WA-8000/8200

SERVICE MANUAL

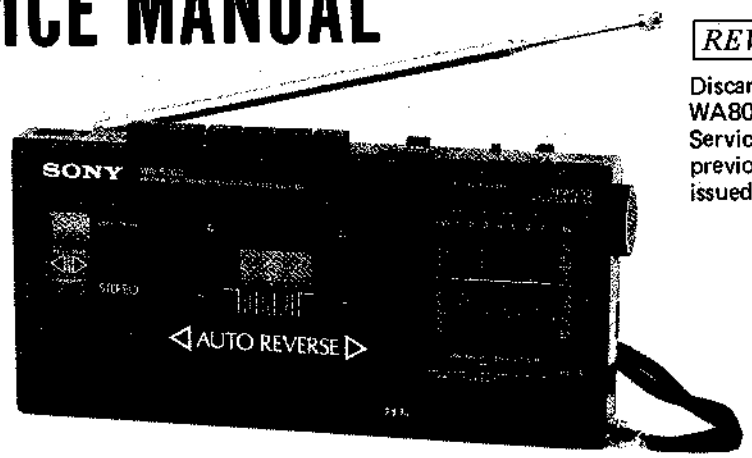


Photo: WA-8000
(UK, E model)

REVISED

Discard your WA8000/8200 Service Manual previously issued.

WA-8000:
UK Model
E Model

WA-8200:
Canadian Model

WA-8000:
AEP Model

Note: Refer to the service manual separately issued for the MDR-E232 Stereo Headphone Sets.

SPECIFICATIONS

Tape Transport Mechanism Type	MF-WA8000-76

General

Power Requirements: 3 V dc, 2 batteries, IEC designation R6 (size AA)
DC IN 3 V jack accepts;
AC-30 ac power adaptor (optional) except for the AEP model
DCC-127A for use on 12 V car battery

Battery Life:

Batteries	Sony SUM-3(NS) New Super	Sony Eveready AM3 alkaline
FM recording	1.5	3
Playback	2.5	5

(hours)

Demensions: Approx. 197(w) x 94(h) x 38(d) mm
7⅞ (w) x 3¾ (h) x 1½ (d) inches
not incl. projecting parts and controls
Approx. 203(w) x 100(h) x 40.5(d) mm
8(w) x 4(h) x 1⅝ (d) inches
incl. projecting parts and controls

Weight: Approx. 560 g, 1 lb 4 oz
incl. batteries

Radio section

Frequency Range: FM
E, UK, Canadian Model: 88 – 108 MHz
AEP Model: 87.6 – 107 MHz
MW 530–1,605 kHz (566–187 m)
SW1 5.95– 6.20 MHz (49 m)
SW2 7.10– 7.30 MHz (41 m)
SW3 9.50– 9.80 MHz (31 m)
SW4 11.70–12.00 MHz (25 m)
SW5 15.10–15.45 MHz (19 m)
SW6 17.70–17.90 MHz (16 m)
SW7 21.45–21.75 MHz (13 m)
} dual conversion

Antennas: FM: Telescopic antenna
Earphone cord antenna
MW: Built-in ferrite bar antenna
SW: Telescopic antenna

Tape recorder section

Recording System: 4-track 2-channel stereo
Fast Winding Time: Approx. 2 min. 30 sec. with Sony cassette C-60
Frequency Response: 50–9,000 Hz
with TYPE I cassette
40–13,000 Hz (playback)
with TYPE I (NORMAL) cassette
40–14,000 Hz (playback)
with TYPE IV (METAL) cassette
Speaker: Approx. 3.6 cm (1 7/16 inches) dia.

Power Output:
(at 10% harmonic distortion)
Speaker: 200 mW
Earphones: 20 mW + 20 mW

Input: External microphone input jack (stereo minijack)
sensitivity 0.2 mV (–72 dB)
for low impedance microphone

Output: Earphones jack (stereo minijack)
for 8–300-ohm impedance headphones or earphones

FM/MW/SW1–7 9BAND STEREO CASSETTE-CORDER

SONY®

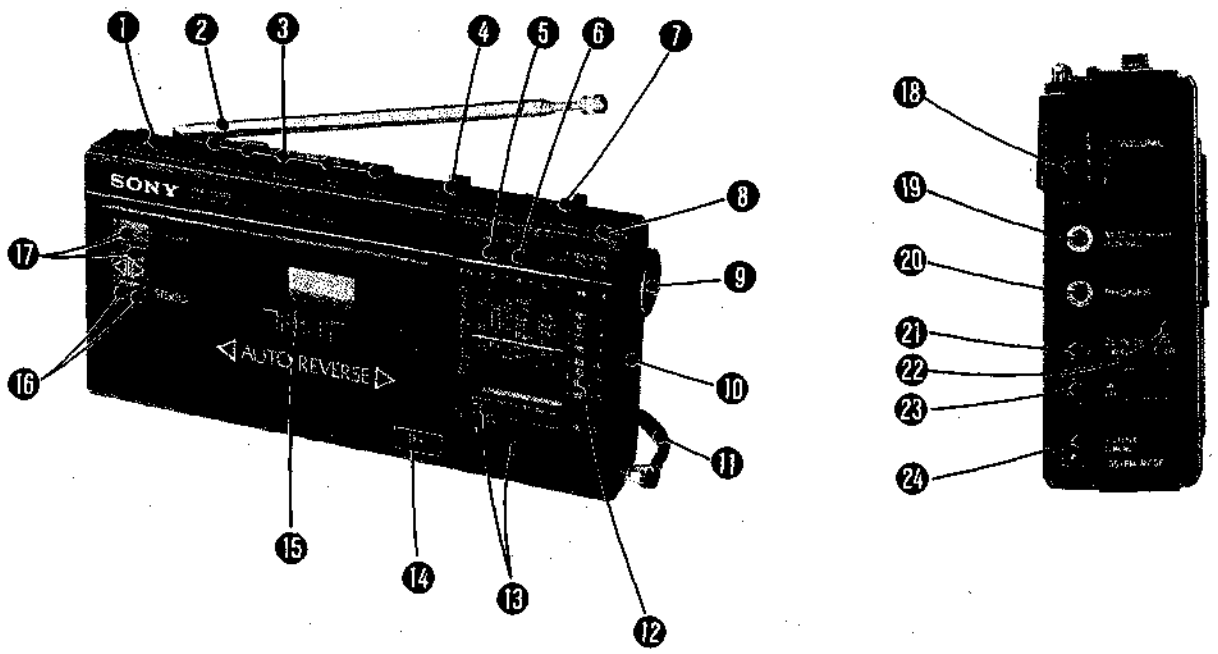
TC

MICROFILM

FEATURES

- The cassette-corder combined with a high-quality 9-band radio.
- SW1 thru SW7 are of dual-conversion design with easy tuning range of 450 kHz, and with high sensitivity and image ratio.
- Stereo recording and playback system gives high fidelity performance.
- Built-in electret condenser microphone, and an external microphone jack for stereo recording.
- Stereo playback through the supplied earphones.
- Auto-reverse function changes the tape playback direction automatically.
- Easy setting built-in digital alarm clock.
- Ultimate recording simplicity—merely insert a cassette and depress a single button.
- An ECM-102 one point stereo microphone (optional) can be powered by the WA-8000.
- SONY-O-MATIC recording system automatically adjusts and maintains a proper recording level.
- Cue and review functions to quickly locate any desired portion of the tape.
- Quick review function facilitates listening to the just recorded program.
- Tape counter for indexing the tape contents.
- Three different power sources: batteries, house current, and 12 V car battery.

LOCATION OF CONTROLS



❶ Function selector
❷ FM/SW telescopic antenna
❸ Tape operation mode select buttons
❹ ◁▷ DIRECTION button
❺ TUNING indicator
❻ FM STEREO indicator
❼ PB EQ/TONE selector
❽ MICROPHONE
❾ TUNING knob
❿ BAND selector
⓫ Hand strap
⓬ Dial scale
⓭ SW band selector and indicator
⓮ Tape counter and reset button
⓯ Cassette holder
⓰ OPR/BATT indicators
⓱ Time display and time adjust buttons
⓲ VOLUME control
⓳ MIC (STEREO) jack
⓴ PHONES (stereo earphones or headphones) jack
㉑ DC IN 3 V (external power input) jack
㉒ Battery compartment
㉓ RADIO/ALARM STANDBY switch
㉔ ISS/FM MODE selector

HOW TO SET THE CLOCK

The current time is displayed by the built-in digital clock either in the 12 hour system or the 24 hour system.
When you install the batteries, the following will appear in the time display.

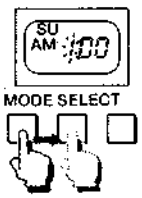
Indicates the day of the week.

This indication may not appear, but this is not a problem.

TO SET THE CURRENT TIME, DATE AND DAY OF THE WEEK

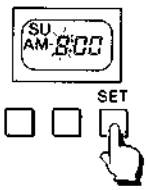
Example: To set to AM 8:15, September 18th, Tuesday
Press the ■▲ button to open the cassette holder.

1 Press the MODE button twice and the SELECT button once.

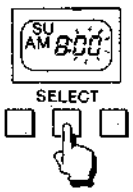


The hour digit will blink.

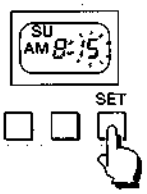
2 Press the SET button to adjust the hour digit to "8".



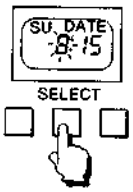
3 Press the SELECT button again and the SET button to adjust the minute digits to "15".



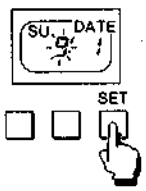
The minute digits will blink.



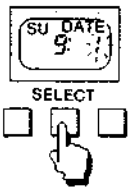
4 Press the SELECT button again and the SET button to adjust the month digit to "9".



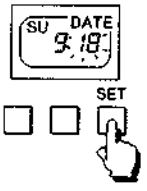
The month digit will blink.



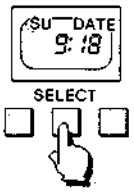
5 Press the SELECT button again and the SET button to adjust the date digit to "18".



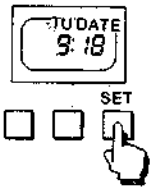
The date digit will blink.



6 Press the SELECT button again and the SET button to adjust the day of the week to "TU".



The digit of the day of the week will blink.



After setting the current time and date, **press the MODE button once to make the current time appear.**

Notes

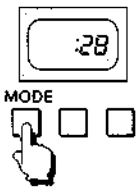
- Digits which are blinking can be adjusted by the SET button.
- Each time the SET button is momentarily pressed, the digit advances by one. When the button is kept depressed, the digit advances rapidly.

ZERO SECOND ADJUSTMENT

If you want to adjust the time exactly to the second with a radio or telephone time signal, proceed as in the following example.

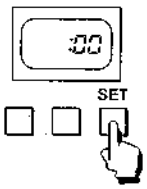
Example: To set to PM 9:00, to the second

1 Press the MODE button twice.



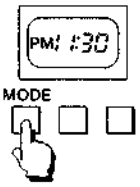
The second digits will blink.

2 As soon as you hear the time signal on the telephone, radio or TV, press the SET button.

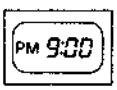


The second digits will revert to 00 then advance second by second.

3 Press the MODE button and the current time will appear.



4 Adjust the current time indication to PM 9:00 as described before.

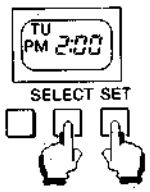


To check the date and second digits you have just set

When the current time is displayed normally, press the SET button.
The date digits will appear while you press the SET button and disappear when you release it. Press the SET button again immediately and the second digits will appear. To make the current time reappear, press the SET button.

To change the time display system

The time display system is preset to the 12-hour system at the factory but can be changed to the 24-hour system by pressing the SELECT and SET buttons at the same time.



While the current time is displayed, press the SELECT and SET buttons at the same time.

The letter PM will disappear and the current time will be displayed in the 24-hour format.

Notes

- When changing the time display system, make sure that the current time is displayed normally. If you do while the digits are blinking, you can not change the time display system.
- To revert to the 12-hour display system, press the SELECT button and SET buttons at the same time again.

HOW TO SET THE ALARM

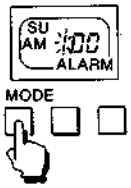
The alarm preset system automatically turns the alarm on at same time each day.

Example: To set the alarm to AM 7:15
The alarm will sound by beeper or beeper and radio, depending on your choice.

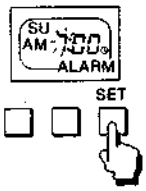
1 Set the function selector to RADIO and tune in the desired station if you want the alarm to be sounded by both beeper and radio simultaneously.

RADIO

2 When the current time is displayed, press the MODE button once and the SET button to adjust the hour digits of the alarm time to "7".

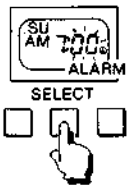


"ALARM" and the blinking hour digits of the alarm time will be displayed.

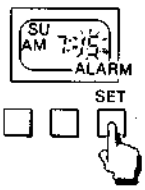


The ⏲ indication will be displayed.

3 Press the SELECT button and the SET button to adjust the miute digits of the alarm time to "15".



The minute digits will blink.



4 Set to RADIO/ALARM STANDBY switch to ON. The radio sound will not be heard and the alarm has been set.

RADIO/ALARM STANDBY

After you have set the alarm or you have checked the alarm time, press the MODE button twice to make the current time display appear.

To check that the alarm has been set

Press the MODE button once. The alarm time will be displayed with the ⏲ indication.

Notes

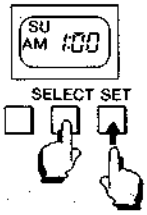
- If you want the alarm to be sounded without the radio, set the function selector to TAPE (RADIO OFF).
- If you want to stop the beeper when the alarm is sounded with both the radio and the beeper, set the RADIO/ALARM STANDBY switch to OFF.
- The VOLUME control does not affect the beeper.

To check the time at which the alarm is set to go off

When the current time is displayed normally, press the SELECT button. The alarm time will appear with the ⏲ indication while you press the SELECT button and disappear when you release it. If the ⏲ indication is not displayed, the alarm will not go off.

To cancel the alarm

When the current time is displayed, while pressing the SELECT button, press the SET button, then release them. The ⏲ indication will disappear and the alarm will be cancelled.



The ⏲ indication will disappear.

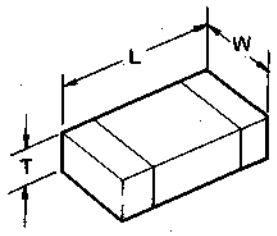
To set the alarm again, do the same thing again. The ⏲ indication will appear to indicate that the alarm has been set again.

Chip components

Chip components include resistors, capacitors, transistors, diodes, coils and adjustable resistors.

In this section, the types of resistors, ceramic capacitors, transistors and diodes which are used most frequently will be described.

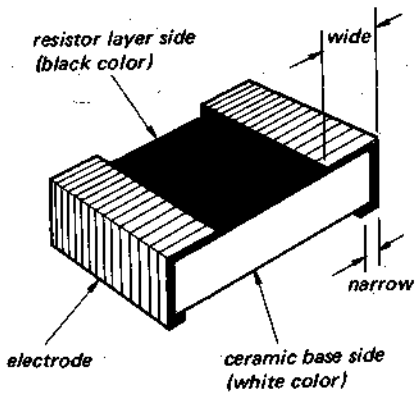
Dimension of transistors and capacitors



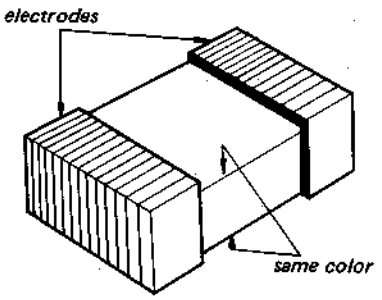
(Unit: mm)

Type	L	W	T
3216	3.2	1.6	0.45 – 0.6
2125	2.0	1.25	0.35 – 0.5

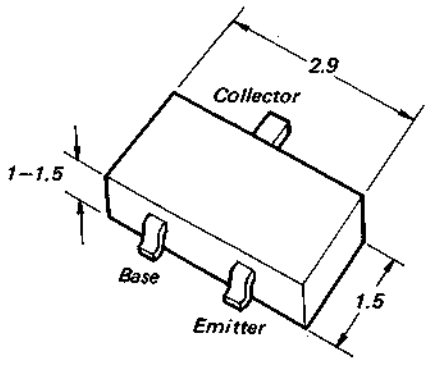
Identification



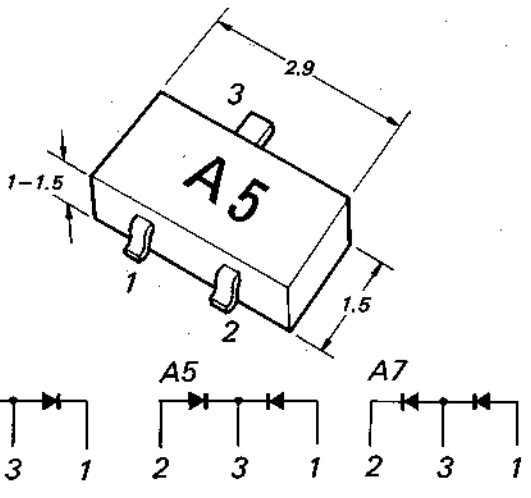
Resistors



Laminated Ceramic Capacitors



Transistors



Diodes

Replacing chip components

All chip components should be connected and disconnected, using a tapered soldering iron [temperature of the iron tip: less than 280°C (536°F)], a pair of tweezers and braided wire.

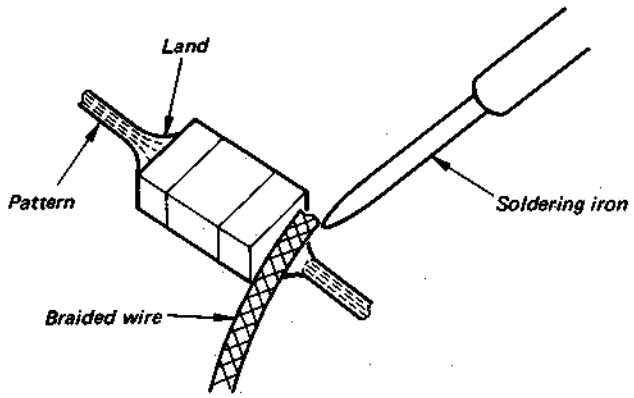
Precautions for replacement

1. **Do not disconnect the chip component forcefully. Otherwise, the pattern may peel off.**
2. **Never re-use a disconnected chip component. Dispose of all old chip components.**
3. **To protect the chip component, heating time for attaching the component should be within 3 seconds.**

○ Removing chip components

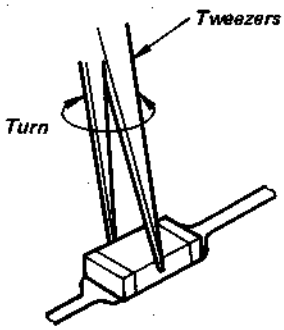
(1) Removing solder at electrode

Remove the solder at the electrode, using a thin braided wire. Do not remove the solder of the part (chip component) attached adjacent to the electrode.



(2) Disconnecting chip components

Turn the tweezers with the soldering iron alternately applied to both electrodes, and the chip component will be disconnected. Take careful precautions while disconnecting, because if the chip component is forcefully removed the land may peel off.
Never re-use a disconnected chip component.



(3) Smoothing the soldered surface

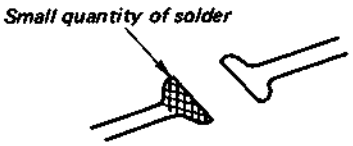
After disconnecting the chip component, remove the solder by using a braided wire to smooth the land surface.

○ Connecting chip components

The value of chip components is not displayed on the main body. Take due precautions to avoid mixing new chip components with other ones.

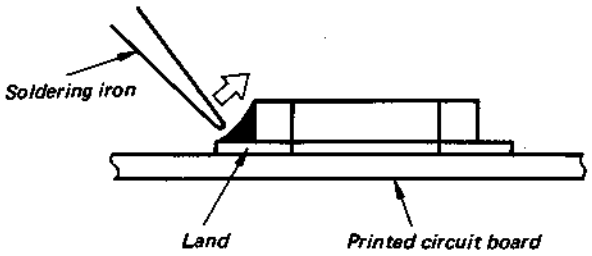
(1) Applying solder to land on one side

Apply a thin layer of solder to the land on one side where the chip component is to be connected. Too much solder may cause bridging.



(2) Speedy soldering

Hold the chip component at the desired position, using tweezers, and apply the soldering iron in the arrow-marked direction. To protect the chip component, heating time should be within 3 seconds.

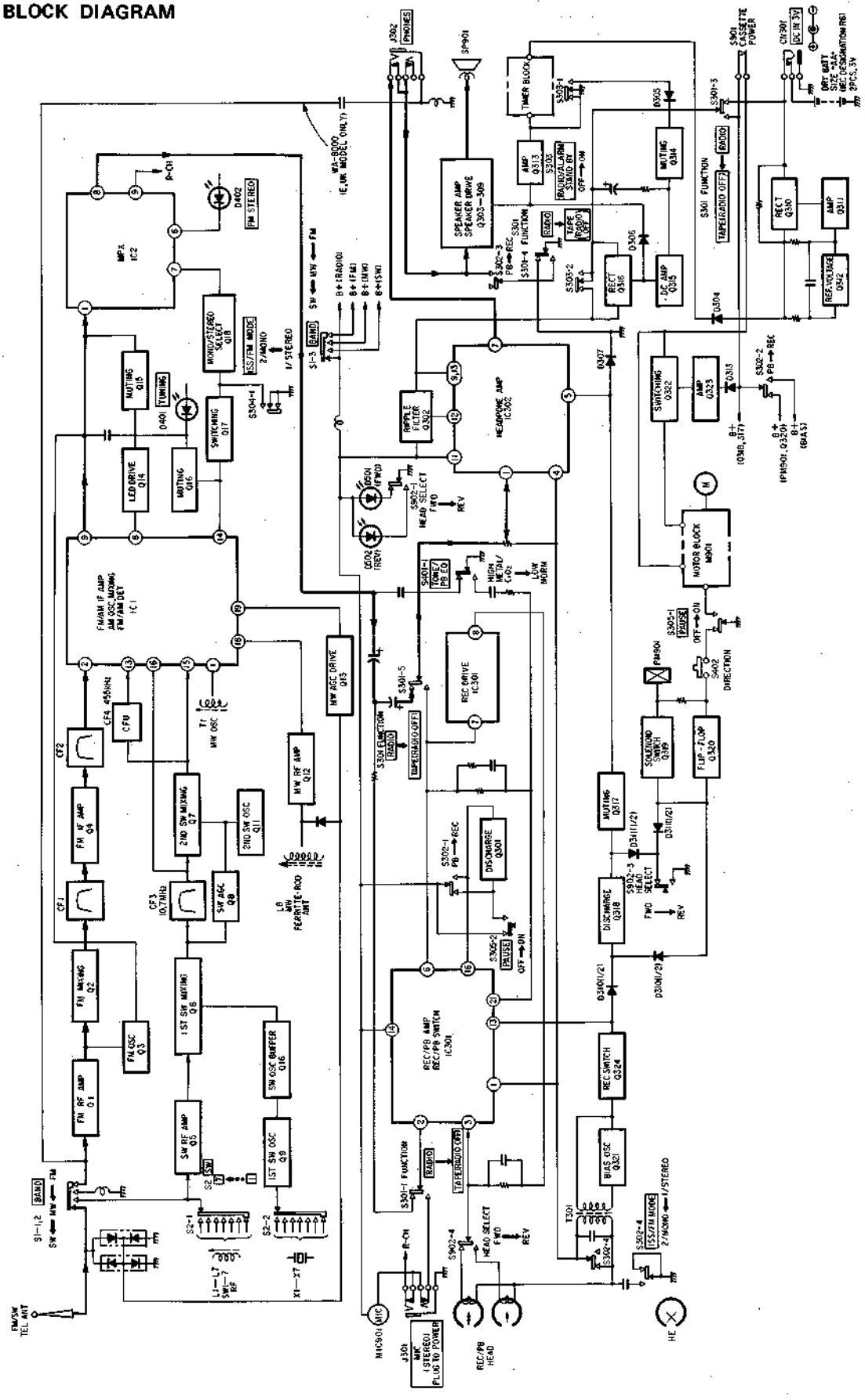


(3) Speedy soldering of electrode on the other side

Solder the electrode on the other side in the same way as in (2) above.

SECTION 1
OUTLINE

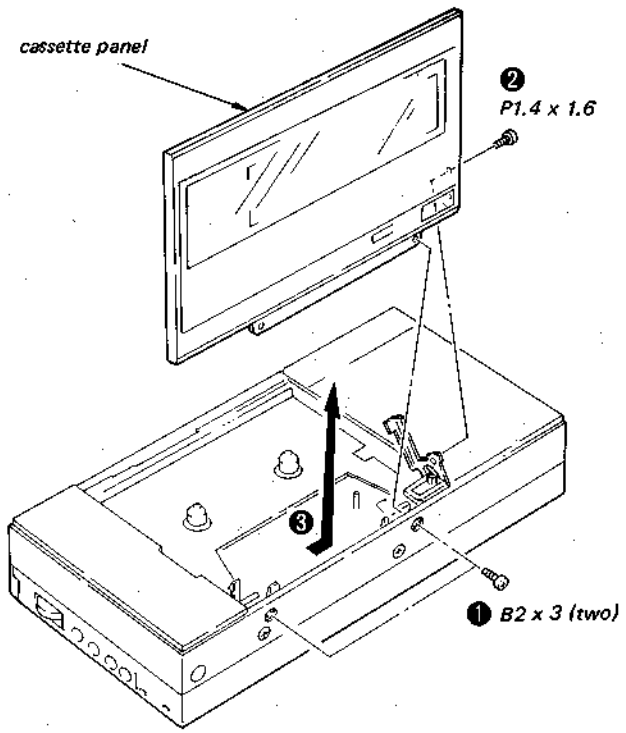
1-1. BLOCK DIAGRAM



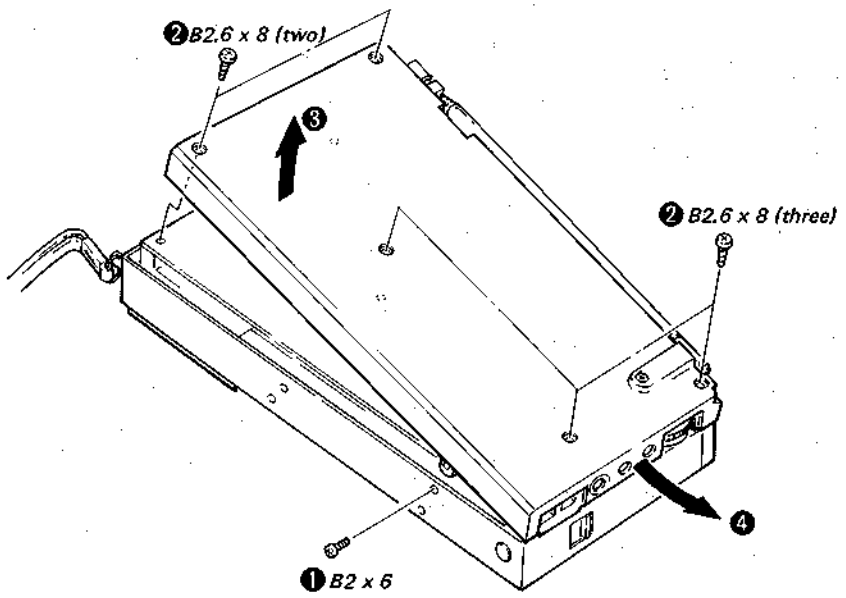
SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

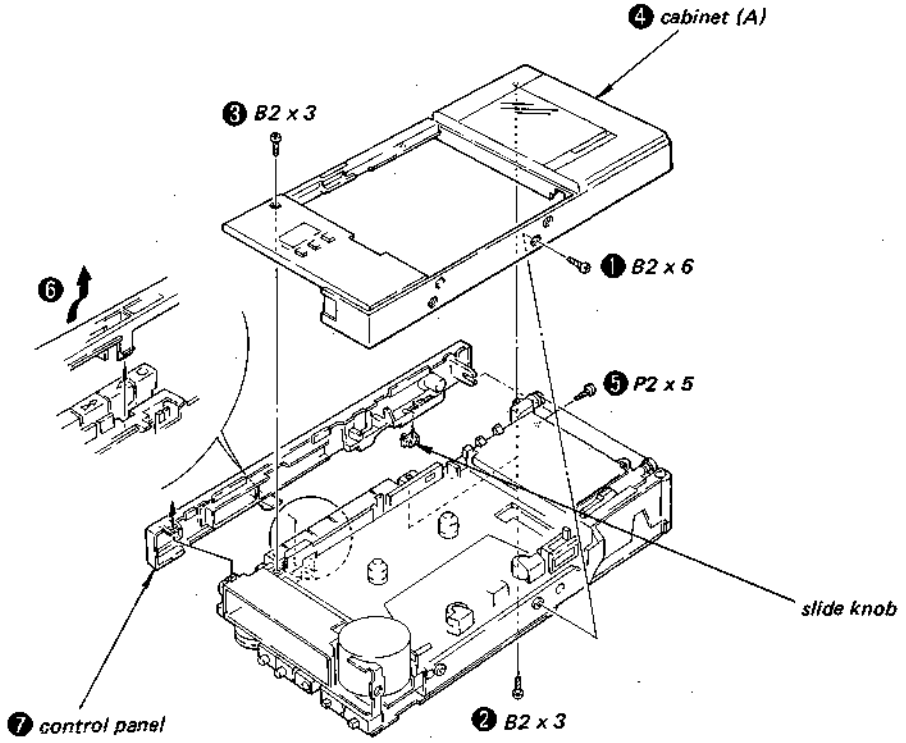
CASSETTE PANEL



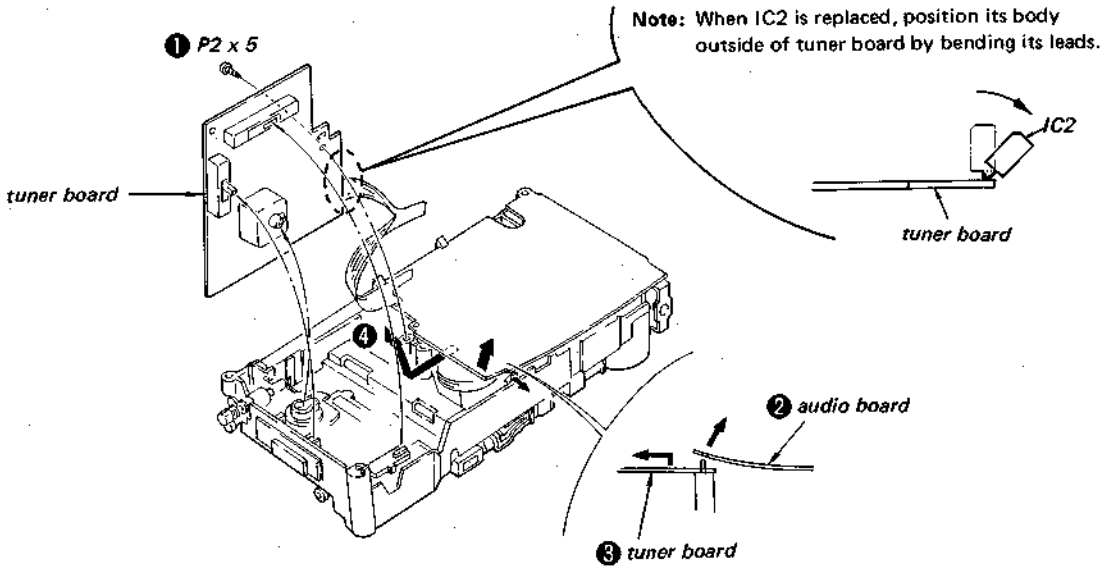
CABINET (B)



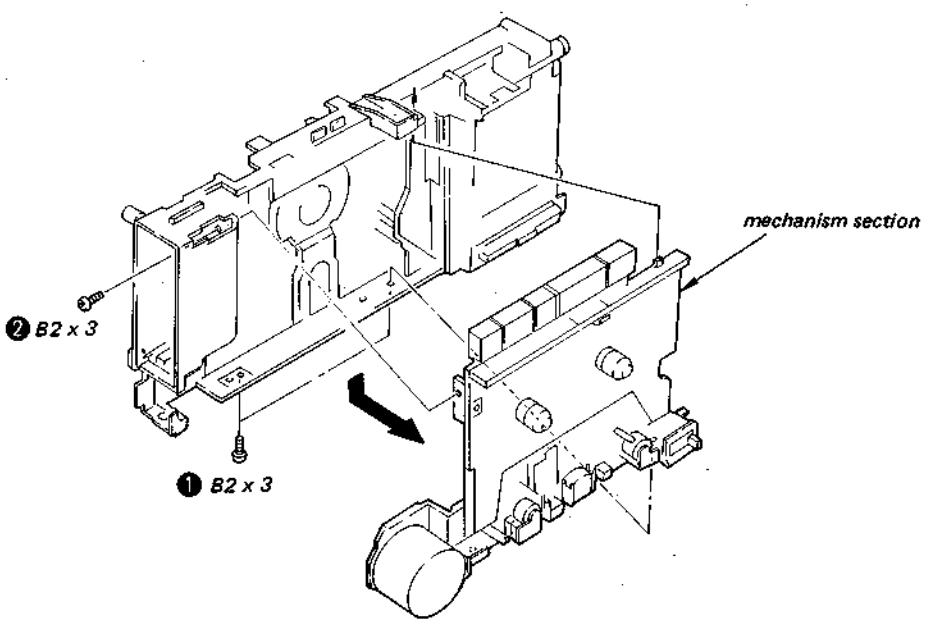
CABINET (A) AND CONTROL PANEL



TUNER BOARD

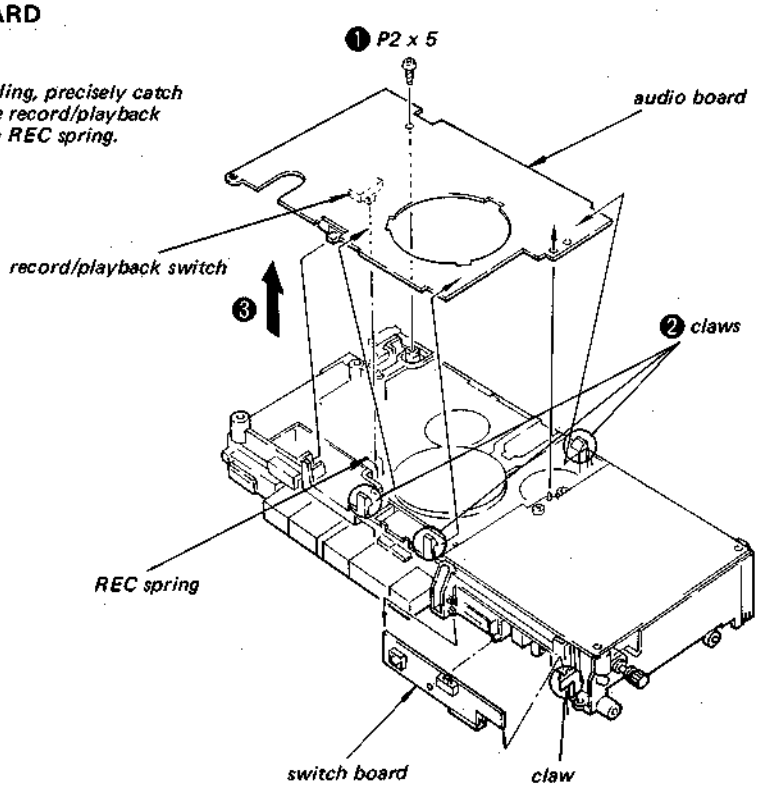


MECHANISM SECTION

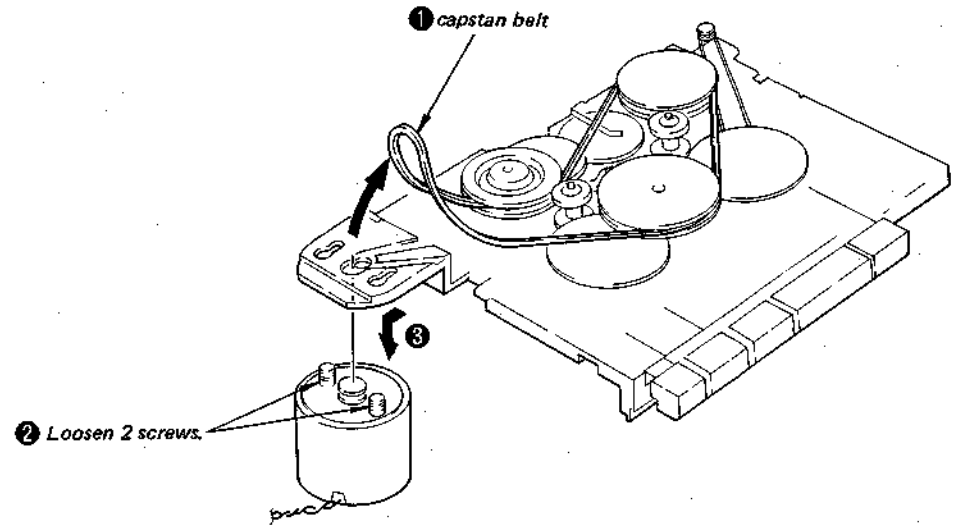


AUDIO BOARD

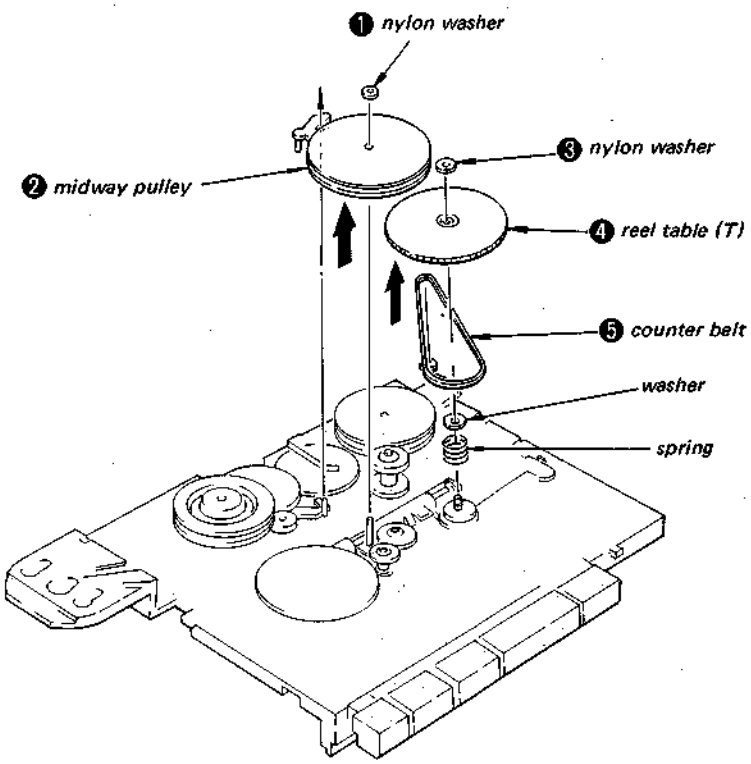
Note:
When reassembling, precisely catch the knob of the record/playback switch with the REC spring.



MOTOR AND CAPSTAN BELT

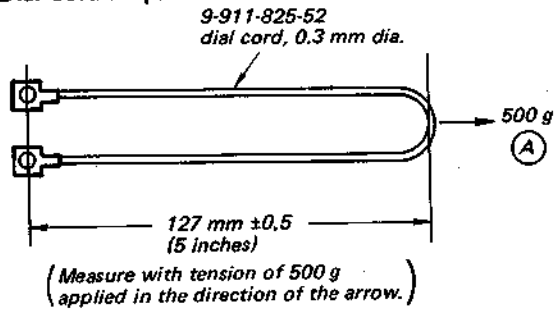


COUNTER BELT

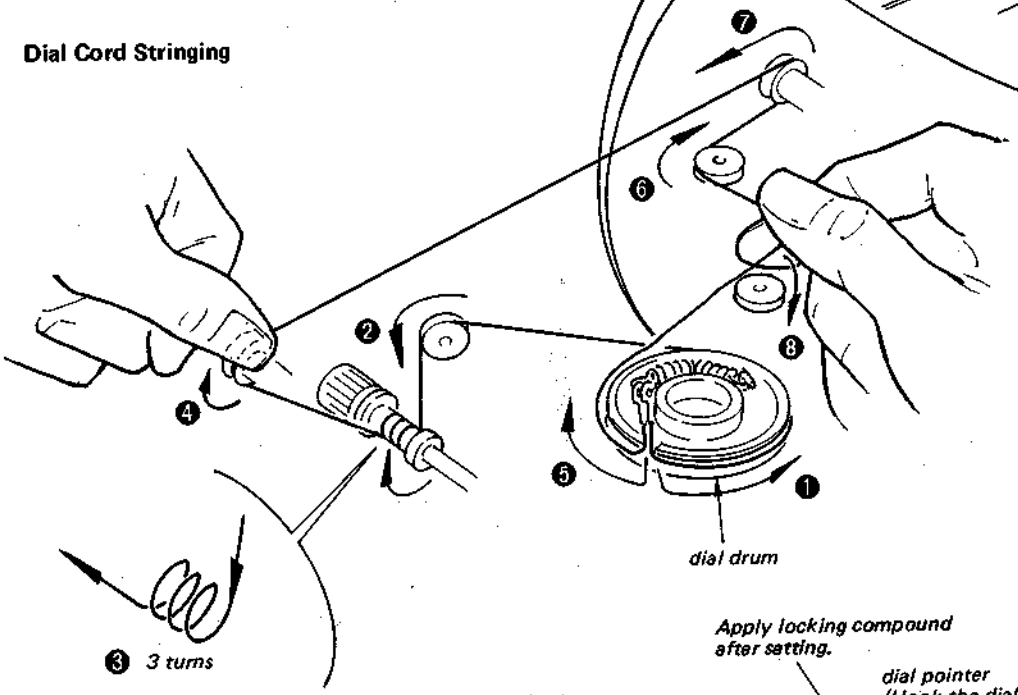


2-2. DIAL CORD STRINGING

1) Dial Cord Preparation

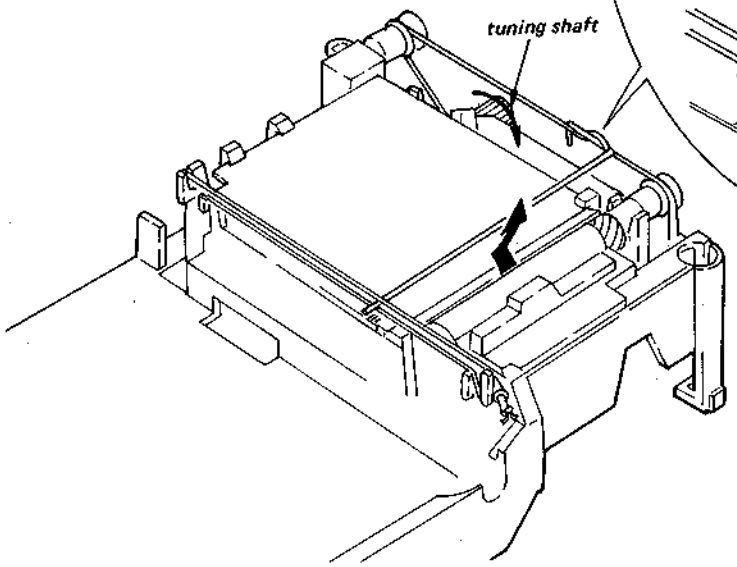


2) Dial Cord Stringing

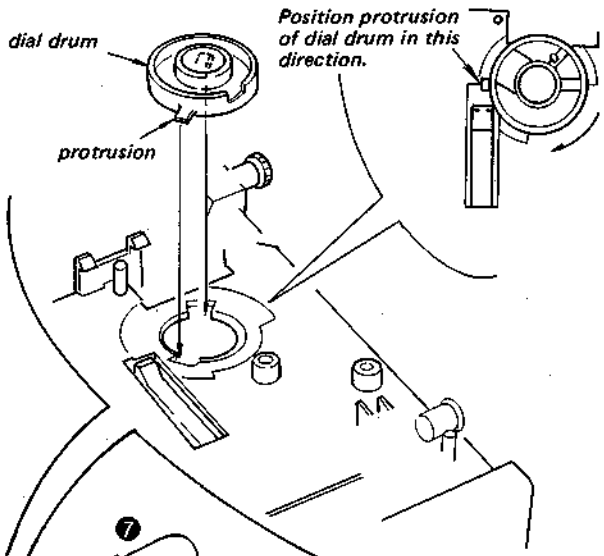


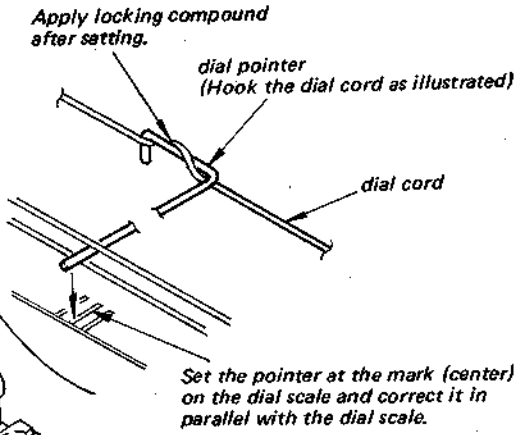
3) Dial Pointer Setting.

Turn the tuning shaft fully counterclockwise.



POSITIONING THE DIAL DRUM





SECTION 3
ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

PRECAUTION

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

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

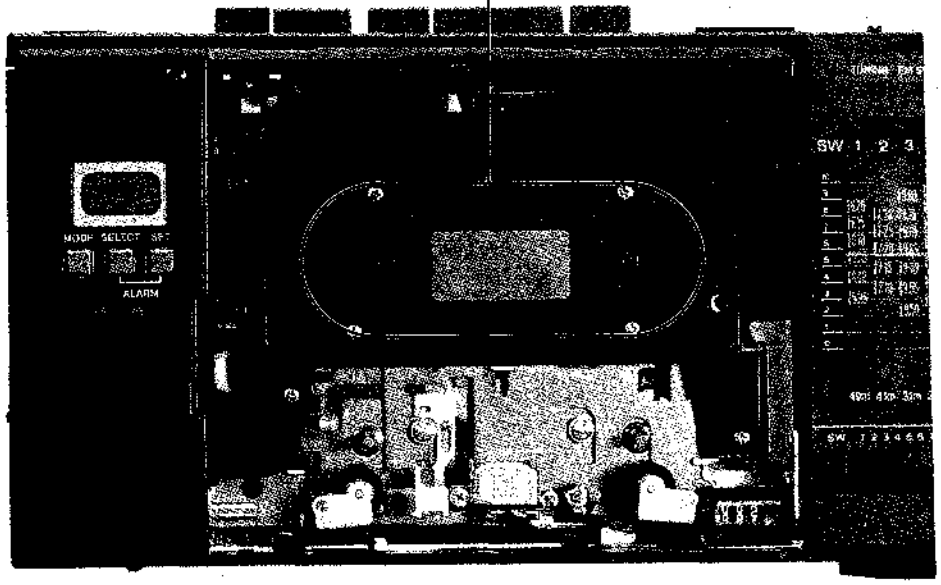
2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed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

Torque Measurement

Mode	Torque meter	Meter reading
FWD	CQ-102C	25 – 45 g·cm (0.35 – 0.62 oz·inch)
FWD Back Tension		2.5 – 4.5 g·cm (0.04 – 0.06 oz·inch)
REV	CQ-102RB	25 – 45 g·cm (0.35 – 0.62 oz·inch)
REV Back Tension		2.5 – 4.5 g·cm (0.04 – 0.06 oz·inch)
FF/CUE	CQ-201B	more than 90 g·cm (1.25 oz·inch)
REW/REVIEW		

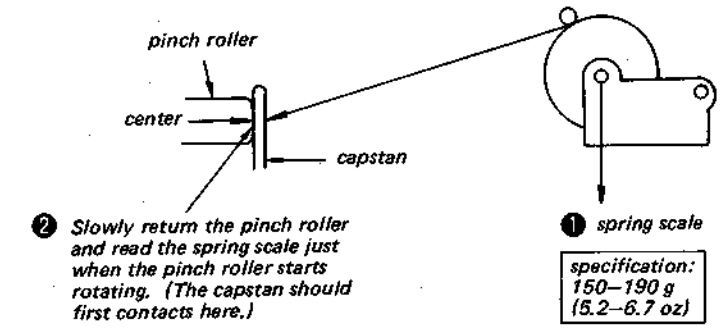
Tape Pulling Strength Measurement

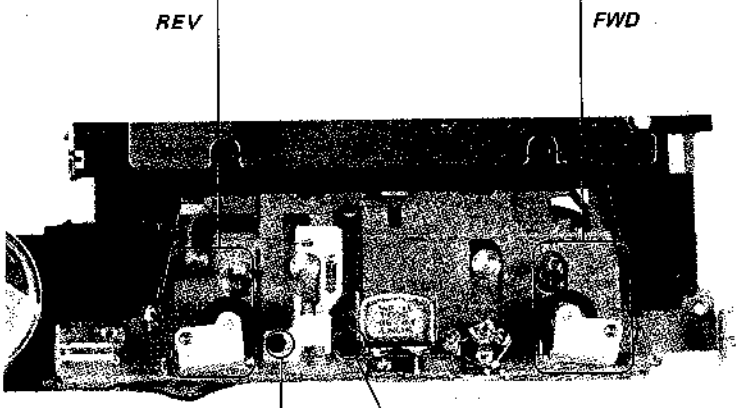
Mode	Tension meter	Meter reading
FWD	CQ-403A	more than 70 g (2.5 oz)
REV	CQ-403R	more than 70 g (2.5 oz)



Pinch Roller Pressure Adjustment

– Playback Mode –





Tape Path Adjustment

– Forward and Reverse Modes –

1. Prepare a mirror tape cassette.
2. Eliminate any tape curls and twists at the record/playback head by using head-height adjustment shim(s).
3. Eliminate any tape curls and twists at the tape guides by using tape-guide height adjustment washer(s).

REC/PB head height adjustment shim

Thickness (mm)	Part No.
0.1	3-316-457-01
0.15	3-316-457-11
0.2	3-316-457-21

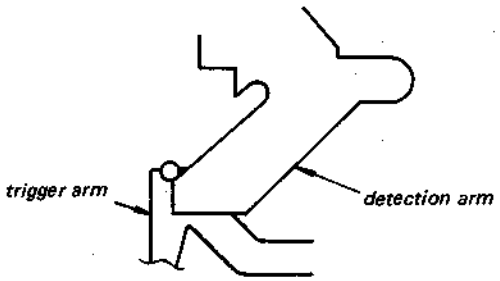
Tape guide height adjustment shim

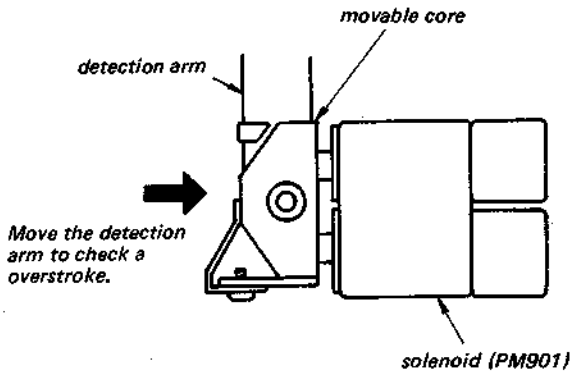
Thickness (mm)	Part No.
0.13	3-307-437-01
0.25	3-307-437-11

Solenoid Position Adjustment

– Forward Mode –

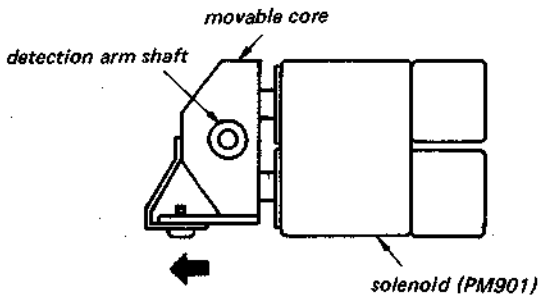
1. Loosen the adjustment screw.
2. By turning the flywheel, adjust the position of the solenoid so that the movable core on the detection arm is attracted to the solenoid.
3. Make sure that a overstroke should exist between the detection-arm shaft and movable core when the protrusion on the trigger arm positions at the edge of the detection arm.

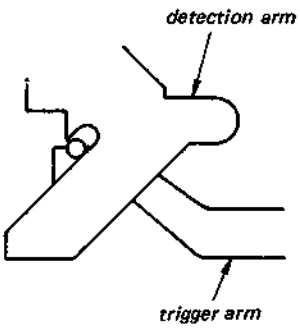




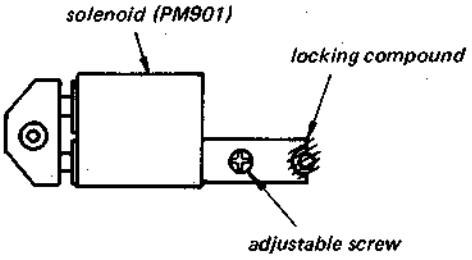
Movable-Core Returning Strength Measurement

1. Position the trigger arm as shown.
2. Push the detection-arm shaft with a tension gauge.
   Specification: 110 g – 180 g
   (3.9 oz – 6.4 oz)





- After adjustment, apply locking compound.



3-2. ELECTRICAL ADJUSTMENTS

TAPE RECORDER SECTION

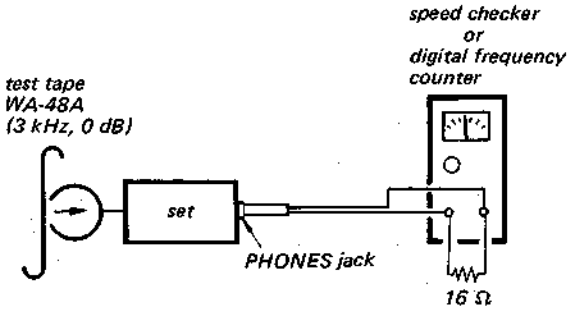
Tape Speed Adjustment

Setting:

VOLUME control: mechanical mid

Procedure:

Mode: playback

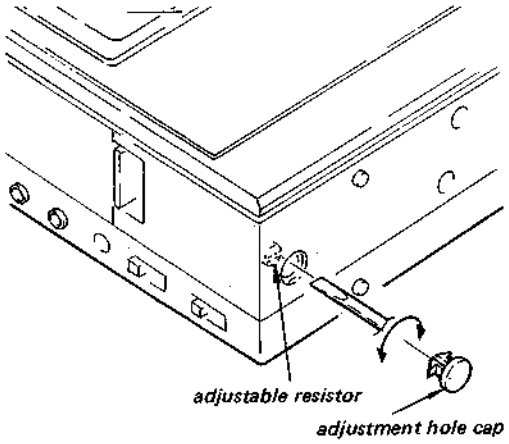


Specification:

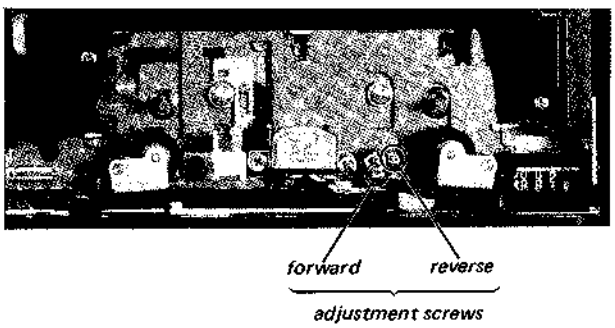
Speed checker	Digital frequency counter
±3 %	2,910 to 3,090 Hz

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

Adjustment Location:



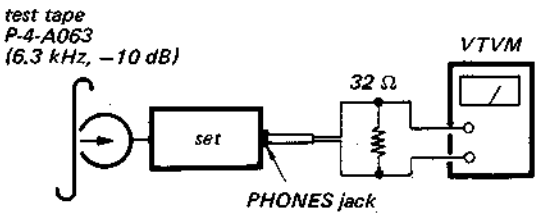
Adjustment Location:



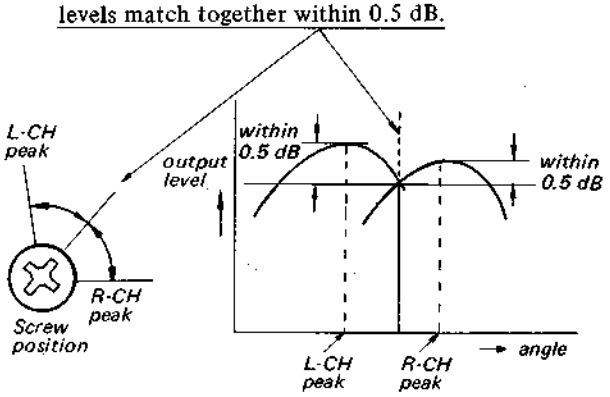
Record/playback Head Azimuth Adjustment

Procedure:

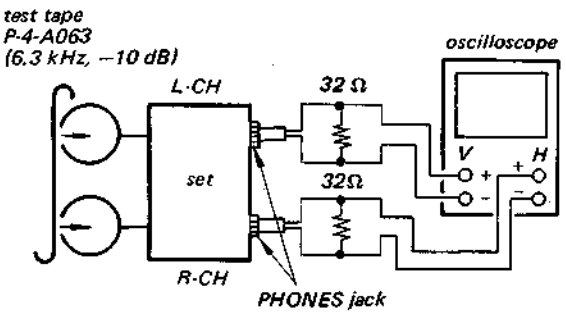
1. Mode: forward, reverse

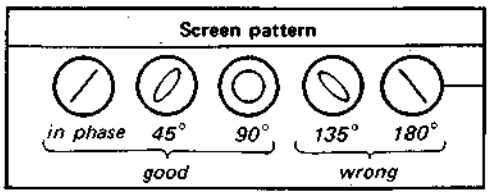


2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 0.5 dB.



3. Phase Check
   Mode: forward, reverse

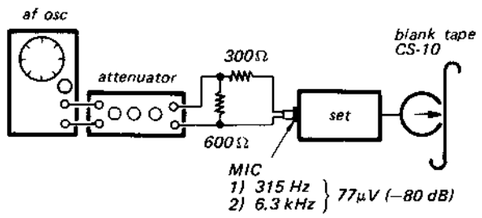




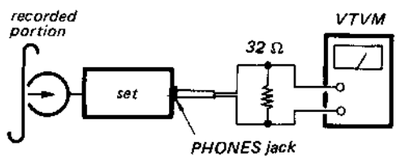
Record Bias Adjustment

Procedure:

1. Mode: record



2. Mode: playback

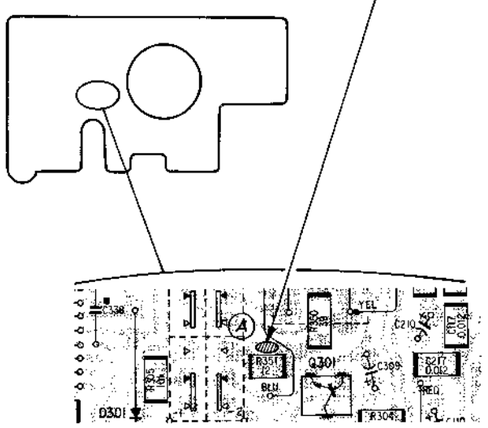


1) Confirm that the PHONES jack level of 6.3 kHz signal is within 0 ±3 dB relative to that of 315 Hz.

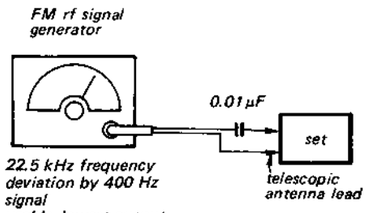
2) If necessary, change the pattern connections and repeat the steps given above.

Adjustment Location:

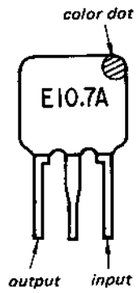
Pattern Ⓐ Connection	VTVM reading (6.3 kHz)
disconnected	up
connected	down



FM SECTION



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



Note: When replacing ceramic filter(s) CF1 or CF2, or both of them, be sure to use a pair of filters with the same color dot, and readjust.

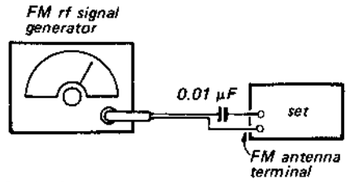
CF1, CF2

Part No.	Center Freq.	Color Dot
1-527-795-11	10.70 MHz	RED
1-527-795-21	10.67 MHz	BLUE
1-527-795-31	10.73 MHz	ORANGE
1-527-795-41	10.64 MHz	BLACK
1-527-795-51	10.76 MHz	WHITE

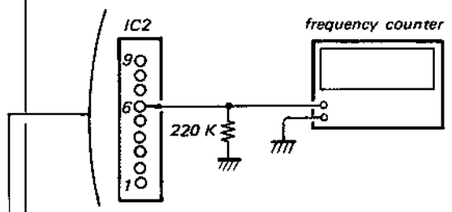
VCO Adjustment

A) Regular Method

Procedure:



Carrier frequency: 98 MHz
Modulation: no modulation
Output level: 1 mV (60 dB)

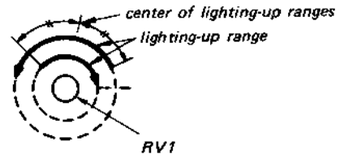


1. Tune the set to 98 MHz.
2. Adjust RV1 for 76 kHz ±0.8 kHz on the frequency counter.

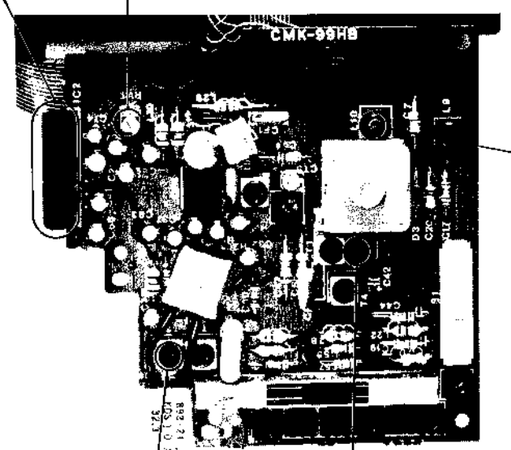
B) Simple Method

Procedure:

1. Tune the set to the FM stereo broadcasting signal.
2. Turn RV1 clockwise or counterclockwise and memorize the lighting-up range of stereo lamp.
3. Secure RV1 at the center of the lighting-up range of both turns as shown below.



( ): AEP MODEL



FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
87.1 MHz (87.35 MHz)	108.5 MHz (107.8 MHz)
L10	CT1

10.7 MHz	T3
Adjust for a maximum reading on VTVM.	
FM IF ALIGNMENT	

L11	CT2
87.1 MHz (87.35 MHz)	108.5 MHz (107.8 MHz)
Adjust for a maximum reading on VTVM.	
FM FREQUENCY COVERAGE ADJUSTMENT	

( ): AEP MODEL

AM SECT

- SW SEC

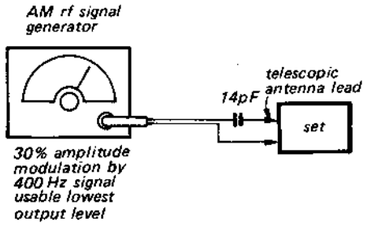
30% ampl
modulatio
400 Hz sig
usable low
output lev

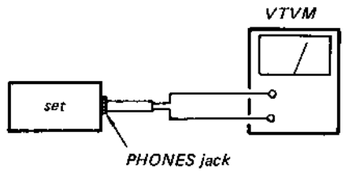
- Repeat
several ti
tracking
the trimm

T5	
Adjust fo on VTV	
AM IF A	

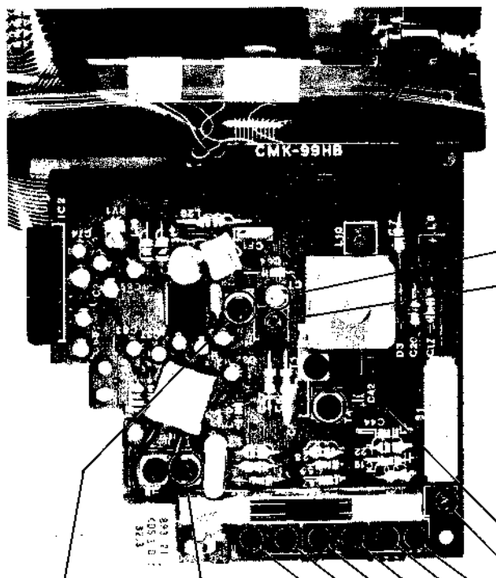
AM SECTION

• SW SECTION





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

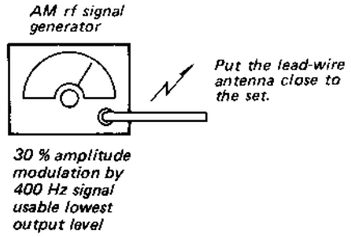


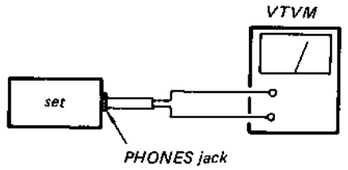
SW FREQUENCY COVERAGE ADJUSTMENT (1ST IF)			
Adjust for a maximum reading on VTVM.			
CT5	5.85 MHz	dial min.	SW1
T6	6.30 MHz	dial max.	

SW TRACKING ADJUSTMENT		
Adjust for a maximum reading on VTVM.		
T4	6.075 MHz	SW1
L7	21.6 MHz	SW7
L6	17.8 MHz	SW6
L5	15.275 MHz	SW5
L4	11.837 MHz	SW4
L3	9.655 MHz	SW3
L2	7.2 MHz	SW2
L1	6.075 MHz	SW1

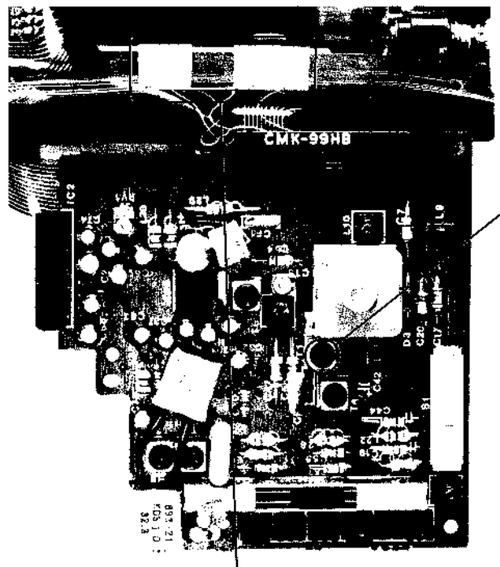
T5	T2
455 kHz	
Adjust for a maximum reading on VTVM.	
AM IF ALIGNMENT (SW/MW)	

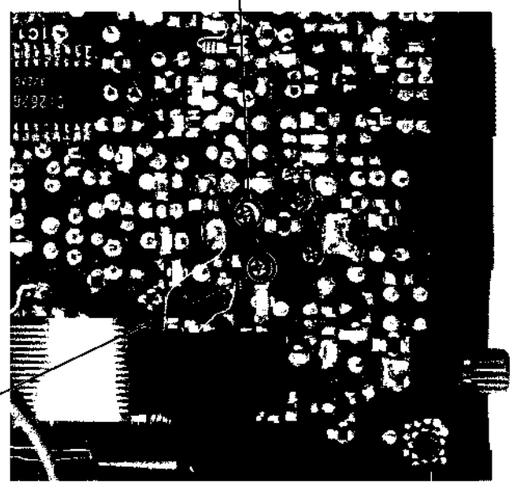
• MW SECTION





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





MW FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
T1	CT4
518 kHz	1,650 kHz

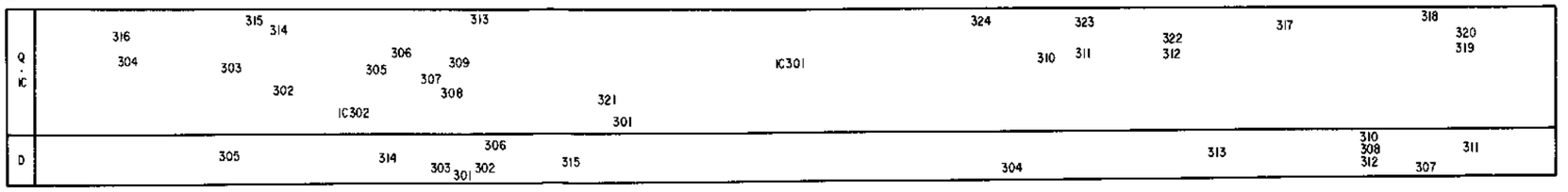
L8	CT3
620 kHz	1,400 kHz
Adjust for a maximum reading on VTVM.	
MW TRACKING ADJUSTMENT	

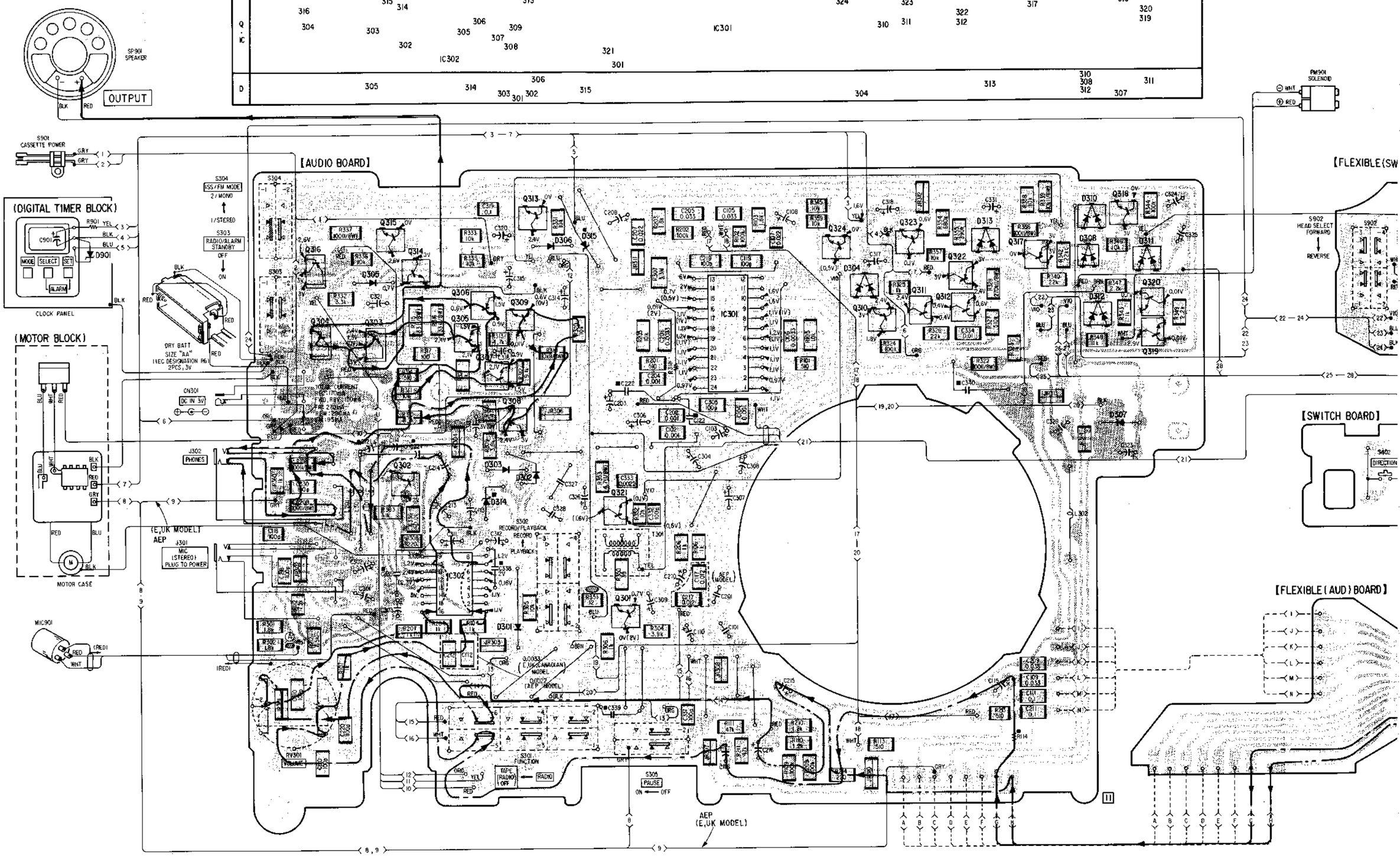
4-1. MOUNTING DIAGRAM

— Conductor Side —

Semiconductor Lead Layouts (See page 28.)

SECTION 4
DIAGRAMS





O P Q R S T U V W X Y Z A1 B1 C1 D1

1 2 3 4 5 6 7 8 9 10 11

FM501 SOLENOID
WHT
RED

REC/PB HEAD
PP 238-3604
*(34Vp-p)

【FLEXIBLE(SW)BOARD】

S902 HEAD SELECT
FORWARD
REVERSE

【LED BOARD】

D501 (FORWARD)
D502 (REVERSE)

【SWITCH BOARD】

S402 DIRECTION
D401 TUNING
S401
D402 FM STEREO

PB EQ
METAL/CrO2 ← NORM
TONE
LOW ← HIGH

【FLEXIBLE(AUD)BOARD】

IC2

S2 SW

【TUNER BOARD】

(AEP MODEL)
(E,UK,CANADIAN MODEL)

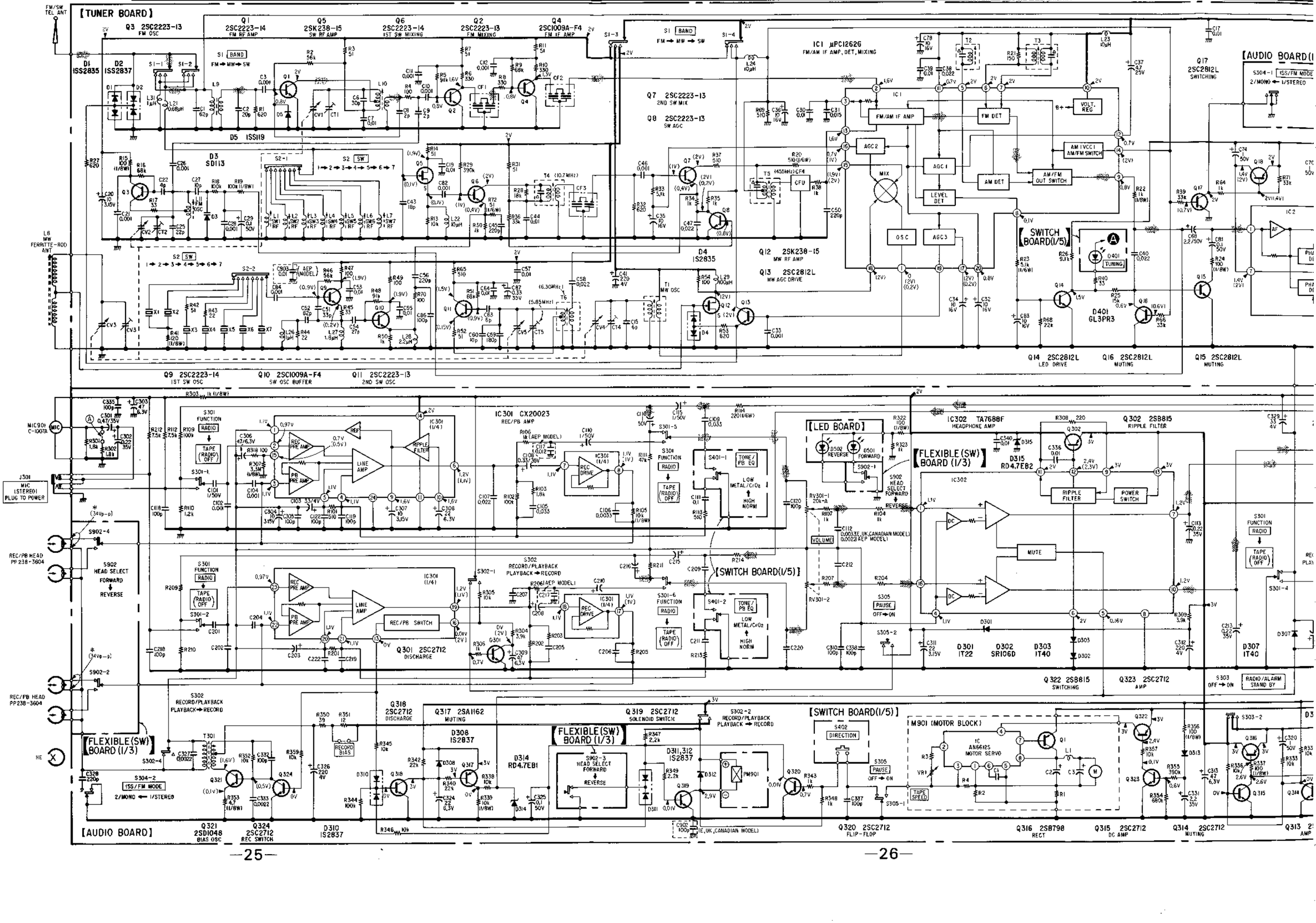
BAND SW
MW
FM

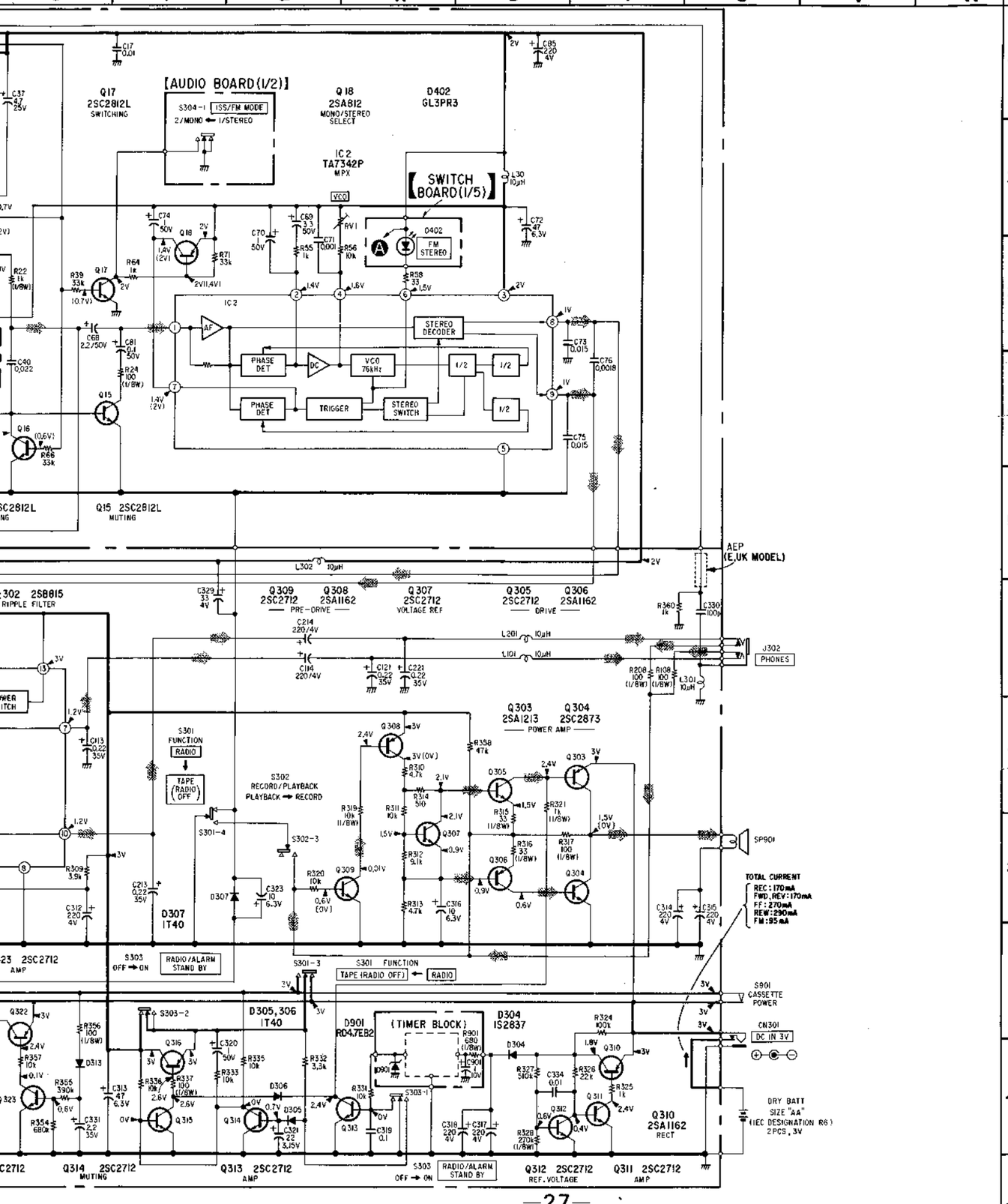
L8
MW FERRITE ROD ANT

FM/SW TEL ANT

FM INPUT

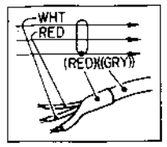
4-2. SCHEMATIC DIAGRAM





Note: for Mounting Diagram

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



- ○—: parts extracted from the component side.
- ●—: parts extracted from the conductor side.
- [ ]—: indicates side identified with part number.
- ▨: B + pattern
- ——►——: signal path
- ——►——: L-CH signal path
- ——►——: R-CH signal path
- In using an electret condenser microphone with a black mark on the side of the case, connect patterns by bridging at Ⓐ.

Note: for Schematic Diagram

- Components for right channel have same values as for left channel. Reference numbers are coded from
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/10W unless otherwise noted. kΩ: 1000 Ω, MΩ: 1000 kΩ
- △: internal component.
- ※: signal path.
- □: adjustment for repair.
- In using an electret condenser microphone with a black mark on the side of the case, connect patterns by bridging at Ⓐ.
- ——: B+ bus.
- Readings are taken under no-signal (detuned) conditions with a VOM.
  ( ): AM No mark: common
  [ ]: REC
  < >: SW
- Switch

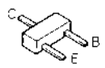
Ref. No.	Switch	Position
S1	BAND	FM
S2	SW	1
S301	FUNCTION	RADIO
S302	RECORD/PLAYBACK	PLAYBACK
S303	RADIO/ALARM STANDBY	OFF
S304	ISS/FM MODE	1/STEREO
S305	PAUSE	OFF
S401	TONE/PB EQ	LOW/NORM
S402	DIRECTION	OFF
S901	CASSETTE POWER	OFF
S902	HEAD SELECT	FORWARD

Note: Voltages are measured with a VOM (50kΩ/V).

- ※: Taken with an oscilloscope.

SEMICONDUCTOR LEAD LAYOUTS

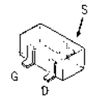
2SA1162
2SC1009A-FA4



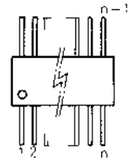
2SB624
2SC2223-F14
2SC2712
2SD596

2SB798
2SD999

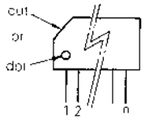
2SK238-K15



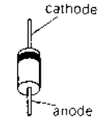
CX20023
TA7688F
μPC1262G-E



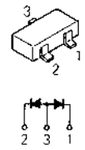
TA7342P



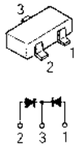
1S2687S-1
1SS119
1T22A
RD4.7EB2



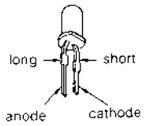
1S2835



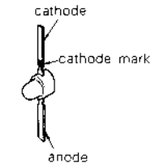
1S2837



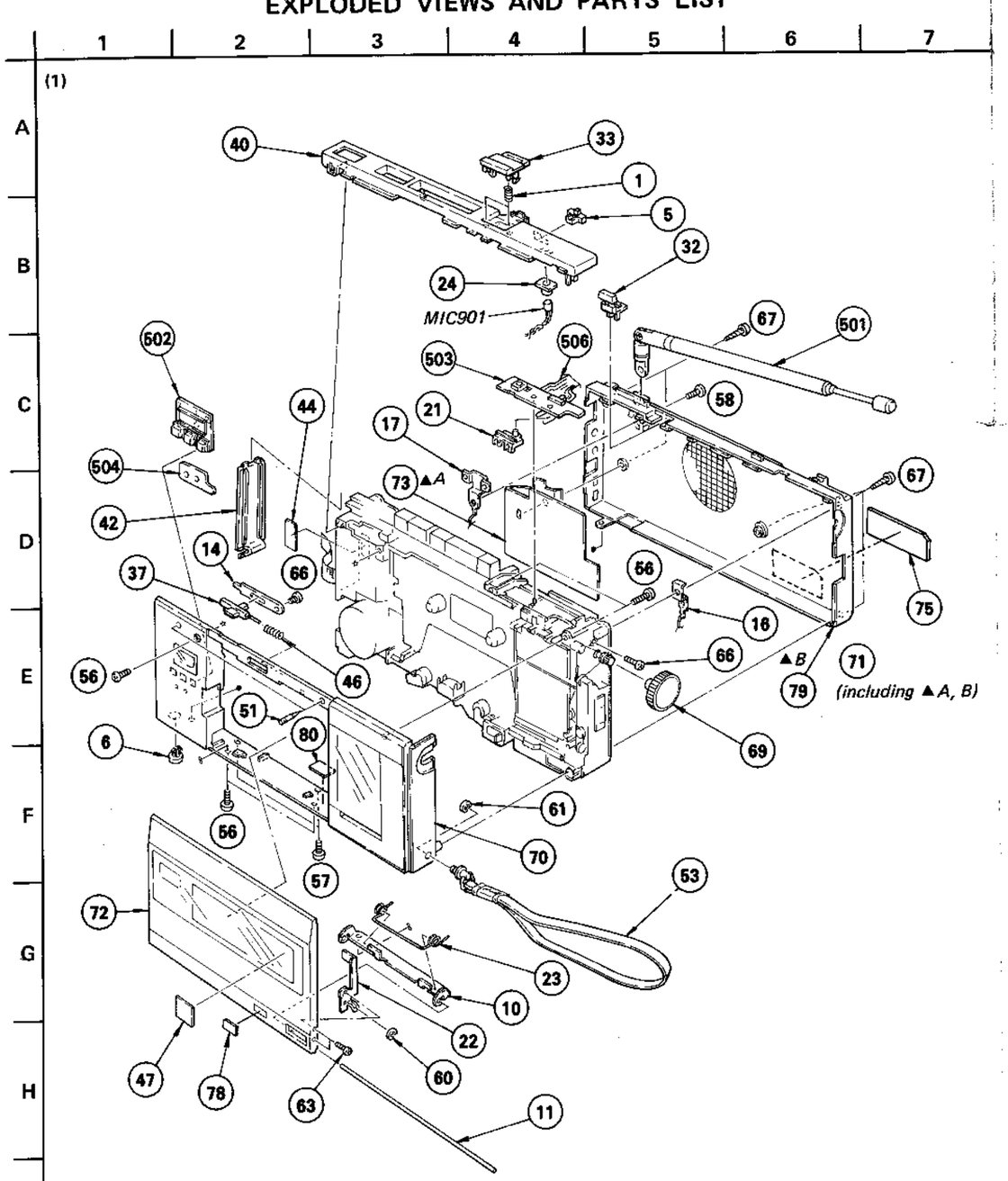
GL1PR1
GL3PR3

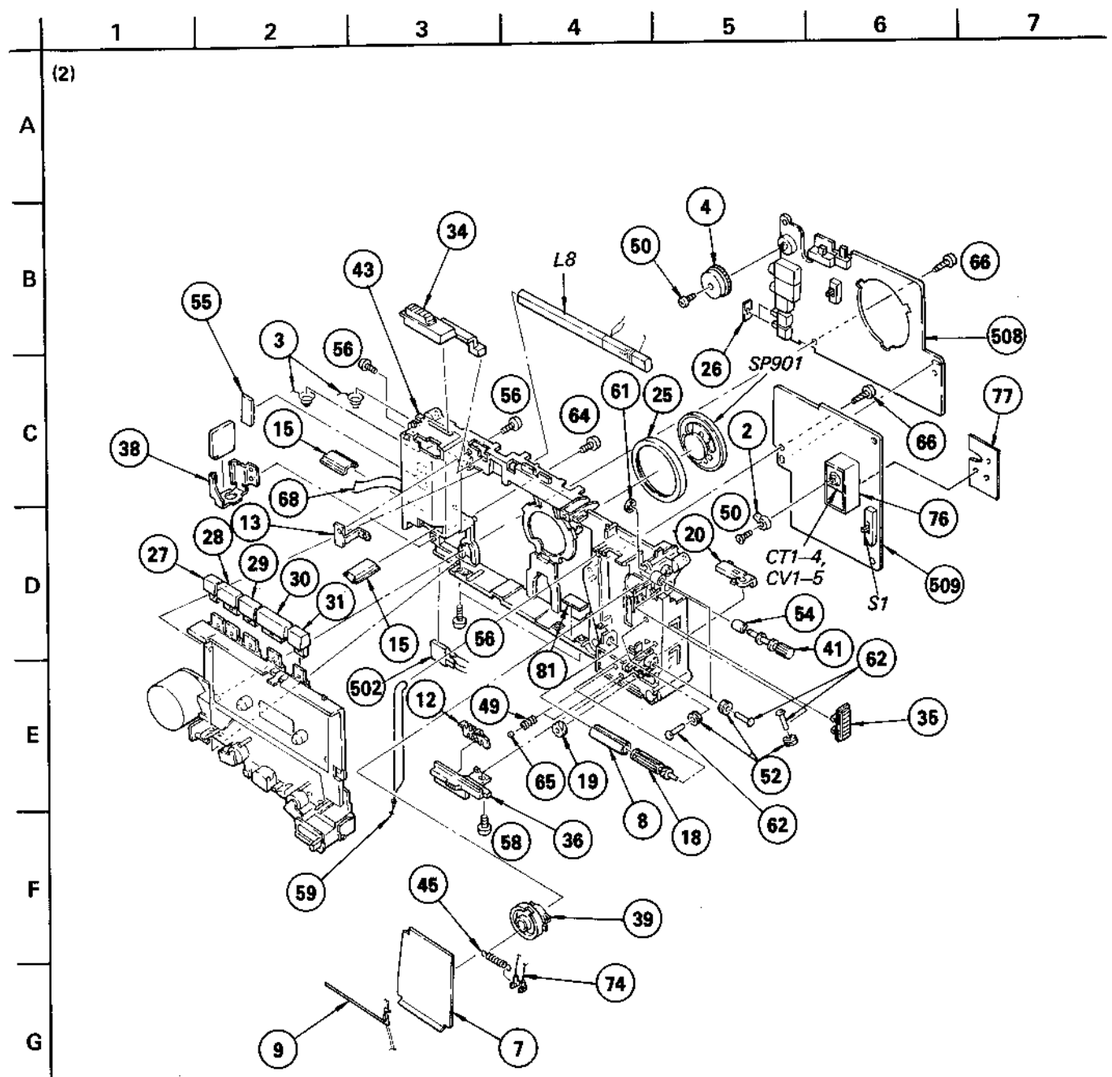


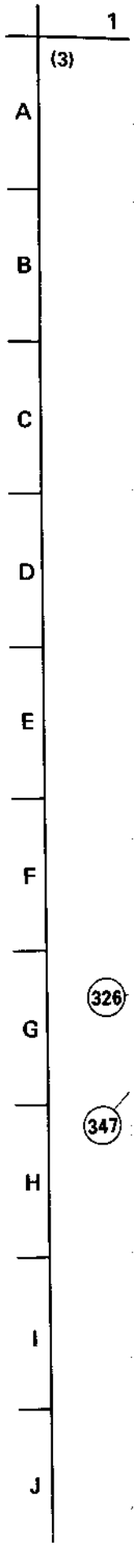
SR106D

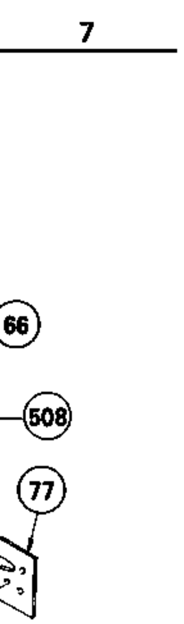


SECTION 5
EXPLODED VIEWS AND PARTS LIST





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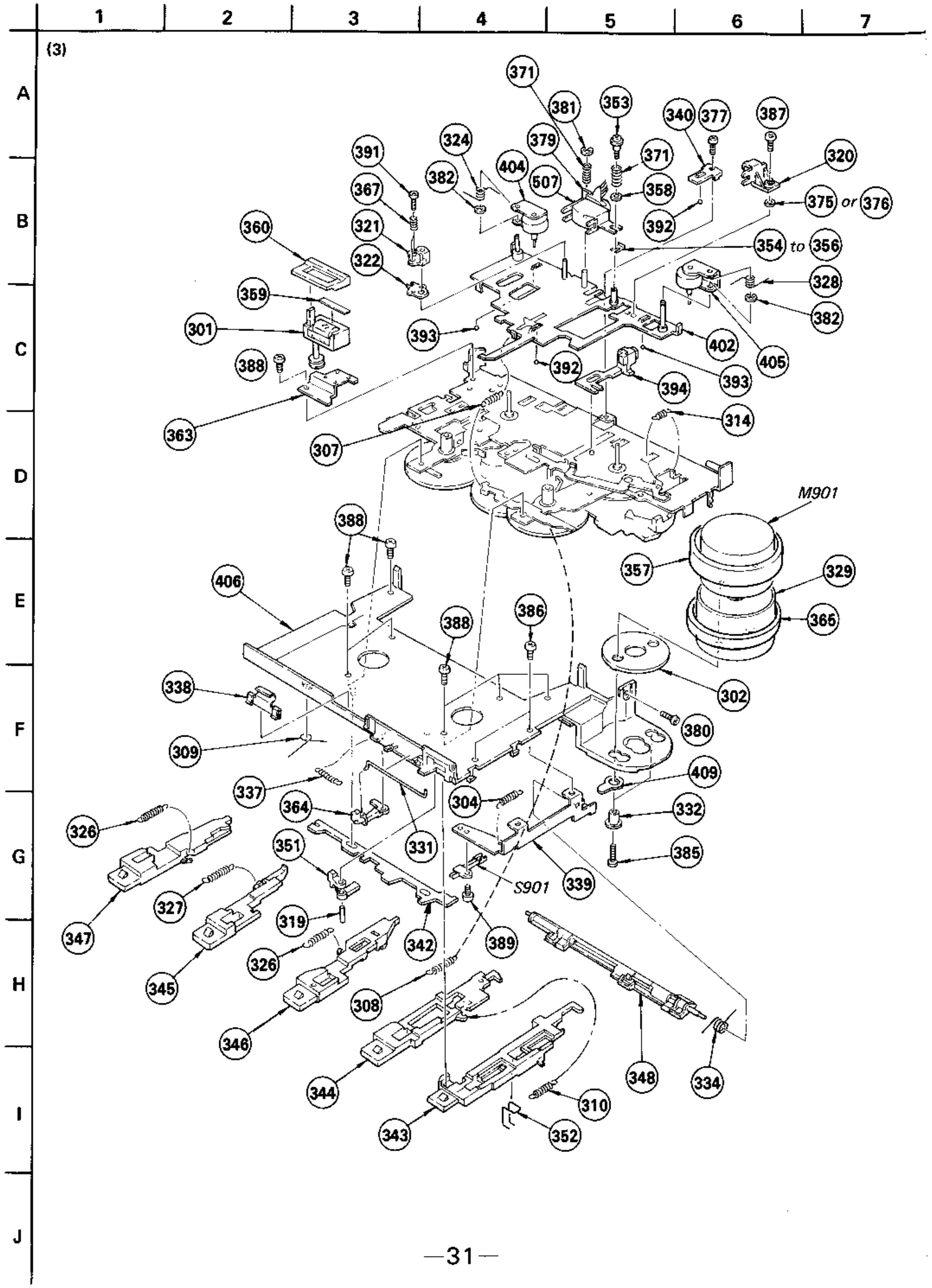
508
77

(3)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381
353
340
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387
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371
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358
375 or 376
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321
360
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354 to 356
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363
314
307
M901
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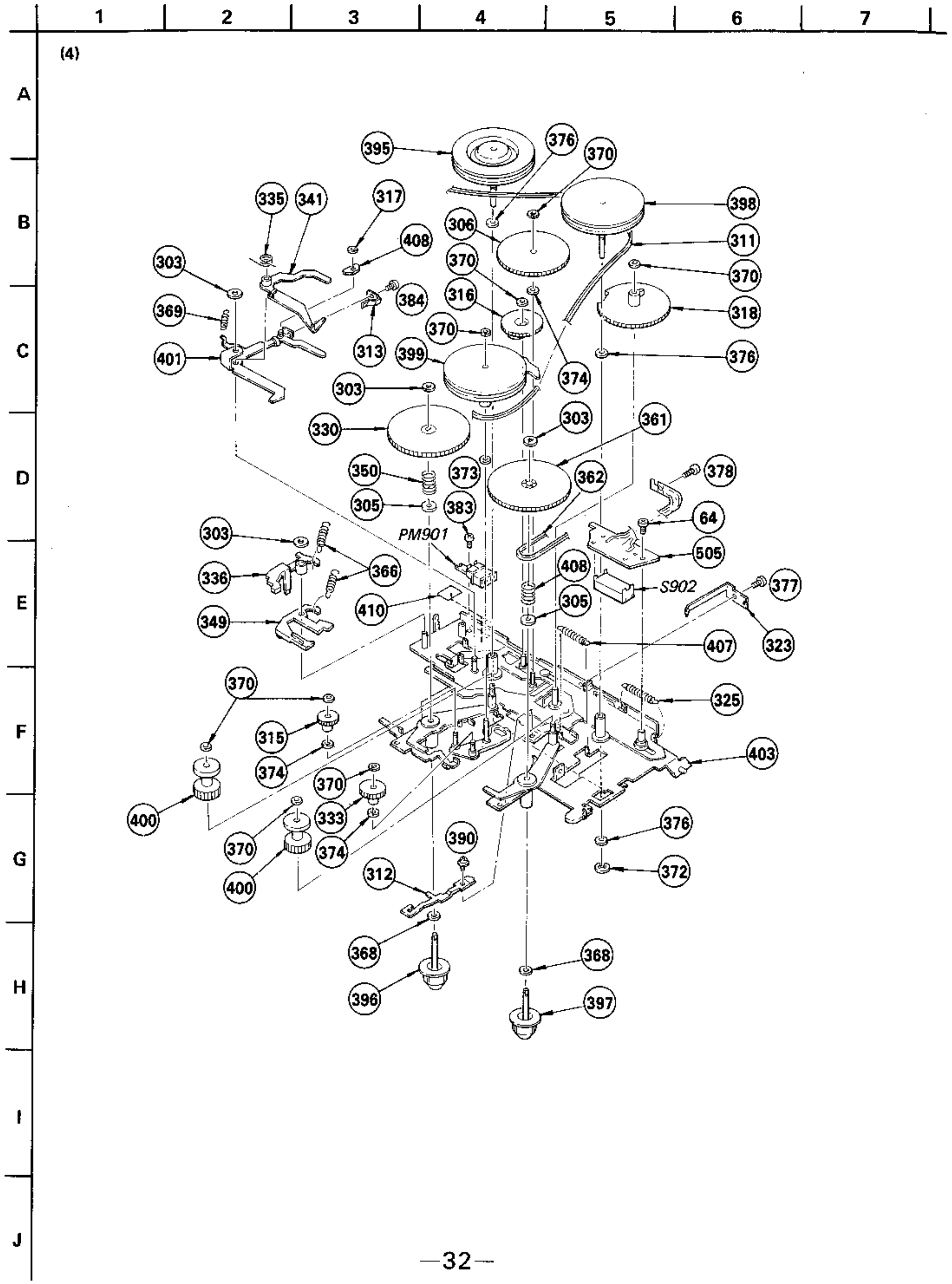
(4)


395
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S902
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GENERAL SECTION

No.	Part No.	Description
1	3-305-432-00	SPRING, COMPRESSION
2	3-305-625-00	CAP, TUNING CAPACITOR
3	3-310-113-00	SPRING
4	3-316-602-00	KNOB, CONTROL
5	3-316-603-00	KNOB, SLIDE
6	3-316-604-00	CAP, ADJUSTMENT HOLE
7	3-316-607-00	SCALE, DIAL, SHORTWAVE
8	3-316-609-00	RING, INDICATE
9	3-316-610-01	POINTER
10	3-316-611-01	RETAINER, CASSETTE LID
11	3-316-612-01	SHAFT, CASSETTE LID
12	3-316-613-00	PLATE, CLICK
13 ♣	3-316-614-00	PLATE, FIXED
14 ♣	3-316-615-00	RETAINER
15	3-316-616-00	TERMINAL, BATTERY
16	3-316-617-00	TERMINAL(A), ANTENNA CONNECTION
17	3-316-618-00	TERMINAL(B), ANTENNA CONNECTION
18	3-316-619-00	DRUM, INDICATE
19	3-316-620-00	GEAR, MIDWAY
20 ♣	3-316-621-00	SLIDER, BAND SELECTION
21 ♣	3-316-622-00	HOLDER, LED
22 ♣	3-316-623-00	PLATE (A), GUIDE
23	3-316-624-01	SPRING
24	3-316-626-00	CUSHION, MICROPHONE
25	3-316-627-00	CUSHION, SPEAKER
26	3-316-628-00	PLATE, BLIND
27	3-316-640-00	BUTTON, REC
28	3-316-641-00	BUTTON, PLAY
29	3-316-642-00	BUTTON, REW
30	3-316-643-00	BUTTON, STOP
31	3-316-644-00	BUTTON, FF
32	3-316-645-00	KNOB, PAUSE
33	3-316-646-00	BUTTON, DIRECTION
34	3-316-647-00	KNOB, FUNCTION
35	3-316-648-00	KNOB, BAND SELECTION
36	3-316-649-00	KNOB, SWITCH, BAND SELECTION
37	3-316-651-00	SLIDER, LOCK
38 ♣	3-316-653-00	BRACKET
39	3-316-654-00	DRUM, DIAL
40	3-316-657-00	PANEL, CONTROL
41 ♣	3-316-662-00	SHAFT, TUNING
42	3-316-664-00	LID, BATTERY CASE
43	3-316-684-00	CHASSIS
44	3-527-213-00	LABEL, SERIAL NUMBER
45	3-564-736-00	SPRING, TENSION

GENERAL SECTION

No.	Part No.	Description
46	3-578-104-00	SPRING, COMPRESSION
47	3-703-707-01	STICKER, SONY SYMBOL (21)
48	3-831-441-XX	CUSHION
49	3-837-654-00	SPRING, COMPRESSION
50	3-880-990-00	SCREW (1.7X3), FLAT, (+) SPECIAL
51	3-880-917-00	STOPPER
52	3-881-911-00	PULLEY
53	3-881-938-00	STRAP, HAND
54	3-890-115-00	BEARING, TUNING
55	3-892-141-00	LABEL, POLARITY
56	7-621-772-00	SCREW +B 2X3
57	7-621-772-30	SCREW +B 2X6
58	7-621-775-20	SCREW +B 2.6X5
59	7-623-610-00	EYELET, 1.5X2.5
60	7-624-102-04	STOP RING 1.5, TYPE -E
61	7-624-104-04	STOP RING 2.0, TYPE -E
62	7-625-712-40	RIVET 2X5
63	7-627-551-08	SCREW, PRECISION +P 1.4X1.6
64	7-627-850-07	SCREW, PRECISION +P 1.4X2
65	7-671-113-02	STEAL, BALL 3
66	7-685-103-11	SCREW +P 2X5 TYPE2 NON-SLIT
67	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S
68	9-911-816-01	RIBBON, BATTERY
69	A-3251-056-A	KNOB ASSY, TUNING
70	X-3316-611-1	(E, UK, CANADIAN) ...CABINET (A) ASSY
70	X-3316-609-1	(AEP) ...CABINET (A) ASSY
71	X-3316-605-2	(E, UK:WA-8000).....CABINET (B) ASSY
71	X-3316-607-2	(Canadian:WA-8200)...CABINET (B) ASSY
71	X-3316-607-2	(AEP: WA-8000) .....CABINET (B) ASSY
72	X-3316-608-1	(E, UK, AEP: WA-8000) ...CASSETTE PANEL ASSY
72	X-3316-612-1	(Canadian:WA-8200)...CASSETTE PANEL ASSY
73	X-3316-602-0	PAPER ASSY, SHEILD
74	9-911-825-52	DIAL CORD, 0.3mm DIA
75	3-316-686-01	(AEP) ..LABEL, MODEL NUMBER
76	3-316-695-01	(AEP) ..PLATE (A), SHIELD
77	3-316-696-01	(AEP) ..PLATE (B), SHIELD
78	3-310-119-11	ORNAMENT, AZIMUTH ADJUSTMENT
79	X-3316-613-1	(E, UK:WA-8000) .....CABINET (B) SUB ASSY
79	X-3316-615-1	(AEP: WA-8000) .....CABINET (B) SUB ASSY
79	X-3316-615-1	(Canadian:WA-8200) ....CABINET (B) SUB ASSY
80	3-316-677-01	PLATE (A), GROUND
81	3-316-678-01	PLATE (B), GROUND

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " ♣ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:

MF:μF, PF:ppF.

RESISTORS

- All resistors are in ohms.
- F : nonflammable

COILS

- MMH : mH, UH : μH

SEMICONDUCTORS

In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

ACCESSORY & PACKING MATERIAL

No.	Part No.	Description
101	3-316-683-00	BAG, CARRYING
102	3-773-708-11	(E,UK,AEP:WA-8000) ...MANUAL, INSTRUCTION
103	3-773-708-21	(Canadian:WA-8200)...MANUAL, INSTRUCTION
104	3-887-278-00	(Canadian:WA-8000)..BOOK, RADIO WAVE GUIDE
105	3-887-285-01	(E.UK,AEP:WA-8000)..BOOK, RADIO GUIDE
106	8-951-168-90	MDR-E232 SET
107	3-316-670-01	SHEET, PROTECTOR
108	3-316-671-01	(E,UK,AEP:WA-8000) ...INDIVIDUAL CARTON
109	3-316-693-01	(Canadian:WA-8200)...INDIVIDUAL CARTON
110	3-316-681-01	CUSHION
111	3-316-688-01	BAG, PROTECTOR, PLASTIC
112	3-703-539-01	(AEP) ...INSTRUCTION, FTZ
113	3-773-708-41	(AEP) ...MANUAL, INSTRUCTION

MECHANISM SECTION

No.	Part No.	Description
301	1-548-578-00	COUNTER
302	3-306-829-00	CUSHION, MOTOR
303	3-307-948-01	WASHER, NYLON
304	3-316-301-00	SPRING, TENSION
305	3-316-308-00	WASHER
306	3-316-313-00	GEAR (T)
307	3-316-316-00	SPRING, TENSION
308	3-316-318-00	SPRING, TENSION
309	3-316-319-00	SPRING
310	3-316-320-00	SPRING, TENSION
311	3-316-321-00	BELT
312	3-316-322-00	SPRING
313	3-316-323-00	SPRING
314	3-316-324-00	SPRING, TENSION
315	3-316-325-00	GEAR (A), FWD
316	3-316-329-00	GEAR, DETECTION
317	3-316-331-11	RING, RETAINING
318	3-316-334-00	GEAR, REVERSE

MECHANISM SECTION

No.	Part No.	Description
319	3-316-340-00	PIN, PARALLEL
320	3-316-341-00	GUIDE, TAPE
321	3-316-342-00	ARM, AZIMUTH
322	3-316-343-00	RETAINER, AZIMUTH
323	3-316-358-00	SPRING
324	3-316-359-00	SPRING (RIGHT)
325	3-316-360-00	SPRING, TENSION
326	3-316-362-00	SPRING, TENSION
327	3-316-363-00	SPRING, TENSION
328	3-316-364-00	SPRING (LEFT)
329	3-316-372-00	CAP, MOTOR
330	3-316-373-00	TABLE (SUPPLY), REEL
331	3-316-376-00	LINK, ERASE PREVENTING
332	3-316-378-00	COLLAR, MOTOR
333	3-316-379-00	GEAR (B), FWD
334	3-316-382-00	SPRING
335	3-316-383-00	SPRING
336	3-316-384-00	LEVER, REC RELEASE
337	3-316-385-00	SPRING, TENSION
338	3-316-386-00	SPRING
339 ♣	3-316-387-00	RETAINER, LOCK PLATE
340	3-316-389-00	REATAINER (A), PC BOARD
341 ♣	3-316-396-00	ARM (A), TRIGGER
342	3-316-400-00	LEVER, SWITCH
343	3-316-401-00	LEVER, REC
344	3-316-406-00	LEVER, FWD
345	3-316-407-00	LEVER, STOP
346	3-316-408-00	LEVER, REW
347	3-316-409-00	LEVER, FF
348	3-316-410-00	PLATE, LOCK
349	3-316-449-00	PLATE, LOCK, REVERSE
350	3-316-452-00	SPRING, COMPRESSION
351	3-316-453-00	CLAW, PREVENTION
352	3-316-455-00	SPRING, REC
353	3-316-456-00	SCREW, STEP
354	3-316-457-01	SHIM
355	3-316-457-11	SHIM
356	3-316-457-21	SHIM
357	3-316-466-00	PAPER, SHIELD, MOTOR
358	3-316-470-00	WASHER (H)
359	3-316-634-00	SHEET, ADHESIVE, COUNTER COVER
360	3-316-650-00	COVER, COUNTER
361	3-316-658-01	TABLE (T), REEL
362	3-316-659-01	BELT
363	3-316-660-01	BRACKET, COUNTER

NOTE:

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COILS

- MMH : mH, UH : μH

SEMICONDUCTORS

In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

MECHANISM SECTION

No.	Part No.	Description
364	3-316-661-00	PLATE, EJECT
365	3-316-666-00	PLATE, SHIELD, MOTOR
366	3-547-664-00	SPRING, TENSION
367	3-563-463-00	SPRING, COMPRESSION
368	3-570-129-00	WASHER (F)
369	3-570-587-00	SPRING, TENSION
370	3-570-615-00	POLY-WASHER (DIA.1.2)
371	3-579-759-00	SPRING, COMPRESSION
372	3-590-768-00	RING (A), E
373	3-701-436-01	WASHER, 1.6
374	3-701-436-11	WASHER, 1.6
375	3-701-437-01	WASHER
376	3-701-437-11	WASHER
377	3-703-502-01	SCREW
378	3-703-502-11	SCREW
379	3-316-663-01	STOPPER, PC BOARD
380	3-316-692-01	SCREW +P 2X2
381	7-624-101-04	STOP RING 1.2 (E TYPE)
382	7-624-102-04	STOP RING 1.5, TYPE -E
383	7-627-850-07	SCREW, PRECISION +P 1.4X2
384	7-627-551-47	SCREW, PRECISION +P 1.4X1.4
385	7-627-552-58	SCREW, PRECISION +P 1.7X5
386	7-627-553-18	SCREW, PRECISION +P 2X2
387	7-627-553-38	SCREW, PRECISION +P 2X3
388	7-627-554-18	+P 2X3.5
389	7-627-554-58	SCREW +P 2X2.8
390	7-627-850-37	SCREW, PRECISION +P 1.4X1.4
391	7-627-850-67	SCREW, PRECISION +P 1.4X4
392	7-671-111-01	STEEL BALL 1MM
393	7-671-111-11	STEEL, BALL 1.5MM
394	A-3114-032-A	HOLDER ASSY, EBF
395	X-3316-301-0	FLYWHEEL (R) ASSY
396	X-3316-302-0	CLAW (SUPPLY) ASSY, REEL
397	X-3316-303-0	CLAW (TAKE-UP) ASSY, REEL
398	X-3316-304-0	FLYWHEEL (N) ASSY
399	X-3316-307-0	PULLEY ASSY, MIDWAY
400	X-3316-310-0	GEAR ASSY, FR
401	X-3316-312-0	ARM (A) ASSY, DETECTION
402	X-3316-313-0	CHASSIS ASSY, HEAD
403	X-3316-603-0	CHASSIS ASSY
404	X-3316-315-0	ARM (RIGHT) ASSY, PINCH
405	X-3316-316-0	ARM (LEFT) ASSY, PINCH
406	X-3316-601-0	CHASSIS ASSY,MOLDED
407	3-316-361-00	SPRING, TENSION
408	3-316-682-01	SPRING, COMPRESSION
409	3-308-557-01	LUG, PLATE; 1.7
410	3-515-102-21	CUSHION, CASSETTE HOLDER

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

ELECTRICAL PARTS

Ref.No.	Part No.	Description		
501	1-501-296-00	ANTENNA, TELESCOPIC		
502	1-548-137-00	CLOCK, DIGITAL		
503	♦;1-611-435-00	PC BOARD, SWITCH		
504	♦;1-611-436-00	PC BOARD, LED		
505	1-611-437-00	PC BOARD, FLEXIBLE (SWITCH)		
506	♦;1-611-438-00	PC BOARD, FLEXIBLE (AUDIO)		
507	8-825-537-10	HEAD, REC/PB (PP238-3604)		
508	♦;A-3215-530-A	PC BOARD ASSY, AUDIO		
509	♦;A-3215-532-A	PC BOARD ASSY, TUNER		
C1	1-163-112-00	CERAMIC CHIP 62PF	5%	50V
C2	1-163-100-00	CERAMIC CHIP 20PF	5%	50V
C3	1-163-205-00	CERAMIC CHIP 0.001MF	5%	50V
C6	1-163-104-00	CERAMIC CHIP 30PF	5%	50V
C7	1-162-113-00	CERAMIC 0.01MF	30%	16V
C8	1-163-085-00	CERAMIC CHIP 2PF	0.25PF	50V
C9	1-163-149-00	CERAMIC CHIP 2PF	0.25PF	50V
C10	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V
C11	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V
C12	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V
C15	1-163-578-00	CERAMIC CHIP 6PF	0.25PF	50V
C17	1-162-113-00	CERAMIC 0.01MF	30%	16V
C19	1-162-113-00	CERAMIC 0.01MF	30%	16V
C20	1-131-389-00	TANTALUM 10U	20%	3.15V
C21	1-163-205-00	CERAMIC CHIP 0.001MF	5%	50V
C22	1-163-221-00	CERAMIC CHIP 4PF	0.25PF	50V
C25	1-163-711-00	CERAMIC CHIP 22PF	5%	50V
C26	1-163-205-00	CERAMIC CHIP 0.001MF	5%	50V
C27	1-163-227-00	CERAMIC CHIP 10PF	5%	50V
C28	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V
C29	1-124-249-00	ELECT 0.1MF	20%	50V
C30	1-162-113-00	CERAMIC 0.01MF	30%	16V
C31	1-163-023-00	CERAMIC CHIP 0.015MF	10%	50V
C32	1-123-617-00	ELECT 10MF	20%	16V
C33	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V
C34	1-123-617-00	ELECT 10MF	20%	16V
C35	1-123-617-00	ELECT 10MF	20%	16V
C36	1-123-617-00	ELECT 10MF	20%	16V
C37	1-124-245-00	ELECT 4.7MF	20%	25V
C38	1-163-063-00	CERAMIC CHIP 0.022MF	10%	50V
C39	1-162-113-00	CERAMIC 0.01MF	30%	16V
C40	1-163-063-00	CERAMIC CHIP 0.022MF	10%	50V
C41	1-123-827-00	ELECT 220MF	20%	4V
C43	1-163-163-00	CERAMIC CHIP 18PF	5%	50V
C44	1-162-113-00	CERAMIC 0.01MF	30%	16V
C45	1-163-125-00	CERAMIC CHIP 220PF	5%	50V

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SEMICONDUCTORS

In each case, U : μ, for example:
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ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C46	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C47	1-161-494-00	CERAMIC	0.022MF	30%	25V
C50	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C51	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C52	1-163-115-00	CERAMIC CHIP	82PF	5%	50V
C53	1-162-113-00	CERAMIC	0.01MF	30%	16V
C54	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C55	1-162-113-00	CERAMIC	0.01MF	30%	16V
C56	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C57	1-162-113-00	CERAMIC	0.01MF	30%	16V
C58	1-161-494-00	CERAMIC	0.022MF	30%	25V
C59	1-163-257-00	CERAMIC CHIP	180PF	5%	50V
C60	1-163-227-00	CERAMIC CHIP	10PF	0.25PF	50V
C63	1-163-223-00	CERAMIC CHIP	6PF	0.25PF	50V
C64	1-162-113-00	CERAMIC	0.01MF	30%	16V
C68	1-124-257-00	ELECT	2.2MF	20%	50V
C69	1-124-258-00	ELECT	3.3MF	20%	50V
C70	1-124-255-00	ELECT	1MF	20%	50V
C71	1-163-569-00	CERAMIC CHIP	0.001MF	5%	50V
C72	1-124-224-00	ELECT	47MF	20%	6.3V
C73	1-163-023-00	CERAMIC CHIP	0.015MF	10%	50V
C74	1-124-255-00	ELECT	1MF	20%	50V
C75	1-163-023-00	CERAMIC CHIP	0.015MF	10%	50V
C76	1-163-012-00	CERAMIC CHIP	0.0018MF	10%	50V
C78	1-124-233-00	ELECT	10MF	20%	16V
C81	1-124-249-00	ELECT	0.1MF	20%	50V
C82	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C83	1-124-233-00	ELECT	10MF	20%	16V
C84	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C85	1-124-434-00	ELECT	220MF	20%	4V
C86	1-102-106-00	CERAMIC	100PF	5%	50V
C87	1-131-344-00	TANTALUM	0.33MF		35V
C101	1-124-499-41	ELECT	1MF	20%	50V
C102	1-163-009-00	CERAMIC CHIP	0.001MF	10%	50V
C103	1-124-220-00	ELECT	33MF	20%	4V
C104	1-163-009-00	CERAMIC CHIP	0.001MF	10%	50V
C105	1-163-078-00	CERAMIC CHIP	0.033MF	10%	25V
C106	1-163-053-00	CERAMIC CHIP	0.0033MF	10%	50V
C107	1-163-037-00	CERAMIC CHIP	0.022MF	10%	25V
C108	1-131-344-00	TANTALUM	0.33MF	20%	35V
C109	1-163-034-00	CERAMIC CHIP	0.033MF		50V
C110	1-124-255-00	ELECT	1MF	20%	50V
C111	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C112	1-163-015-00	(E,UK,CANADIAN) ...CERAMICCHIP	0.0033MF	10%	50V
C112	1-163-013-00	(AEP) ... CERAMICCHIP	0.0022MF	10%	50V
C113	1-131-343-00	TANTALUM	0.22MF	20%	35V
C114	1-124-434-00	ELECT	220MF	20%	4V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C115	1-124-255-00	ELECT	1MF	20%	50V
C116	1-124-255-00	ELECT	1MF	20%	50V
C118	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C119	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C120	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C121	1-131-343-00	TANTALUM	0.22MF		35V
C122	1-102-106-00	CERAMIC	100PF		
C201	1-124-499-11	ELECT	1MF	20%	50V
C202	1-163-009-00	CERAMIC CHIP	0.001MF	10%	50V
C203	1-124-220-00	ELECT	33MF	20%	4V
C204	1-163-009-00	CERAMIC CHIP	0.001MF	10%	50V
C205	1-163-078-00	CERAMIC CHIP	0.033MF	10%	25V
C206	1-163-053-00	CERAMIC CHIP	0.0033MF	10%	50V
C207	1-163-037-00	CERAMIC CHIP	0.022MF	10%	25V
C208	1-131-344-00	TANTALUM	0.33MF	20%	35V
C209	1-163-034-00	CERAMIC CHIP	0.033MF		50V
C210	1-124-255-00	ELECT	1MF	20%	50V
C211	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C212	1-163-015-00	(E,UK,CANADIAN) ...CERAMICCHIP	0.0033MF	10%	50V
C212	1-163-013-00	(AEP) ...CERAMIC CHIP	0.0022MF	10%	50V
C213	1-131-343-00	TANTALUM	0.22MF	20%	35V
C214	1-124-434-00	ELECT	220MF	20%	4V
C215	1-124-255-00	ELECT	1MF	20%	50V
C216	1-124-255-00	ELECT	1MF	20%	50V
C218	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C219	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C220	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C221	1-131-343-00	TANTALUM	0.22MF		35V
C222	1-102-106-00	CERAMIC	100PF		
C301	1-131-345-00	TANTALUM	0.47MF	20%	35V
C302	1-131-343-00	TANTALUM	0.22MF	20%	35V
C303	1-124-224-00	ELECT	47MF	20%	6.3V
C304	1-131-389-00	TANTALUM	10MF	20%	3.15V
C305	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C306	1-131-387-00	TANTALUM	47MF	20%	6.3V
C307	1-131-389-00	TANTALUM	10MF	20%	3.15V
C308	1-124-222-00	ELECT	22MF	20%	6.3V
C309	1-124-224-00	ELECT	47MF	20%	6.3V
C310	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C311	1-131-391-00	TANTALUM	22MF	20%	3.15V
C312	1-124-434-00	ELECT	220MF	20%	4V
C313	1-131-387-00	TANTALUM	47MF	20%	6.3V
C314	1-123-827-00	ELECT	220MF	20%	4V
C315	1-124-434-00	ELECT	220MF	20%	4V
C316	1-124-221-00	ELECT	10MF	20%	6.3V
C317	1-124-434-00	ELECT	220MF	20%	4V
C318	1-124-434-00	ELECT	220MF	20%	4V

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CAPACITORS:

MF:μF, PF:μμF.

RESISTORS

- All resistors are in ohms.
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- MMH : mH, UH : μH

SEMICONDUCTORS

In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

ELECTRICAL PARTS

Ref.No.	Part No.	Description		
C319	1-163-038-00	CERAMIC CHIP 0.1MF	10%	25V
C320	1-124-255-00	ELECT 1MF	20%	50V
C321	1-131-391-00	TANTALUM 22MF	20%	3.15V
C323	1-124-221-00	ELECT 10MF	20%	6.3V
C324	1-124-222-00	ELECT 22MF	20%	6.3V
C325	1-124-249-00	ELECT 0.1MF	20%	50V
C326	1-124-434-00	ELECT 220MF	20%	4V
C327	1-102-121-00	CERAMIC 0.0022MF	10%	50V
C328	1-102-110-00	CERAMIC 220PF	10%	50V
C329	1-124-220-00	ELECT 33MF	20%	4V
C330	1-163-181-00	CERAMIC CHIP 100PF	5%	50V
C331	1-124-243-00	ELECT 2.2MF	20%	35V
C332	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C333	1-163-013-00	CERAMIC CHIP 0.0022MF	10%	50V
C334	1-163-021-00	CERAMIC CHIP 0.01MF	10%	50V
C335	1-102-106-00	CERAMIC 100PF		
C336	1-163-021-00	CERAMIC CHIP 0.01MF	10%	50V
C337	1-163-117-00	CERAMIC CHIP 100PF		
C338	1-102-106-00	CERAMIC 100PF		
C339	1-102-106-00	CERAMIC 100PF		
C340	1-162-113-00	CERAMIC 0.01MF	30%	16V
C901	1-131-418-00	TANTALUM 1MF		10V
C902	1-102-106-00	(E,UK,CANADIAN) ...CERAMIC 100PF		
C903	1-101-004-00	(AEP) ...CERAMIC 0.01MF		50V
CF1	1-527-795-11	FILTER, CERAMIC (RED)		
CF2	1-527-795-21	FILTER, CERAMIC (BLUE)		
	1-527-795-31	FILTER, CERAMIC (ORANGE)		
	1-529-795-41	FILTER, CERAMIC (BLACK)		
	1-527-795-51	FILTER, CERAMIC (WHITE)		
CF3	1-527-886-00	FILTER, CERAMIC		
CF4	1-527-982-00	FILTER, CERAMIC		
CN301	1-507-850-00	JACK, EXTENTION POWER (DC IN 3V)		
CT1	1-151-455-00	CAP, TUNING, POLYETHYLENE		
CT2	1-151-455-00	CAP, TUNING, POLYETHYLENE		
CT3	1-151-455-00	CAP, TUNING, POLYETHYLENE		
CT4	1-151-455-00	CAP, TUNING, POLYETHYLENE		
CT5	1-141-272-00	CAP, TRIMMER		
CV1	1-151-455-00	CAP, TUNING, POLYETHYLENE		
CV2	1-151-455-00	CAP, TUNING, POLYETHYLENE		
CV3	1-151-455-00	CAP, TUNING, POLYETHYLENE		
CV4	1-151-455-00	CAP, TUNING, POLYETHYLENE		
CV5	1-151-455-00	CAP, TUNING, POLYETHYLENE		
D1	8-719-100-03	DIODE 1S2835		
D2	8-719-104-26	DIODE 1S2837		
D3	8-719-768-71	DIODE 1S2687S-1		
D4	8-719-100-03	DIODE 1S2835		
D5	8-719-911-19	DIODE 1SS119		
D301	8-719-022-21	DIODE 1T22A		
D302	8-719-101-06	DIODE SR106D		
D303	8-719-911-19	DIODE 1SS119		
D304	8-719-100-05	DIODE 1S2837		

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
D305	8-719-911-19	DIODE 1SS119			
D306	8-719-911-19	DIODE 1SS119			
D307	8-719-911-19	DIODE 1SS119			
D308	8-719-100-05	DIODE 1S2837			
D310	8-719-104-26	DIODE 1S2837-T1			
D311	8-719-104-26	DIODE 1S2837-T1			
D312	8-719-104-26	DIODE 1S2837-T1			
D313	8-719-104-26	DIODE 1S2837-T1			
D314	8-719-143-07	DIODE RD4.3E-B			
D315	8-719-100-27	DIODE RD4.7EB2			
D401	8-719-930-33	DIODE GL-3PR3			
D402	8-719-930-33	DIODE GL-3PR3			
D501	8-719-912-24	DIODE GL-1PR1			
D502	8-719-912-24	DIODE GL-1PR1			
D901	8-719-100-27	DIODE RD4.7EB2			
IC1	8-759-102-01	IC UPC1262G			
IC2	8-759-201-14	IC TA7342P			
IC301	8-759-907-36	IC CX20023			
IC302	8-759-200-95	IC TA7688F			
J301	1-507-838-21	JACK (MIC)			
J302	1-507-838-11	JACK (PHONES)			
JR1	1-216-295-00	METAL CHIP	0	5%	1/10W
JR2	1-216-295-00	METAL CHIP	0	5%	1/10W
JR3	1-216-295-00	METAL CHIP	0	5%	1/10W
JR4	1-216-296-00	METAL CHIP	0	5%	1/8W
JR301	1-216-296-00	METAL CHIP	0	5%	1/8W
JR302	1-216-296-00	METAL CHIP	0	5%	1/8W
JR303	1-216-295-00	METAL CHIP	0	5%	1/10W
JR304	1-216-296-00	METAL CHIP	0	5%	1/8W
JR306	1-216-296-00	METAL CHIP	0	5%	1/8W
JR307	1-216-295-00	METAL CHIP	0	5%	1/10W
JR308	1-216-295-00	METAL CHIP	0	5%	1/10W
JR310	1-216-296-00	METAL CHIP	0	5%	1/8W
JR311	1-216-295-00	METAL CHIP	0	5%	1/10W
JR312	1-216-296-00	METAL CHIP	0	5%	1/8W
JR313	1-216-295-00	METAL CHIP	0	5%	1/10W
JR314	1-216-295-00	METAL CHIP	0	5%	1/10W
L1	1-459-499-00	COIL (WITH CORE)			
L2	1-459-500-00	COIL (WITH CORE)			
L3	1-459-501-00	COIL (WITH CORE)			
L4	1-459-502-00	COIL (WITH CORE)			
L5	1-459-503-00	COIL (WITH CORE)			
L6	1-459-504-00	COIL (WITH CORE)			
L7	1-459-505-00	COIL (WITH CORE)			
L8	1-402-061-00	ANTENNA, FERRITE-ROD (MW)			
L9	1-422-150-00	COIL			
L10	1-459-509-00	COIL (WITH CORE)			

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ELECTRICAL PARTS

Ref.No.	Part No.	Description
L11	1-459-510-00	COIL (WITH CORE)
L21	1-408-674-00	MICRO INDUCTOR 0.68UH
L22	1-408-563-00	MICRO INDUCTOR 10UH
L23	1-408-563-00	MICRO INDUCTOR 10UH
L24	1-408-563-00	MICRO INDUCTOR 10UH
L26	1-408-551-00	MICRO INDUCTOR 1UH
L27	1-408-554-00	MICRO INDUCTOR 1.8UH
L28	1-408-555-00	MICRO INDUCTOR 2.2UH
L29	1-408-575-00	MICRO INDUCTOR 100UH
L30	1-408-563-00	MICRO INDUCTOR 10UH
L31	1-410-043-00	MICRO INDUCTOR 1UH (CHIP)
L101	1-408-563-00	MICRO INDUCTOR 10UH
L201	1-408-563-00	MICRO INDUCTOR 10UH
L301	1-408-117-00	MICRO INDUCTOR 10UH
L302	1-408-117-00	MICRO INDUCTOR 10UH
M901	8-835-100-01	MOTOR, DC (DNE-5700C)
MIC901	8-814-189-00	MICROPHONE, BUILT-IN (C-1007A)
PN901	1-454-358-00	SOLENOID, PLUNGER
Q1	8-729-102-08	TRANSISTOR 2SC2223-F14
Q2	8-729-102-08	TRANSISTOR 2SC2223-F14
Q3	8-729-102-08	TRANSISTOR 2SC2223-F14
Q4	8-729-101-25	TRANSISTOR 2SC1009A-FA4
Q5	8-729-123-85	TRANSISTOR 2SK238-K15
Q6	8-729-102-08	TRANSISTOR 2SC2223-F14
Q7	8-729-102-08	TRANSISTOR 2SC2223-F14
Q8	8-729-102-08	TRANSISTOR 2SC2223-F14
Q9	8-729-102-08	TRANSISTOR 2SC2223-F14
Q10	8-729-101-25	TRANSISTOR 2SC1009A-FA4
Q11	8-729-102-08	TRANSISTOR 2SC2223-F14
Q12	8-729-123-85	TRANSISTOR 2SK238-K15
Q13	8-729-271-23	TRANSISTOR 2SC2712
Q14	8-729-271-23	TRANSISTOR 2SC2712
Q15	8-729-271-23	TRANSISTOR 2SC2712
Q16	8-729-271-23	TRANSISTOR 2SC2712
Q17	8-729-271-23	TRANSISTOR 2SC2712
Q18	8-729-216-22	TRANSISTOR 2SA1162
Q301	8-729-271-23	TRANSISTOR 2SC2712
Q302	8-729-102-44	TRANSISTOR 2SB624
Q303	8-729-101-07	TRANSISTOR 2SB798
Q304	8-729-199-92	TRANSISTOR 2SD999
Q305	8-729-271-23	TRANSISTOR 2SC2712
Q306	8-729-216-22	TRANSISTOR 2SA1162
Q307	8-729-271-23	TRANSISTOR 2SC2712
Q308	8-729-216-22	TRANSISTOR 2SA1162
Q309	8-729-271-23	TRANSISTOR 2SC2712

ELECTRICAL PARTS

Ref.No.	Part No.	Description
Q310	8-729-216-22	TRANSISTOR 2SA1162
Q311	8-729-271-23	TRANSISTOR 2SC2712
Q312	8-729-271-23	TRANSISTOR 2SC2712
Q313	8-729-271-23	TRANSISTOR 2SC2712
Q314	8-729-271-23	TRANSISTOR 2SC2712
Q315	8-729-271-23	TRANSISTOR 2SC2712
Q316	8-729-101-07	TRANSISTOR 2SB798
Q317	8-729-216-22	TRANSISTOR 2SA1162
Q318	8-729-271-23	TRANSISTOR 2SC2712
Q319	8-729-271-23	TRANSISTOR 2SC2712
Q320	8-729-271-23	TRANSISTOR 2SC2712
Q321	8-729-159-64	TRANSISTOR 2SD596
Q322	8-729-102-44	TRANSISTOR 2SB624
Q323	8-729-271-23	TRANSISTOR 2SC2712
Q324	8-729-271-23	TRANSISTOR 2SC2712
R1	1-216-044-00	METAL CHIP 620 5% 1/10W
R2	1-216-091-00	METAL CHIP 56K 5% 1/10W
R3	1-216-018-00	METAL CHIP 51 5% 1/10W
R4	1-216-025-00	METAL CHIP 100 5% 1/10W
R5	1-216-096-00	METAL CHIP 91K 5% 1/10W
R6	1-216-037-00	METAL CHIP 330 5% 1/10W
R7	1-216-018-00	METAL CHIP 51 5% 1/10W
R8	1-216-037-00	METAL CHIP 330 5% 1/10W
R9	1-216-093-00	METAL CHIP 68K 5% 1/10W
R10	1-216-037-00	METAL CHIP 330 5% 1/10W
R11	1-216-018-00	METAL CHIP 51 5% 1/10W
R13	1-216-073-00	METAL CHIP 10K 5% 1/10W
R14	1-216-018-00	METAL CHIP 51 5% 1/10W
R15	1-216-174-00	METAL CHIP 100 5% 1/8W
R16	1-216-093-00	METAL CHIP 68K 5% 1/10W
R17	1-216-013-00	METAL CHIP 33 5% 1/10W
R18	1-216-097-00	METAL CHIP 100K 5% 1/10W
R19	1-216-246-00	METAL CHIP 100K 5% 1/8W
R20	1-247-824-00	CARBON 510 5% 1/6W
R21	1-216-029-00	METAL CHIP 150 5% 1/10W
R22	1-216-198-00	METAL CHIP 1K 5% 1/8W
R23	1-247-848-00	CARBON 5.1K 5% 1/6W
R24	1-216-174-00	METAL CHIP 100 5% 1/8W
R25	1-216-077-00	METAL CHIP 15K 5% 1/10W
R26	1-216-072-00	METAL CHIP 9.1K 5% 1/10W
R27	1-216-044-00	METAL CHIP 620 5% 1/10W
R28	1-216-079-00	METAL CHIP 18K 5% 1/10W
R29	1-216-111-00	METAL CHIP 390K 5% 1/10W
R30	1-216-049-00	METAL CHIP 1K 5% 1/10W
R31	1-216-018-00	METAL CHIP 51 5% 1/10W

NOTE:

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MF:μF, PF:μμF.

RESISTORS

- All resistors are in ohms.
- F : nonflammable

COILS

- MMH : mH, UH : μH

SEMICONDUCTORS

In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R32	1-216-044-00	METAL CHIP	620	5%	1/10W
R33	1-216-066-00	METAL CHIP	5.1K	5%	1/10W
R34	1-216-049-00	METAL CHIP	1K	5%	1/10W
R35	1-216-049-00	METAL CHIP	1K	5%	1/10W
R36	1-216-085-00	METAL CHIP	33K	5%	1/10W
R37	1-216-042-00	METAL CHIP	510	5%	1/10W
R38	1-216-049-00	METAL CHIP	1K	5%	1/10W
R39	1-216-085-00	METAL CHIP	33K	5%	1/10W
R40	1-216-013-00	METAL CHIP	33	5%	1/10W
R41	1-216-176-00	METAL CHIP	120	5%	1/8W
R42	1-216-018-00	METAL CHIP	51	5%	1/10W
R43	1-216-009-00	METAL CHIP	22	5%	1/10W
R44	1-216-009-00	METAL CHIP	22	5%	1/10W
R45	1-216-013-00	METAL CHIP	33	5%	1/10W
R46	1-216-091-00	METAL CHIP	56K	5%	1/10W
R47	1-216-025-00	METAL CHIP	100	5%	1/10W
R48	1-216-096-00	METAL CHIP	91K	5%	1/10W
R49	1-216-025-00	METAL CHIP	100	5%	1/10W
R50	1-216-049-00	METAL CHIP	1K	5%	1/10W
R51	1-216-093-00	METAL CHIP	68K	5%	1/10W
R52	1-216-018-00	METAL CHIP	51	5%	1/10W
R53	1-216-044-00	METAL CHIP	620	5%	1/10W
R54	1-216-025-00	METAL CHIP	100	5%	1/10W
R55	1-216-049-00	METAL CHIP	1K	5%	1/10W
R56	1-216-073-00	METAL CHIP	10K	5%	1/10W
R58	1-216-013-00	METAL CHIP	33	5%	1/10W
R64	1-216-049-00	METAL CHIP	1K	5%	1/10W
R65	1-216-042-00	METAL CHIP	510	5%	1/10W
R66	1-216-085-00	METAL CHIP	33K	5%	1/10W
R68	1-216-081-00	METAL CHIP	22K	5%	1/10W
R69	1-216-042-00	METAL CHIP	510	5%	1/10W
R70	1-216-025-00	METAL CHIP	100	5%	1/10W
R71	1-216-085-00	METAL CHIP	33K	5%	1/10W
R72	1-247-800-00	CARBON	51	5%	1/6W
R101	1-216-042-00	METAL CHIP	510	5%	1/10W
R102	1-216-097-00	METAL CHIP	100K	5%	1/10W
R103	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R104	1-216-049-00	METAL CHIP	1K	5%	1/10W
R105	1-216-222-00	METAL CHIP	10K	5%	1/8W
R106	1-216-049-00	METAL CHIP	1K	5%	1/10W
R107	1-216-049-00	METAL CHIP	1K	5%	1/10W
R108	1-216-174-00	METAL CHIP	100	5%	1/8W
R109	1-216-097-00	METAL CHIP	100K	5%	1/10W
R110	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R111	1-216-089-00	METAL CHIP	47K	5%	1/10W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R112	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R113	1-216-042-00	METAL CHIP	510	5%	1/10W
R114	1-247-815-00	CARBON	220		1/6W
R201	1-216-042-00	METAL CHIP	510	5%	1/10W
R202	1-216-097-00	METAL CHIP	100K	5%	1/10W
R203	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R204	1-216-049-00	METAL CHIP	1K	5%	1/10W
R205	1-216-222-00	METAL CHIP	10K	5%	1/8W
R206	1-216-049-00	METAL CHIP	1K	5%	1/10W
R207	1-216-049-00	METAL CHIP	1K	5%	1/10W
R208	1-216-174-00	METAL CHIP	100	5%	1/8W
R209	1-216-097-00	METAL CHIP	100K	5%	1/10W
R210	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R211	1-216-089-00	METAL CHIP	47K	5%	1/10W
R212	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R213	1-216-042-00	METAL CHIP	510	5%	1/10W
R214	1-216-033-00	METAL CHIP	220	5%	1/10W
R301	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R302	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R303	1-216-198-00	METAL CHIP	1K	5%	1/8W
R304	1-216-063-00	METAL CHIP	3.9K	5%	1/10W
R305	1-216-073-00	METAL CHIP	10K	5%	1/10W
R306	1-216-049-00	METAL CHIP	1K	5%	1/10W
R307	1-216-282-00	METAL CHIP	3.3M	5%	1/8W
R308	1-216-033-00	METAL CHIP	220	5%	1/10W
R309	1-216-063-00	METAL CHIP	3.9K	5%	1/10W
R310	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R311	1-216-073-00	METAL CHIP	10K	5%	1/10W
R312	1-216-072-00	METAL CHIP	9.1K	5%	1/10W
R313	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R314	1-216-042-00	METAL CHIP	510	5%	1/10W
R315	1-216-162-00	METAL CHIP	33	5%	1/8W
R316	1-216-162-00	METAL CHIP	33	5%	1/8W
R317	1-216-174-00	METAL CHIP	100	5%	1/8W
R318	1-247-807-00	CARBON	100	5%	1/6W
R319	1-216-222-00	METAL CHIP	10K	5%	1/8W
R320	1-216-073-00	METAL CHIP	10K	5%	1/10W
R321	1-216-198-00	METAL CHIP	1K	5%	1/8W
R322	1-216-174-00	METAL CHIP	100	5%	1/8W
R323	1-216-049-00	METAL CHIP	1K	5%	1/10W
R324	1-216-097-00	METAL CHIP	100K	5%	1/10W
R325	1-216-049-00	METAL CHIP	1K	5%	1/10W
R326	1-216-081-00	METAL CHIP	22K	5%	1/10W
R327	1-216-114-00	METAL CHIP	510K	5%	1/10W
R328	1-216-256-00	METAL CHIP	270K	5%	1/8W
R331	1-216-073-00	METAL CHIP	10K	5%	1/10W

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- All resistors are in ohms.
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In each case, U : μ, for example:
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UPD···: μPD···

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R332	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R333	1-216-073-00	METAL CHIP	10K	5%	1/10W
R335	1-216-073-00	METAL CHIP	10K	5%	1/10W
R336	1-216-073-00	METAL CHIP	10K	5%	1/10W
R337	1-216-174-00	METAL CHIP	100	5%	1/8W
R338	1-216-073-00	METAL CHIP	10K	5%	1/10W
R339	1-216-222-00	METAL CHIP	10K	5%	1/8W
R340	1-216-081-00	METAL CHIP	22K	5%	1/10W
R341	**********				
R342	1-216-081-00	METAL CHIP	22K	5%	1/10W
R343	1-216-049-00	METAL CHIP	1K	5%	1/10W
R344	1-216-097-00	METAL CHIP	100K	5%	1/10W
R345	1-216-073-00	METAL CHIP	10K	5%	1/10W
R346	1-216-073-00	METAL CHIP	10K	5%	1/10W
R347	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R348	1-216-049-00	METAL CHIP	1K	5%	1/10W
R349	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R350	1-216-164-00	METAL CHIP	39	5%	1/8W
R351	1-216-003-91	METAL CHIP	12	5%	1/10W
R352	1-216-073-00	METAL CHIP	10K	5%	1/10W
R353	1-216-142-91	METAL CHIP	4.7	5%	1/8W
R354	1-216-117-00	METAL CHIP	680K	5%	1/10W
R355	1-216-111-00	METAL CHIP	390K	5%	1/10W
R356	1-216-174-00	METAL CHIP	100	5%	1/8W
R357	1-216-073-00	METAL CHIP	10K	5%	1/10W
R358	1-216-089-00	METAL CHIP	47K	5%	1/10W
R359	1-216-073-00	METAL CHIP	10K	5%	1/10W
R360	1-216-049-00	METAL CHIP	1K	5%	1/10W
R901	1-246-781-00	CARBON	680		1/8W
RV1	1-230-276-00	RES, ADJ, CERMET 10K			
RV301	1-230-277-00	RES, VAR, CARBON 20K/20K			
S1	1-554-673-00	SWITCH, SLIDE (BAND)			
S2	1-553-991-00	SWITCH, SLIDE (SW)			
S301	1-554-122-00	SWITCH, SLIDE (FUNCTION)			
S302	1-554-575-00	SWITCH, SLIDE (RECORD/PLAYBACK)			
S303	1-554-671-00	SWITCH, SLIDE (RADIO/ALARM STANDBY)			
S304	1-554-574-00	SWITCH, SLIDE (ISS/FM MODE)			
S305	1-554-574-00	SWITCH, SLIDE (PAUSE)			
S401	1-554-667-00	SWITCH, SLIDE (TONE/PB EQ)			
S402	1-553-856-00	SWITCH, KEY BOARD (DIRECTION)			
S902	1-554-647-00	SWITCH, SLIDE (HEAD SELECT)			
S901	1-554-595-00	SWITCH, LEAF (SCSSETTE POWER)			
SP901	1-503-299-00	SPEAKER			

ELECTRICAL PARTS

Ref.No.	Part No.	Description
T1	1-406-078-00	TRANSFORMER, IF
T2	1-404-509-00	TRANSFORMER, IF
T3	1-404-514-00	TRANSFORMER, DISCRIMINATOR
T4	1-404-510-00	TRANSFORMER, IF
T5	1-404-508-00	TRANSFORMER, IF
T6	1-459-511-00	COIL (WITH CORE)
T301	1-433-251-00	TRANSFORMER, BIAS OSCILLATOR
X1	1-567-179-00	VIBRATOR, CRYSTAL
X2	1-567-180-00	VIBRATOR, CRYSTAL
X3	1-567-181-00	VIBRATOR, CRYSTAL
X4	1-567-182-00	VIBRATOR, CRYSTAL
X5	1-527-891-21	OSCILLATOR, CRYSTAL
X6	1-527-892-31	OSCILLATOR, CRYSTAL
X7	1-527-893-21	OSCILLATOR, CRYSTAL

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9-951-310-12

Sony Corporation

English
83L05101-1
Printed in Japan

WA-8000/8200

SERVICE MANUAL

WA-8000:
AEP Model
UK Model
E Model

WA-8200:
Canadian Model

SUPPLEMENT

No. 1
September, 1986

File this Supplement with the Service Manual.

Subject: • CIRCUIT CHANGE
(Serial No. 41,801 and later)
• PARTS CHANGE
(Serial No. 24,001 and later)

FM/MW/SW1–7 9BAND STEREO CASSETTE-CORDER

SONY®

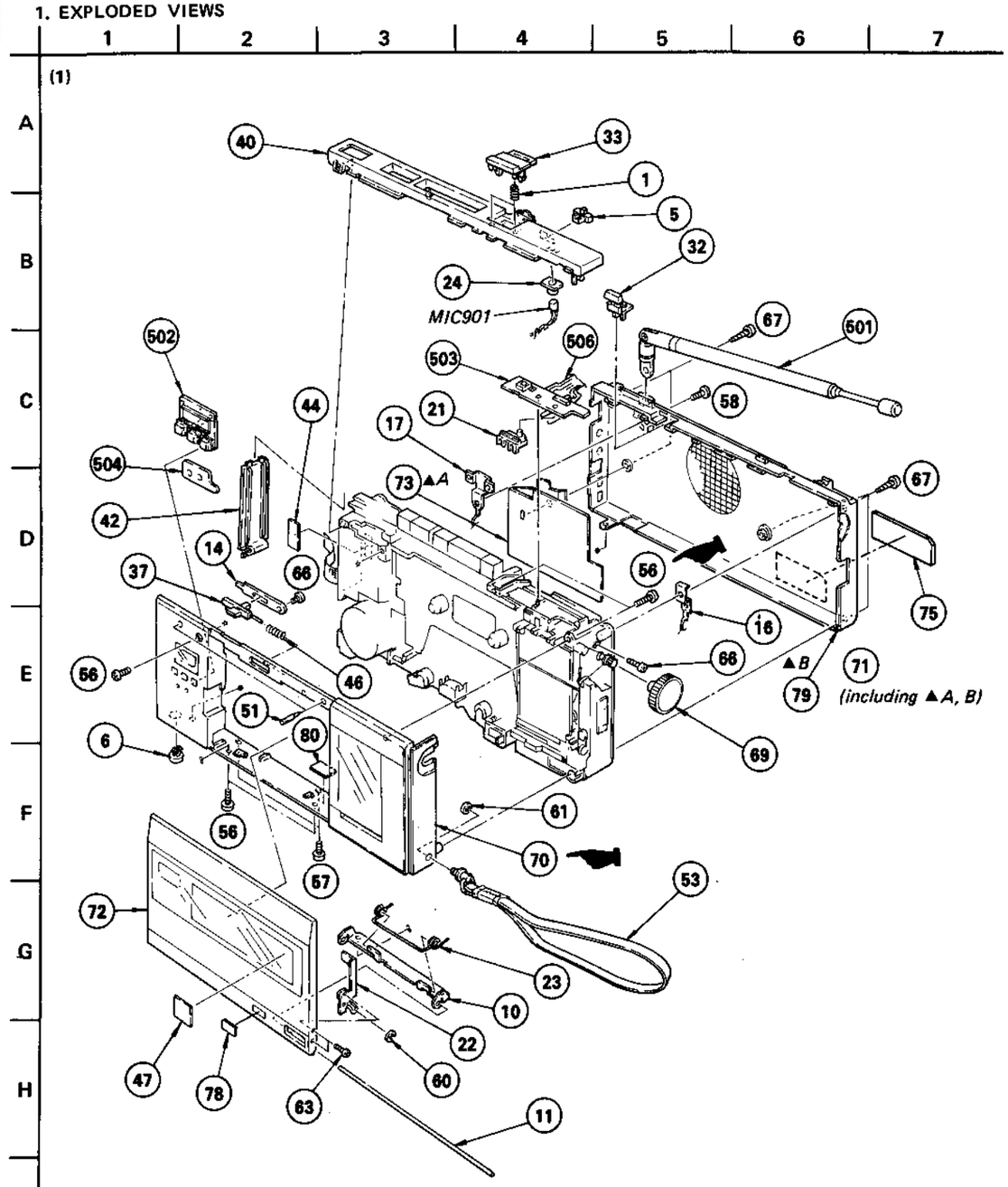
9-951-310-81

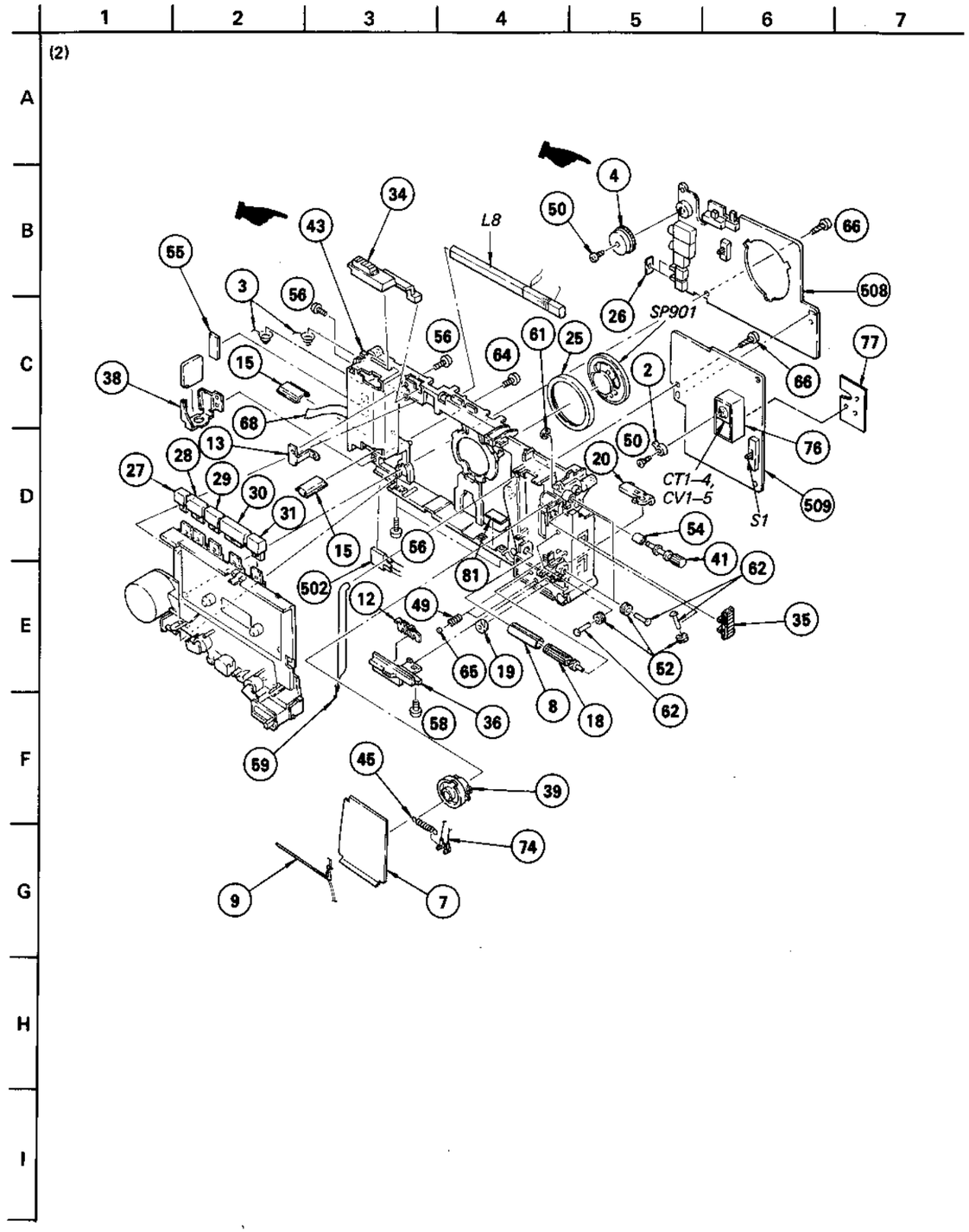
Sony Corporation

English
8610562-1
Printed in Japan

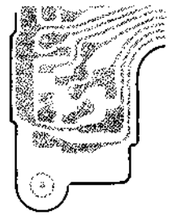
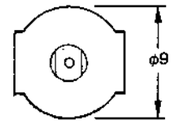
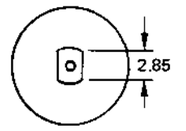
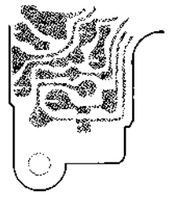
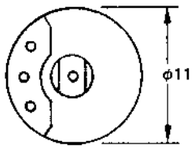
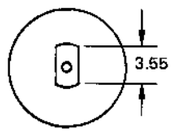
TC

1. EXPLODED VIEWS

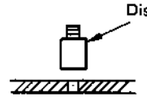
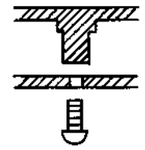
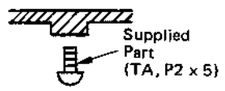
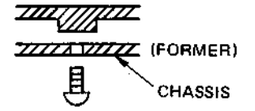
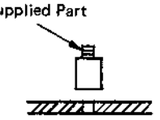
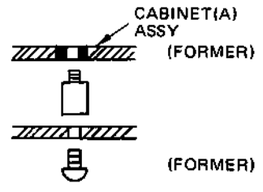




2. REPLACING RV301, CONTROL KNOB

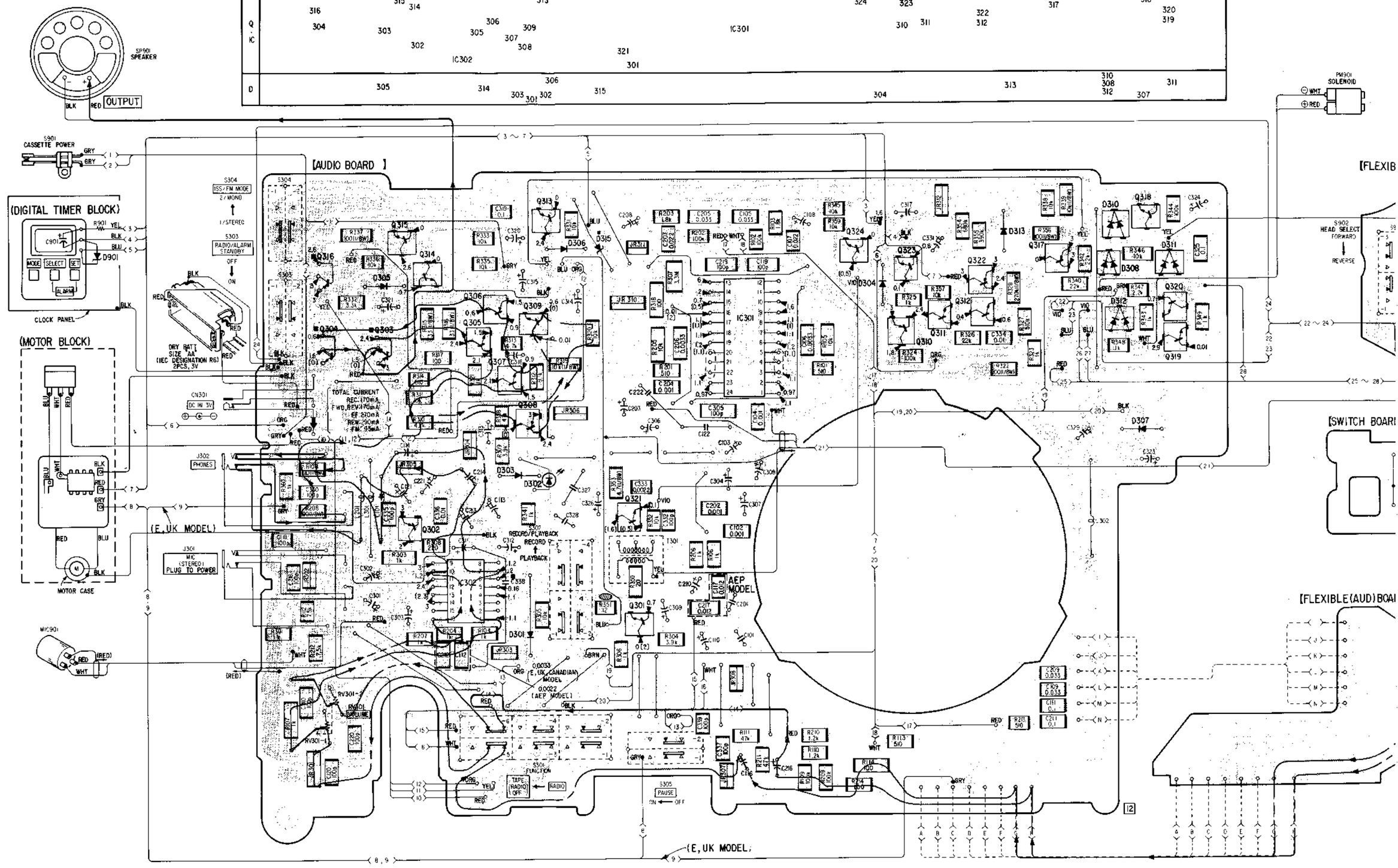
	AUDIO BOARD	RV301 (VOLUME)	(4) CONTROL KNOB
NEW (Serial No. 41,801 and later)		 1-230-327-11 (10K/10K)	 3-316-602-02
FORMER		 1-230-277-00 (20K/20K)	 3-316-602-01

3. REPLACING CABINET(A) ASSY, CHASSIS

		(70) CABINET(A) ASSY	(43) CHASSIS	ASSEMBLE
NEW (Serial No. 24,001 and later)		 X-3316-616-1 (UK, E, CND) -618-1 (AEP)	 X-3316-619-1	 (56) 7-685-105-11 PTP2 x 8
FORMER	Replacing only CABINET(A) ASSY	 X-3316-611-3 (UK, E, CND) -609-3 (AEP)		
	Replacing only CHASSIS		Supplied Part  X-3316-619-1	 (56) B2 x 3
	Replacing CABINET(A) ASSY and CHASSIS	Same as NEW		

4. MOUNTING DIAGRAM

– Conductor Side –



15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

A B C D E F G H I J

PM901
SOLENOID
WHT
RED

HRP
REC/PB HEAD
PP 238-3604

【FLEXIBLE(SW) BOARD】

S902
HEAD SELECT
FORWARD
REVERSE

【LED BOARD】
D501 (FORWARD)
D502 (REVERSE)

C903
AEP MODEL
C902
US, CANADIAN, E MODEL

【TUNER BOARD】

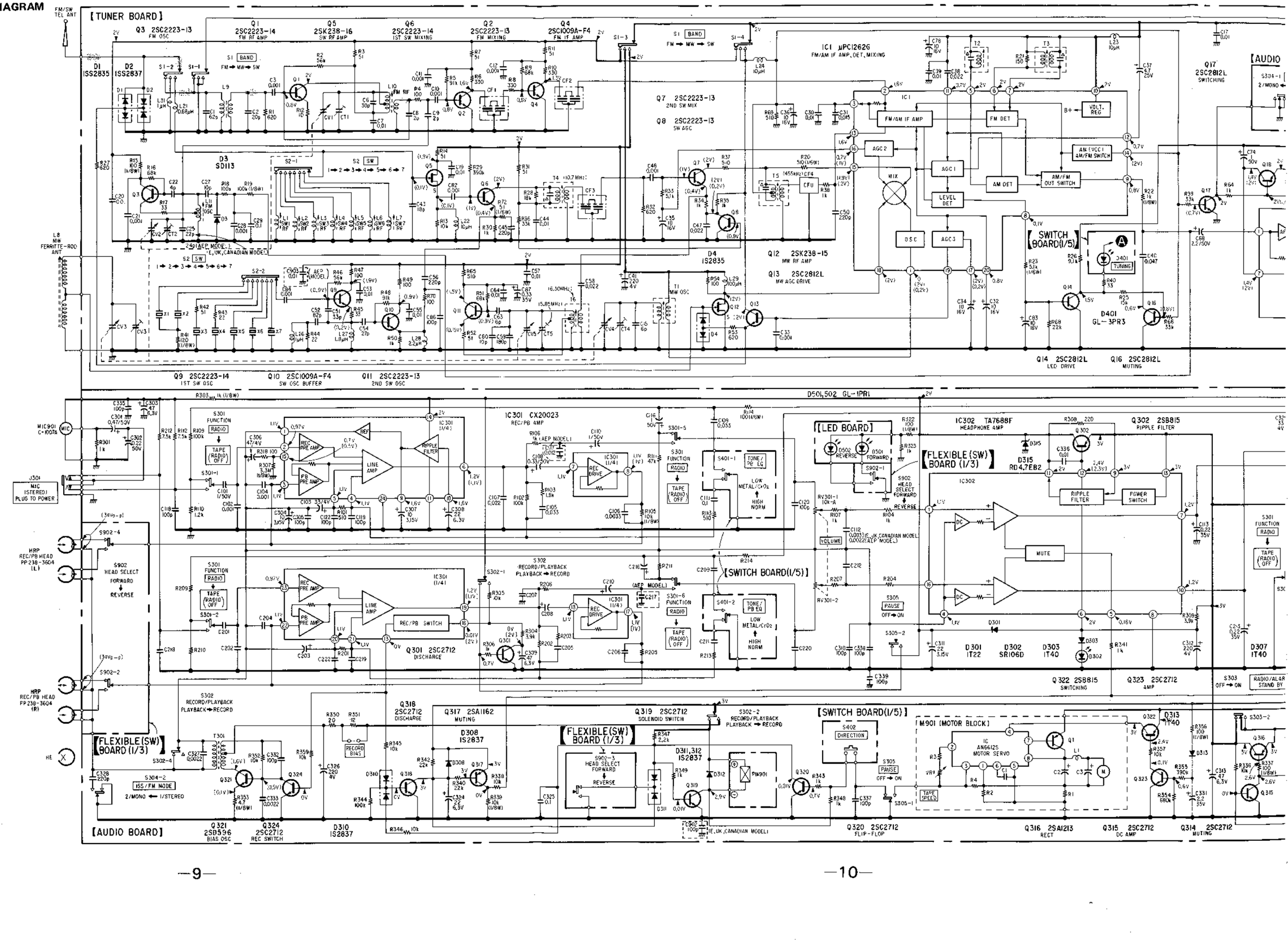
【SWITCH BOARD】
S402
DIRECTION
D401
TUNING
S401
D402
FM STEREO
PB EQ
METAL/CrO2 ← NORM
TONE
LOW ← HIGH

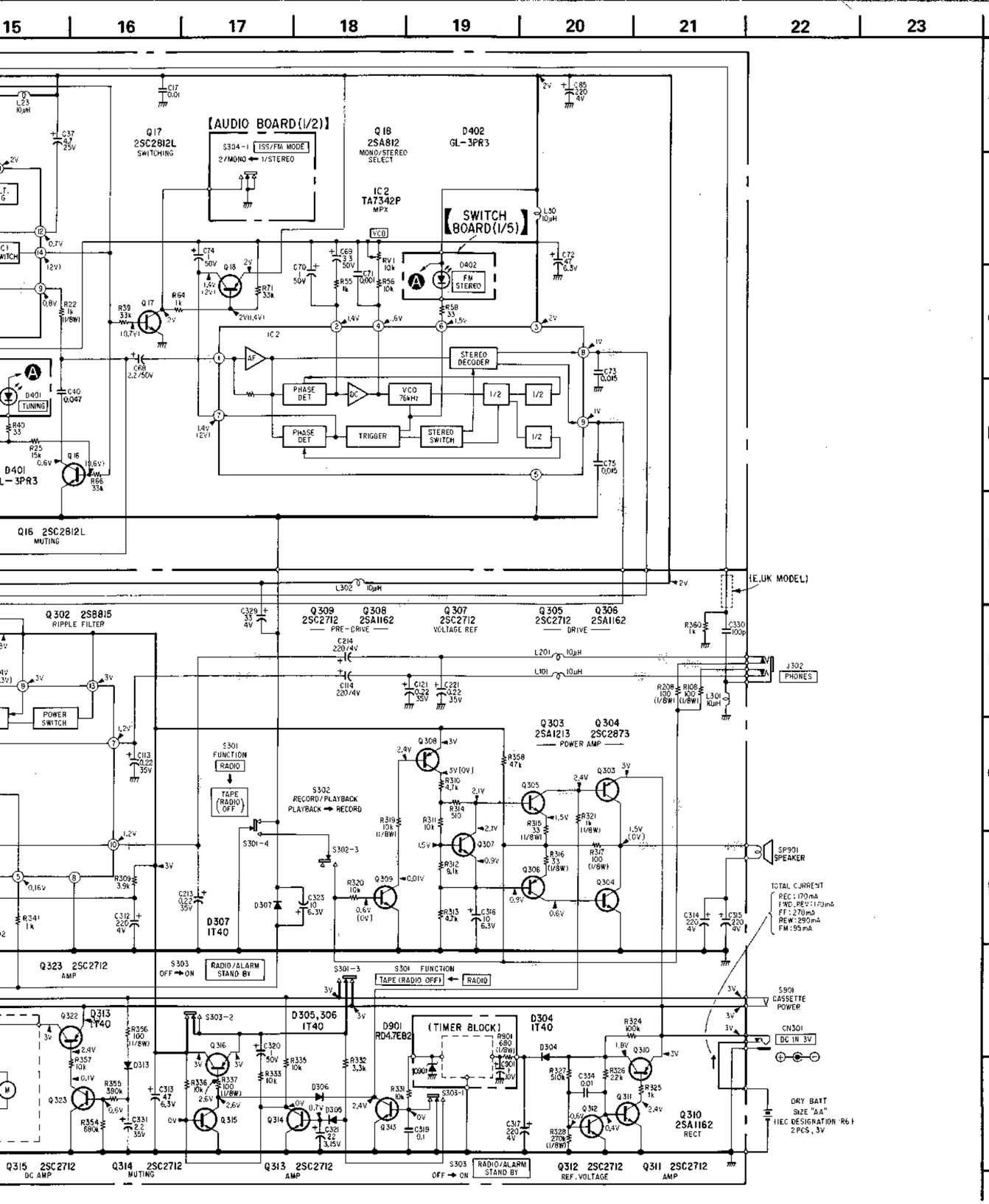
【FLEXIBLE(AUD) BOARD】

BAND
SW
MW
FM

MW FERRITTE-ROD ANT
FM/SW TEL ANT
FM INPUT

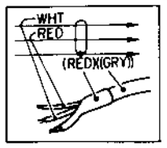
5. SCHEMATIC DIAGRAM





Note: for Mounting Diagram

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



- ○— : parts extracted from the component side.
- ●— : parts extracted from the conductor side.
- [ ]→ : indicates side identified with part number.
- ▒▒ : B + pattern
- ▬▶▬ : signal path
- ▬▶▬ : L-CH signal path
- ▬▶▬ : R-CH signal path
- In using an electret condenser microphone with a black mark on the side of the case, connect patterns by bridging at Ⓐ

Note: for Schematic Diagram

- Components for right channel have same values as for left channel. Reference numbers are coded from
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/10W unless otherwise noted. kΩ: 1000 Ω, MΩ: 1000 kΩ
- △ : internal component.
- ⬚ : signal path.
- ▭ : adjustment for repair.
- In using an electret condenser microphone with a black mark on the side of the case, connect patterns by bridging at Ⓐ.
- ▬▬ : B+ bus.
- Readings are taken under no-signal (detuned) conditions with a VOM.
  ( ) : AM No mark: common
  [ ] : REC
  < > : SW
- Switch

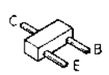
Ref. No.	Switch	Position
S1	BAND	FM
S2	SW	1
S301	FUNCTION	RADIO
S302	RECORD/PLAYBACK	PLAYBACK
S303	RADIO/ALARM STANDBY	OFF
S304	ISS/FM MODE	1/STEREO
S305	PAUSE	OFF
S401	TONE/PB EQ	LOW/NORM
S402	DIRECTION	OFF
S901	CASSETTE POWER	OFF
S902	HEAD SELECT	FORWARD

Note: Voltages are measured with a VOM (50kΩ/V).

- ✱: Taken with an oscilloscope.

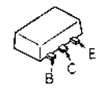
SEMICONDUCTOR LEAD LAYOUTS

2SA1162
2SC1009A-FA4

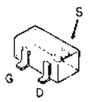


2SB624
2SC2223-F14
2SC2712
2SD596

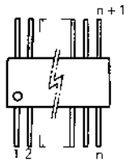
2SB798
2SD999



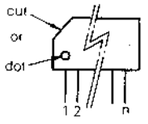
2SK238-K15



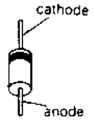
CX20023
TA7688F
μPC1262G-E



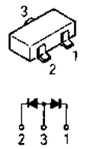
TA7342P



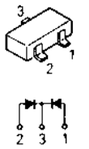
1S2687S-1
1SS119
1T22A
RD4.7EB2



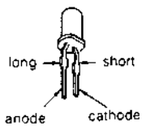
1S2835



1S2837



GL1PR1
GL3PR3



SR106D