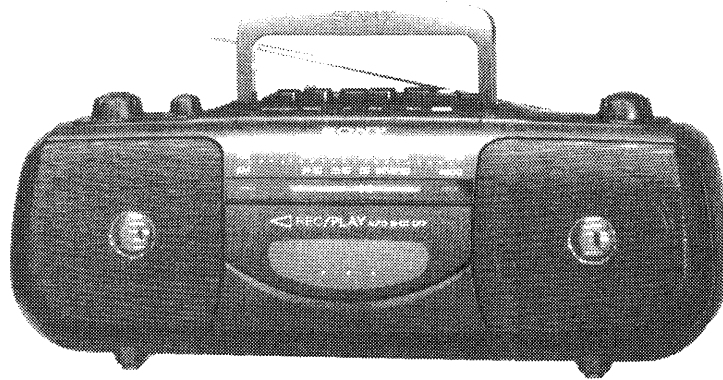


CFS-E14

SERVICE MANUAL

AEP Model
E Model



Model Name Using Similar Mechanism	NEW
Tape Transport Mechanism Type	MF-E14-64G

SPECIFICATIONS

- **Frequency range**
 - FM: 87.6-107 MHz (AEP)
 - 65-108 MHz (East European)
 - 87.5-108 MHz (Italian)
 - 87.6-108 MHz (E, Taiwan)
 - AM: 531-1,602 kHz (AEP, East European)
 - 526.5-1,606.5 kHz (Italian)
 - 530-1,710 kHz (E, Taiwan)
- **IF FM:** 10.7 MHz
- **AM:** 455 kHz
- **Aerials** FM: Telescope
- **AM:** Built-in ferrite bar
- **Recording system** 4-track, 2-channel stereo
- **Frequency response** 80-10,000 Hz
- **Speakers** Full-range: 9.2 cm (3 ⁷/₈ inches) dia. ×2, 3.2 Ω
- **Output** Headphones jack (stereo minijack), for 16 to 68 ohms impedance headphones
- **Maximum power output** 2.6W+2.6W
- **Battery life**
 - FM Recording: Sony R14P: Approx. 6 hours/Sony LR14 alkaline: Approx. 18 hours
 - Playback: R14P: Approx. 4 hours/Sony LR14 alkaline: Approx. 12 hours
- **Power requirements**
 - Europe: 220-230 V AC, 50 Hz
 - Other countries: 120 V AC, 60 Hz
 - 9 V DC, six R14 (size C) batteries
- **Power consumption** AC10 W
- **Dimensions** Approx. 350×134×120 mm (w/h/d) (13 ⁷/₈×5 ³/₈×4 ³/₈ inches) incl. projecting parts and controls, not incl. handle
- **Mass** Approx. 2.0 kg (4 lb 7 oz) incl. batteries
- **Supplied accessory** Mains lead (1)

Design and specifications are subject to change without notice.

RADIO CASSETTE-CORDER
SONY®

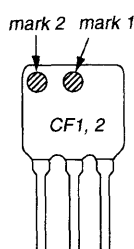
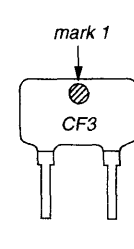
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HOW TO CHANGE THE CERAMIC FILTERS

This model is used three ceramic filters of CF1, CF2 and CF3. You must use same type of color marked ceramic filters in order to meet same specifications.

Therefore, the ceramic filter must change three pieces together since it's supply three pieces in one package as a spare parts.

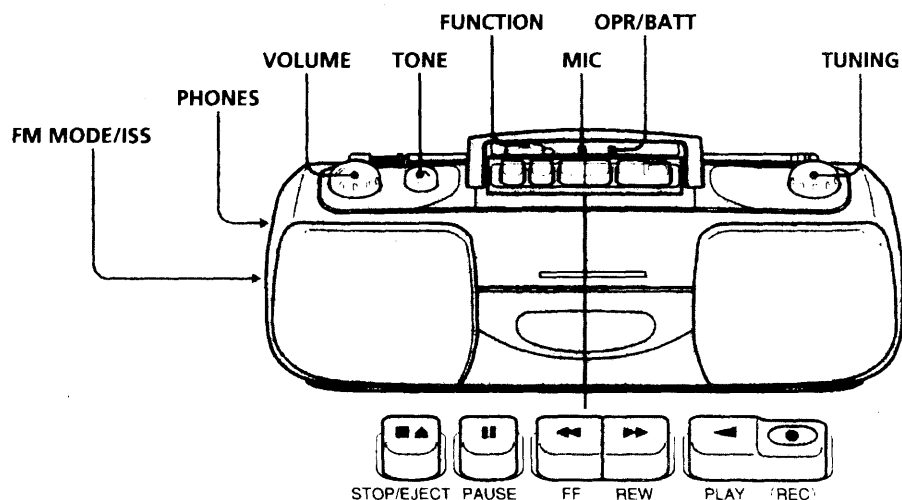
	mark 1	mark 2	center frequency
	red	-	10.70MHz
	blue	-	10.67MHz
	orange	-	10.73MHz
	black	-	10.64MHz
	white	-	10.76MHz
	white	white	10.75MHz
	yellow	-	10.79MHz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK Δ OR DOTTED LINE WITH MARK Δ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1 GENERAL

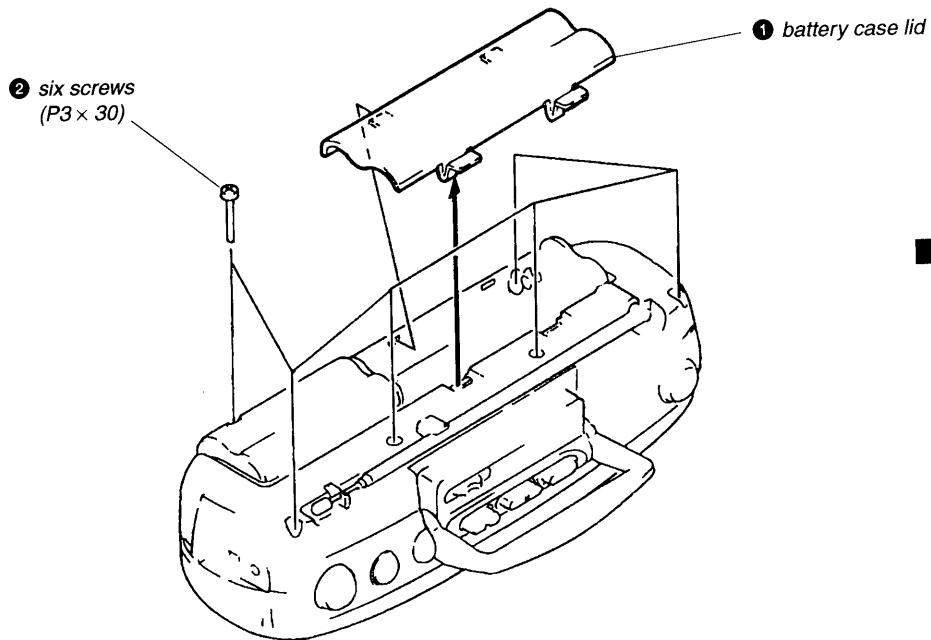
Location and controls



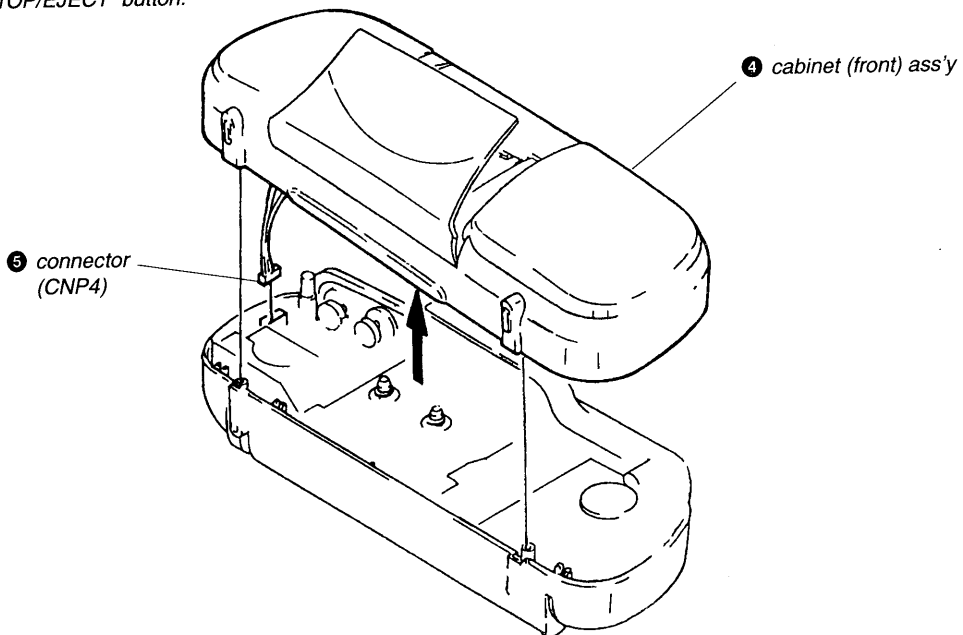
SECTION 2 DISASSEMBLY

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

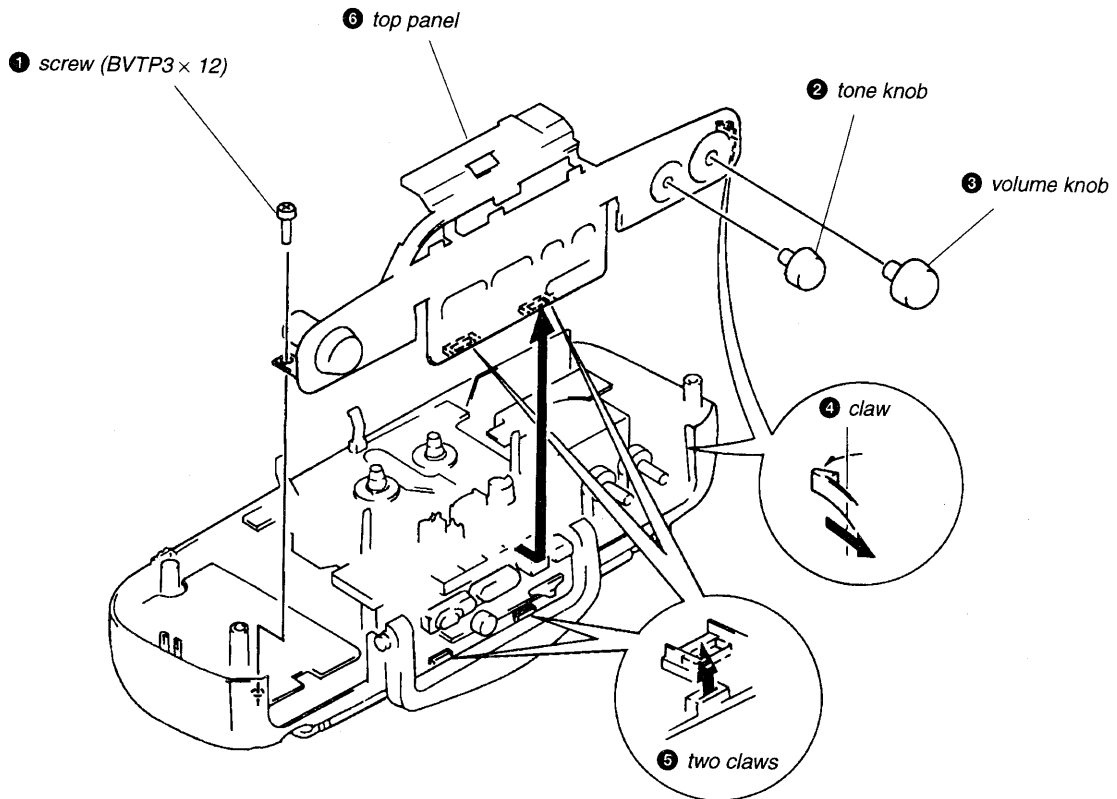
CABINET (FRONT) ASS'Y



3 Open the cassette door by pressing "STOP/EJECT" button.

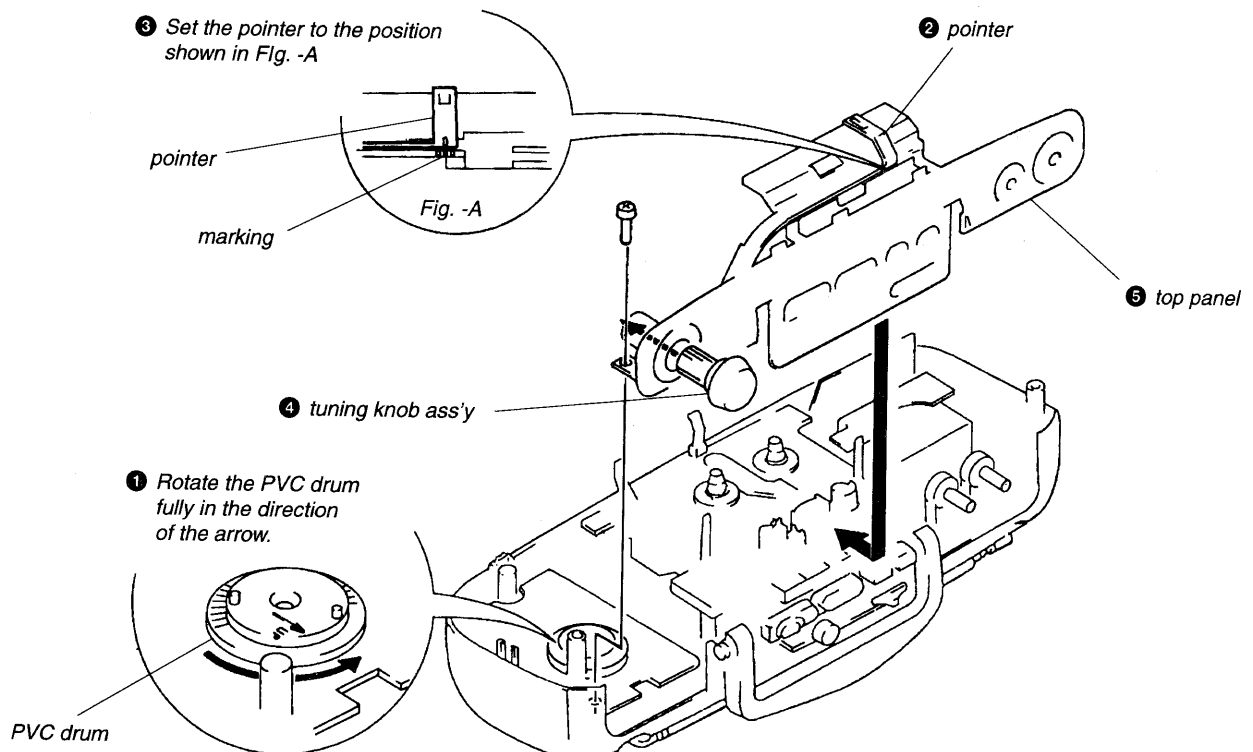


TOP PANEL



DIAL POINTER SETTING

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



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

Torque	Meter Reading	Torque Meter
Forward	22.5-55 g•cm (0.31-0.76 oz•inch)	CQ-102C
Fast Forward and Rewind	45-120 g•cm (0.63-1.67 oz•inch)	CQ-201B
Back Tension	2-5g•cm (0.03-0.07 oz•inch)	CQ-102C

Tape Tension Measurement

Meter	Meter Reading
CQ-403A	more than 70 g (2.46 oz)

3-2. ELECTRICAL ADJUSTMENTS

PRECAUTION

1. Adjustments should be performed in the order given. Generally playback circuit adjustments should be completed before performing recording circuit adjustments.
2. Adjustments should be performed for both L-ch and R-ch. Control should be set as follows unless otherwise specified.

- Position of control knob
TONE..... maximum

- **Standard recording position**
Adjust the VOLUME knob so that the following regulated input/output signal levels are obtained.

- **Standard input level**

Input Pin	MIC
Signal source impedance	300 Ω
Input signal level	12.5 mV (-50 dB)
Frequency	1 kHz

- **Standard output level**

Output Pin	Speaker (L, R)	PHONES
Signal source impedance	3.2 Ω	32 Ω
Output signal level	0.775 V (0 dB)	0.245 V (-10 dB)

0 dB=0.775 V

TAPE RECORDER SECTION

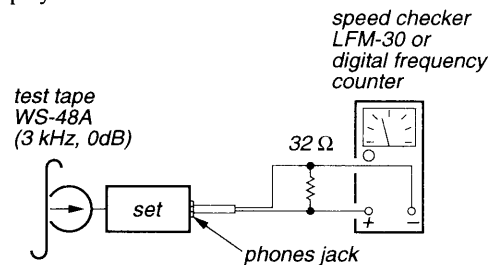
- **Test Tape**

Type	Signal	Used for
WS-48A	3 kHz, 0 dB	tape speed adjustment

Tape Speed Adjustment

Procedure:

Mode: playback

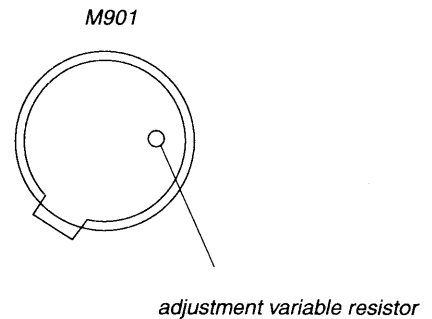


Adjustment Value:

Speed checker	Digital frequency counter
-1.3 to 0.6%	2,990 ± 30 Hz

Frequency difference between the beginning and the end of the tape should be within 1.5% (45 Hz).

Adjustment Location:

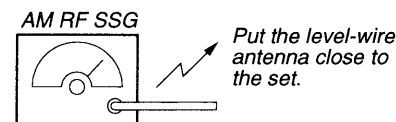


TUNER SECTION

[AM]

FUNCTION switch: RADIO

BAND switch: AM

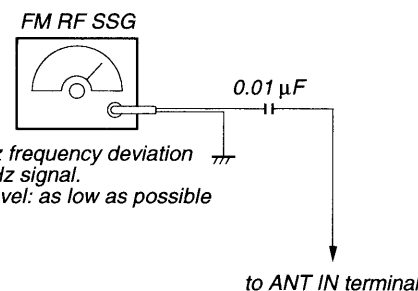


30% amplitude modulation by 400 Hz signal
output level: as low as possible

[FM]

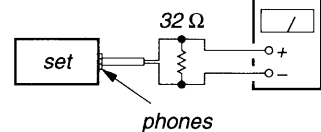
FUNCTION switch: RADIO

BAND switch: FM



22.5 kHz frequency deviation by 400 Hz signal.
output level: as low as possible

level meter



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

AM IF ADJUSTMENT	
Adjust for a maximum reading on level meter.	
T1	455 kHz

AM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L2	520 kHz (EXCEPT Italian) 516 kHz (Italian)
CT4	1,630 kHz (Italian) 1,680 kHz (AEP, East European) 1,780 kHz (E, Taiwan)

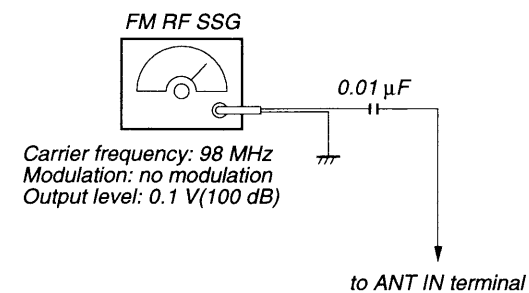
AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L1	620 kHz
CT3	1,400 kHz

FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L4	86.5 MHz (E, Tiwan) 87.0 MHz (AEP, East European) 87.35 MHz (Italian)
CT2	109.5 MHz (E, Taiwan) 108.25 MHz (Italian) 108.3 MHz (AEP, East European)

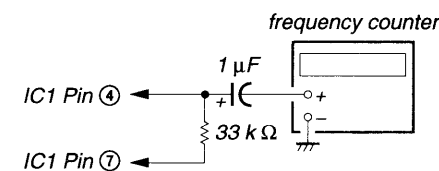
FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L3	86.5 MHz (E, Taiwan) 87.0 MHz (AEP, East European) 87.35 MHz (Italian)
CT1	109.5 MHz (E, Taiwan) 108.25 MHz (Italian) 108.3 MHz (AEP, East European)

FM VCO Adjustment

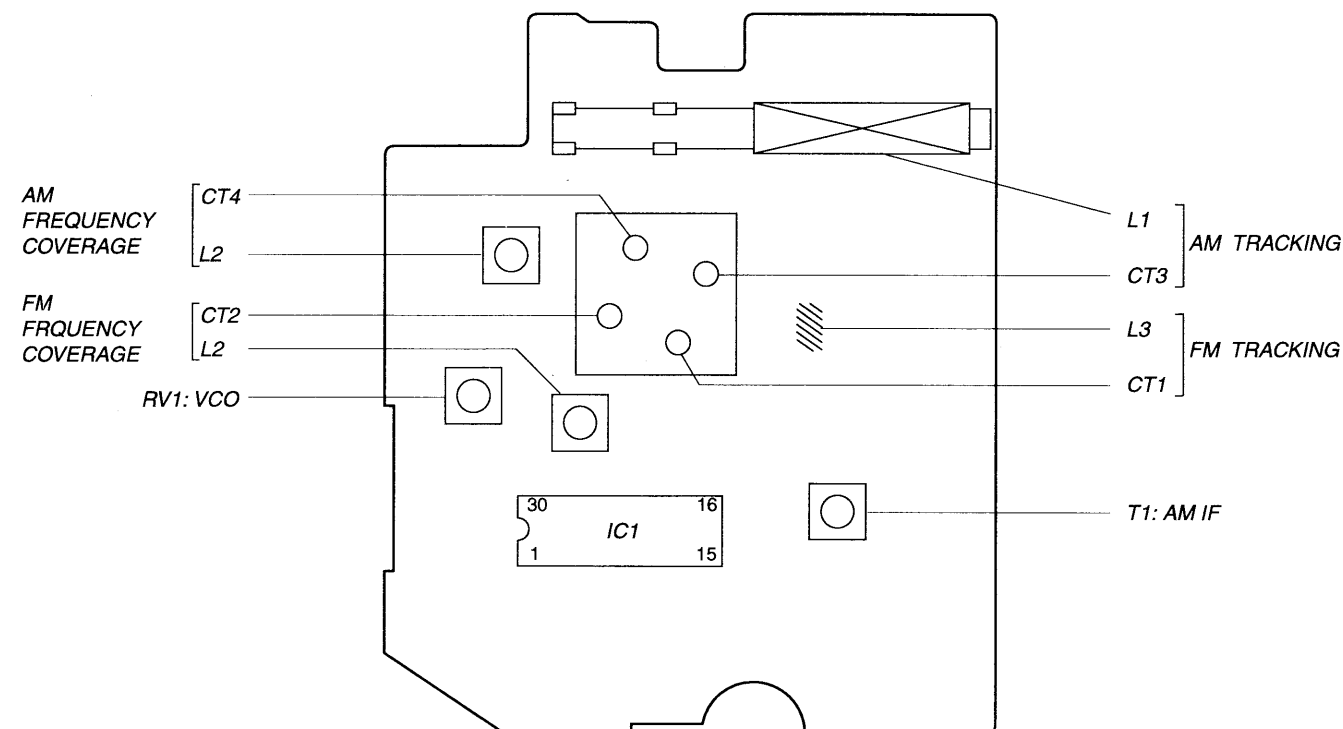
Procedure:



- Connect frequency counter to the positions shown below.
- Tune the set to 98 MHz.
- Adjust RV1 for 76 kHz ± 500 Hz reading on the frequency counter.

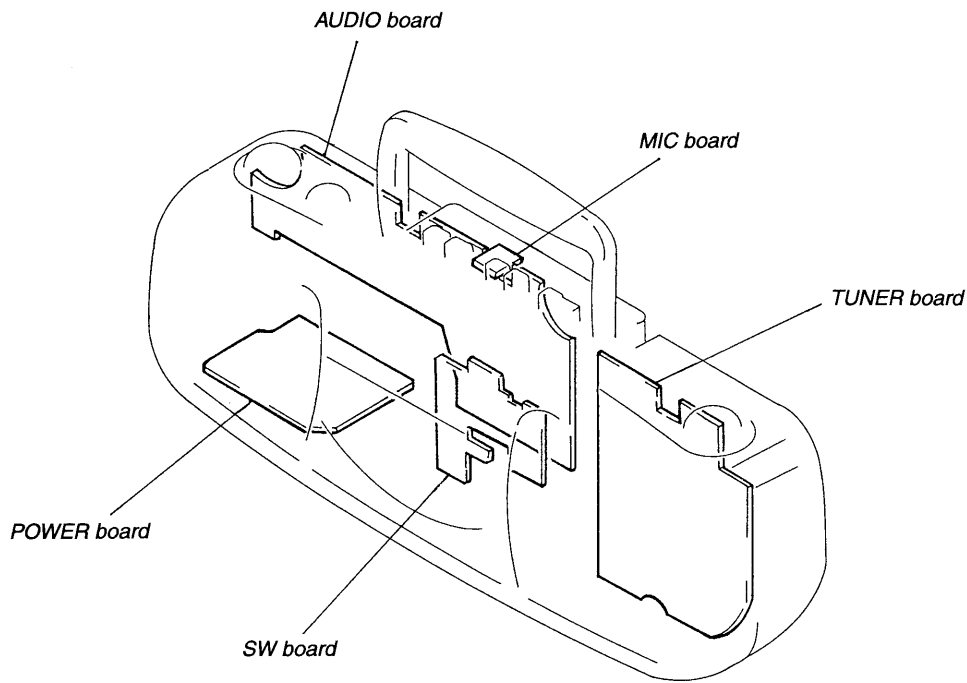


- Adjustment Parts Location [TUNER BOARD] (Component Side)



SECTION 4 DIAGRAMS

• **Circuit Boards Location**



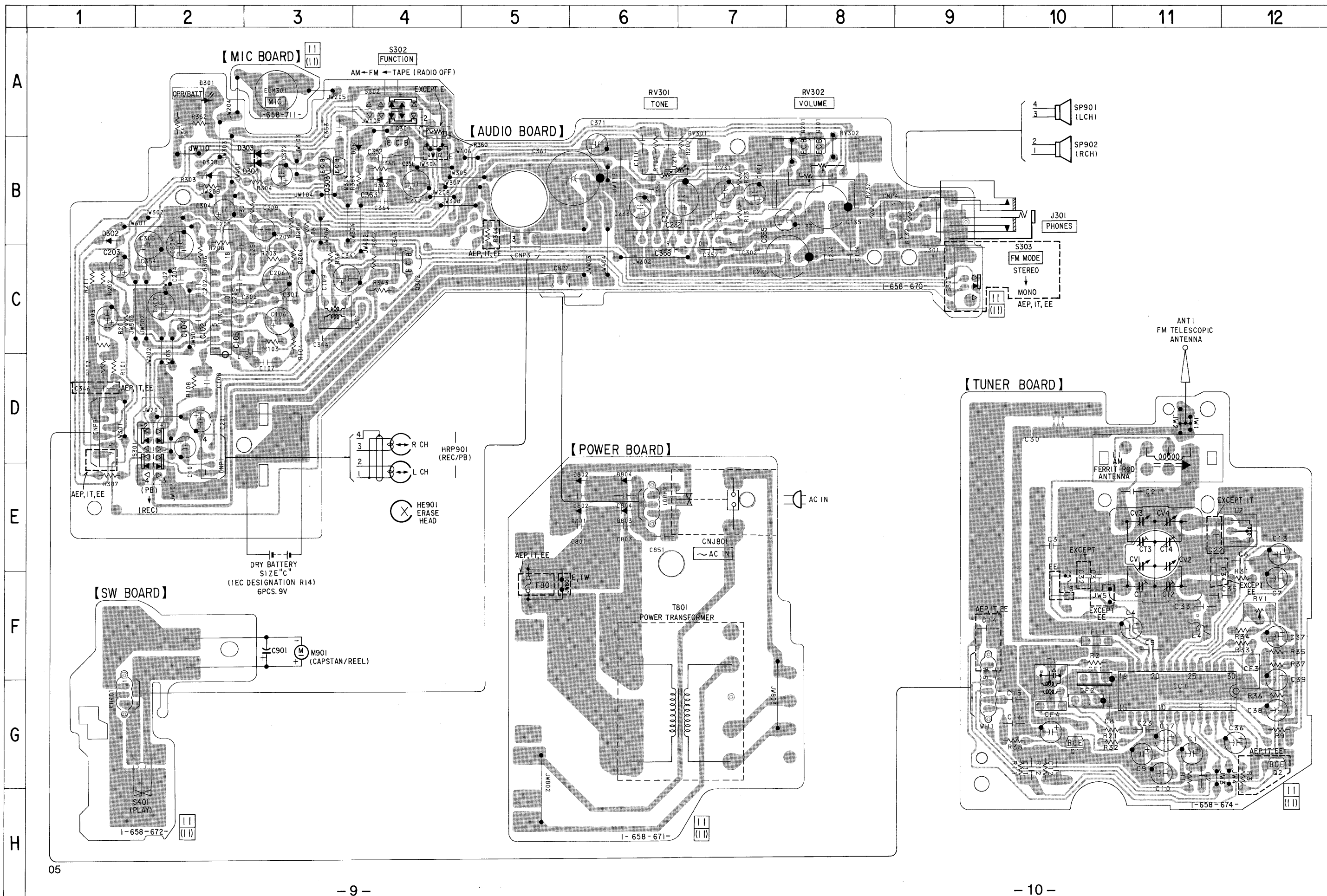
• **Semiconductor Location**

Ref. No.	Location
D301	A-2
D302	B-1
D303	B-3
D304	B-3
D308	B-2
D361	B-4
D362	B-4
D801	E-6
D802	E-6
D803	E-6
D804	E-6
IC1	G-11
IC301	C-2
IC302	C-7
Q1	G-10
Q2	G-12
Q101	A-8
Q201	A-8
Q301	A-4
Q302	C-4
Q303	B-3
Q304	B-3

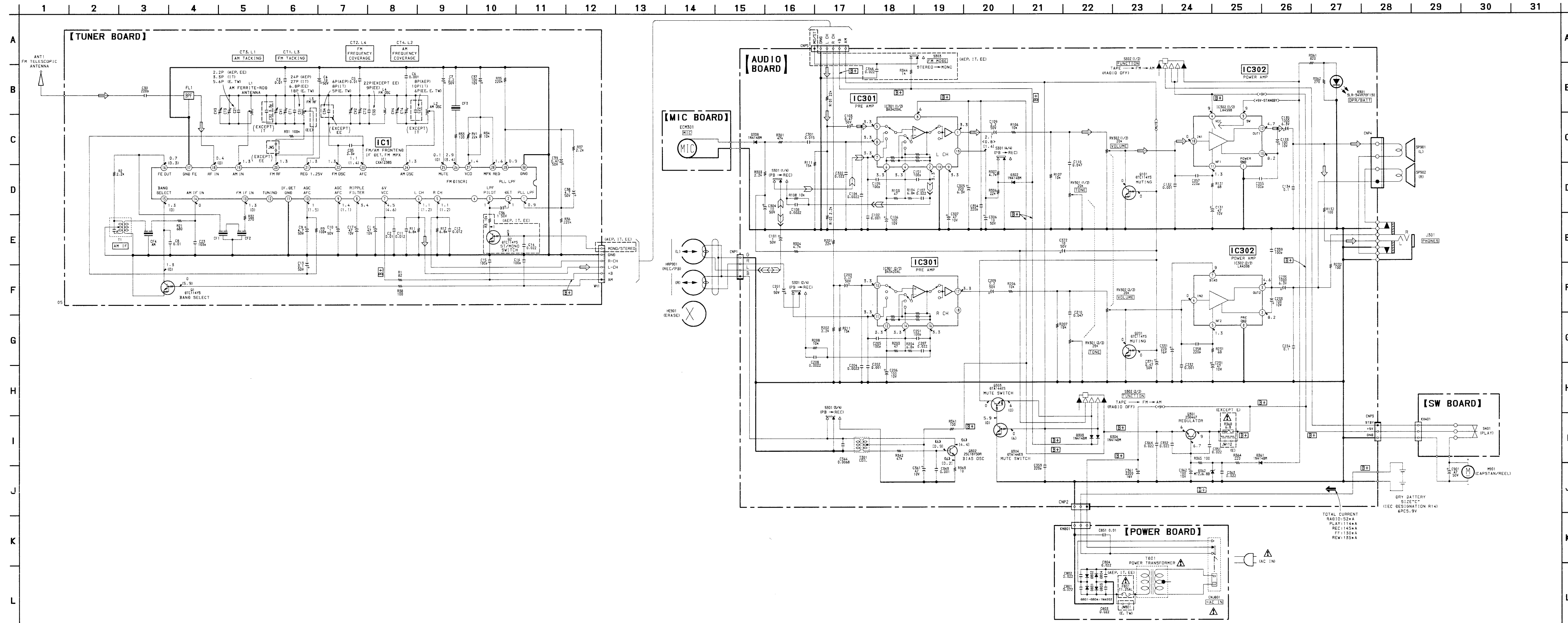
Note on Printed Wiring Boards:

- : parts extracted from the component side.
- : Pattern from the side which enables seeing.
- Abbreviation
 EE: East European
 IT: Italian
 TW: Taiwan

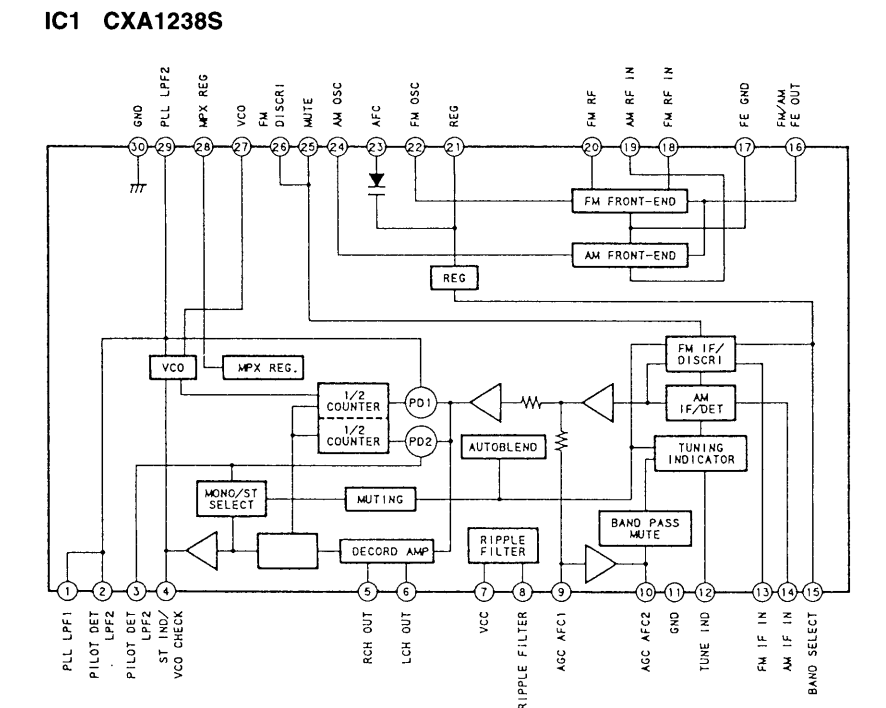
4-1. PRINTED WIRING BOARDS



4-2. SCHEMATIC DIAGRAM



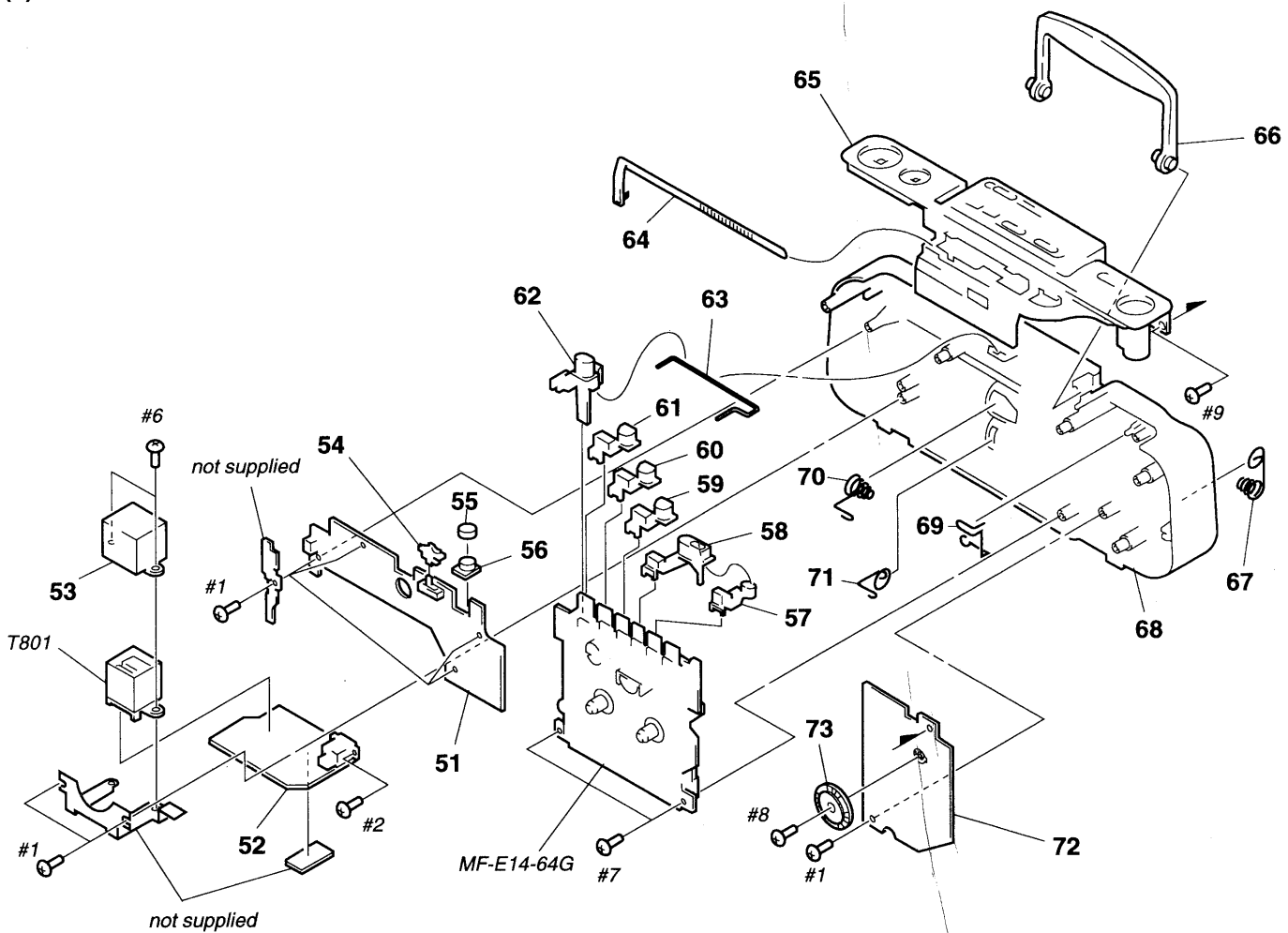
• IC Block Diagram



- Note on Schematic Diagram:**
- All capacitors are in μF unless otherwise noted. pF : μF 50 WV or less are not indicated except for electrolytics and tantalums.
 - All resistors are in Ω and $1/4$ W or less unless otherwise specified.
 - \triangle : fusible resistor.
- Note:** The components identified by mark \triangle or dotted line with mark \triangle are critical for safety. Replace only with part number specified.

- B+**: B+ Line.
- \square : panel designation.
- \square : adjustment for repair.
- Total current is measured with no cassette installed.
- Power voltage is dc 9 V and fed with regulated dc power supply from the battery terminal.
- Voltages are dc with respect to ground under no-signal (detuned) conditions.
- no mark: FM
- (): AM
- < >: REC
- []: PB
- Voltages are taken with a VOM (10 M Ω /V).
- Voltage variations may be noted due to normal production tolerances.
- Voltage variations may be noted due to normal production tolerances.
- Signal path.
- \rightarrow : FM
- \rightarrow : PB
- \rightarrow : REC
- Abbreviation
- EE: East European IT: Italian TW: Taiwan

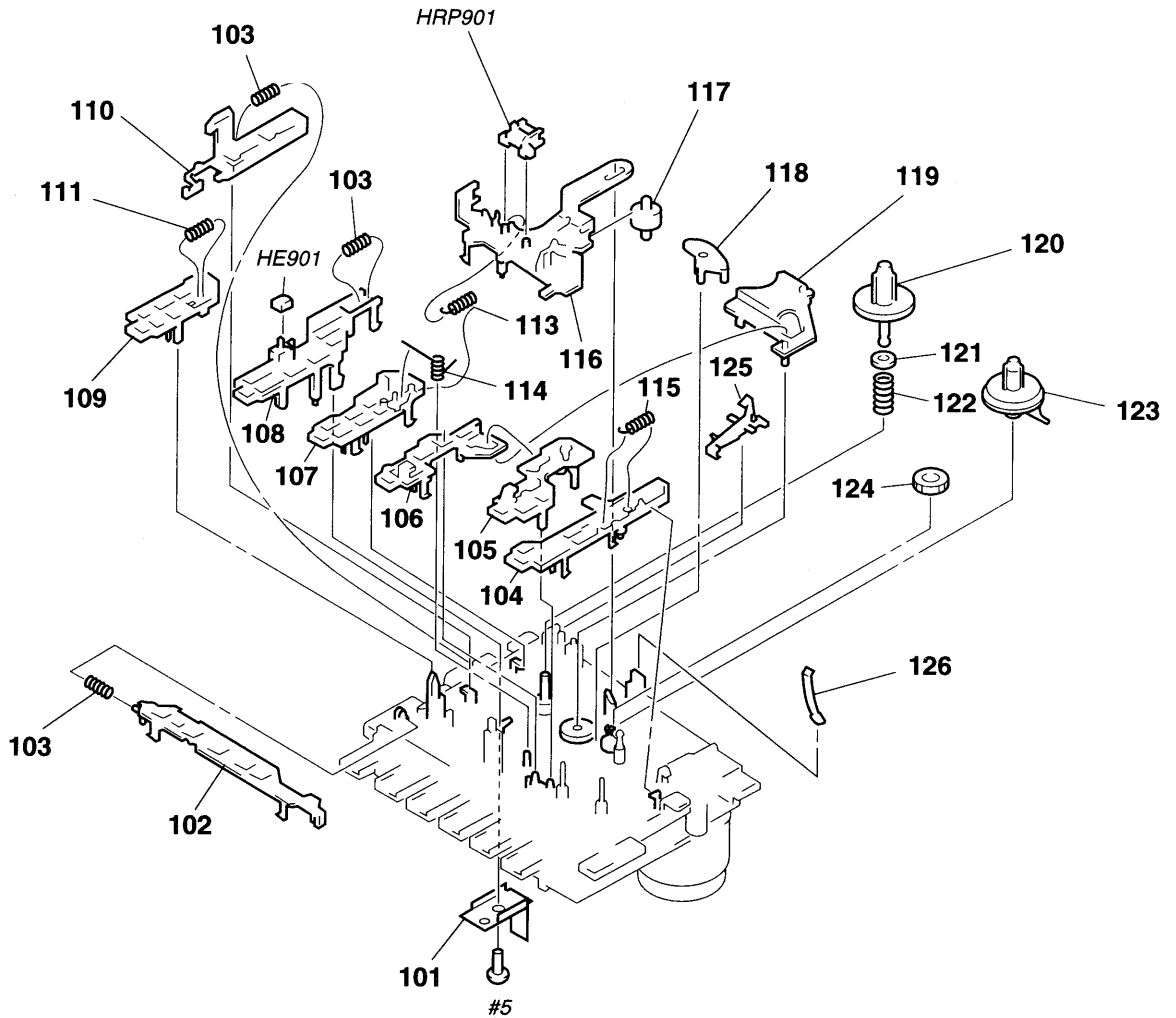
(2) REAR CABINET SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* 51	A-3305-700-A	AUDIO BOARD, COMPLETE (AEP, IT, EE)		66	3-929-151-01	HANDLE (for BLACK, BLUE)	
* 51	A-3305-815-A	AUDIO BOARD, COMPLETE (TW)		66	3-929-151-11	HANDLE (for WHITE)(AEP)	
* 51	A-3305-876-A	AUDIO BOARD, COMPLETE (E)		67	3-929-286-01	SPRING, BATT	
* 52	1-658-671-11	POWER BOARD		68	3-929-148-01	CABINET, REAR (BLACK)(AEP, E, TW)	
* 53	3-388-406-01	PLATE (TRANS), SHIELD		68	3-929-148-11	CABINET, REAR (WHITE)(AEP)	
54	3-929-163-01	KNOB, FUNCTION (for BLACK, BLUE)		68	3-929-148-21	CABINET, REAR (BLUE)(AEP)	
54	3-929-163-11	KNOB, FUNCTION (for WHITE)(AEP)		68	3-929-148-31	CABINET (REAR)(BLACK)(IT, EE)	
55	3-366-963-01	CUSHION (MIC)		* 69	3-929-175-01	TERMINAL, ANTENNA	
* 56	1-658-711-11	MIC BOARD		70	3-929-178-01	SPRING (-)	
57	3-929-159-01	BUTTON, REC (●)		71	3-929-177-01	SPRING (+)	
58	3-929-158-01	BUTTON, PLAY (▶)		* 72	A-3305-702-A	TUNER BOARD, COMPLETE (AEP)	
59	3-929-157-01	BUTTON, REW (◀)		* 72	A-3305-703-A	TUNER BOARD, COMPLETE (IT)	
60	3-929-156-01	BUTTON, FF (◀◀)		* 72	A-3305-725-A	TUNER BOARD, COMPLETE (E, TW)	
61	3-929-155-01	BUTTON, PAUSE ()		* 72	A-3305-814-A	TUNER BOARD, COMPLETE (EE)	
62	3-929-154-01	BUTTON, EJECT/STOP (■/▲)		73	3-929-167-01	DRUM, PVC	
* 63	3-929-146-01	BUTTON, ROD		△ T801	1-450-016-11	TRANSFORMER, POWER (E, TW)	
64	3-929-166-01	POINTER		△ T801	1-450-492-11	TRANSFORMER, POWER (AEP, IT, EE)	
65	3-929-149-01	PANEL, TOP (for BLACK, BLUE)					
65	3-929-149-11	PANEL, TOP (for WHITE)(AEP)					

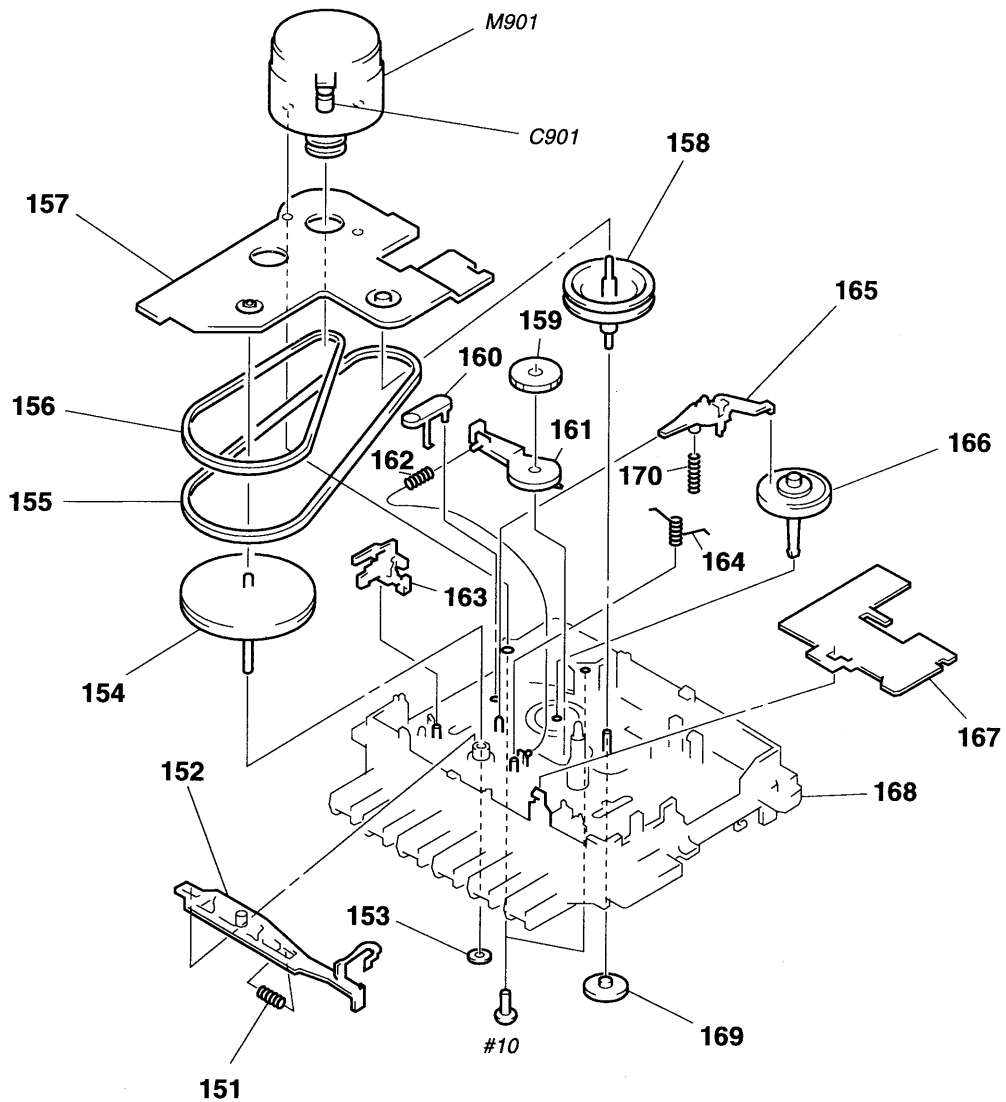
The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

**(3) MECHANISM DECK SECTION-1
(MF-E14-64G)**



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	3-929-171-01	LEVER, REC		116	4-932-693-03	DECK (S), HEAD	
102	4-932-695-01	SLIDER (FR), LOCK		117	4-928-962-01	PINCH ROLLER	
103	4-932-648-01	SPRING, COMPRESSION		118	4-928-982-01	LEVER (C)	
104	4-928-994-01	LEVER, PAUSE		119	X-4920-347-1	LEVER (S) ASSY, FR	
105	4-928-993-01	LEVER, FF		120	4-928-978-01	GEAR (C), SUPPLY REEL	
106	4-928-992-01	LEVER, REW		121	4-931-795-01	WASHER	
107	4-928-991-01	LEVER, PLAY		122	3-343-381-01	SPRING, COMPRESSION	
108	4-934-511-01	LEVER (S), REC		123	X-4920-350-3	GEAR (S) ASSY, T REEL	
109	4-928-985-11	LEVER, STOP		124	3-343-285-01	GEAR, FF	
110	4-936-206-01	SLIDER (S), EJECT		125	4-928-960-02	CLAW, SAFETY	
111	3-388-999-01	SPRING, COMPRESSION		126	3-376-135-01	SPRING, CASSETTE	
113	4-928-972-01	SPRING, TENSION		HE901	1-543-876-11	HEAD (ERASE)	
114	4-928-973-01	SPRING		HRP901	1-543-628-11	HEAD, MAGNETIC (RECORD/PLAYBACK)	
115	3-313-372-01	SPRING, TENSION					

**(4) MECHANISM DECK SECTION-2
(MF-E14-64G)**



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
151	4-932-656-01	SPRING, COMPRESSION		162	3-905-168-01	SPRING, COMPRESSION	
152	4-928-996-11	LEVER, SW		163	3-904-620-21	LEVER (S.OFF) (T)	
153	3-343-358-01	RING, RETAINING		164	4-928-958-11	SPRING, FR RETURN	
154	X-4920-923-1	WHEEL (W) ASSY, CAPSTAN		165	3-904-621-21	LEVER (S.OFF) (S)	
155	4-928-974-01	BELT (MIDWAY)		166	X-3366-942-1	LIMITER ASSY, FWD	
156	3-453-112-00	BELT (CAPSTAN)		* 167	1-658-672-11	SW BOARD	
* 157	X-3367-597-1	PLATE ASSY, GROUND		168	X-4920-348-1	CHASSIS (S) ASSY, MECHANICAL	
158	X-3366-943-1	PULLEY ASSY, GEAR		169	4-928-967-01	GEAR (C), MIDWAY	
159	3-904-615-21	GEAR (FWD)		170	3-904-617-01	SPRING, COMPRESSION	
160	4-928-961-01	PLATE, PAUSE LOCK		C901	1-124-910-11	ELECT 47 μ F 20% 50V	
161	3-904-619-21	LEVER (FWD)		M901	X-3367-872-2	MOTOR ASSY (1600)(CAPSTAN/REEL)	

SECTION 6 ELECTRICAL PARTS LIST

AUDIO

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms.
METAL: Metal-film resistor.
METAL OXIDE: Metal oxide-film resistor.
F: nonflammable
- Abbreviation
EE: East European IT: Italian TW: Taiwan

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
In each case, u: μ , for example:
uA. . . : μ A. . . uPA. . . : μ PA. . .
uPB. . . : μ PB. . . uPC. . . : μ PC. . .
uPD. . . : μ PD. . .
- CAPACITORS
uF: μ F
- COILS
uH: μ H

The components identified by mark Δ or dotted line with mark Δ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*	A-3305-700-A	AUDIO BOARD, COMPLETE (AEP, IT, EE)		C304	1-126-964-11	ELECT 10uF 20% 50V	
*	A-3305-876-A	AUDIO BOARD, COMPLETE (E)		C305	1-124-635-00	ELECT 220uF 20% 6.3V	
*	A-3305-815-A	AUDIO BOARD, COMPLETE (TW) *****		C306	1-126-964-11	ELECT 10uF 20% 50V	
< CAPACITOR >				C307	1-104-664-11	ELECT 47uF 20% 10V	
C101	1-124-903-11	ELECT	1uF 20% 50V	C331	1-124-120-11	ELECT 220uF 20% 25V	
C102	1-162-294-31	CERAMIC	0.001uF 10% 50V	C341	1-104-664-11	ELECT 47uF 20% 10V	
C103	1-124-902-00	ELECT	0.47uF 20% 50V	C343	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C104	1-162-302-11	CERAMIC	0.0022uF 20% 16V	C344	1-130-481-00	MYLAR 0.0068uF 5% 50V	
C105	1-162-282-31	CERAMIC	100PF 10% 50V	C346	1-161-494-00	CERAMIC 0.022uF 25V	(AEP, IT, EE)
C106	1-124-443-00	ELECT	100uF 20% 10V	C351	1-161-494-00	CERAMIC 0.022uF 25V	
C107	1-162-843-11	CERAMIC	0.022uF 10% 16V	C352	1-161-494-00	CERAMIC 0.022uF 25V	
C108	1-162-302-11	CERAMIC	0.0022uF 20% 16V	C353	1-162-286-21	CERAMIC 220PF 10% 50V	
C109	1-124-925-11	ELECT	2.2uF 20% 100V	C354	1-162-286-21	CERAMIC 220PF 10% 50V	
C110	1-162-847-11	CERAMIC	0.047uF 10% 16V	C355	1-162-282-31	CERAMIC 100PF 10% 50V	
C131	1-104-664-11	ELECT	47uF 20% 10V	C357	1-162-286-21	CERAMIC 220PF 10% 50V	
C132	1-162-294-31	CERAMIC	0.001uF 10% 50V	C358	1-162-286-21	CERAMIC 220PF 10% 50V	
C133	1-124-443-00	ELECT	100uF 20% 10V	C359	1-162-282-31	CERAMIC 100PF 10% 50V	
C134	1-130-495-00	MYLAR	0.1uF 5% 50V	C361	1-126-768-11	ELECT 2200uF 20% 16V	
C135	1-126-916-11	ELECT	1000uF 20% 6.3V	C362	1-124-443-00	ELECT 100uF 20% 10V	
C151	1-162-282-31	CERAMIC	100PF 10% 50V	C363	1-161-494-00	CERAMIC 0.022uF 25V	
C201	1-124-903-11	ELECT	1uF 20% 50V	C364	1-161-494-00	CERAMIC 0.022uF 25V	
C202	1-162-294-31	CERAMIC	0.001uF 10% 50V	C371	1-124-902-00	ELECT 0.47uF 20% 50V	
C203	1-124-902-00	ELECT	0.47uF 20% 50V	C372	1-126-964-11	ELECT 10uF 20% 50V	
C204	1-162-302-11	CERAMIC	0.0022uF 20% 16V	< CONNECTOR >			
C205	1-162-282-31	CERAMIC	100PF 10% 50V	CNP1	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P	
C206	1-124-443-00	ELECT	100uF 20% 10V	* CNP2	1-580-155-11	PIN, CONNECTOR (PC BOARD) 3P	
C207	1-162-843-11	CERAMIC	0.022uF 10% 16V	* CNP3	1-580-155-11	PIN, CONNECTOR (PC BOARD) 3P	
C208	1-162-302-11	CERAMIC	0.0022uF 20% 16V	CNP4	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P	
C209	1-124-925-11	ELECT	2.2uF 20% 100V	* CNP5	1-580-158-11	PIN, CONNECTOR (PC BOARD) 6P (AEP, IT, EE)	
C210	1-162-847-11	CERAMIC	0.047uF 10% 16V	CNP5	1-506-987-11	PIN, CONNECTOR (PC BOARD) 5P (E, TW)	
C231	1-104-664-11	ELECT	47uF 20% 10V	< DIODE >			
C232	1-162-294-31	CERAMIC	0.001uF 10% 50V	D301	8-719-938-69	LED GL3PR8 (OPR/BATT)	
C233	1-124-443-00	ELECT	100uF 20% 10V	D302	8-719-987-63	DIODE 1N4148M	
C234	1-130-495-00	MYLAR	0.1uF 5% 50V	D303	8-719-987-63	DIODE 1N4148M	
C235	1-126-916-11	ELECT	1000uF 20% 6.3V	D304	8-719-987-63	DIODE 1N4148M	
C251	1-162-282-31	CERAMIC	100PF 10% 50V	D308	8-719-987-63	DIODE 1N4148M	
C301	1-161-053-00	CERAMIC	0.015uF 50V				
C302	1-162-843-11	CERAMIC	0.022uF 20% 16V				

AUDIO

MIC

POWER

Ref. No.	Part No.	Description	Remark
D361	8-719-987-63	DIODE 1N4148M	
D362	8-719-109-97	DIODE RD6.8ES-B2	
< IC >			
IC301	8-759-978-54	IC BA3420AL	
IC302	8-759-060-21	IC LA4598	
< JACK >			
J301	1-566-891-11	JACK (PHONES)	
< TRANSISTOR >			
Q101	8-729-904-36	TRANSISTOR DTC114YS	
Q201	8-729-904-36	TRANSISTOR DTC114YS	
Q301	8-729-011-92	TRANSISTOR 2SC2001-K1K2	
Q302	8-729-281-53	TRANSISTOR 2SC1815-GR	
Q303	8-729-900-65	TRANSISTOR DTA144ES	
Q304	8-729-900-89	TRANSISTOR DTC144ES	
< RESISTOR >			
R101	1-247-863-91	CARBON 22K	5% 1/4W
R102	1-249-421-11	CARBON 2.2K	5% 1/4W
R103	1-249-401-11	CARBON 47	5% 1/4W
R104	1-249-427-11	CARBON 6.8K	5% 1/4W
R106	1-249-429-11	CARBON 10K	5% 1/4W
R107	1-249-429-11	CARBON 10K	5% 1/4W
R108	1-249-429-11	CARBON 10K	5% 1/4W
R111	1-249-431-11	CARBON 15K	5% 1/4W
R131	1-249-403-11	CARBON 68	5% 1/4W
R132	1-247-807-31	CARBON 100	5% 1/4W
R201	1-247-863-91	CARBON 22K	5% 1/4W
R202	1-249-421-11	CARBON 2.2K	5% 1/4W
R203	1-249-401-11	CARBON 47	5% 1/4W
R204	1-249-427-11	CARBON 6.8K	5% 1/4W
R206	1-249-429-11	CARBON 10K	5% 1/4W
R207	1-249-429-11	CARBON 10K	5% 1/4W
R208	1-249-429-11	CARBON 10K	5% 1/4W
R211	1-249-431-11	CARBON 15K	5% 1/4W
R231	1-249-403-11	CARBON 68	5% 1/4W
R232	1-247-807-31	CARBON 100	5% 1/4W
R301	1-249-437-11	CARBON 47K	5% 1/4W
R303	1-249-421-11	CARBON 2.2K	5% 1/4W
R304	1-249-425-11	CARBON 4.7K	5% 1/4W
R306	1-247-863-91	CARBON 22K	5% 1/4W
R307	1-249-425-11	CARBON 4.7K	5% 1/4W

Ref. No.	Part No.	Description	Remark
R341	1-247-807-31	CARBON 100	5% 1/4W
R342	1-249-437-11	CARBON 47K	5% 1/4W
R343	1-249-393-11	CARBON 10	5% 1/4W
R344	1-249-417-11	CARBON 1K	5% 1/4W
(AEP, IT, EE)			
△R360	1-219-113-11	FUSIBLE 6.8	5% 1/4W F
(AEP, IT, EE, TW)			
R361	1-249-416-11	CARBON 820	5% 1/4W
R362	1-249-410-11	CARBON 270	5% 1/4W
R364	1-247-815-91	CARBON 220	5% 1/4W
R365	1-247-807-31	CARBON 100	5% 1/4W
< VARIABLE RESISTOR >			
RV301	1-223-416-11	RES. VAR. CARBON 20K/20K (TONE)	
RV302	1-223-415-11	RES. VAR. CARBON 20K/20K (VOLUME)	
< SWITCH >			
S301	1-571-472-11	SWITCH, SLIDE (PB/REC)	
S302	1-571-307-11	SWITCH, SLIDE (FUNCTION)	
S303	1-554-222-00	SWITCH, SLIDE (FM MODE)(AEP, IT, EE)	
< TRANSFORMER >			
T301	1-433-268-00	TRANSFORMER, BIAS OSCILLATOR	

*	1-658-711-11	MIC BOARD	*****
	3-366-963-01	CUSHION (MIC)	
< MICROPHONE >			
EMC301	1-542-118-11	MICROPHONE, ELECTRET CONDENSER (MIC)	

*	1-658-671-11	POWER BOARD	*****
	1-533-217-31	HOLDER, FUSE (AEP, IT, EE)	
*	1-565-384-11	HOLDER, CABLE 3P	
*	3-388-406-01	PLATE (TRANS), SHIELD	
	7-685-645-79	SCREW +BVTP 3X6 TYPE2 N-S	
< CAPACITOR >			
C801	1-101-005-00	CERAMIC 0.022uF	50V
C802	1-101-005-00	CERAMIC 0.022uF	50V
C803	1-101-005-00	CERAMIC 0.022uF	50V
C804	1-101-005-00	CERAMIC 0.022uF	50V
C851	1-162-306-11	CERAMIC 0.01uF	16V

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POWER

SW

TUNER

Ref. No.	Part No.	Description	Remark
		< AC INLET >	
△ CNJ801	1-526-838-11	INLET, AC 2P (∼ AC IN)(AEP, IT, EE)	
△ CNJ801	1-526-818-11	INLET, AC (∼ AC IN)(E, TW)	
		< DIODE >	
D801	8-719-200-02	DIODE 10E2	
D802	8-719-200-02	DIODE 10E2	
D803	8-719-200-02	DIODE 10E2	
D804	8-719-200-02	DIODE 10E2	
		< FUSE >	
△ F801	1-532-502-31	FUSE (T1.25AL/250V)(AEP, IT, EE)	
		< TRANSFORMER >	
△ T801	1-450-492-11	TRANSFORMER, POWER (AEP, IT, EE)	
△ T801	1-450-016-11	TRANSFORMER, POWER (E, TW)	

*	1-658-672-11	SW BOARD	*****
*	1-565-384-11	HOLDER, CABLE 3P	
		< SWITCH >	
S401	1-571-330-21	SWITCH, LEAF (PLAY)	

*	A-3305-702-A	TUNER BOARD, COMPLETE (AEP)	
*	A-3305-703-A	TUNER BOARD, COMPLETE (IT)	
*	A-3305-814-A	TUNER BOARD, COMPLETE (EE)	
*	A-3305-725-A	TUNER BOARD, COMPLETE (E, TW)	*****
	3-929-167-01	DRUM, PVC	
	7-621-770-87	SCREW +B 2.6X5	
		< CAPACITOR >	
C1	1-104-664-11	ELECT	47uF 20% 10V
C2	1-162-306-11	CERAMIC	0.01uF 20% 16V
C3	1-162-306-11	CERAMIC	0.01uF 20% 16V
C4	1-126-964-11	ELECT	10uF 20% 50V
C5	1-162-306-11	CERAMIC	0.01uF 20% 16V
C6	1-162-294-31	CERAMIC	0.001uF 10% 50V
C7	1-124-925-11	ELECT	2.2uF 20% 100V
C8	1-162-306-11	CERAMIC	0.01uF 20% 16V
C9	1-126-963-11	ELECT	4.7uF 20% 50V
C10	1-124-903-11	ELECT	1uF 20% 50V
C11	1-162-840-11	CERAMIC	0.012uF 10% 16V
C12	1-162-840-11	CERAMIC	0.012uF 10% 16V
C13	1-126-956-91	ELECT	0.1uF 20% 50V
C14	1-161-494-00	CERAMIC	0.022uF 25V (AEP, IT, EE)
C15	1-162-282-31	CERAMIC	100PF 10% 50V

Ref. No.	Part No.	Description	Remark
C16	1-162-282-31	CERAMIC	100PF 10% 50V
C17	1-104-664-11	ELECT	47uF 20% 10V
C21	1-162-191-31	CERAMIC	2.2PF 10% 50V (AEP, EE)
C21	1-162-196-31	CERAMIC	5.6PF 10% 50V (E, TW)
C21	1-162-193-31	CERAMIC	3.3PF 10% 50V(IT)
C22	1-102-945-00	CERAMIC	8.0PF +-0.5PF 50V (AEP)
C22	1-102-947-00	CERAMIC	10PF +-0.5PF50V(IT)
C22	1-102-943-00	CERAMIC	6.0PF +-0.5PF 50V (EE, E, TW)
C23	1-162-282-31	CERAMIC	100PF 10% 50V
C30	1-162-286-21	CERAMIC	220PF 10% 50V
C31	1-162-208-31	CERAMIC	24PF 5% 50V (AEP)
C31	1-162-209-31	CERAMIC	27PF 5% 50V(IT)
C31	1-162-197-31	CERAMIC	6.8PF 10% 50V(EE)
C31	1-162-205-31	CERAMIC	18PF 5% 50V (E, TW)
C32	1-162-193-31	CERAMIC	3.3PF 10% 50V (AEP, EE, E, TW)
C33	1-102-959-00	CERAMIC	22PF 5% 50V (AEP, IT, E, TW)
C33	1-102-946-00	CERAMIC	9PF 5% 50V(EE)
C34	1-102-943-00	CERAMIC	6.0PF +-0.5PF50V (AEP)
C34	1-102-945-00	CERAMIC	8.0PF +-0.5PF50V(IT)
C34	1-101-997-11	CERAMIC	5PF 0.5PF 50V (E, TW)
C35	1-162-193-31	CERAMIC	3.3PF 10% 50V
C36	1-124-903-11	ELECT	1uF 20% 50V
C37	1-124-443-00	ELECT	100uF 20% 10V
C38	1-126-963-11	ELECT	4.7uF 20% 50V
C39	1-124-902-00	ELECT	0.47uF 20% 50V
		< FILTER >	
CF1	1-577-327-81	FILTER, CERAMIC	
CF2	1-577-327-81	FILTER, CERAMIC	
CF3	1-577-327-81	FILTER, CERAMIC	
CF4	1-527-870-00	FILTER	
		< TRIMMER >	
CT1-4	1-151-695-11	CAP, VAR (AEP, IT)	
CT1-4	1-151-696-11	CAP, VAR (E, TW)	
CT1-4	1-151-697-11	CAP, VAR (EE)	
		< VARIABLE CAPACITOR >	
CV1-4	1-151-695-11	CAP, VAR (AEP, IT)	
CV1-4	1-151-696-11	CAP, VAR (E, TW)	
CV1-4	1-151-697-11	CAP, VAR (EE)	

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TUNER

Ref. No.	Part No.	Description	Remark
< FILTER >			
FL1	1-236-022-11	FILTER, BAND PASS (AEP,E,I T, TW)	
FL1	1-239-813-21	FILTER, BAND PASS (EE)	
< IC >			
IC1	8-752-050-20	IC CXA1238S	
< COIL >			
L1	1-402-158-11	ANTENNA, FERRITE-ROD (MW)(AEP,IT,EE)	
L1	1-501-646-11	ANTENNA, FERRITE-ROD (MW)(E,TW)	
L2	1-406-040-00	COIL (OSC)	
L3	1-406-999-11	COIL, AIR-CORE (AEP,IT)	
L3	1-406-998-11	COIL, AIR-CORE (E,TW)	
* L3	1-428-212-11	COIL, AIR-CORE (EE)	
L4	1-406-957-11	COIL (WITH CORE) (AEP, IT)	
L4	1-428-775-11	COIL, AIR-CORE (E, TW)	
L4	1-422-317-31	COIL, AIR-CORE (EE)	
< TRANSISTOR >			
Q1	8-729-904-36	TRANSISTOR DTC114YS	
Q2	8-729-904-36	TRANSISTOR DTC114YS (AEP, IT, EE)	
< RESISTOR >			
R1	1-249-404-00	CARBON	82 5% 1/4W
R2	1-249-421-11	CARBON	2.2K 5% 1/4W
R3	1-249-429-11	CARBON	10K 5% 1/4W
R9	1-249-441-11	CARBON	100K 5% 1/4W
R11	1-249-427-11	CARBON	6.8K 5% 1/4W
R12	1-249-427-11	CARBON	6.8K 5% 1/4W
R21	1-249-415-11	CARBON	680 5% 1/4W
R31	1-249-441-11	CARBON	100K 5% 1/4W
R32	1-249-410-11	CARBON	270 5% 1/4W
R33	1-247-807-31	CARBON	100 5% 1/4W
R34	1-249-429-11	CARBON	10K 5% 1/4W
R35	1-247-887-00	CARBON	220K 5% 1/4W
R36	1-247-887-00	CARBON	220K 5% 1/4W
R37	1-249-421-11	CARBON	2.2K 5% 1/4W
R38	1-247-807-31	CARBON	100 5% 1/4W
< VARIABLE RESISTOR >			
RV1	1-238-601-11	RES, ADJ, CARBON 22K	
< TRANSFORMER >			
T1	1-404-355-00	TRANSFORMER, IF (AEP, E, IT, TW)	
T1	1-404-341-00	TRANSFORMER, IF (EE)	

Ref. No.	Part No.	Description	Remark
MISCELLANEOUS *****			
ANT1	1-501-480-11	ANTENNA, TELESCOPIC (FM)	
C901	1-124-910-11	ELECT 47uF 20% 50V	
HE901	1-543-876-11	HEAD (ERASE)	
HRP901	1-543-628-11	HEAD,MAGNETIC(RECORD/PLAYBACK)	
M901	X-3367-872-2	MOTOR ASSY (1600)(CAPSTAN/REEL)	
SP901	1-504-286-11	SPEAKER (9.2CM)(L CH)	
SP902	1-504-286-11	SPEAKER (9.2CM)(R CH)	

HARDWARE LIST *****			
#1	7-685-647-79	SCREW +BVTP 3X10 TYPE2 IT-3	
#2	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	
#3	7-685-153-19	SCREW +P 3X30 TYPE2 NON-SLIT	
#4	7-682-547-04	SCREW +B 3X6	
#5	7-685-132-19	SCREW +BTP 2.6X5 TYPE2 N-S	
#6	7-685-645-79	SCREW +BVTP 3X6 TYPE2 N-S	
#7	7-685-649-79	SCREW +BVTP 3X14 TYPE2 IT-3	
#8	7-621-770-87	SCREW +B 2.6X5	
#9	7-685-648-79	SCREW +BVTP 3X12 TYPE2 IT-3	
#10	7-621-775-20	SCREW +B 2.6X5	

ACCESSORIES & PACKING MATERIALS *****			
△	1-557-287-11	CORD, POWER (E,TW)	
△	1-575-131-11	CORD, POWER (AEP)	
△	1-769-412-11	CORD, POWER (EE, IT)	
	3-810-931-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, GERMAN, SPANISH)(AEP,EE)	
	3-810-931-21	MANUAL, INSTRUCTION (DUTCH, SWEDISH, ITALIAN, PORTUGUESE)(AEP, IT)	
	3-810-931-31	MANUAL, INSTRUCTION (ENGLISH)(E, TW)	
	3-810-931-41	MANUAL, INSTRUCTION (CHINESE)(TW)	
	3-810-931-51	MANUAL, INSTRUCTION (POLISH,RUSSIAN)(EE)	
	3-810-931-61	MANUAL, INSTRUCTION (SPANISH)(E)	
*	3-934-196-01	INDIVIDUAL CARTON (AEP,IT,EE,TW)	
*	3-934-199-01	INDIVIDUAL CARTON (E)	
*	3-934-203-01	CUSHION (L)(R)	

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