FX-310UW

TV-FM/AM RECEIVER CASSETTE-CORDER

SPECIFICATIONS

Television System:	American TV standards
Picture Tube:	7.2cm, 3" (measured diagonally), 50° deflection
Semiconductors:	49 transistors, and 39 diodes
Antennas:	VHF, UHF, FM: Built-in telescopic antenna with external antenna terminal 75Ω unbalanced
	AM: Built-in ferrite-rod antenna
Channel Coverage:	VHF channels: 2–13
	UHF channels: 14–83
Intermediate Frequencies:	Picture i-f carrier: 45.75MHz
	Sound i-f carrier: 41.25MHz
Sound System:	4.5MHz intercarrier
	Output power: 1,800mW (max, at dc operation)
	Speaker: 10cm (4 inches) dia, 8Ω
Automatic Controls:	AFC (automatic frequency control)
Input:	MIC (one mini jack)
	Sensitivity: 0.2mV (–72dB) for low impedance microphone

0 dB = 0.775 V

– Continued on page 2 –

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND ⚠ MARK ON THE SHCEMATIC 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

Output: EARPHONE (one mini jack)
for 8Ω earphone or load impedance 10kΩ or higher

Anode Voltage: 5.2kV at 20μA beam current

Power Requirement : 120V ac, 50/60Hz,
9Vdc, six batteries size D (IEC Designation R20)
12V car battery with optional sony car battery cord DCC-16

Power Consumption: 9.5W ac

Dimensions: Approx. 175(w) x 270(h) x 225(d) mm
$6^{7}/_{8}$ (w) x $10^{5}/_{8}$ (h) x $8^{7}/_{8}$ (d) inches
including projecting parts and controls

Net Weight: Approx. 3.9kg (8lb 10 oz)
without batteries

RADIO SECTION

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

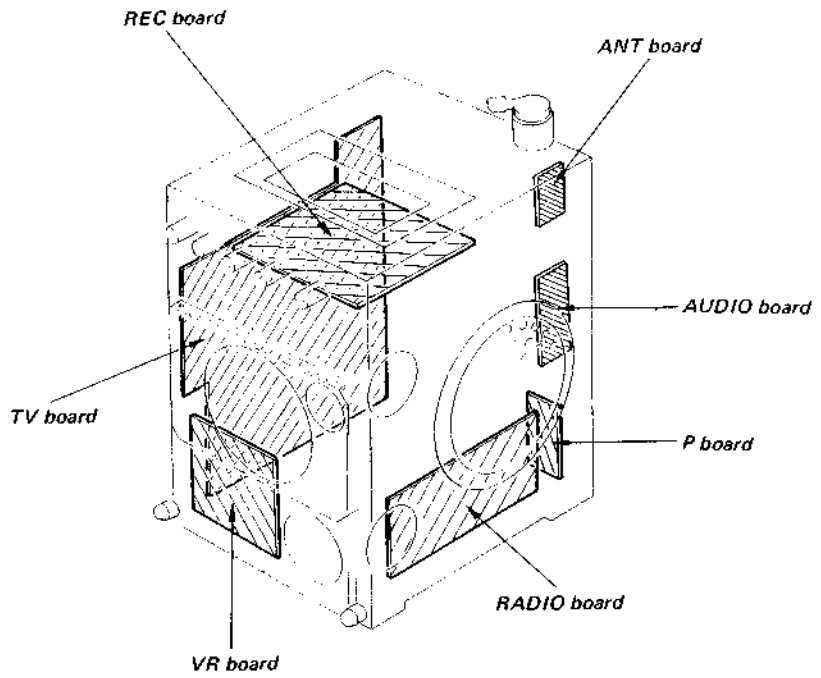
TAPE RECORDER SECTION

Recording System: 2-track 1-channel monaural

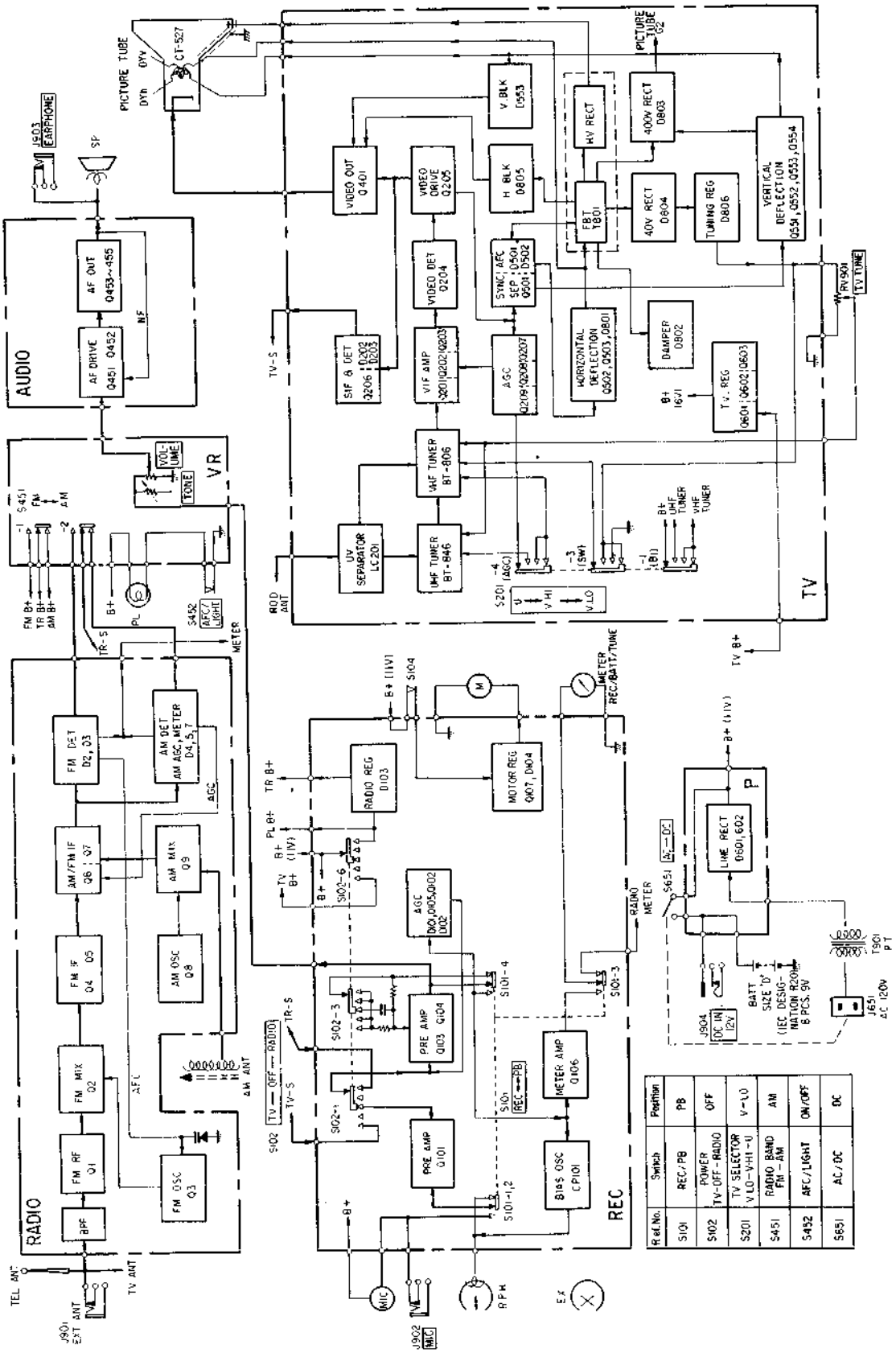
Fast Winding Time: Approx. 1 min. 30 sec. with sony cassette C-60

Accessories Supplied:
Earphone (ME-20H)
Cassette tape (C-30)
AC power cord
Shorting plug SP-100
Head cleaning tips
TV hood
Shoulder strap
Instruction manual
Batteries (size "D", IEC designation R20)

CIRCUIT BOARDS LOCATION



SECTION 1
BLOCK DIAGRAM



Ref.No.	Switch	Position		
S101	REC/PB	PB	OFF	
S102	POWER TV-OFF-RADIO			
S201	TV SELECTOR V-LO-VHI-U	V-LO		
S451	RADIO BAND FM-AM	AM		
S452	AFC/LIGHT	ON/OFF		
S651	AC/DC	DC		

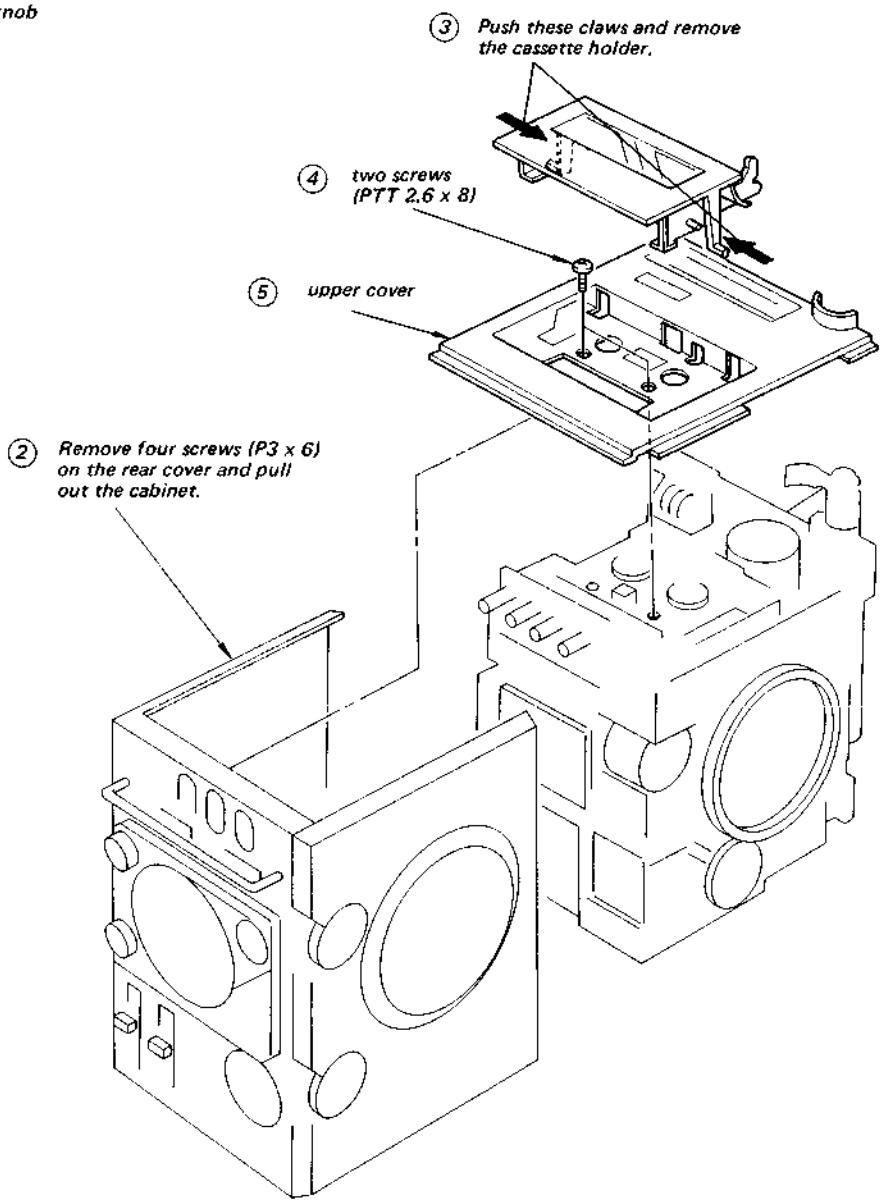
SECTION 2
DISASSEMBLY

Note:

- Remove the parts in the numerical order.
- All screws are Phillips (cross recess) type unless otherwise noted.

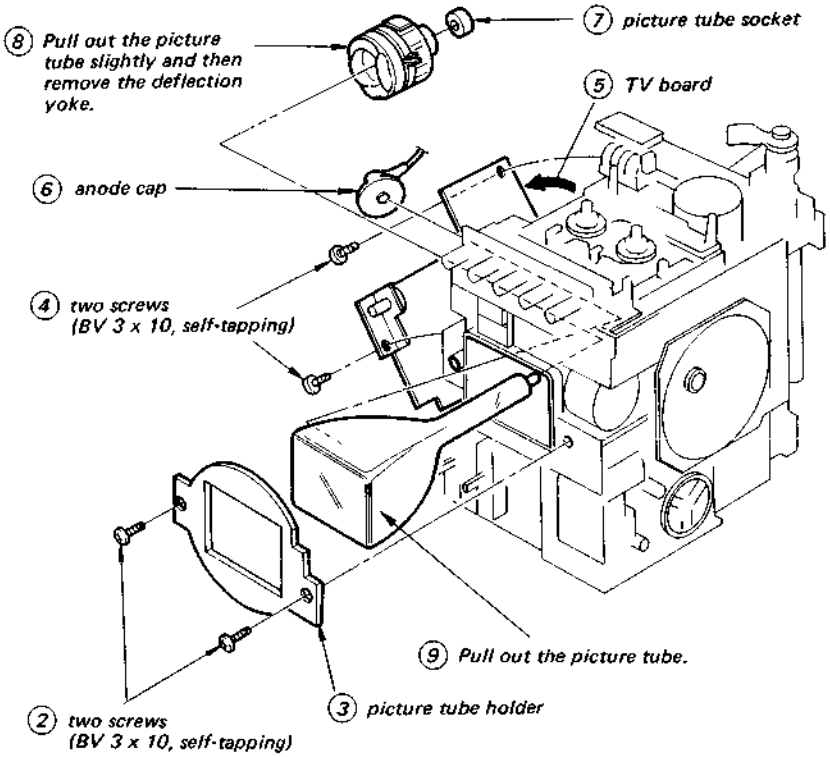
2-1. CABINET AND UPPER COVER REMOVAL

(1) *Pull out knobs.*
- *TV/RADIO POWER knob*
- *CONTRAST knob*
- *TV SELECTOR knob*
- *TV TUNE knob*
- *RADIO TUNE knob*
- *VOLUME knob*
- *TONE knob*



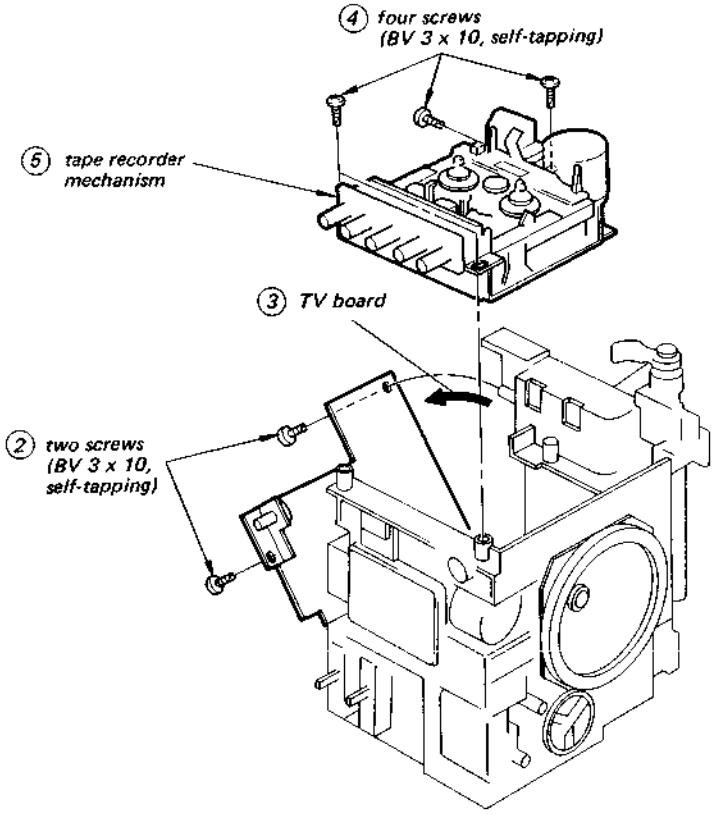
2-2. PICTURE TUBE REMOVAL

(1) *Remove the cabinet.*

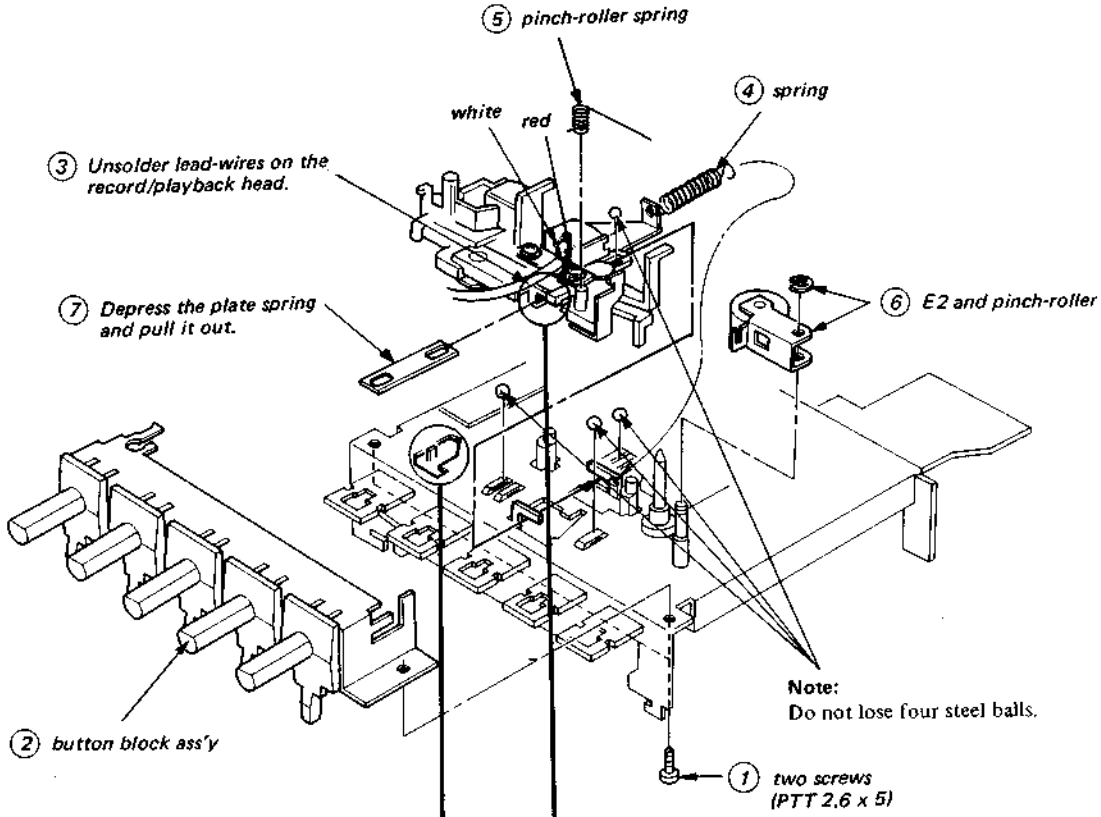


2-3. TAPE RECORDER MECHANISM REMOVAL

(1) *Remove the cabinet.*

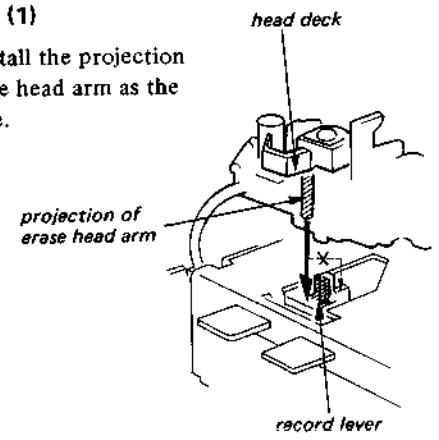


2-4. HEAD DECK REMOVAL



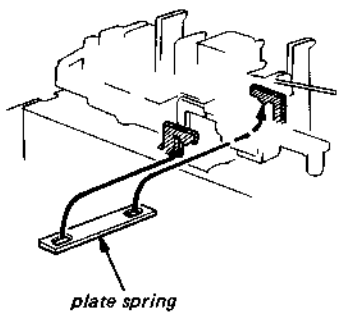
CAUTION (1)

Do not install the projection of the erase head arm as the dotted line.

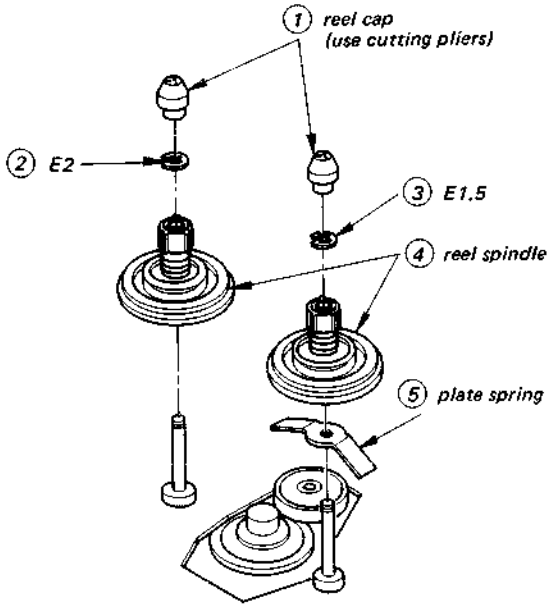


CAUTION (2)

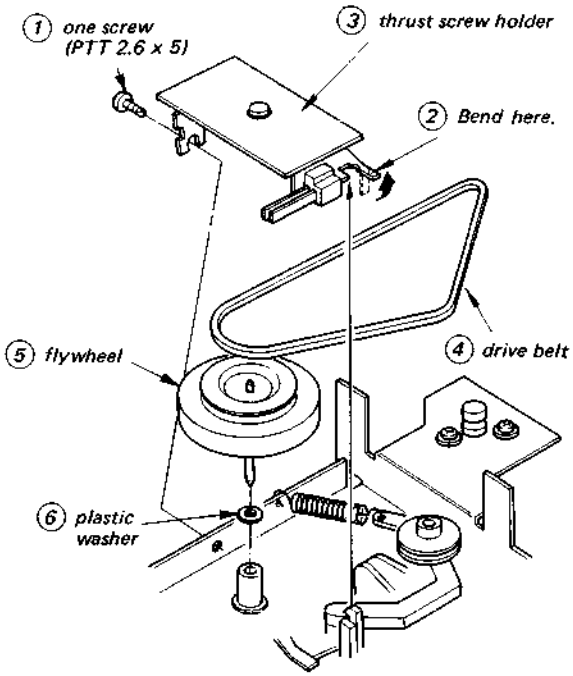
Put the projection of the head deck ass'y upon the hole of the plate spring



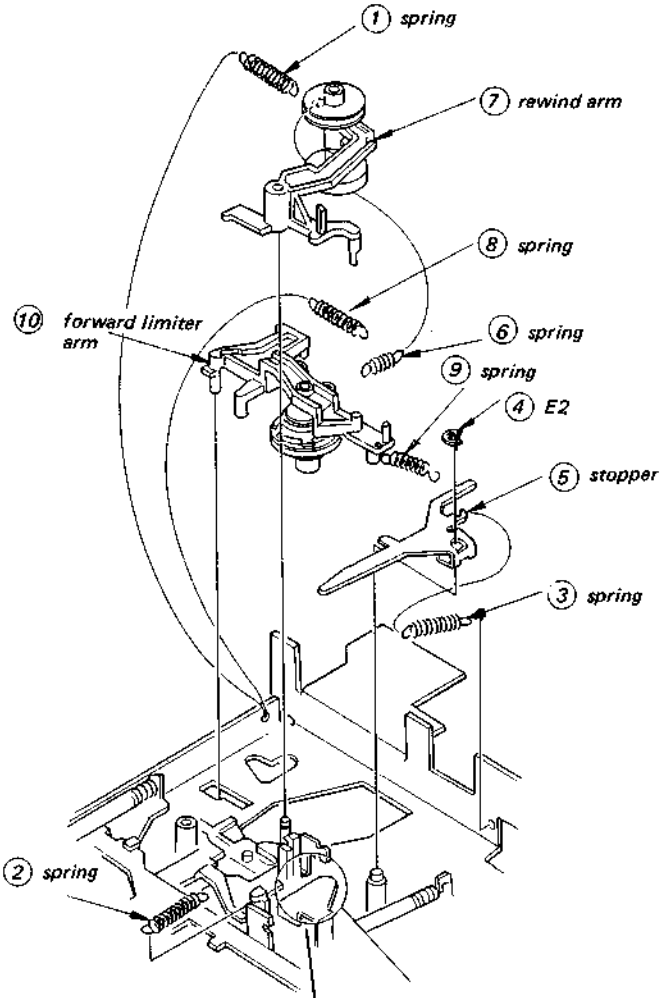
2-5. REEL SPINDLES REMOVAL



2-6. DRIVE BELT AND FLYWHEEL REMOVAL

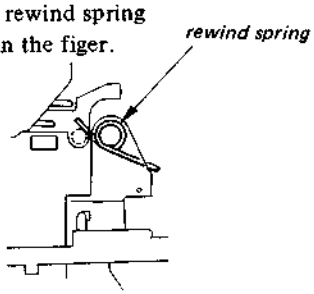


2-7. REWIND ARM AND FORWARD LIMITER ARM REMOVAL

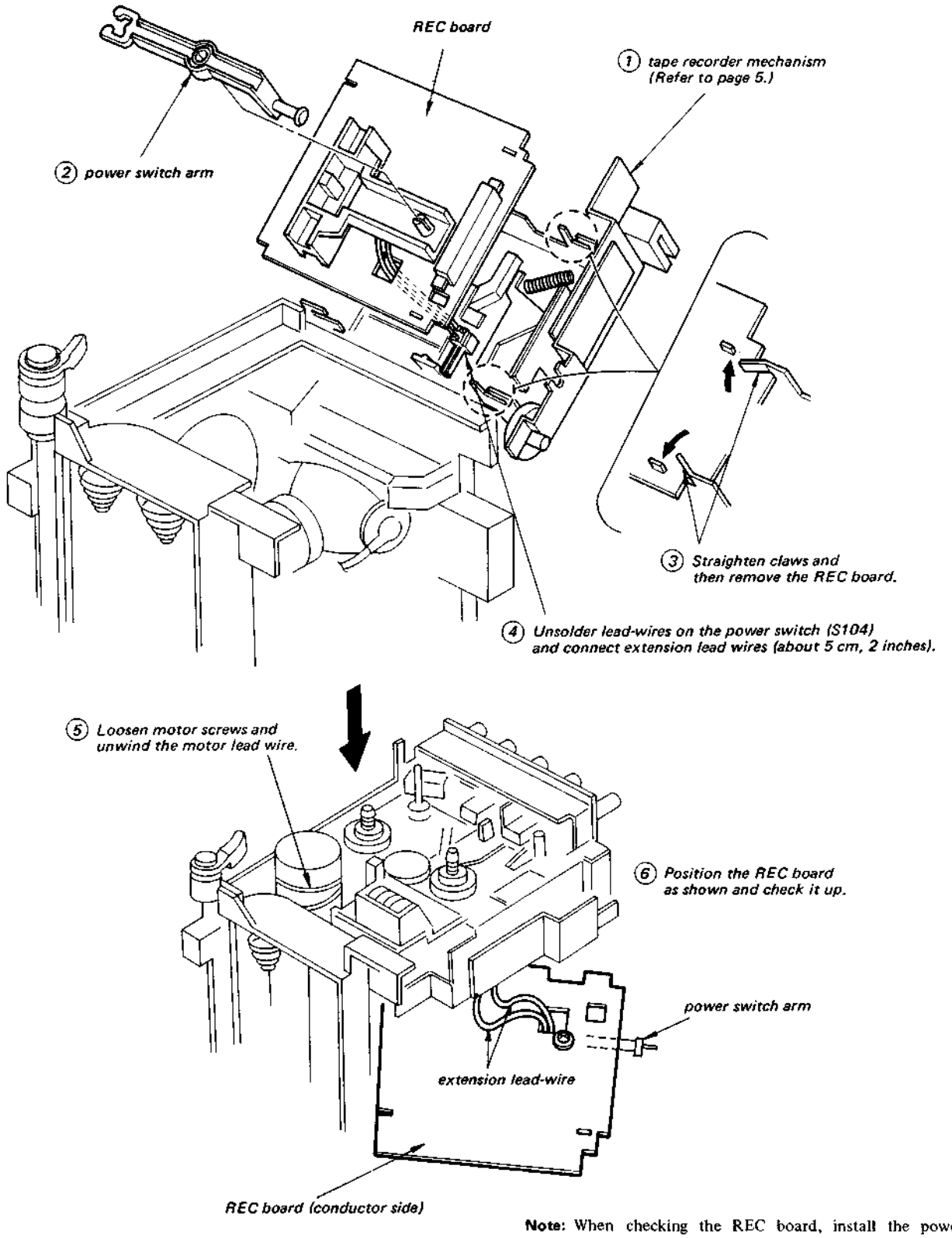


CAUTION

Install the rewind spring as shown in the figer.



2-8. REC BOARD REMOVAL (FOR CHECKING IT UP)

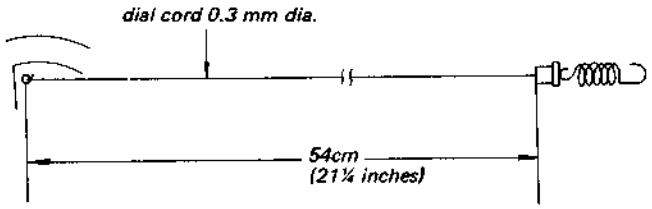


Note: When checking the REC board, install the power switch arm.

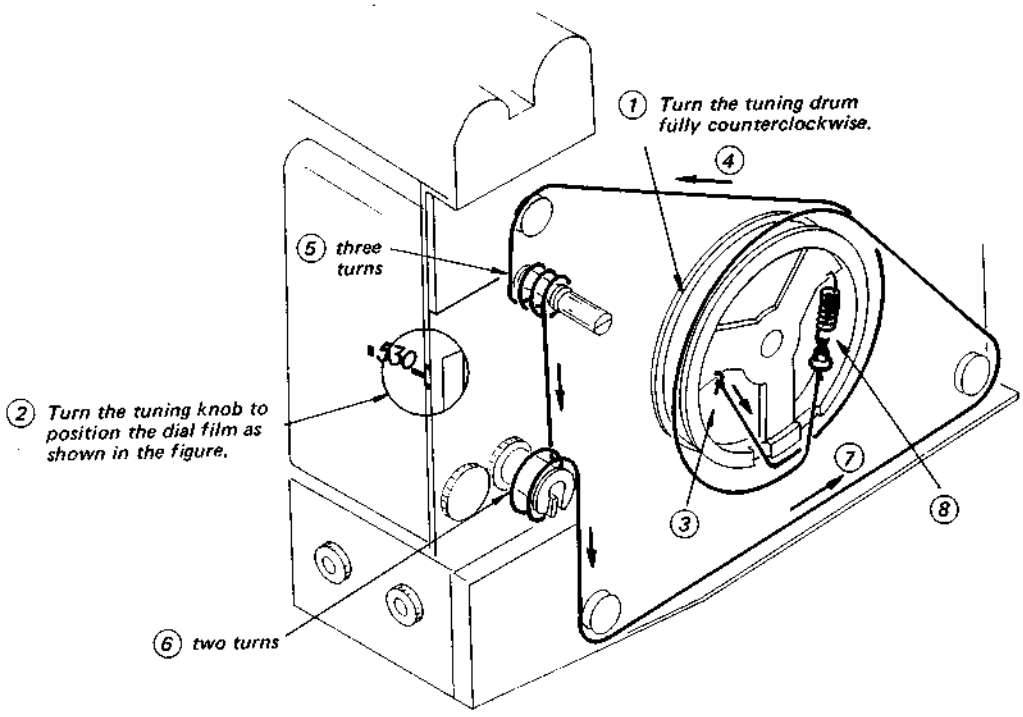
Do not touch the REC board with other parts.

2-9. DIAL CORD STRINGING

- **Preparation**



- **Dial Cord Stringing**



SECTION 3
ADJUSTMENTS

3-1. TAPE RECORDER SECTION

PRECAUTION

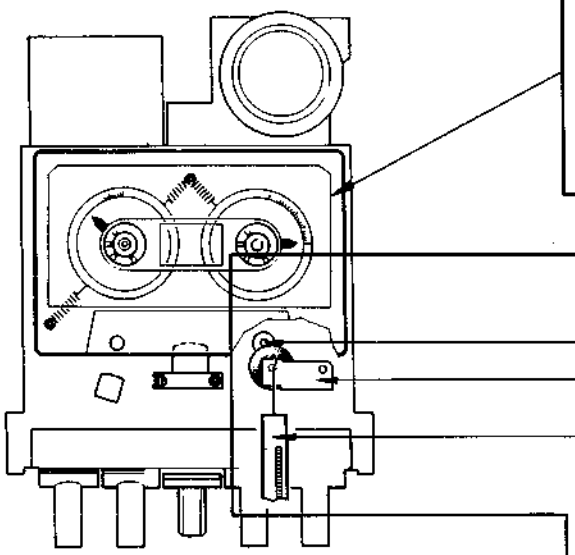
1. Clean the following parts with a denatured-alcohol-moistened swab:
   record/playback head — pinch roller
   erase head — rubber belts
   capstan
2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply a suitable locking compound to the parts adjusted.
5. The adjustments should be performed with 9 V dc supplyed to terminals of battery case.

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

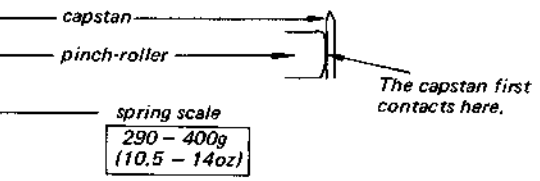
Torque Measurement

Mode	SONY torque meter	Torque
forward	CQ-102A	30 – 55 g·cm (0.42 – 0.76 oz·inch)
fast forward, rewind	CQ-201A	60 g·cm (0.84 oz·inch) or more

MECHANICAL ADJUSTMENTS



Pinch Roller Pressure Adjustment
– playback mode –



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

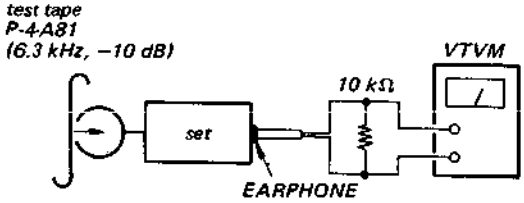
Record/playback Head Azimuth Adjustment

Setting

VOLUME control: mechanical mid

Procedure:

1. Mode: playback



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

Note: Several peaks may appear, take the highest.

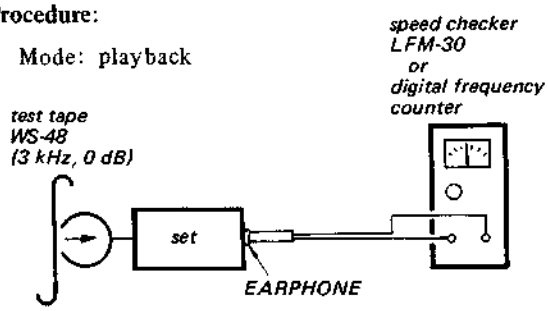
Tape Speed Adjustment

Setting:

VOLUME control mechanical mid

Procedure:

Mode: playback

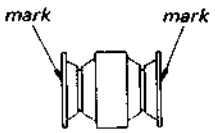


Specification:

Test Tape	Speed Checker	Digital Frequency Counter
WS-48	−3.5% to +2.5%	2,895 to 3,075Hz

Frequency difference between beginning and end of tape should be within 1% (30 Hz). WS-48

If necessary, replace the motor pulley.



Motor Pully Part No	Mark	Tape speed Change
9-911-875-03	F	down ↓
9-911-875-04	G	
9-911-875-04	H	
9-911-875-05	J	
9-911-875-05	K	up

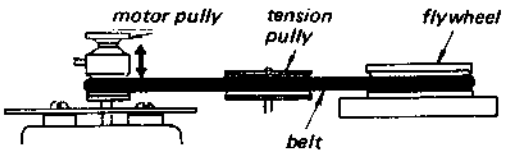
Note: After this adjustment, perform the motor pulley height adjustment.

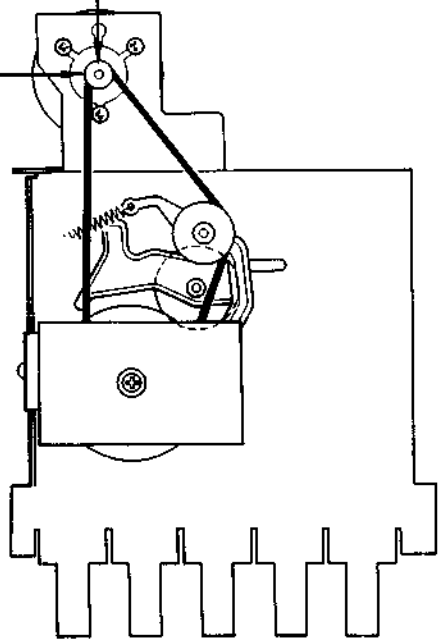
Motor Pulley Height Adjustment

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.

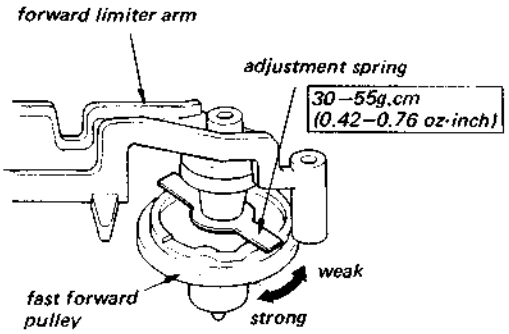


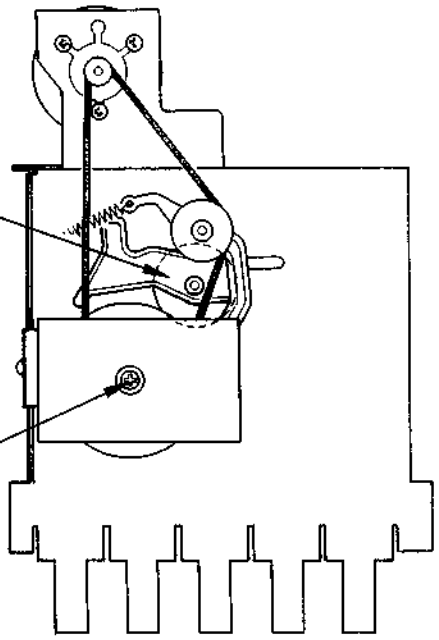


Forward Torque Adjustment

– playback mode –

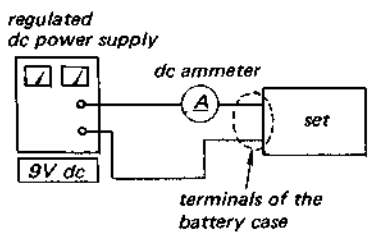
1. Place the type CQ-102A cassette torque meter in the set.
2. Adjust the position of the adjustment spring to obtain the indicated torque.





Flywheel Thrust Play Adjustment

– playback mode –



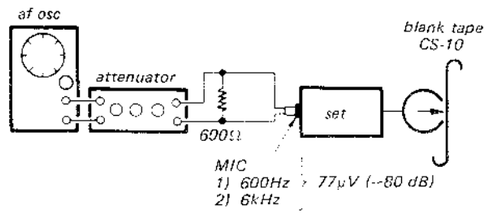
1. Turn the thrust screw counterclockwise until the screw tip is detached from the flywheel shaft.
2. Gradually turn the thrust screw clockwise to the position where the motor current suddenly increases.
3. Then, turn the thrust screw counterclockwise about ¼ turn from the position obtained in step 2.

ELECTRICAL ADJUSTMENTS

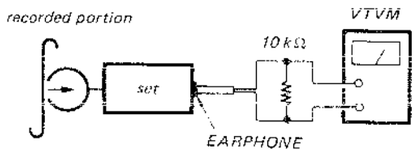
Record Bias Adjustment

Procedure:

1. Mode: record



2. Mode: playback

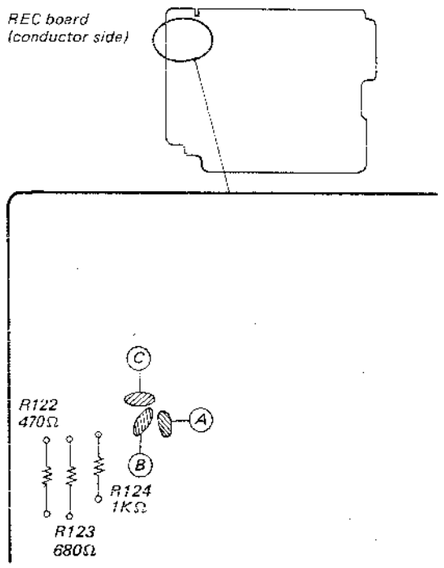


Specification:
Level diference between
600Hz and 6kHz signals: within ±3 dB

3. If necessary, adjust pattern connection.

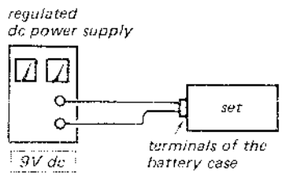
Pattern Connection	6 kHz Level
Ⓐ	down
Ⓑ	↕
Ⓒ	UP

Adjustment Location:

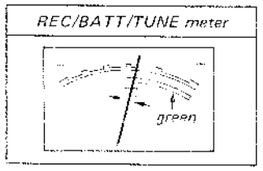


Battery Meter Calibration

Procedure:
Mode: playback

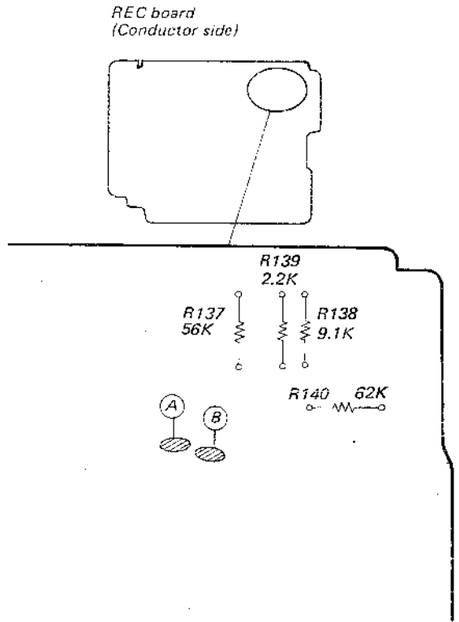


Adjust pattern connection for the specified meter indication.

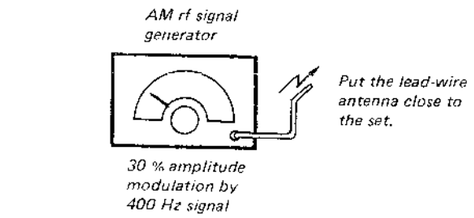


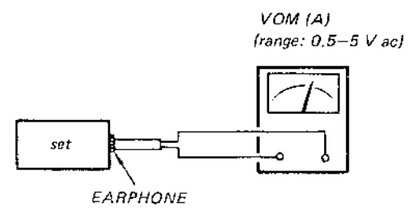
Pattern Connection	Pointer Defrection
Ⓐ	+
Open	↕
Ⓑ	−

Adjustment Location:



3-2. RADIO SECTION



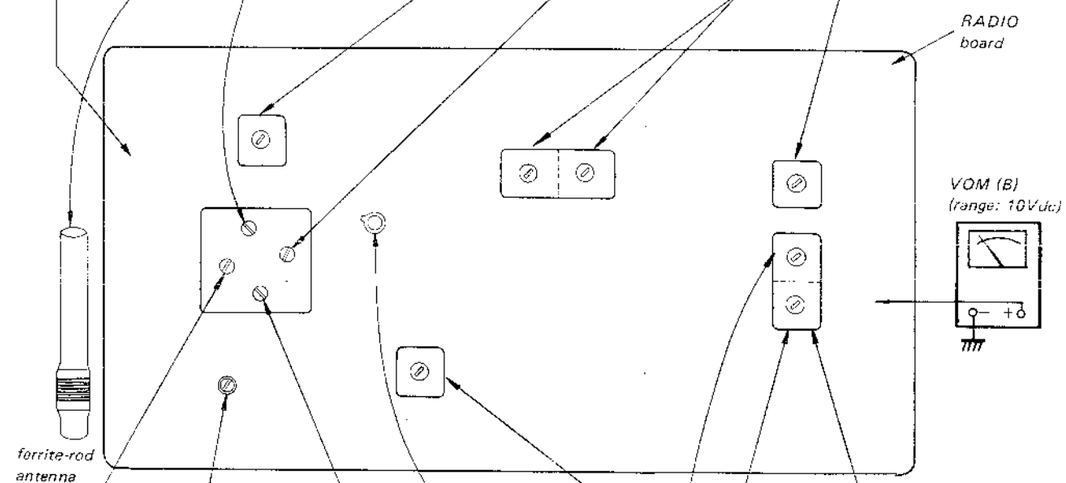


Note: Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VOM (A).	
620kHz	1,400kHz
ANT-2	CT1-3

AM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VOM (A).	
520kHz	1,700kHz
T5	CT1-4

AM IF ALIGNMENT	
Adjust for a maximum reading on VOM (A).	
455kHz	
CFT	T4



CT1-1	L1
108.5MHz	87.1MHz
Adjust for a maximum reading on VOM (A).	
FM TRAKING ADJUSTMENT	

CT1-2	L2
108.5MHz	87.1MHz
Adjust for a maximum reading on VOM (A).	
FM FREQUENCY COVERAGE ADJUSTMENT	

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

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

3-3. TV SECTION

Note: Test Equipment Required

1. VOM
2. Regulated DC Power Supply

Preparations

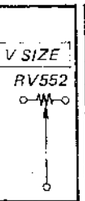
1. Tune in an off-air signal.
2. Set V HOLD and H HOLD controls for correct sync.
3. Set CONTRAST and BRIGHT controls for best picture.

V SIZE

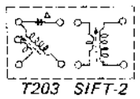
1. *Complete preparations.*
2. *Adjust RV552 for best vertical size.*

V SIZE

RV552



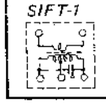
T203 SIFT-2



SIF

Adjust T202 and T203 for maximum-clear sound.

T202
SIFT-1



H SIZE

1. *Complete preparations.*
2. *Select the capacitance of C802 for best picture size.*

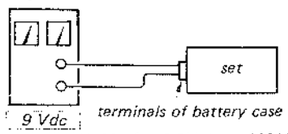
Capacitance	Picture size
0.001μF/100V	narrow
0.0022μF/100V	↕
0.0033μF/100V	
0.0047μF/100V	wide

H SIZE

C802

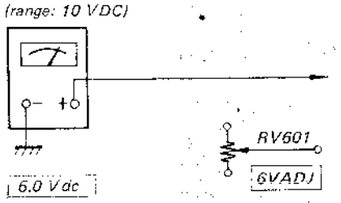
+6V ADJ.

1. *Supply 9Vdc to terminals of battery case. regulated dc power supply*



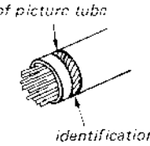
2. *Adjust RV601 for 6.0V dc on VOM.*

VOM
(range: 10 VDC)



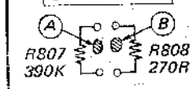
PICTURE TUBE CATHORDE CURRENT (CUT OFF ADJ.)

neck of picture tube



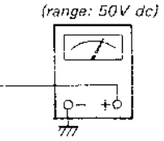
Identification Mark	Soldering Portion
Black	Ⓐ and Ⓑ
Red	Open
No mark	Ⓐ

CUT OFF ADJ

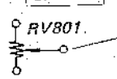


CHANNEL

VOM
(range: 50V dc)



Ch ADJ



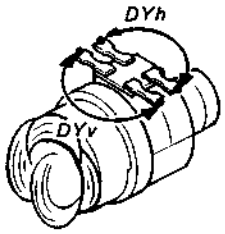
1. *Set TV SELECTOR to VHF High position.*
2. *Turn TV TUNE (RV901) fully counterclockwise.*
3. *Adjust RV601 for 29 ±0.1V dc on VOM.*

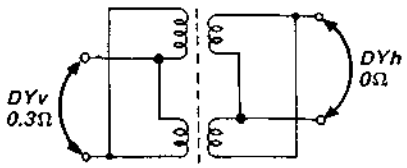
MEMO

SECTION 4
DIAGRAMS

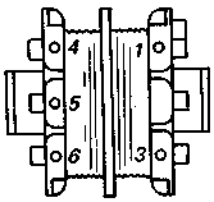
4-1. DC RESISTANCE AND WINDING DIAGRAMS OF COILS AND TRANSFORMERS

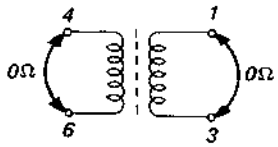
L902 DY



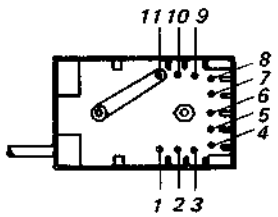


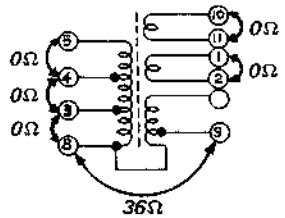
T401 HT



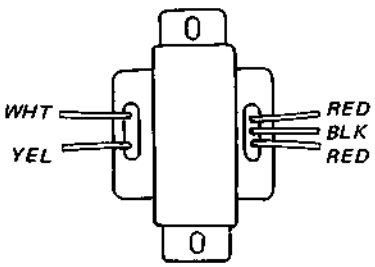


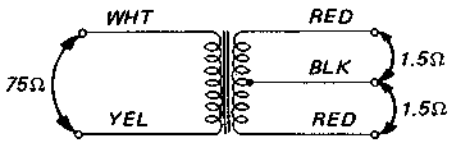
T801 FBT





T901 PT

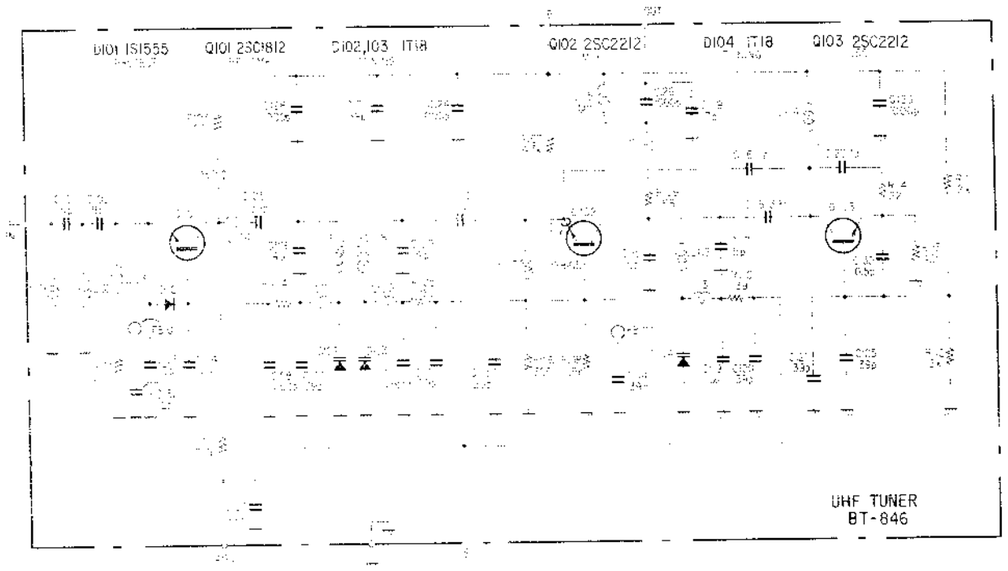




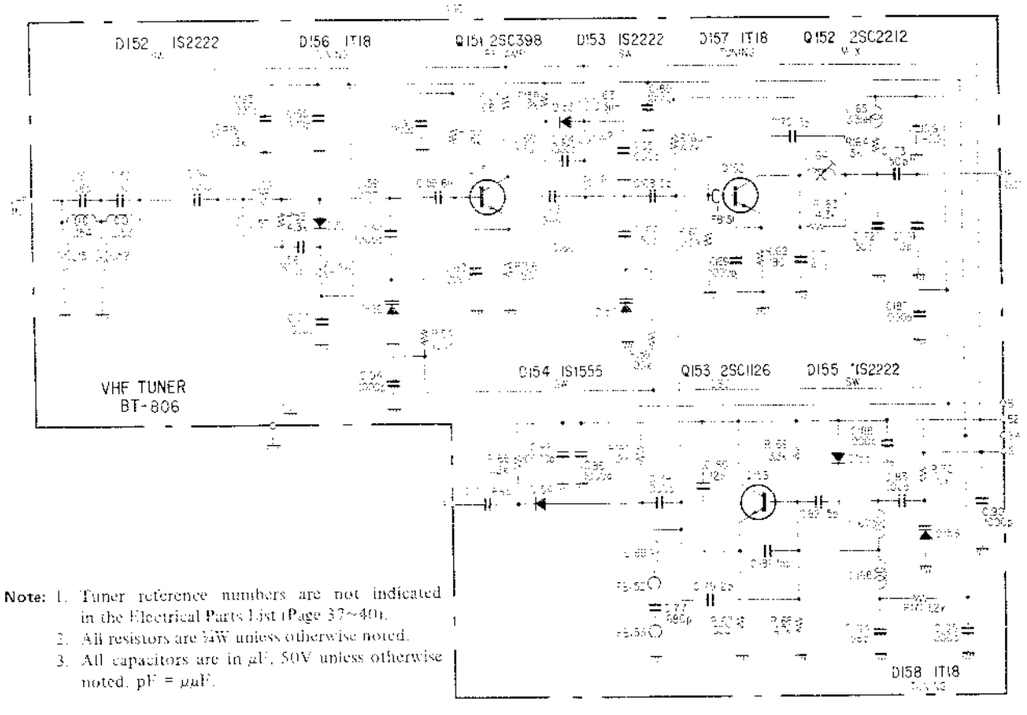
Note:
DC resistance measurements shown with coils and transformers disconnected from circuit.

4-2. VHF AND UHF TUNER SCHEMATIC DIAGRAMS

– UHF Tuner –
(BT-846)



–VHF Tuner –
(BT-806)

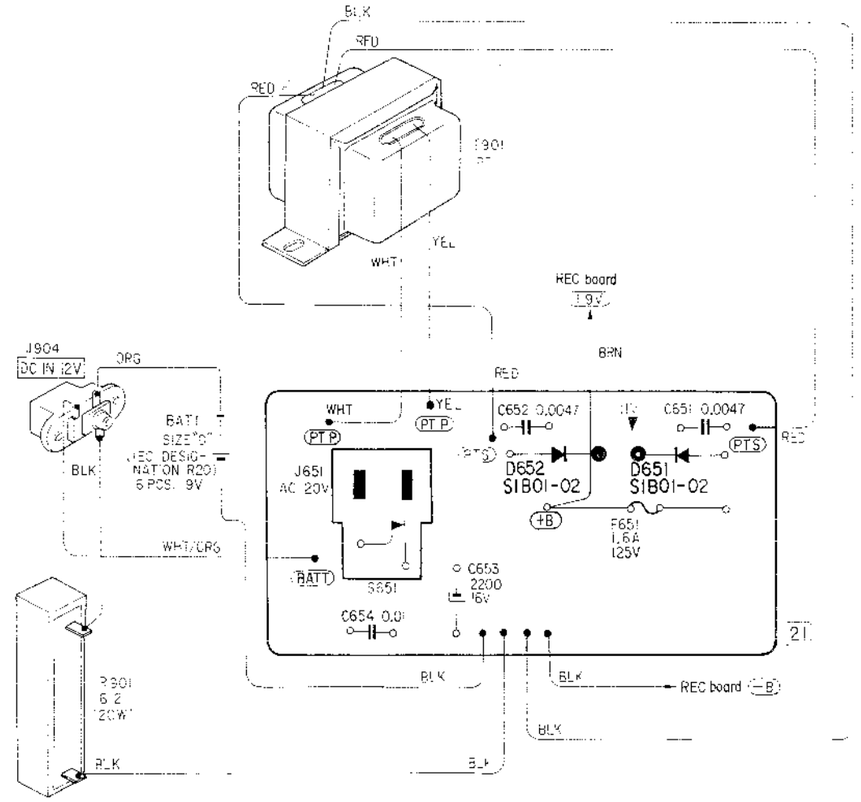


Note: 1. Tuner reference numbers are not indicated in the Electrical Parts List (Page 37~40).
2. All resistors are ¼W unless otherwise noted.
3. All capacitors are in μF, 50V unless otherwise noted. pF = μμF.

4-3. MOUNTING DIAGRAMS

– *Conductor Side* –

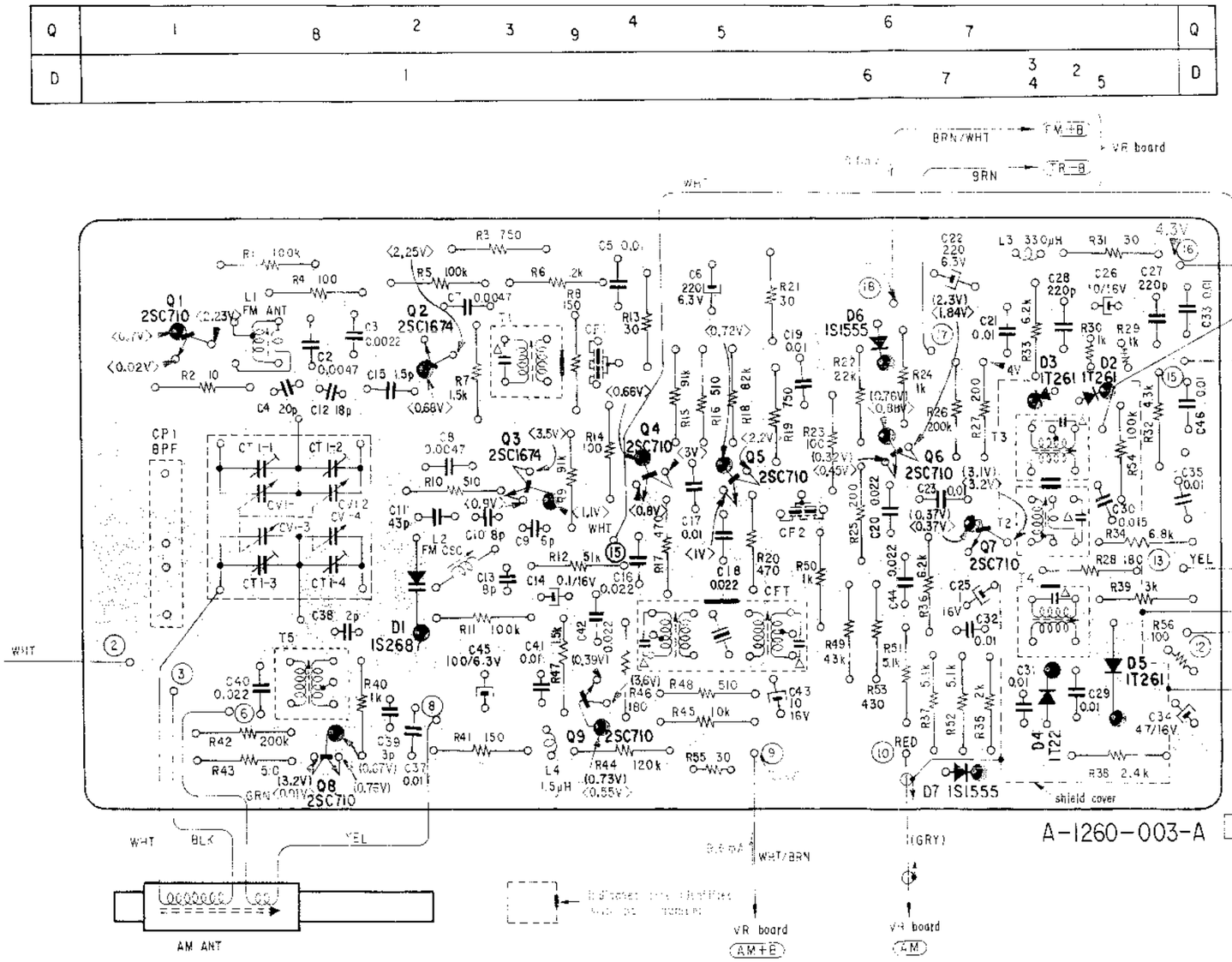
– P Board –



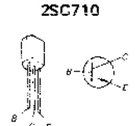
SIB01-02

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

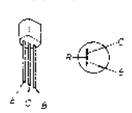
– RADIO Board –



2SC710



2SC1674

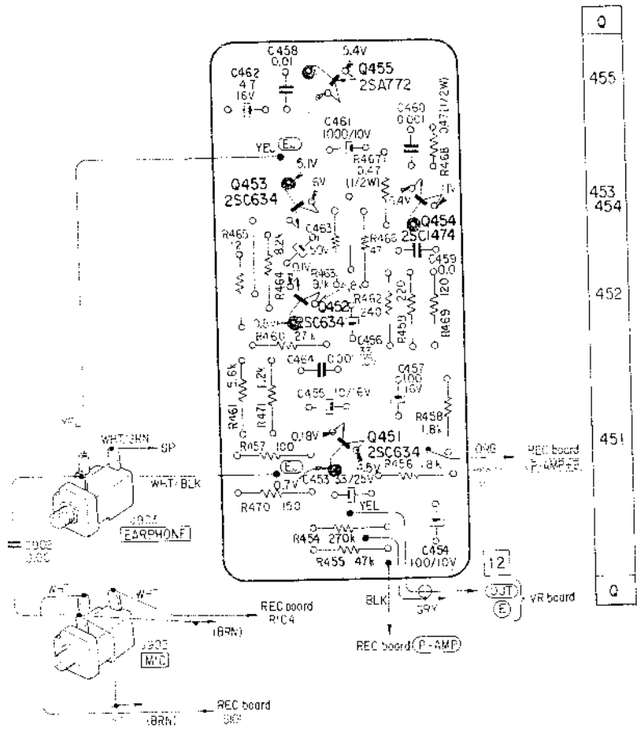


IS1555
IS2687
1T22
1T261

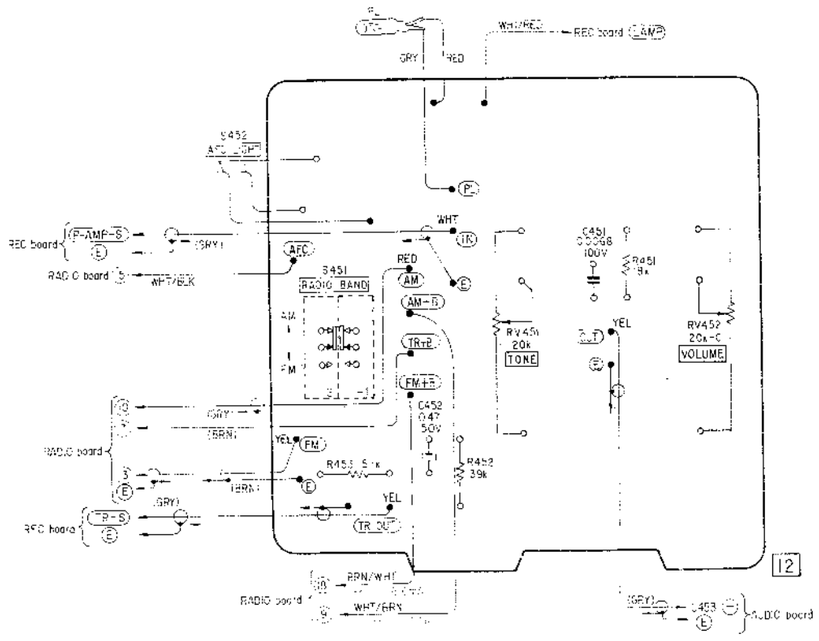
Note: • ○—— : parts extracted from the component side.
• ●—— : parts extracted from the conductor side.
e : Readings are taken under detuned conditions with VOM 20 kΩ/V.
( ) : FM
( ) : AM

AUDIO REC VR

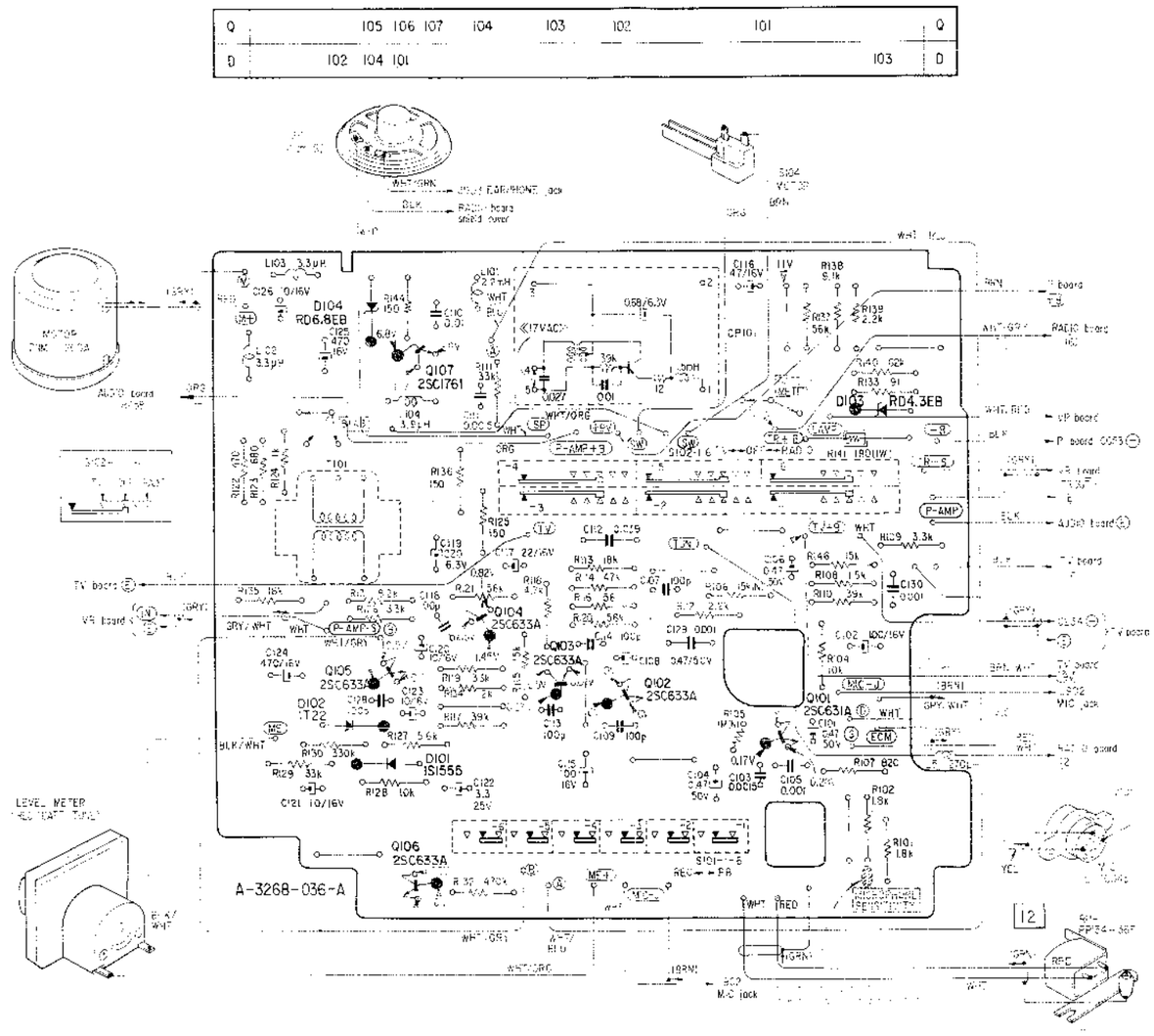
– AUDIO Board –



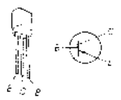
– VR Board –



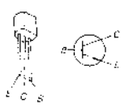
– REC Board –



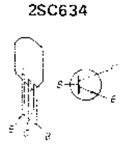
2SA772



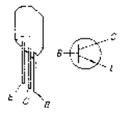
2SC1474



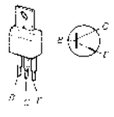
2SC634



2SC631A
2SC633A



2SC1761



1S1555
1T22
RD4.3EB
RD6.8EB

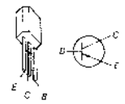
Note: • ○—— : parts extracted from the component side.
• ●—— : parts extracted from the conductor side.
• (N) : low-noise resistor

FX-310UW FX-310UW

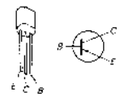
ANT TV TV

– TV and ANT Boards –

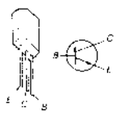
2SA678



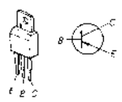
2SA772



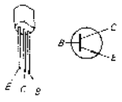
2SC633
2SC634



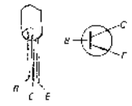
2SA835



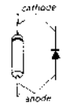
2SC1474
2SC1475



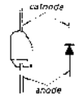
2SC710



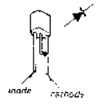
IS1555
IT22
RD4.3EB



HF1A
HF1Z



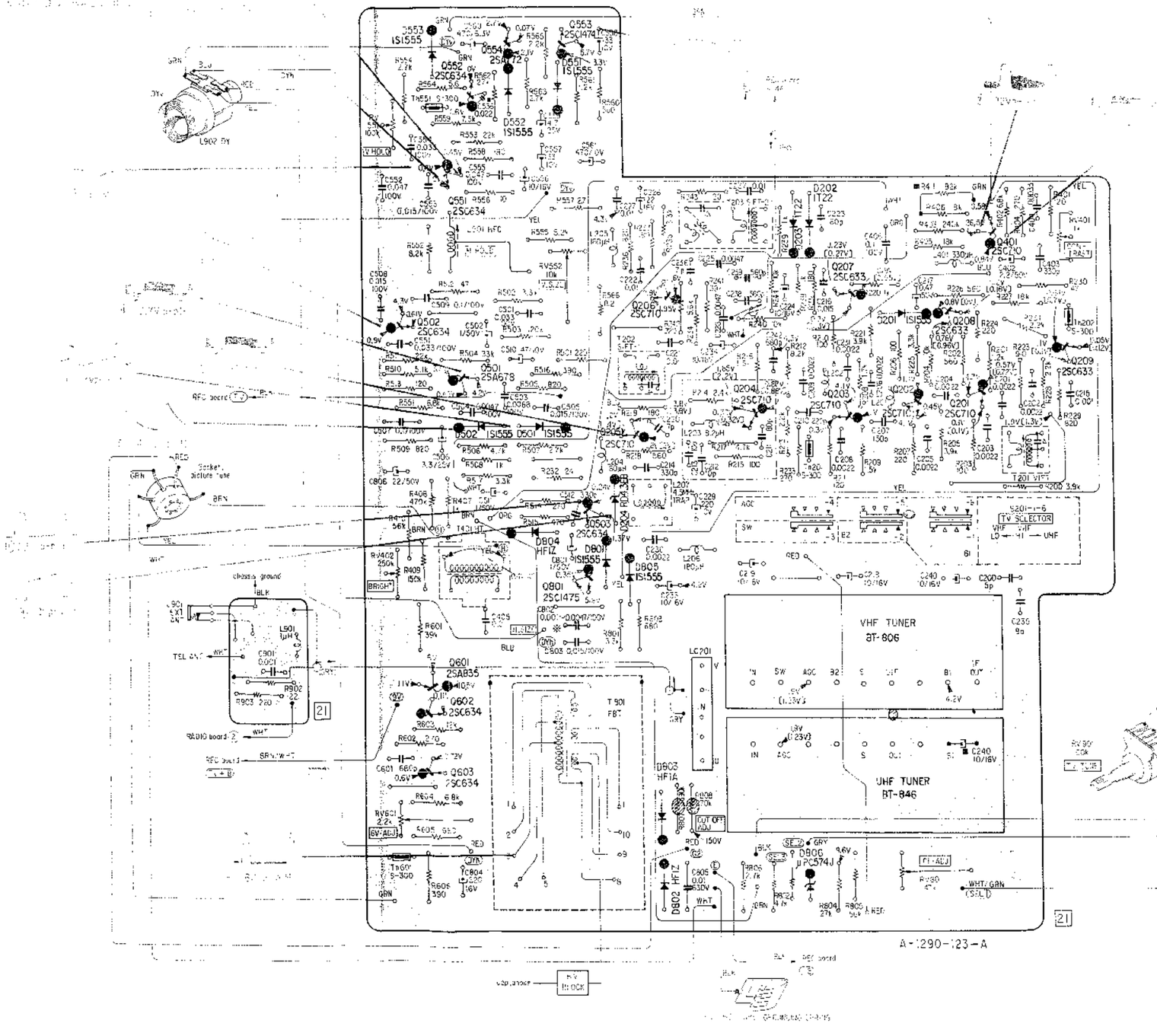
μPC574J



Note:

- ○—— : parts extracted from the component side.
- ●—— : parts extracted from the conductor side.
- ■ : parts mounted on the conductor side.

ADJ	RV601	RV552 C802 T202 R807 R808 T203	RV601	ADJ
Q	502 501 551 552 554 602 603 501	503 553 801 205 206 204	207 203 202 208 401 201 209	0
D	553 502 552 501 551 804	204 803 801 805 802	203 202 806 201	0



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

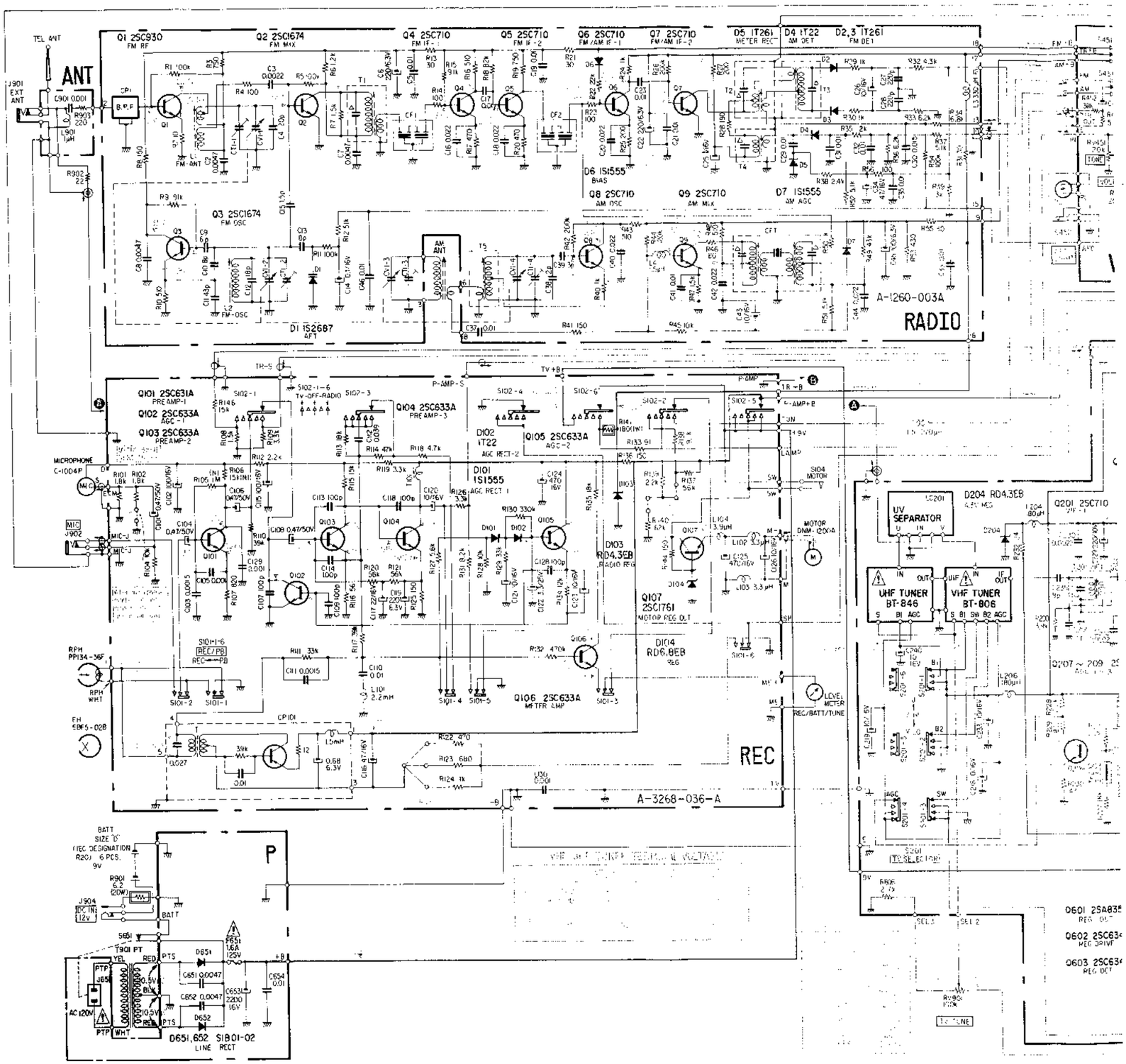
4-4. SCHEMATIC DIAGRAM

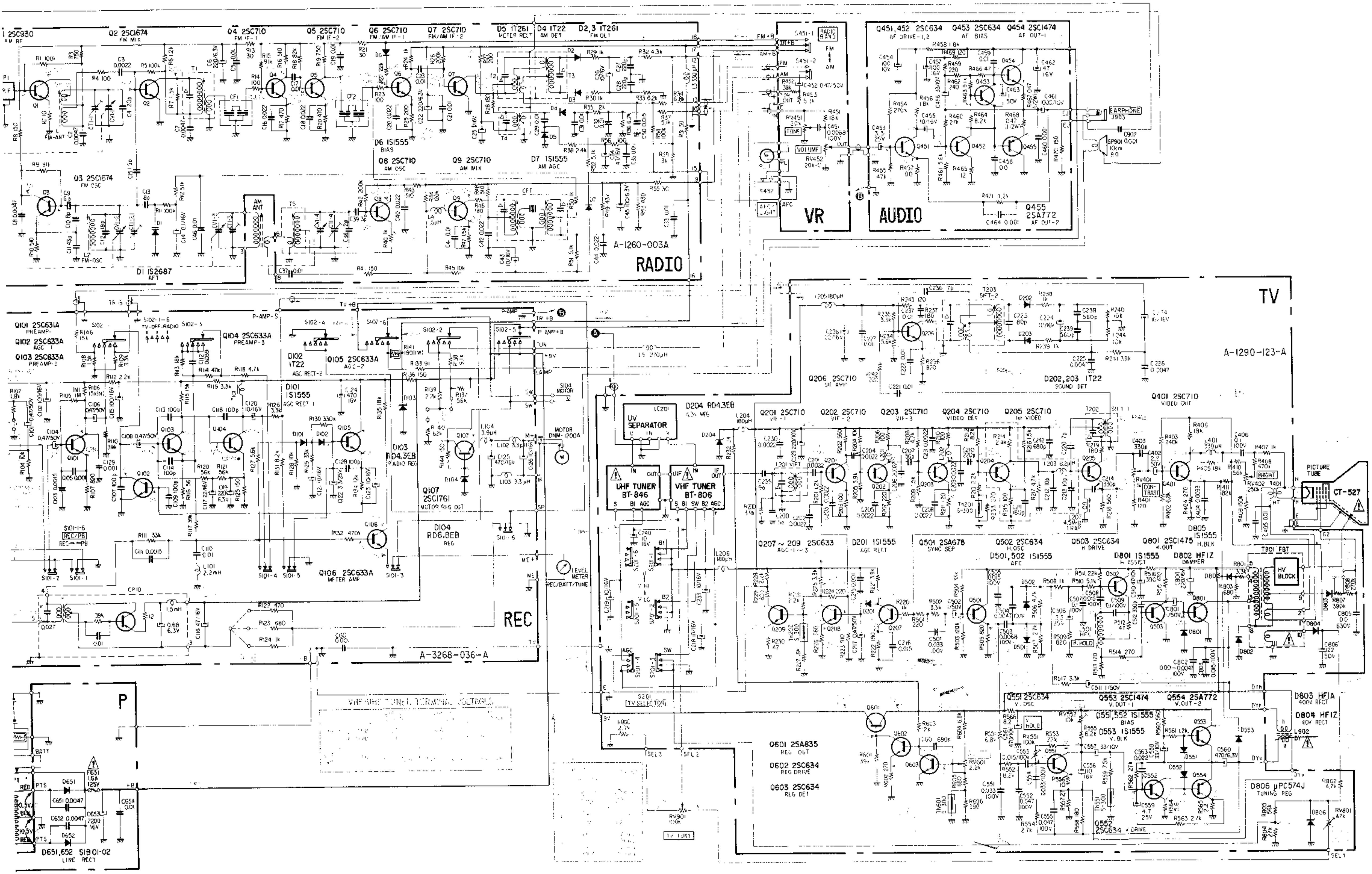
- All capacitors are in μF unless otherwise noted. pF = μμF 50 WV or less are not indicated except for electrolytics.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ = 1000Ω, MΩ = 1000kΩ.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ▭ : nonflammable resistor.
- △ : internal component.
- ▭ : panel designation.
- Switch

Ref. No.	Switch	Position
S101-1-6	REC/PB	PB
S102-1-6	TV/RADIO POWER	OFF
S201-1-6	TV SELECTOR	V-LO
S451-1, 2	RADIO BAND	AM
S452	AFC/LIGHT	ON/OFF
S651	AC/DC	DC

- [illegible]
- [illegible]
- ━━ : B + line
- ▭ : adjustment for best
- Voltage variations may be noted due to normal production tolerances.

- Voltages are dc with respect to ground unless otherwise noted.
- All voltages are measured with the [illegible] power operation.
- Readings are taken with a [illegible]
- Voltages in the TV board are taken under [illegible]
  ( ) : receiving conditions.
- Voltages in the RADIO board are taken under following conditions.
  : FM
  ( ) : AM
- Voltages in the REC board are taken under no signal condition in playback mode.
  < > : record mode.
- Currents are taken under no signal conditions.



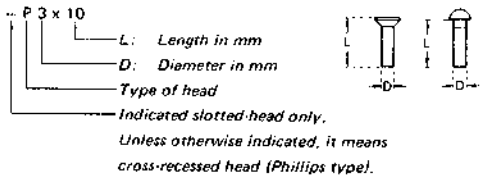

RADIO
A-1260-003A
VR
AUDIO
TV
A-1290-123-A
REC
A-3268-036-A
P
UHF TUNER
BT-846
VHF TUNER
BT-806
UV SEPARATOR
PICTURE TUBE
CT-527
HV BLOCK
EARPHONE
LEVEL METER
REC/BATT/TUNE

1/4 WATT CARBON RESISTORS

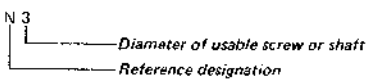
Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.
1.0	1-244-601-11	10	1-244-625-11	100	1-244-649-11	1.0k	1-244-673-11	10 k	1-244-697-11	100k	1-244-721-11	1.0M	1-244-745-11
1.1	1 244-602-11	11	1-244-626-11	110	1-244-650-11	1.1k	1-244-674 11	11 k	1-244-698-11	110k	1-244-722-11	1.1M	1-244-746-11
1.2	1-244-603-11	12	1-244-627-11	120	1-244-651-11	1.2k	1-244-675-11	12 k	1-244-699-11	120k	1-244-723-11	1.2M	1-244 747-11
1.3	1-244-604-11	13	1 244-628-11	130	1-244-652-11	1.3k	1-244-676 11	13 k	1-244-700-11	130k	1-244-724-11	1.3M	1-244-748-11
1.5	1-244-605-11	15	1-244-629-11	150	1-244-653-11	1.5k	1-244-677-11	15 k	1-244-701-11	150k	1-244-725-11	1.5M	1-244-749-11
1.6	1-244-606-11	16	1-244-630-11	160	1-244-654-11	1.6k	1-244-678-11	16 k	1 244-702-11	160k	1-244-726-11	1.6M	1-244-750-11
1.8	1-244-607-11	18	1-244-631-11	180	1-244-655-11	1.8k	1-244-679-11	18 k	1-244-703-11	180k	1-244-737-11	1.8M	1-244-751-11
2.0	1-244-608-11	20	1-244-632-11	200	1-244-656-11	2.0k	1-244-680-11	20 k	1-244-704-11	200k	1-244-728-11	2.0M	1-244-752-11
2.2	1 244-609-11	22	1-244-633-11	220	1-244-657-11	2.2k	1-244-681-11	22 k	1-244-705-11	220k	1-244-729-11	2.2M	1-244-753-11
2.4	1 244 610-11	24	1-244-634 11	240	1-244-658-11	2.4k	1-244-682-11	24 k	1-244-706-11	240k	1-244-730-11	2.4M	1-244-754-11
2.7	1-244-611-11	27	1-244-635-11	270	1-244-659-11	2.7k	1-244-683-11	27 k	1-244-707-11	270k	1-244-731-11	2.7M	1-244 755-11
3.0	1-244-612-11	30	1-244-636-11	300	1-244-660-11	3.0k	1-244-684-11	30 k	1-244-708-11	300k	1-244-732 11	3.0M	1-244-756-11
3.3	1 244-613-11	33	1-244-637-11	330	1-244-661-11	3.3k	1-244-685-11	33 k	1-244-709-11	330k	1-244-733-11	3.3M	1-244-757-11
3 6	1-244-614-11	36	1-244-638-11	360	1-244-662-11	3.6k	1-244-686-11	36 k	1-244-710-11	360k	1-244 734-11	3.6M	1-244-758-11
3.9	1-244-615-11	39	1-244-639 11	390	1-244-663-11	3.9k	1-244-687-11	39 k	1-244-711 11	390k	1-244-735-11	3.9M	1-244-759-11
4.3	1-244-616-11	43	1-244-640-11	430	1-244-664-11	4.3k	1-244-688-11	43 k	1-244-712-11	430k	1 244 736-11	4.3M	1-244-760-11
4.7	1-244-617-11	47	1-244-641-11	470	1-244-665-11	4.7k	1-244-689-11	47 k	1-244-713-11	470k	1 244 737-11	4.7M	1-244-761-11
5.1	1-244-618 11	51	1-244-642-11	510	1 244-666 11	5.1k	1-244-690-11	51 k	1 244-714-11	510k	1-244-738-11	5.1M	1-244-762-11
5.6	1-244 619-11	56	1-244-643-11	560	1-244-667-11	5.6k	1-244-691-11	56 k	1-244-715-11	560k	1-244-739-11		
6.2	1-244-620-11	62	1-244-644-11	620	1-244-668-11	6.2k	1-244-692 11	62 k	1-244-716-11	620k	1-244-740-11		
6.8	1 244-621-11	68	1-244-645-11	680	1-244-669-11	6.8k	1 244-693-11	68 k	1 244 717-11	680k	1 244 741-11		
7.5	1-244-622-11	75	1-244-646-11	750	1-244-670-11	7.5k	1-244-694-11	75 k	1-244-718-11	750k	1-244-742-11		
8.2	1-244-623-11	82	1-244-647-11	820	1-244-671-11	8.2k	1 244-695-11	82 k	1-244-719-11	820k	1-244-743-11		
9.1	1-244-624-11	91	1 244 648-11	910	1-244-672-11	9.1k	1-244-696-11	91 k	1-244-720 11	910k	1 244 744-11		

HARDWARE NOMENCLATURE

Screw:



Nut, Washer, Retaining ring:

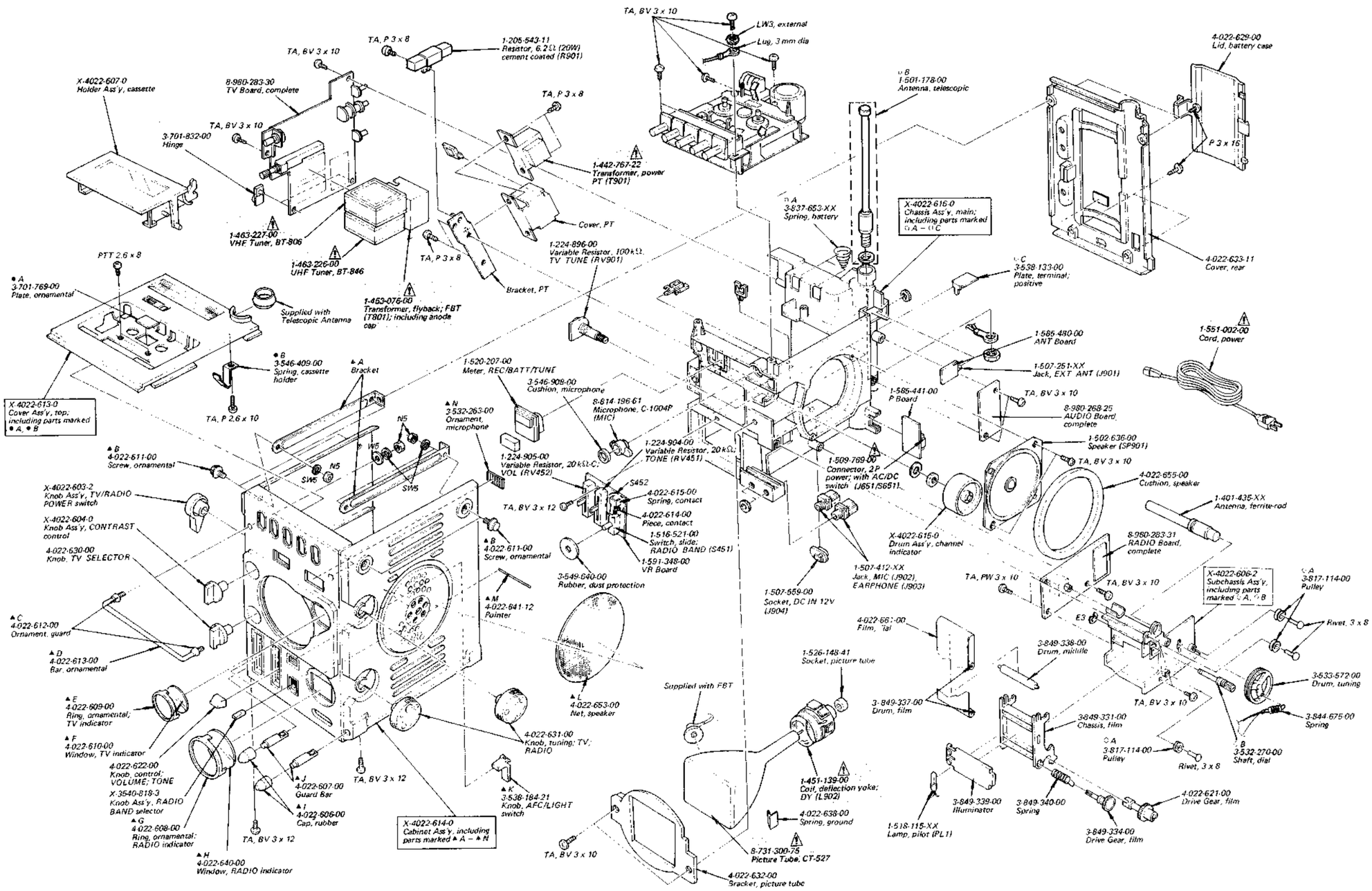


Reference Designation	Shape	Description	Remarks
		SCREWS	
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
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	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		braizer-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)

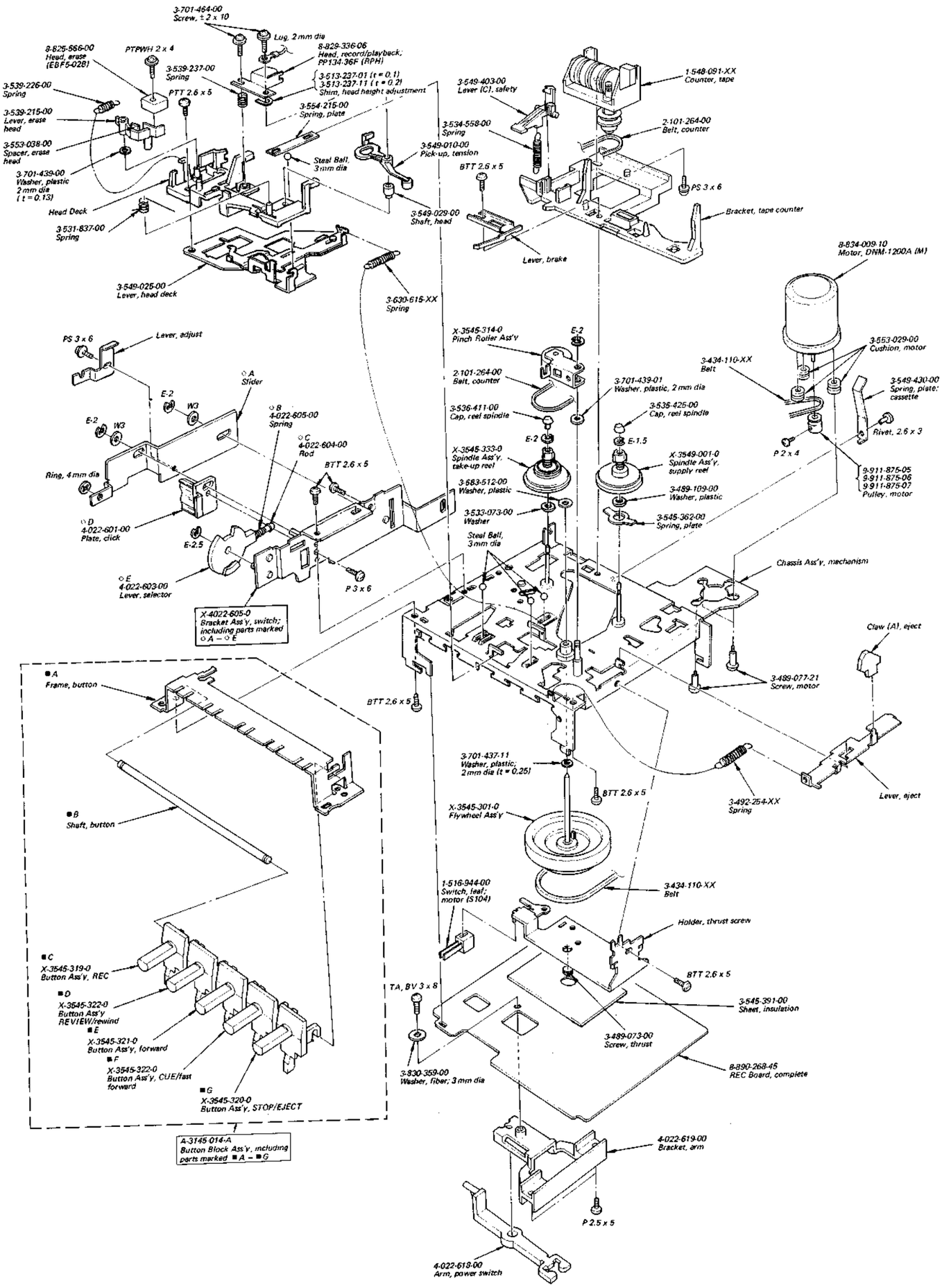


Note: The components identified by shading and ⚠ mark are critical for safety. Replace only with part number specified.

Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- (□□T) shows the number of coils in spring.

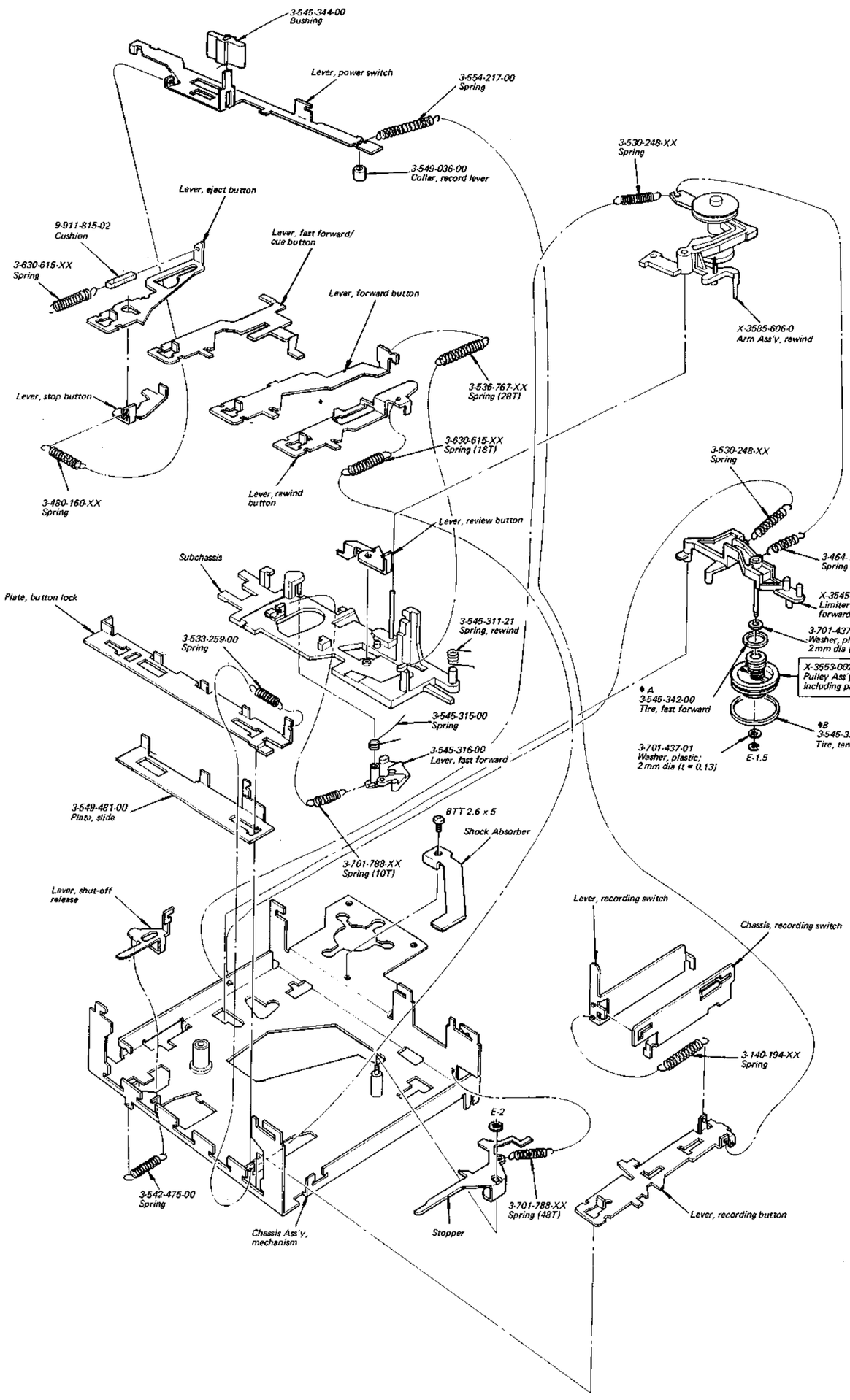
(2)



Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- {□□T} shows the number of coils in spring.

(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.

SECTION 6
ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description
TUNERS AND CIRCUIT BOARDS		
⚠	1-463-226-00	UHF Tuner, BT-846
⚠	1-463-227-00	VHF Tuner, BT-806
	1-585-441-00	P Board
	1-585-480-00	ANT Board
	1-591-348-00	VR Board
	8-980-268-25	AUDIO Board, complete
	8-980-268-45	REC Board, complete
	8-980-283-30	TV Board, complete
	8-980-283-31	RADIO Board, complete
SEMICONDUCTORS		
Transistors		
Q1		2SC930
Q2,3		2SC1674
Q4-9		2SC710
Q101		2SC631A
Q102-106		2SC633A
Q107		2SC1761
Q201-206		2SC710
Q207-209		2SC633A
Q401		2SC710
Q451-453		2SC634
Q454		2SC1474
Q455		2SA772
Q501		2SA678
Q502,503 Q551,552		2SC634
Q553		2SC1474
Q554		2SA772
Q601		2SA835
Q602,603		2SC634A
Q801		2SC1475
Diodes		
D1		1S2687
D2,3		1T261
D4		1T22
D5		1T261
D6,7		1S1555
D101		1S1555
D102		1T22
D103		RD4. 3EB
D104		RD6. 8EB
D201		1S1555
D202,203		1T22
D204		RD4. 3EB
D501,502 D551-553		1S1555
D651,652		SIB01-02
D801		1S1555
D802		HF1Z
D803		HF1A
D804		HF1Z
D805		1S1555
D806		μPC574J
Miscellaneous		
⇒ Th201,202 ⇒ Th551,601	1-800-071-XX	Thermistor, TH-350
COILS		
All coils are microinductors unless otherwise noted.		
L1	1-425-632-00	FM Antenna
L2	1-405-705-00	FM Oscillation
L3	1-407-175-XX	330μH
L4	1-407-180-XX	1.5μH
L5	1-407-174-XX	270μH
L101	1-407-198-XX	2.2mH
L102,103	1-407-184-XX	3.3μH
L104	1-407-688-00	3.9μH
L201	1-425-973-00	VIF
L202	1-425-974-00	VIF
L203	1-407-189-XX	8.2μH
L204-206	1-407-172-XX	180μH
L207	1-407-179-00	4.5MHz Trap
L401	1-407-175-XX	330μH
L501	1-435-053-00	Horizontal Frequency, HFC, H.HOL!
L901	1-407-178-XX	1μH
L902	⚠ 1-451-139-00	Deflection Yoke, DY

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

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

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

Ref. No.	*Part No.*	*Description*
	TRANSFORMERS AND FILTERS	
CF1,2	1-527-184-XX	Ceramic Filter
CFT	1-403-144-00	AM IFT
CP1	1-231-286-00	Bandpass Filter
CP101	1-464-007-00	Bias Oscillation Unit
LC201	1-417-060-00	UV Separator
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 Detect
T5	1-405-655-00	AM Oscillation
T101	1-423-049-XX	Input Transformer
T201	1-404-062-00	VIFT
T202	1-403-360-00	SIFT-1
T203	1-425-940-00	SIFT-2
T401	1-442-757-00	Heater, HT
T801	⚠ 1-453-076-00	Flyback, FBT; including anode cap
T901	⚠ 1-442-767-22	Power, PT
	CAPACITORS	
	All capacitors are in μF and ceramic unless otherwise noted. 50WV or less are not indicated except for electrolytics. pF = μμF, elect = electrolytic	
C2	1-101-922-11	0.0047
C3	1-101-919-11	0.0022
C4	1-102-958-11	20p
C5	1-101-923-11	0.01
C6	1-121-419-11	220 6.3V elect
C7,8	1-101-922-11	0.0047
C9	1-102-505-11	6p
C10	1-102-865-11	8p
C11	1-102-521-11	43p
C12	1-101-972-11	18p
C13	1-103-746-11	8p
C14	1-127-019-11	0.1 16V solid aluminum
C15	1-101-576-11	1.5p
C16	1-101-924-11	0.022
C17	1-101-923-11	0.01
C18	1-101-924-11	0.022
C19	1-101-923-11	0.01
C20	1-101-924-11	0.022
C21	1-101-923-11	0.01
C22	1-121-419-11	220 6.3V elect

Ref. No.	*Part No.*	*Description*
C23	1-101-923-11	0.01
C25	1-127-019-11	0.1 16V solid aluminum
C26	1-121-651-11	10 16V elect
C27,28	1-107-093-11	220p mica
C29	1-101-923-11	0.01
C30	1-108-583-11	0.015 mylar
C31,32	1-108-239-11	0.01 mylar
C33	1-101-923-11	0.01
C34	1-121-409-11	47 16V elect
C35,37	1-101-923-11	0.01
C38	1-102-742-11	2p
C39	1-102-743-11	3p
C40	1-101-924-11	0.022
C41	1-108-239-11	0.01 mylar
C42	1-101-924-11	0.022
C43	1-121-651-11	10 16V elect
C44	1-101-924-11	0.022
C45	1-121-413-11	100 6.3V elect
C46	1-101-923-11	0.01
C101	1-121-726-11	0.47 50V elect
C102	1-121-415-11	100 16V elect
C103	1-108-228-11	0.0015 mylar
C104	1-121-726-11	0.47 50V elect
C105	1-101-918-11	0.001
C106	1-121-726-11	0.47 50V elect
C107	1-102-973-11	100p
C108	1-121-726-11	0.47 50V elect
C109	1-102-973-11	100p
C110	1-108-579-11	0.01 mylar
C111	1-108-228-11	0.0015 mylar
C112	1-108-844-11	0.039 mylar
C113,114	1-102-973-11	100p
C115	1-121-415-11	100 16V elect
C116	1-121-409-11	47 16V elect
C117	1-121-479-11	22 16V elect
C118	1-102-973-11	100p
C119	1-121-419-11	220 6.3V elect
C120,121	1-121-651-11	10 16V elect
C122	1-121-392-11	3.3 25V elect
C123	1-121-651-11	10 16V elect
C124,125	1-121-426-11	470 16V elect
C126	1-121-651-11	10 16V elect
C128	1-102-973-11	100p
C129,130	1-101-918-11	0.001

Ref. No.	Part No.	Description		
C200	1-101-969-11	5p		
C201-206	1-102-121-11	0.0022		
C207	1-101-361-11	150p		
C208,209	1-102-121-11	0.0022		
C210	1-102-978-11	220p		
C211	1-102-976-11	180p		
C212,213	1-102-947-11	10p		
C214	1-102-820-11	330p		
C215	1-101-001-11	0.001		
C216	1-108-628-11	0.015	100V	mylar
C217	1-121-726-11	0.47	50V	elect
C218,219	1-121-651-11	10	16V	elect
C220	1-102-809-11	7p		
C221,222	1-101-004-11	0.01		
C223	1-102-658-11	180p		
C224	1-121-651-11	10	16V	elect
C225	1-101-003-11	0.0047		
C226	1-121-479-11	22	16V	elect
C227	1-101-004-11	0.01		
C228	1-101-003-11	0.0047		
C229	1-121-420-11	220	10V	elect
C230,231	1-102-121-11	0.0022		
C233,234	1-121-651-11	10	16V	elect
C235	1-102-946-11	9p		
C236	1-102-809-11	7p		
C237	1-101-004-11	0.01		
C238,239	1-102-115-11	560p		
C240	1-121-651-11	10	16V	elect
C242	1-102-116-11	680p		
C402	1-121-450-11	2.2	50V	elect
C403	1-102-820-11	330p		
C404	1-102-123-11	0.0033		
C405	1-101-004-11	0.01		
C406	1-108-638-11	0.1	100V	mylar
C451	1-108-835-11	0.0068		mylar
C452	1-121-726-11	0.47	50V	elect
C453	1-121-392-11	3.3	25V	elect
C454	1-121-414-11	100	10V	elect
C455	1-121-651-11	10	16V	elect
C456	1-121-402-11	33	10V	elect
C457	1-121-415-11	100	16V	elect
C458,459	1-101-004-11	0.01		
C460	1-101-001-11	0.001		
C461	1-121-736-11	1000	10V	elect

Ref. No.	Part No.	Description		
C462	1-121-409-11	47	16V	elect
C463	1-121-391-11	1	50V	elect
C464	1-101-001-11	0.001		
C501	1-108-632-11	0.033	100V	mylar
C502	1-121-391-11	1	50V	elect
C503	1-108-624-11	0.0068	100V	mylar
C504	1-108-622-11	0.0047	100V	mylar
C505	1-108-628-11	0.015	100V	mylar
C506	1-121-392-11	3.3	25V	elect
C507	1-108-638-11	0.1	100V	mylar
C508	1-108-628-11	0.015	100V	mylar
C509	1-108-638-11	0.1	100V	mylar
C510	1-121-352-11	47	10V	mylar
C511	1-121-391-11	1	50V	elect
C512	1-102-820-11	330p		
C551	1-108-632-11	0.033	100V	mylar
C552	1-108-634-11	0.047	100V	mylar
C553	1-108-628-11	0.015	100V	mylar
C554	1-108-632-11	0.033	100V	mylar
C555	1-108-634-11	0.047	100V	mylar
C556	1-131-199-11	10	16V	tantalum
C557,558	1-121-402-11	33	10V	elect
C559	1-121-395-11	4.7	25V	elect
C560,561	1-121-425-11	470	10V	elect
C563	1-101-005-11	0.022		
C601	1-101-439-11	680p		
C651,652	1-101-003-11	0.0047		
C653	1-121-660-11	2200	16V	elect
C654	1-101-004-11	0.01		
C801	1-121-391-11	1	50V	elect
*C802	1-108-614-11	0.001	100V	mylar
	1-108-618-11	0.0022		
	1-108-620-11	0.0033		
	1-108-622-11	0.0047		
C803	1-108-628-11	0.015	100V	mylar
C804	1-121-421-11	220	16V	elect
C805	1-129-733-11	0.01	630V	polyethylene
C806	1-121-152-11	22	50V	elect
C901,902	1-102-074-11	0.001		
CT1-1-4 CV1-1-4	1-151-215-XX	Capacitor, tuning		

* : selected to yield optimum performance

Ref. No.	Part No.	Description		
		RESISTORS		
		All resistors are in ohms. Common ¼W carbon resistors are omitted. Refer to the list on page 30 for their part numbers. All variable and adjustable resistors have characteristic curve B, unless otherwise noted. kΩ = 1000Ω, MΩ = 1000kΩ		
R141	1-213-134-11	180	1W	metal oxide (nonflammable)
R467,468	1-207-459-11	0.47	½W	wirewound
R901	1-205-543-11	6.2	20W	cement coated
RV401	1-224-910-00	1k, variable; CONTRAST		
RV402	1-224-899-00	250k, variable; BRIGHT		
RV451	1-224-904-00	20k, variable; TONE		
RV452	1-224-905-00	20k-C, variable; VOLUME		
RV551	1-224-898-00	100k, variable; V. HOLD		
RV552	1-224-645-XX	10k, adjustable; V. SIZE ADJ		
RV601	1-224-643-XX	2.2k, adjustable; 6V ADJ		
RV801	1-224-647-XX	47k, adjustable; ch ADJ		
RV901	1-224-896-00	100k, variable; TV TUNE		
		MISCELLANEOUS		
EH	8-825-566-00	Head, erase; EBF5-02B		
F651	⚠ 1-532-454-XX	Fuse, 1.6A		
J651/ S651	⚠ 1-509-769-00	Connector, 2p power; AC/DC		
J901	1-507-251-XX	Jack, EXT ANT		
J902	1-507-412-XX	Jack, mini; MIC		
J903	1-507-412-XX	Jack, mini; EARPHONE		
J904	1-507-559-00	Socket, DC IN 12V		
ME	1-520-207-00	Meter, REC/BATT/TUNE		
MIC	8-814-196-61	Microphone, C-1004P		
PL1	1-518-115-XX	Lamp, pilot		
RPH	8-829-336-06	Head, record/playback; PP134-36F		

Ref. No.	Part No.	Description
S101	1-516-367-XX	Switch, pushbutton; REC/PB
S1021-1-6	1-516-986-00	Switch, slide; POWER
S104	1-516-944-00	Switch, leaf; motor
S201-1-6	1-552-036-00	Switch, rotaly slide; TV SELECT
S451	1-516-521-00	Switch, slide; RADIO BAND
S651		included in J651
SP901	1-502-636-00	Speaker
	1-401-435-XX	Antenna, ferrite-rod
	1-501-178-00	Antenna, telescopic; included in main chassis ass'y
	1-526-148-41	Socket, picture tube
	1-548-091-XX	Counter, tape
	8-834-009-10	Motor, DNM-1200A
	⚠ 8-731-300-75	Picture Tube, CT-527

PACKING MATERIALS AND ACCESSORIES

Part No.	Description
X-3701-105-0	Head Cleaning Tips Ass'y
1-504-059-00	Earphone (ME-20H)
1-506-309-00	Shorting Plug (SP-100)
1-528-022-21	Battery, size "D" (IEC designation R20)
⚠ 1-551-002-00	Cord, power
3-701-363-00	Label, tack
3-701-625-00	Bag, polyethylene
3-793-828-11	Card, coution
4-022-637-00	TV Hood
4-022-645-00	Sheet, protection
4-022-647-00	Cushion, upper
4-022-648-00	Cushion, lower
4-022-652-00	Shoulder Strap
4-022-660-00	Carton
4-495-674-51	Manual, instruction
8-890-205-00	Cassette Tape (C-30)

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

Sony Corporation

9-962-384-01

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Printed in Japan

TV-FM/AM RECEIVER
CASSETTE-CORDER

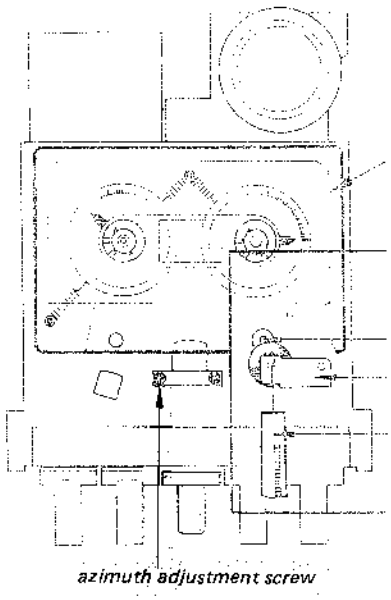
No. 1
May, 1978

CORRECTION

Correct the service manual as shown below

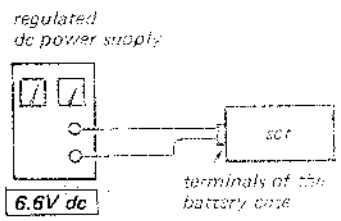
: Corrected portion

Page 10: Record/playback Head Azimuth Adjustment

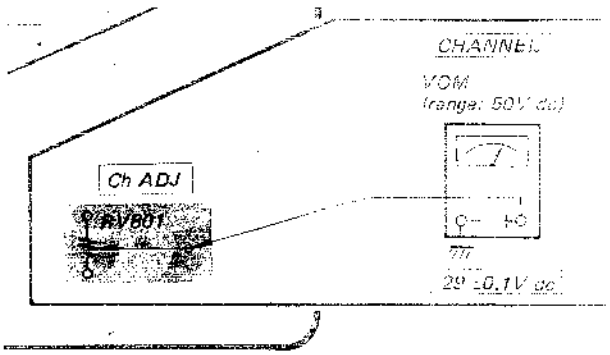


Page 13: Battery Meter Calibration

Procedure:
Mode: playback



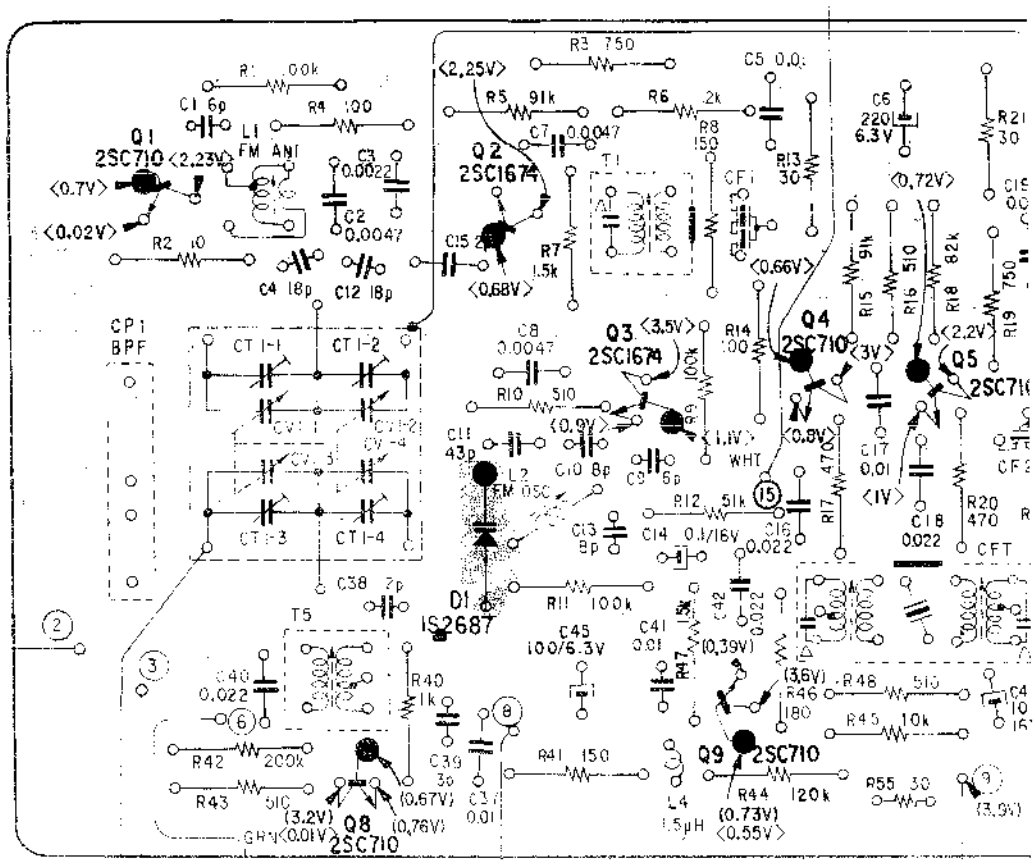
Page 16: CHANNEL Adjustment



SONY
SERVICE MANUAL

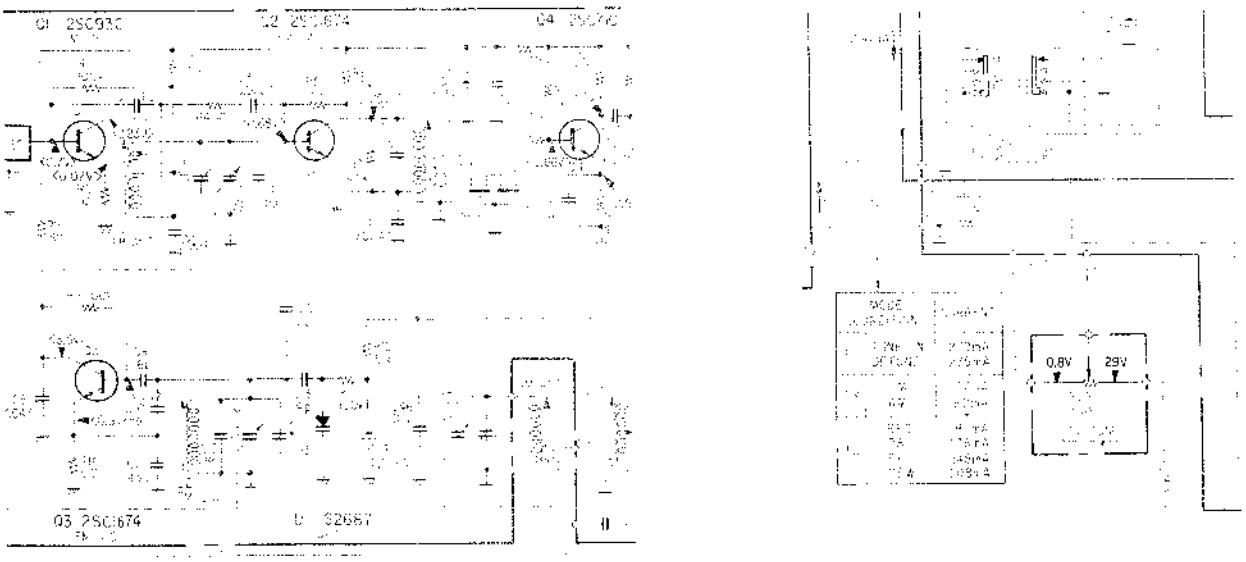
Page 21: MOUNTING DIAGRAM
—RADIO Board—

: Corrected portion



Page 28: SCHEMATIC DIAGRAM

: Corrected portion



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