF
S601-1-6	POWER	OFF
S901	TAPE RECORDER	OFF
S951	POWER	OFF

TUNER	B2	VHF - LOW	VHF - HI	UHF
VHF	SW	4.2 V	4.2 V	0V
VHF	VC	4.5 V	0V	5.4V
UHF	VC	2.4 - 5.8V	4.3 - 8.5V	2.1 - 24V

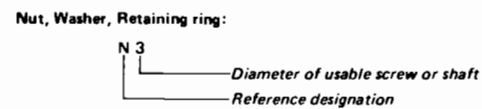
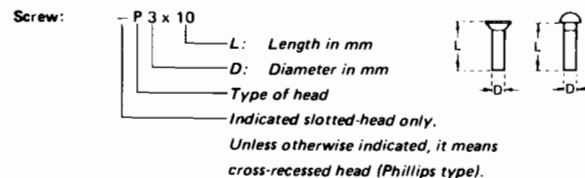




1/4 WATT CARBON RESISTORS

Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.
1.0	1-246-401-00	10	1-246-425-00	100	1-246-449-00	1.0k	1-246-473-00	10k	1-246-497-00	100k	1-246-521-00
1.1	1-246-402-00	11	1-246-426-00	110	1-246-450-00	1.1k	1-246-474-00	11k	1-246-498-00	110k	1-246-522-00
1.2	1-246-403-00	12	1-246-427-00	120	1-246-451-00	1.2k	1-246-475-00	12k	1-246-499-00	120k	1-246-523-00
1.3	1-246-404-00	13	1-246-428-00	130	1-246-452-00	1.3k	1-246-476-00	13k	1-246-500-00	130k	1-246-524-00
1.5	1-246-405-00	15	1-246-429-00	150	1-246-453-00	1.5k	1-246-477-00	15k	1-246-501-00	150k	1-246-525-00
1.6	1-246-406-00	16	1-246-430-00	160	1-246-454-00	1.6k	1-246-478-00	16k	1-246-502-00	160k	1-246-526-00
1.8	1-246-407-00	18	1-246-431-00	180	1-246-455-00	1.8k	1-246-479-00	18k	1-246-503-00	180k	1-246-527-00
2.0	1-246-408-00	20	1-246-432-00	200	1-246-456-00	2.0k	1-246-480-00	20k	1-246-504-00	200k	1-246-528-00
2.2	1-246-409-00	22	1-246-433-00	220	1-246-457-00	2.2k	1-246-481-00	22k	1-246-505-00	220k	1-246-529-00
2.4	1-246-410-00	24	1-246-434-00	240	1-246-458-00	2.4k	1-246-482-00	24k	1-246-506-00	240k	1-246-530-00
2.7	1-246-411-00	27	1-246-435-00	270	1-246-459-00	2.7k	1-246-483-00	27k	1-246-507-00	270k	1-246-531-00
3.0	1-246-412-00	30	1-246-436-00	300	1-246-460-00	3.0k	1-246-484-00	30k	1-246-508-00	300k	1-246-532-00
3.3	1-246-413-00	33	1-246-437-00	330	1-246-461-00	3.3k	1-246-485-00	33k	1-246-509-00	330k	1-246-533-00
3.6	1-246-414-00	36	1-246-438-00	360	1-246-462-00	3.6k	1-246-486-00	36k	1-246-510-00	360k	1-246-534-00
3.9	1-246-415-00	39	1-246-439-00	390	1-246-463-00	3.9k	1-246-487-00	39k	1-246-511-00	390k	1-246-535-00
4.3	1-246-416-00	43	1-246-440-00	430	1-246-464-00	4.3k	1-246-488-00	43k	1-246-512-00	430k	1-246-536-00
4.7	1-246-417-00	47	1-246-441-00	470	1-246-465-00	4.7k	1-246-489-00	47k	1-246-513-00	470k	1-246-537-00
5.1	1-246-418-00	51	1-246-442-00	510	1-246-466-00	5.1k	1-246-490-00	51k	1-246-514-00	510k	1-246-538-00
5.6	1-246-419-00	56	1-246-443-00	560	1-246-467-00	5.6k	1-246-491-00	56k	1-246-515-00	560k	1-246-539-00
6.2	1-246-420-00	62	1-246-444-00	620	1-246-468-00	6.2k	1-246-492-00	62k	1-246-516-00	620k	1-246-540-00
6.8	1-246-421-00	68	1-246-445-00	680	1-246-469-00	6.8k	1-246-493-00	68k	1-246-517-00	680k	1-246-541-00
7.5	1-246-422-00	75	1-246-446-00	750	1-246-470-00	7.5k	1-246-494-00	75k	1-246-518-00	750k	1-246-542-00
8.2	1-246-423-00	82	1-246-447-00	820	1-246-471-00	8.2k	1-246-495-00	82k	1-246-519-00	820k	1-246-543-00
9.1	1-246-424-00	91	1-246-448-00	910	1-246-472-00	9.1k	1-246-496-00	91k	1-246-520-00	910k	1-246-544-00

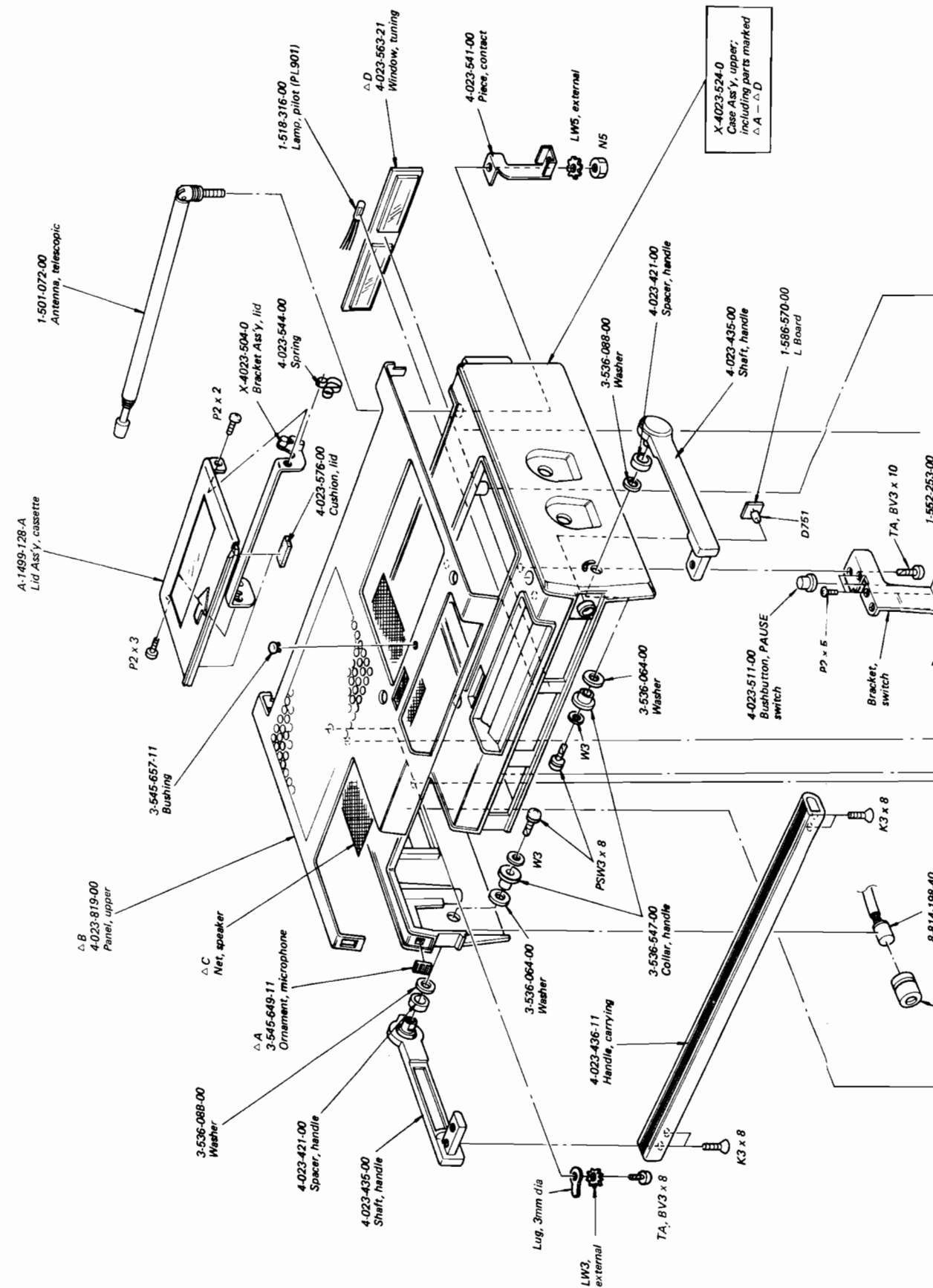
HARDWARE NOMENCLATURE



Reference Designation	Shape	Description	Remarks
SCREWS			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	binding-head (B) screw for replacement
T		truss-head screw	
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		brazer-head screw	

Reference Designation	Shape	Description	Remarks
SELF-TAPPING SCREWS			
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self-tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
SET SCREWS			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
NUT			
N		nut	
WASHERS			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
RETAINING RINGS			
E		retaining ring	
G		grip-type retaining ring	

SECTION 5
EXPLODED VIEWS



(1)

- 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.

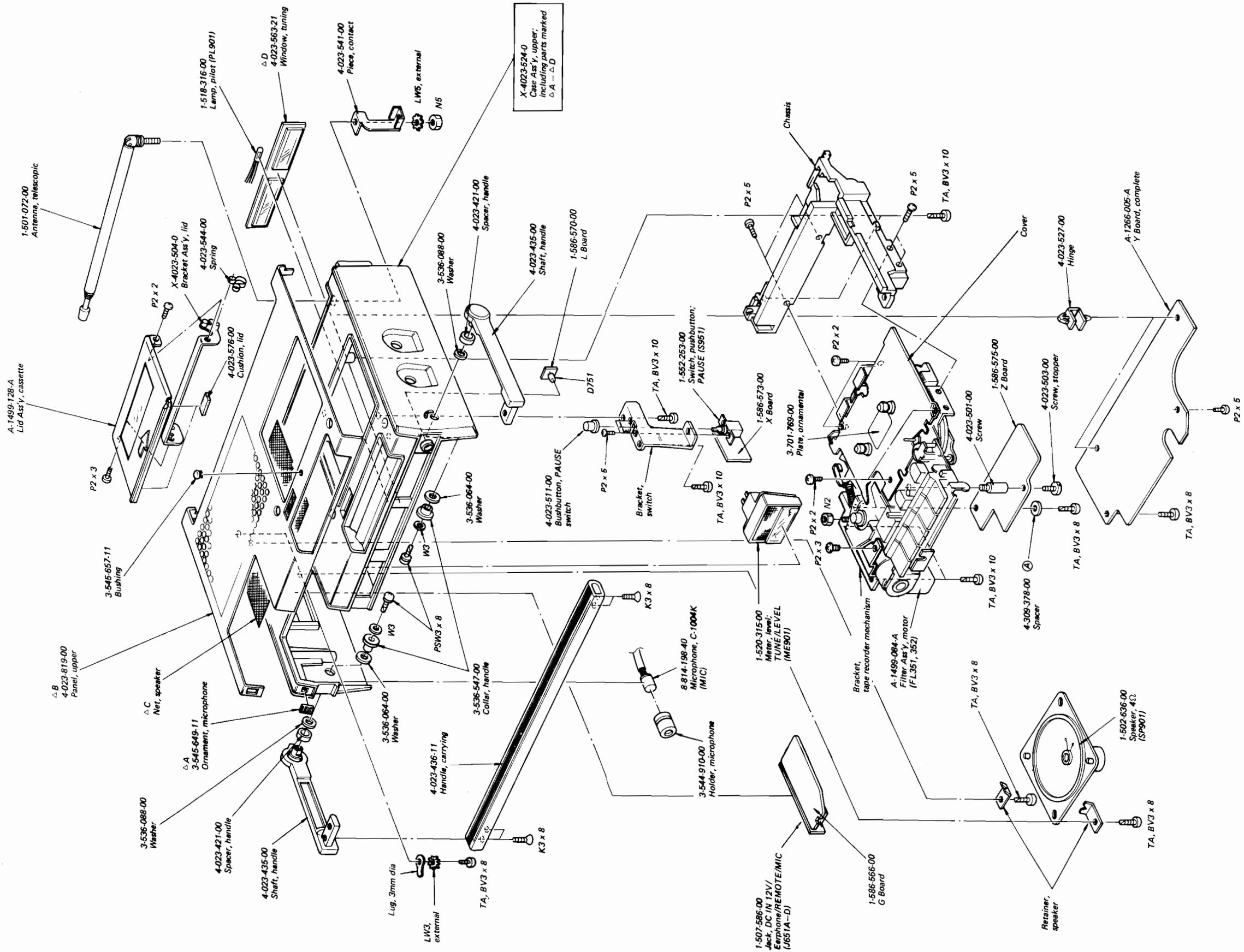
1

2

3

4

SECTION 5
EXPLODED VIEWS



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

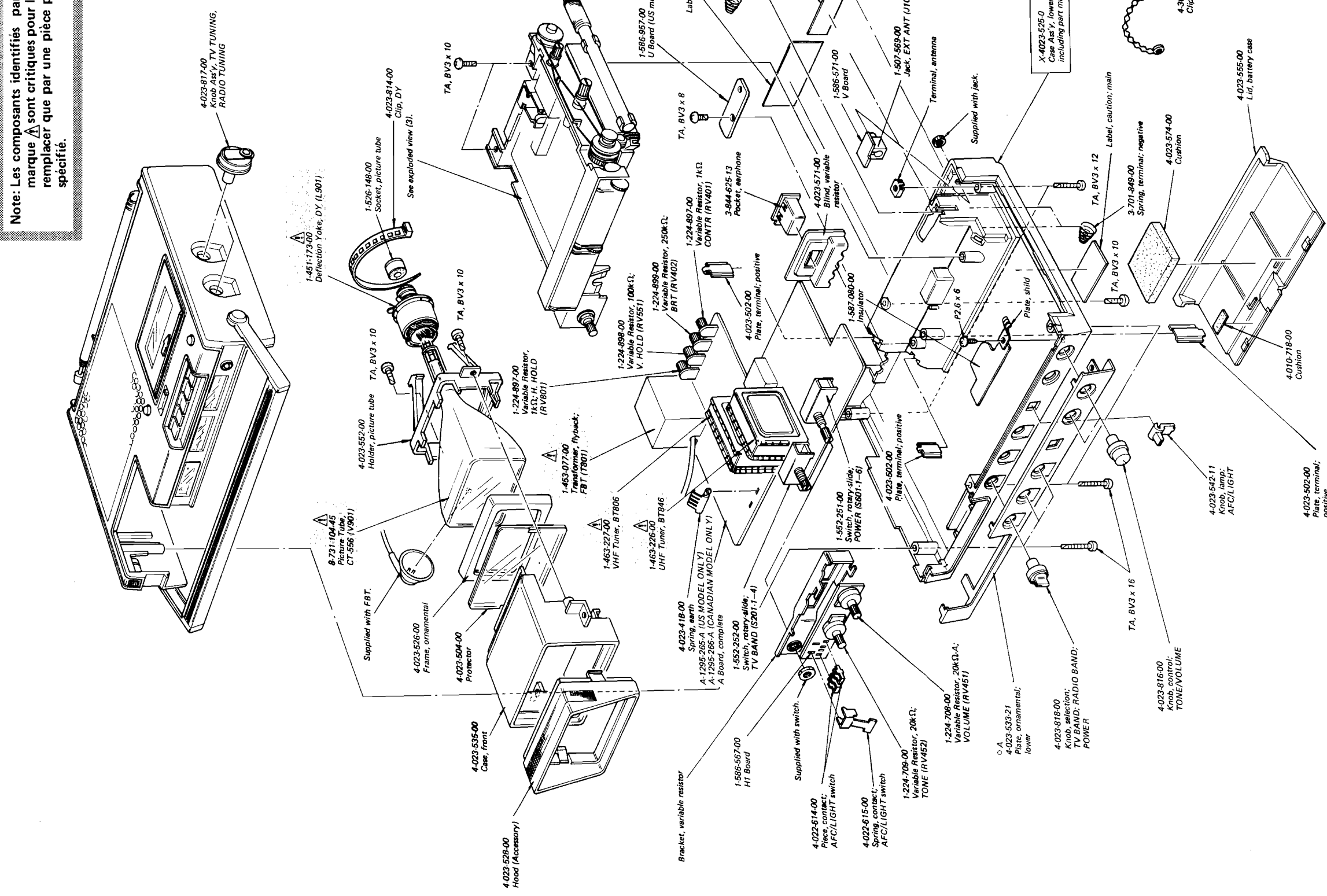
1 2 3 4 5 6 7 8

A B C D E

(2)

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

Note: Les composants identifiés par un trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



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

1

2

3

4

5

6

7

8

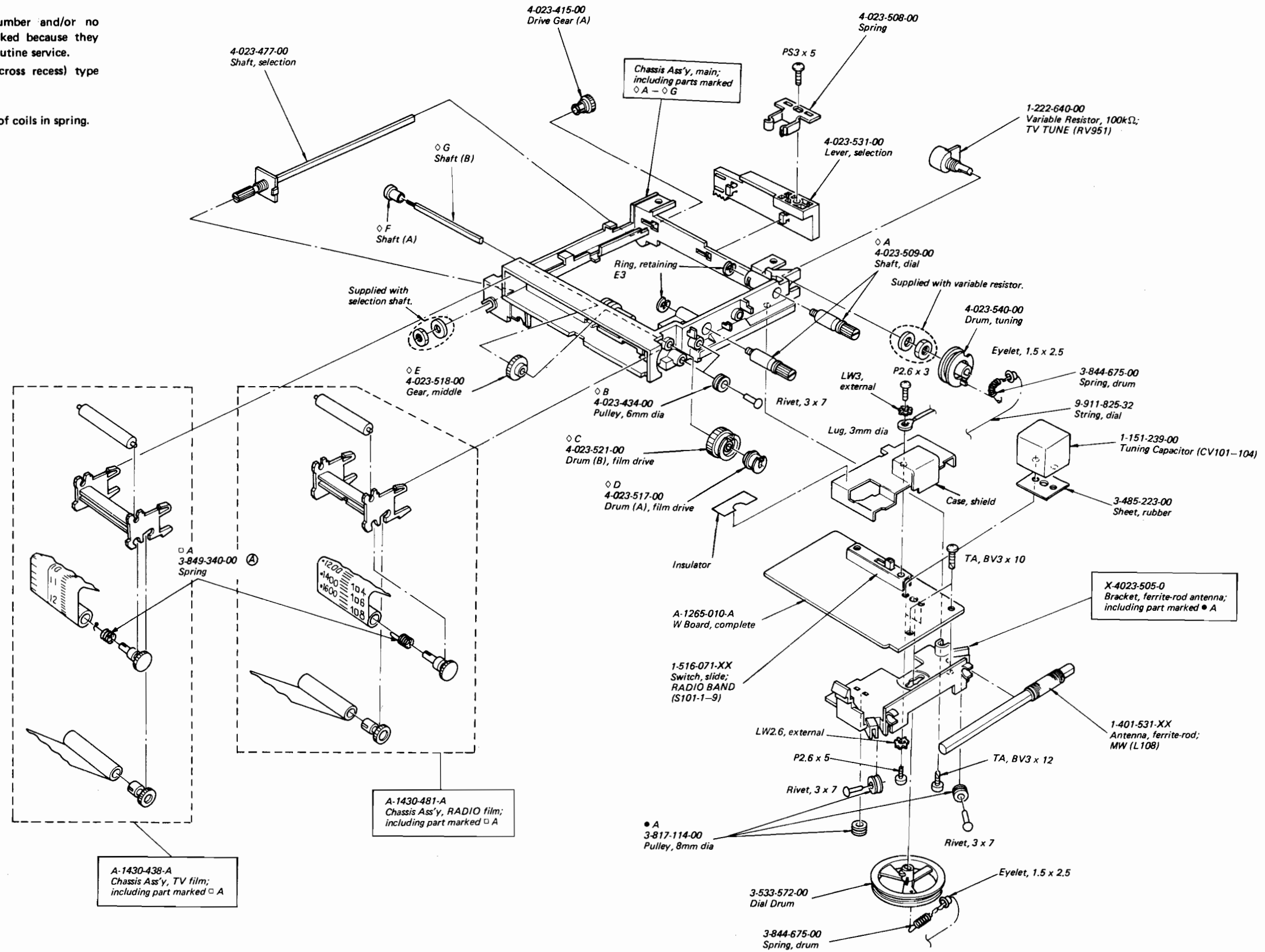
FX-412 FX-412

A B C D E F G H

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



1

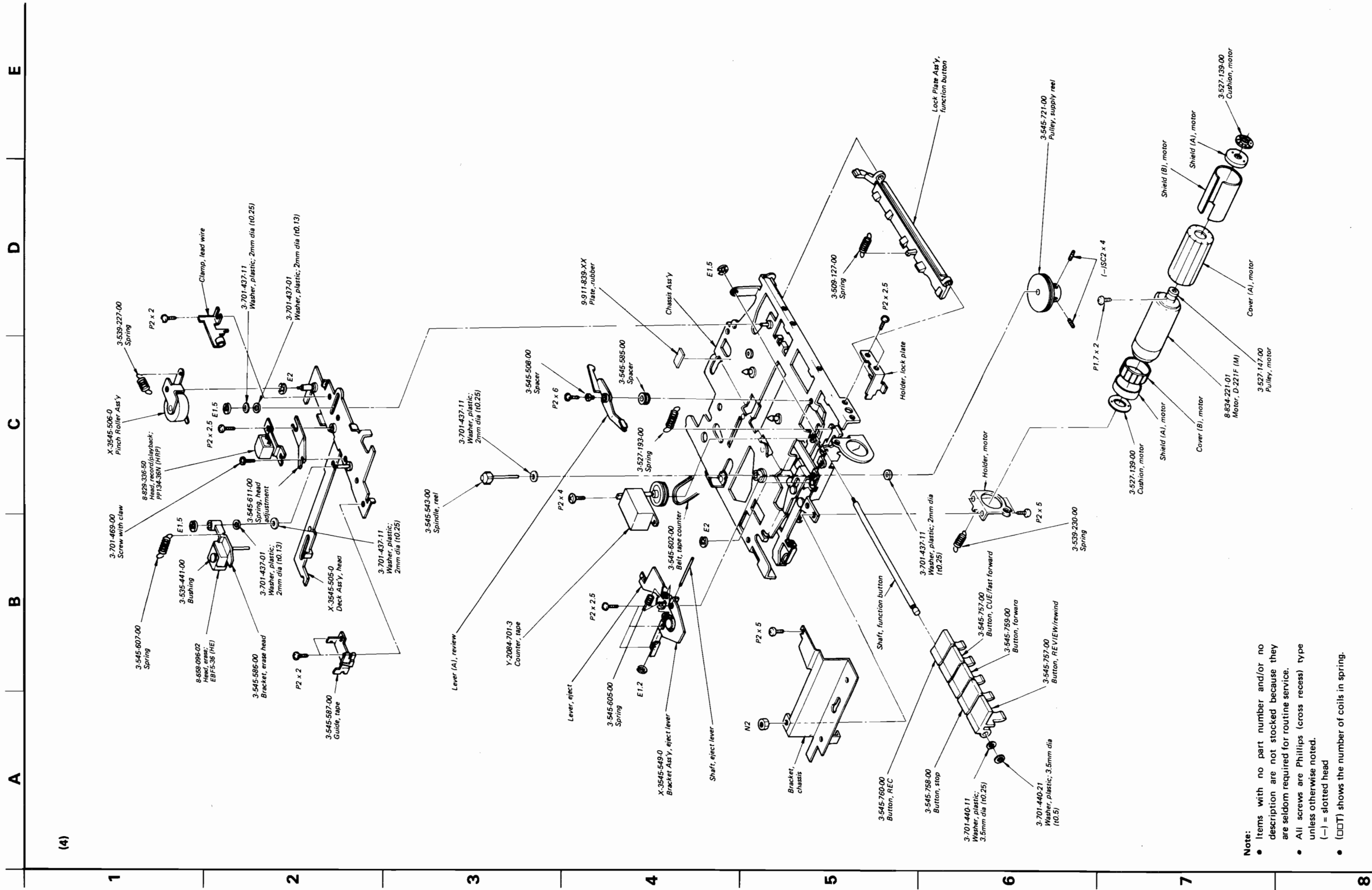
2

3

4

5

FX-412 FX-412



(4)

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

FX-412 FX-412

A B C D E

(5)

1

2

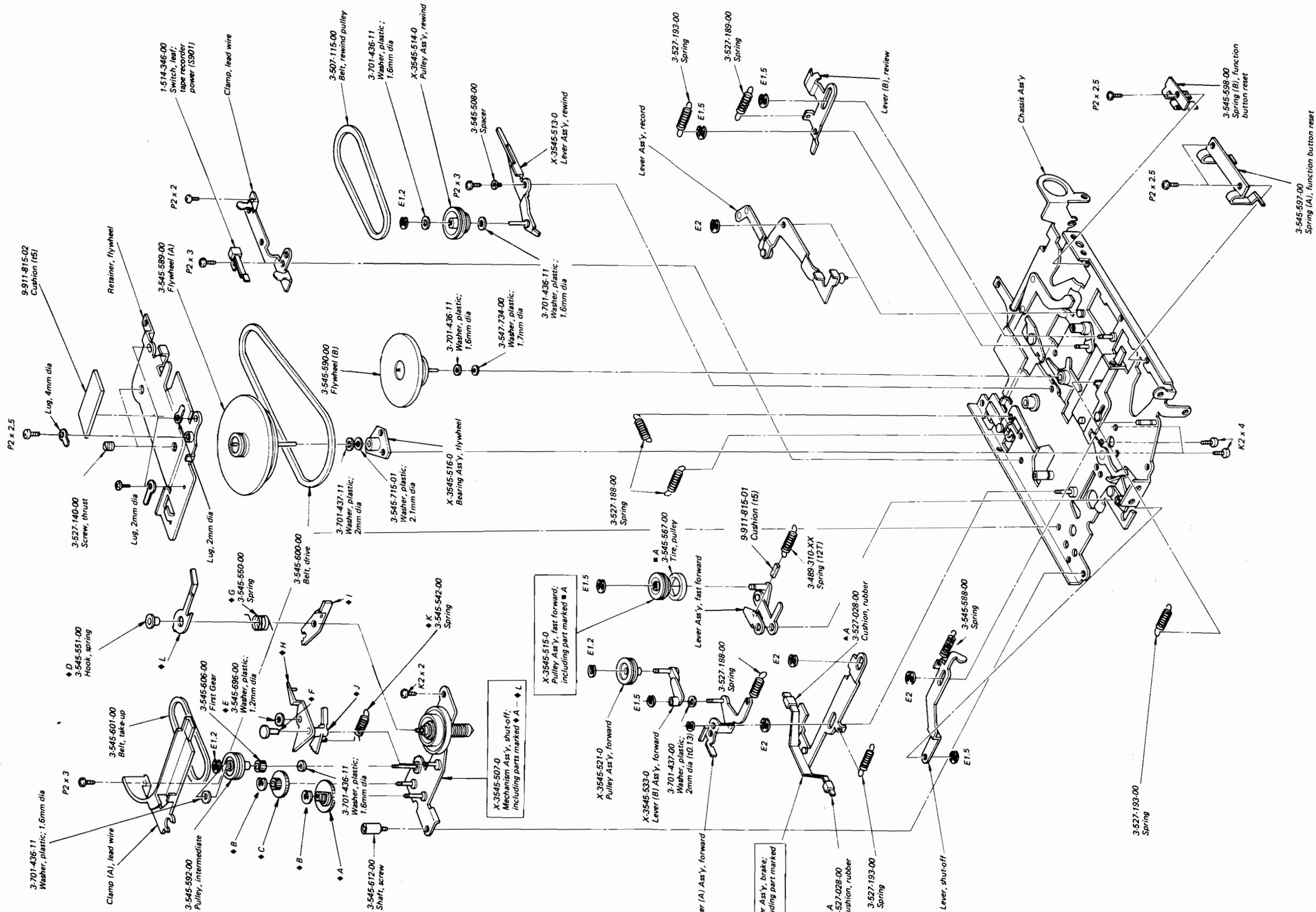
3

4

5

6

7



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
• (□□□) shows the number of coils in spring.

8


SECTION 6 ELECTRICAL PARTS LIST

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
TUNERS AND CIRCUIT BOARDS			Q553	8-760-335-10	2SC1474
			Q554	8-760-514-10	2SA772
	▲ 1-463-226-00	UHF Tuner, BT-846	Q601	▲ 8-763-213-00	2SA861
	▲ 1-463-227-00	VHF Tuner, BT-806	⇒ Q602	8-729-663-47	2SC1364
	1-586-566-00	G Board	⇒ Q651	8-729-316-12	2SC1061
	1-586-567-00	H1 Board	⇒ Q801, 802	8-729-663-47	2SC1364
	1-586-570-00	L Board	Q803	8-760-413-00	2SC1475
	1-586-571-00	V Board	⇒ Q851	8-729-663-47	2SC1364
	1-586-573-00	X Board			
	1-586-575-00	Z Board			IC
	1-586-957-00	U Board (US model)	IC851	8-759-157-40	μPC574J
	A-1265-010-A	W Board, complete			Diodes
	A-1266-005-A	Y Board, complete	D101	8-719-768-71	1S2687
	A-1295-265-A	A Board, complete (US model)	D102, 103	8-719-026-11	1T261
	A-1295-266-A	A Board, complete (Canadian model)	⇒ D104, 105	8-719-422-21	1T22AM
SEMICONDUCTORS					
Transistors			D201	8-719-815-55	1S1555
	Q101	8-729-803-04	⇒ D202, 203	8-719-422-21	1T22AM
⇒	Q102, 103	8-729-663-47	D301-306,	8-719-815-55	1S1555
	Q104-110	8-729-671-14	D351, 352		
	Q201	8-729-671-14	D551-553	8-719-815-55	1S1555
⇒	Q202	8-729-663-47	D601	▲ 8-719-143-07	RD4.3E-B
	Q203-205	8-729-671-14	D602	8-719-143-07	RD4.3E-B
⇒	Q206-208	8-729-663-47	D651	▲ 8-719-937-10	EQA01-10S2
	Q209	8-729-671-14	D652	8-719-143-07	RD4.3E-B
⇒	Q301, 302	8-729-665-47	D751	8-719-301-11	SEL101R
⇒	Q303-307	8-729-663-47	D801-803	8-719-815-55	1S1555
⇒	Q351	8-729-612-77	⇒ D804	8-719-320-11	HF1A
⇒	Q352	8-729-663-47	⇒ D851	8-719-320-31	HF1C
⇒	Q353	8-729-316-12	D852	8-719-320-11	HF1A
⇒	Q354	8-729-663-47	D853	8-719-815-55	1S1555
	Q401	8-724-375-01			Miscellaneous
⇒	Q451-454	8-729-663-47	⇒ TH201,202,	1-800-071-XX	Thermistor, TH-350
	Q455	8-760-335-10	⇒ TH351,551		
	Q456	8-760-514-10			
⇒	Q457	8-729-663-47			
⇒	Q501	8-729-612-77			
⇒	Q551, 552	8-729-663-47			

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



Note: Les composants identifiés par un tramé et une marque ▲ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
COILS		
All coils are microinductors unless otherwise noted.		
L101	1-425-632-00	FM RF
L103	1-405-595-00	FM OSC
L104	1-407-169-XX	100 μ H
L105	1-407-182-XX	2.2 μ H
L106	1-407-177-XX	470 μ H
L107	1-407-178-XX	1 μ H
L108	1-401-531-XX	Antenna, ferrite-rod; MW
L201	1-420-830-00	VIF
L202	1-425-974-00	VIF
L203	1-407-189-XX	8.2 μ H
L204	1-409-179-00	4.5MHz Trap
L205	1-407-189-XX	8.2 μ H
L206	1-407-184-XX	3.3 μ H
L301	1-407-213-XX	1.5 mH
L351, 352	1-407-184-XX	3.3 μ H
L353	1-407-189-XX	8.2 μ H
L401	1-407-709-00	220 μ H
L601-603	1-407-172-XX	180 μ H
L801	1-405-760-00	Horizontal Oscillation, H. OSC
L901	 1-451-173-00	Deflection Yoke, DY

TRANSFORMERS AND FILTERS


CF101,102	1-527-184-XX	Ceramic Filter
CP101	1-231-286-00	Bandpass Filter
CP301	1-464-007-00	Bias Oscillation Unit
FL351,352	A-1499-084-A	Filter Ass'y, motor
LC201	1-417-060-00	UV Separator
T101	1-403-872-00	FM IFT
T102	1-403-952-00	FM DISCRI
T103	1-403-953-00	FM DISCRI
T104	1-404-041-00	AM IFT
T107	1-405-520-00	MW OSC
T108	1-403-165-00	CFT


<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
T201	1-404-118-00	VIFT
T202	1-403-367-00	SIFT-1
T203	1-425-940-00	SIFT-2
T401	 1-442-757-00	Heater, HT
T801	 1-453-077-00	Flyback, FBT

CAPACITORS

All capacitors are in μ F and ceramic unless otherwise noted.
50WV or less are not indicated except for electrolytics.
p : μ F, elect : electrolytic

C101	1-102-937-00	4p		
C102-104	1-101-923-00	0.01		
C105	1-102-959-00	22p		
C106	1-102-074-00	0.001		
C108, 109	1-101-923-00	0.01		
C110	1-102-506-00	7p		
C111	1-101-576-00	1.5p		
C112	1-102-504-00	4p		
C113	1-102-960-00	24p		
C114	1-131-402-00	0.1	16V	tantalum
C115	1-101-923-00	0.01		
C116	1-102-116-00	680p		
C117	1-123-295-00	100	6.3V	elect
C118	1-101-924-00	0.022		
C119	1-101-923-00	0.01		
C120	1-101-924-00	0.022		
C121	1-121-651-00	10	16V	elect
C122	1-101-923-00	0.01		
C123	1-101-576-00	1.5p		
C124	1-101-924-00	0.022		
C125	1-121-651-00	10	16V	elect
C126, 127	1-102-978-00	220p		
C128	1-123-295-00	100	6.3V	elect
C129	1-101-924-00	0.022		
C130	1-161-013-00	0.01		(semiconductor)
C131	1-101-924-00	0.022		
C132	1-161-021-00	0.047		(semiconductor)
C133	1-102-973-00	100p		
C134	1-161-012-00	0.0082		(semiconductor)
C135	1-101-923-00	0.01		

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

Note: Les composants identifiés par un tramé et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>		
C136	1-102-949-00	12p		
C139	1-107-231-00	360p		mica
C141	1-102-947-00	10p		
C142	1-102-285-00	10p		
C144-147	1-101-923-00	0.01		
C148	1-101-924-00	0.022		
C149, 150	1-101-923-00	0.01		
C151	1-121-402-00	33	10V	elect
C152	1-102-125-00	0.0047		
C201	1-102-942-00	5p		
C202, 203	1-101-002-00	0.0047		
C204	1-101-455-00	0.001		
C205	1-101-002-00	0.0022		
C206	1-101-455-00	0.001		
C207	1-101-361-00	150p		
C208	1-101-455-00	0.001		
C209	1-102-973-00	220p		
C210	1-102-976-00	180p		
C211, 212	1-102-947-00	10p		
C213	1-102-820-00	330p		
C214	1-102-807-00	5p		
C215	1-108-379-00	0.015	100V	mylar
C216	1-121-726-00	0.47	50V	elect
C217	1-101-002-00	0.0022		
C218	1-123-296-00	220	6.3V	elect
C219	1-101-004-00	0.01		
C220	1-121-479-00	22	16V	elect
C221	1-101-001-00	0.001		
C222	1-121-651-00	10	16V	elect
C223	1-101-003-00	0.0047		
C224	1-121-651-00	10	16V	elect
C225	1-101-004-00	0.01		
C226	1-102-809-00	7p		
C227	1-102-114-00	470p		
C229	1-102-658-00	180p		
C230, 231	1-102-115-00	560p		
C232	1-121-651-00	10	16V	elect
C233	1-101-003-00	0.0047		
C234	1-101-004-00	0.01		
C235	1-121-392-00	3.3	25V	elect
C236	1-101-004-00	0.01		

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>		
C237	1-121-651-00	10	16V	elect
C239	1-101-002-00	0.0022		
C240	1-102-942-00	5p		
C242	1-102-889-00	39p		
C243	1-101-002-00	0.0022		
C244	1-101-004-00	0.01		
C301, 302	1-121-726-00	0.47	50V	elect
C303	1-101-001-00	0.001		
C304	1-121-726-00	0.47	50V	elect
C305	1-123-307-00	100	10V	elect
C306	1-121-726-00	0.47	50V	elect
C307	1-108-365-00	0.001	100V	mylar
C308	1-101-001-00	0.001		
C309	1-131-210-00	0.15		tantalum
C310, 311	1-121-726-00	0.47	50V	elect
C312, 313	1-102-973-00	100p		
C314	1-121-479-00	22	16V	elect
C315	1-123-295-00	100	6.3V	elect
C316	1-102-973-00	100p		
C317	1-121-651-00	10	16V	elect
C318	1-123-307-00	100	10V	elect
C319	1-108-379-00	0.015	100V	mylar
C320	1-108-559-00	0.0015		mylar
C321, 322	1-102-973-00	100p		
C323, 324	1-121-651-00	10	16V	elect
C325	1-121-392-00	3.3	25V	elect
C326	1-102-973-00	100p		
C327	1-121-651-00	10	16V	elect
C328	1-121-805-00	330	10V	elect
C329	1-121-391-00	1	50V	elect
C330	1-121-651-00	10	16V	elect
C331	1-121-391-00	1	50V	elect
C332	1-102-114-00	470p		
C333	1-121-651-00	10	16V	elect
C335	1-101-003-00	0.0047		
C351	1-123-306-00	47	10V	elect
C352	1-123-309-00	330	10V	elect
C353	1-121-479-00	22	16V	elect
C354-356	1-123-306-00	47	10V	elect
C357	1-102-363-00	0.001		

- ⇒: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.
- * : Selected to yield optimum performance.

Ref. No.	Part No.	Description		
C401	1-121-395-00	4.7	25V	elect
C402	1-102-121-00	0.0022		
C403	1-108-389-00	0.1	100V	mylar
C404	1-102-978-00	220p		
C451	1-108-375-00	0.0068	100V	mylar
C453	1-121-450-00	2.2	50V	elect
C454	1-123-295-00	100	6.3V	elect
⇒C455	1-121-651-00	10	16V	elect
C456	1-121-402-00	33	10V	elect
C457	1-123-307-00	100	10V	elect
C458	1-101-004-00	0.01		
C459	1-121-391-00	1	50V	elect
C460	1-101-004-00	0.01		
C461	1-121-424-00	470	6.3V	elect
C462, 463	1-101-001-00	0.001		
C464	1-121-352-00	47	10V	elect
C466	1-101-003-00	0.0047		
C501	1-108-383-00	0.033	100V	mylar
C502	1-121-391-00	1	50V	elect
C551, 552	1-108-387-00	0.068	100V	mylar
C553	1-108-379-00	0.015	100V	mylar
C554	1-108-383-00	0.033	100V	mylar
C555	1-108-385-00	0.047	100V	mylar
C556	1-131-199-00	10	16V	tantalum
C557, 558	1-121-402-00	33	10V	elect
C559	1-121-395-00	4.7	25V	elect
C560	1-123-299-00	1000	6.3V	elect
C561	1-121-424-00	470	6.3V	elect
C562	1-108-387-00	0.068	100V	mylar
C601	1-102-116-00	680p		
C652	1-119-165-00	1000	25V	elect
C653	1-123-320-00	100	16V	elect
C751	1-121-391-00	1	50V	elect
C800	1-123-296-00	220	6.3V	elect
C801, 802	1-108-375-00	0.0068	100V	mylar
C803	1-121-391-00	1	50V	elect
C804	1-108-379-00	0.015	100V	mylar
C805	1-121-391-00	1	50V	elect
C806	1-108-389-00	0.1	100V	mylar

Ref. No.	Part No.	Description		
C807	1-121-392-00	3.3	25V	elect
C808	1-108-367-00	0.0015	100V	mylar
C809	1-108-383-00	0.033	100V	mylar
C810	1-108-389-00	0.1	100V	mylar
C811	1-123-306-00	47	10V	elect
C812	1-102-978-00	220p		
C813	1-121-391-00	1	50V	elect
C814	1-123-308-00	220	10V	elect
C815	△ 1-108-377-00	0.01	100V	mylar
* C816	△ 1-108-369-00	0.0022	100V	mylar
	△ 1-108-371-00	0.0033		
	△ 1-108-373-00	0.0047		
	△ 1-108-375-00	0.0068		
	△ 1-108-376-00	0.0082		
C851	1-129-736-00	0.033	630V	polyethylene
C852	1-121-738-00	10	50V	elect
C903	1-101-001-00	0.001		
C951	1-101-004-00	0.01		
CT101-103		Included in CV101-104		
CT104-106	1-141-138-XX	8p		trimmer
CV101-104	1-151-239-00	Tuning Capacitor		

RESISTORS

All resistors are in ohms. Common 1/4W carbon resistors are omitted. Refer to the list on page 32 for their part numbers. All variable and adjustable resistors have characteristic curve B, unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ

R361	1-212-368-00	4.7	1W	metal oxide (nonflammable)
R460	1-213-132-00	120	1W	metal oxide (nonflammable)
R566	1-212-371-00	8.2	1W	metal oxide (nonflammable)
R601	△ 1-246-511-00	39k		
R602	△ 1-246-455-00	180		
R603	△ 1-246-483-00	2.7k		
R604	△ 1-246-479-00	1.8k		
R605	1-213-124-00	27	1W	metal oxide (nonflammable)
R651	△ 1-213-134-00	180	1W	metal oxide (nonflammable)

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

Note: Les composants identifiés par un trame et une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

<i>Ref. No.</i>	<i>Part No.</i>	<i>Description</i>		
R652	1-213-134-00	180	1W	metal oxide (nonflammable)
R653	1-213-124-00	27	1W	metal oxide (nonflammable)
R814	1-213-127-00	47	1W	metal oxide (nonflammable)
R862	1-202-735-00	22M	½W	composition
RV351	1-224-642-XX	1k, adjustable; TAPE SPEED		
RV401	1-224-897-00	1k, variable; CONTR		
RV402	1-224-899-00	250k, variable; BRT		
RV451	1-224-708-00	20k-A, variable; VOLUME		
RV452	1-224-709-00	20k, variable; TONE		
RV551	1-224-898-00	100k, variable; V. HOLD		
RV552	1-224-645-XX	10k, adjustable; V. SIZE		
RV601	▲ 1-224-642-XX	1k, adjustable; +6V ADJ		
RV801	1-224-897-00	1k, variable; H. HOLD		
RV851	1-224-645-XX	10k, adjustable; +25V ADJ		
RV852	1-224-647-XX	47k, adjustable; TUNING ADJ		
RV951	1-222-640-00	100k, variable; TV TUNE		

MISCELLANEOUS

F651	▲ 1-532-267-XX	Fuse, 1.6A		
F652	▲ 1-532-267-XX	Fuse, 1.6A (US model)		
HE	8-658-096-02	Head, erase; EBF5-36		
HRP	8-829-336-50	Head, record/playback; PP134-36N		
J101	1-507-569-00	Jack, EXT ANT		
J651A-D	1-507-586-00	Jack, DC IN 12V/Earphone/ REMOTE/MIC		
M	8-834-221-01	Motor, D-221F		
ME901	1-520-315-00	Meter, level; TUNE/LEVEL		
MIC	8-814-198-40	Microphone, electret condenser; C-1004K		
PL901	1-518-316-00	Lamp, pilot		
S101-1-9	1-516-071-XX	Switch, slide; RADIO BAND		
S201-1-4	1-552-252-00	Switch, rotary slide; TV BAND		
S301-1-6	1-513-323-00	Switch, slide; REC/PB		
S451	4-022-614-00	Piece, contact; AFC/LIGHT switch		
	4-022-615-00	Spring, contact; AFC/LIGHT switch		
S601-1-6	1-552-251-00	Switch, rotary-slide; POWER		
S901	1-514-346-00	Switch, leaf; tape recorder power		

<i>Ref. No.</i>	<i>Part No.</i>	<i>Description</i>
S951	1-552-253-00	Switch, pushbutton; PAUSE
SP901	1-502-636-00	Speaker, 4Ω
V901	▲ 8-731-104-45	Picture Tube, CT-556
	1-501-072-00	Antenna, telescopic
	1-526-148-00	Socket, picture tube
	1-587-080-00	Insulator

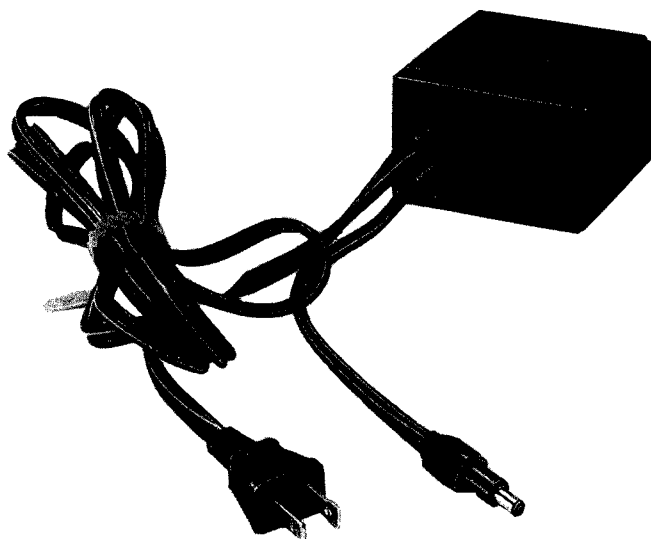
Note: The components identified by shading and mark ▲ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par un tramé et une marque ▲ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

ACCESSORIES AND PACKING MATERIALS

<u>Part No.</u>	<u>Description</u>
A-1000-471-A	AC Power Adaptor, AC-121W
X-3701-105-0	Head Cleaning Tips Ass'y
X-4023-511-0	Hood Ass'y
1-504-059-11	Earphone, ME-20H
1-506-309-00	Plug, shorting; SP-100
3-701-295-00	Bag, polyethylene
3-701-625-00	Sheet, protection
3-701-730-00	Envelope, IBM card (US model)
3-793-956-31	Card, warranty (Canadian model)
3-794-233-21	Instruction (US model)
4-023-458-00	Sheet, protection
4-023-567-00	Cushion, left
4-023-568-00	Cushion, right
4-023-595-00	Sleeve, carton
4-023-822-00	Carton (US model)
4-023-823-00	Carton (Canadian model)
4-495-810-31	Manual, instruction (Canadian model)
4-495-810-51	Manual, instruction (US model)
8-890-205-00	Cassette Tape, demonstration; C-30

AC-121W



AC ADAPTOR

SPECIFICATIONS

Power Requirements:	120 V, 60 Hz
Power Consumption:	14.5 W ac with FX-412 operated.
Dimensions:	Approx. 78 (w) x 53 (h) x 80 (d) mm 3 1/8 (w) x 2 1/8 (h) x 3 1/8 (d) inches excluding power cord and dc cord.
Net Weight:	Approx. 640 g, 23 oz (US model) 600 g, 21 oz (Canadian model) including power cord and dc cord.

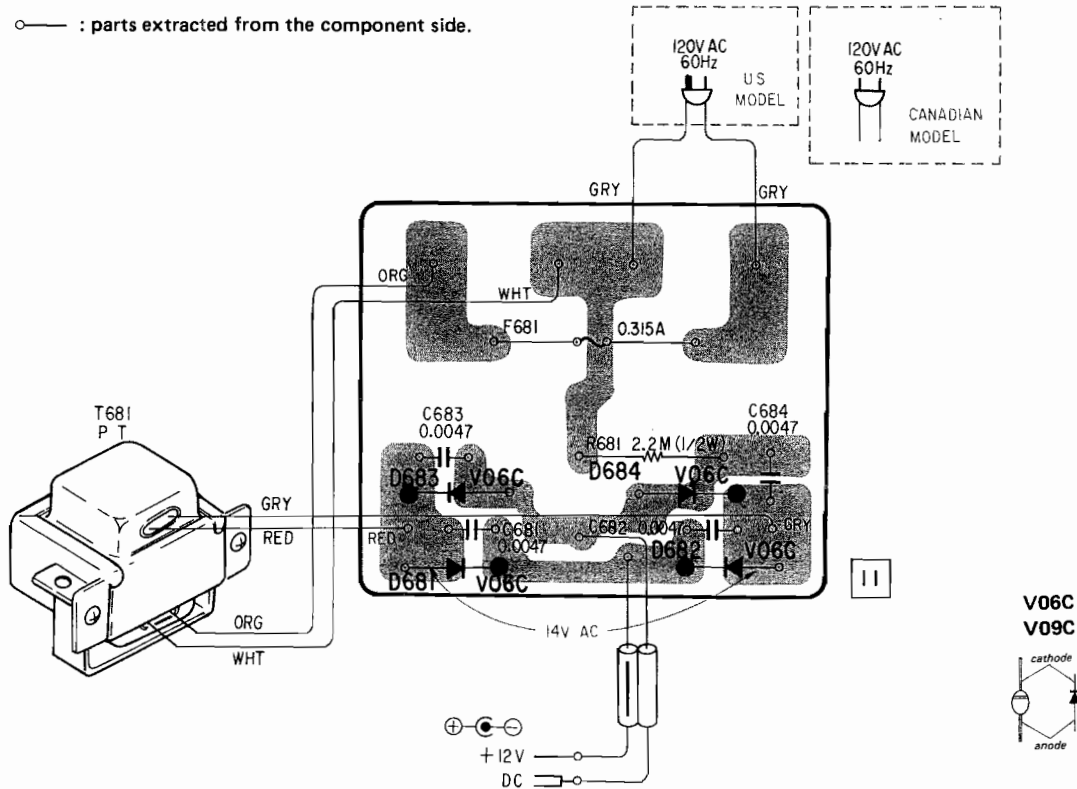


1. MOUNTING DIAGRAM

— Conductor Side —

— F Board —

Note: ● ○ — : parts extracted from the component side.



2. SCHEMATIC DIAGRAM

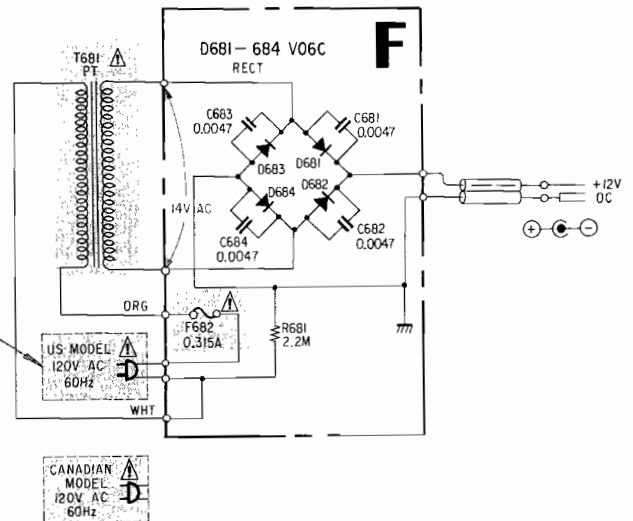
— F Board —

Note:

- All capacitors are in μF unless otherwise noted. $\text{pF} : \mu\mu\text{F}$
- 50WV or less are not indicated except for electrolytics.
- All resistors are in ohms, $\frac{1}{4}\text{W}$ unless otherwise noted. $\text{k}\Omega : 1000\Omega$; $\text{M}\Omega : 1000\text{k}\Omega$

CAUTION

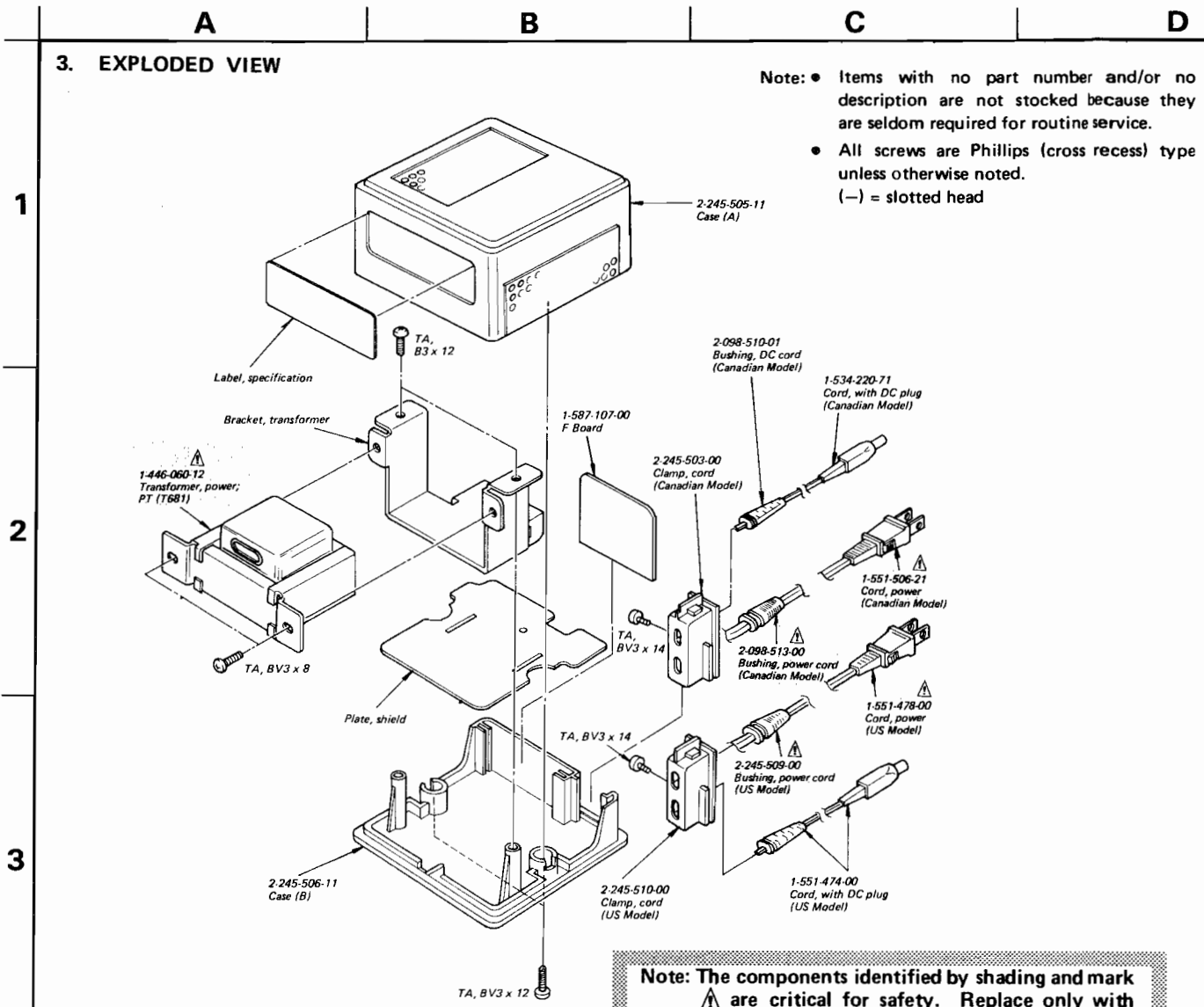
This set is equipped with a polarized AC power cord plug (one blade of the plug is wider than the other). When replacing the AC power cord, be sure to connect it with specified part number as shown in this diagram.



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

Note: Les composants identifiés par un trame et une marque sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

3. EXPLODED VIEW



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

Note: Les composants identifiés par un tramé et une marque \triangle sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

4. ELECTRICAL PARTS LIST

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
C681-684	1-101-003-00	Capacitor, ceramic; 0.0047 μ F
\Rightarrow D681-684	8-719-900-93	Diode, V09C
F681	\triangle 1-532-400-XX	Fuse, 0.315A
R681	1-202-723-00	Resistor, composition; 2.2M Ω 1/2W
T681	\triangle 1-446-060-12	Transformer, power; PT
	1-534-220-71	Cord with DC plug
	\triangle 1-551-506-21	Cord, power
	1-551-474-00	Cord with DC plug
	\triangle 1-551-478-00	Cord, power
	1-587-107-00	F Board

• \Rightarrow : Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.

FX-412
AC-121W

Sony Corporation

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9-962-488-01

79D0450-1
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