

CFS-515L

SERVICE MANUAL

East European Model

Ver. 1.0 1998.07



Model Name Using Similar Mechanism	NEW
Tape Transport Mechanism Type	MF-W495-117

SPECIFICATIONS

Frequency range	FM : 65 – 108MHz MW : 531 – 1,602kHz LW : 153 – 279kHz SW : 5.95 – 18MHz
IF	FM : 10.7MHz MW/LW/SW : 455kHz
Aerials	FM/SW : Telescope MW/LW : Built-in ferrite bar
Recording system	4-track, 2-channel stereo
Frequency response	70 – 13,000Hz
Speakers	Full range : 10cm (4 inches) dia., 6ohms, cone type/Tweeter : 2cm (¹³ / ₁₆ inches) dia.
Output	Headphones jack (stereo minijack), for 16 – 68 ohms impedance headphones
Maximum Power output	5W+5W
Battery life	FM Recording : Sony R20P : Approx. 10hours/ Sony LR20 alkaline : Approx. 20hours Playback : Sony R20P : Approx. 3.5hours/ Sony LR20 alkaline : Approx. 8hours
Power requirements	230V AC, 50Hz 9V DC, six R20 (size D) batteries
Power consumption	AC 18 W
Dimensions	Approx. 697 x 211 x 201.5 mm (w/h/d) (27 ¹ / ₂ x 8 ³ / ₈ x 8 inches) incl. projecting parts and controls, not incl. handle
Mass	Approx. 6.2 kg (13 lb 10 oz) incl. batteries
Supplied accessories	AC power cord (1)

Design and specifications are subject to change without notice.

RADIO CASSETTE-CORDER



SONY®

QQ 376315150 892498299

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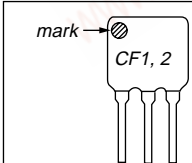
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• HOW TO CHANGED THE CERAMIC FILTERS

This model is used two ceramic filters of CF1 and CF2.
You must used same type of color marked ceramic filters in order to meet same specifications.
Therefore, the ceramic filter must changed two pieces together since it's supply two pieces in one package as a spare parts.

	Mark	Center frequency
	red	10.70MHz
	blue	10.67MHz
	orange	10.73MHz

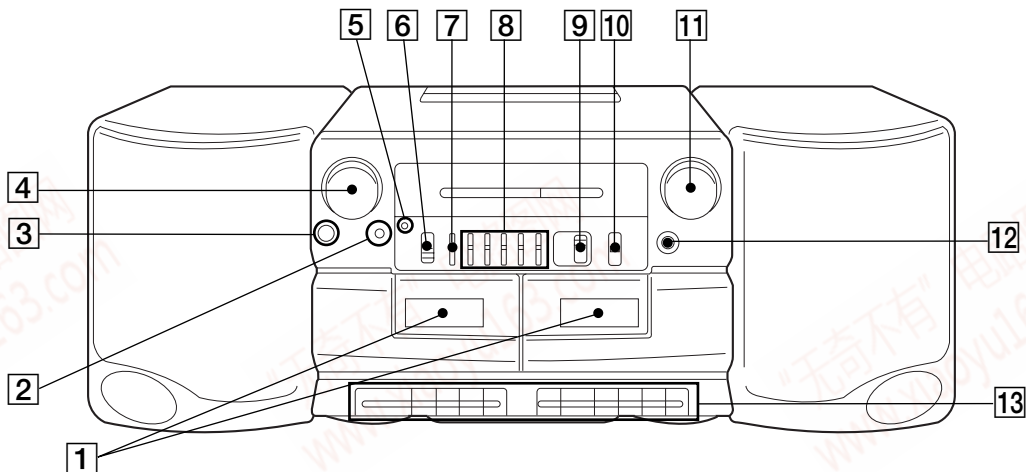
SAFETY-RELATED COMPONENT WARNING!!

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

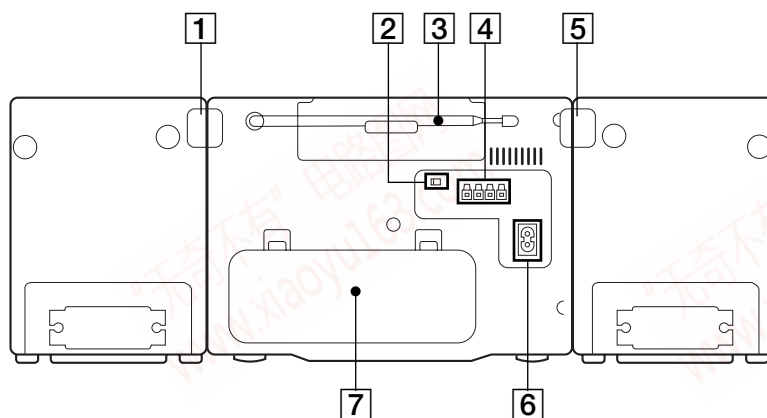
LOOKING AT THE CONTROLS

FRONT PANEL



- | | |
|---|---|
| <ul style="list-style-type: none"> 1 Cassette compartments 2 MIC (microphone) 3 PHONES (headphones) jack (stereo mini-jack) 4 VOLUME control 5 OPR/BATT (operation/battery) indicators 6 FUNCTION selector <li style="padding-left: 20px;">RADIO <li style="padding-left: 20px;">DUBBING HIGH <li style="padding-left: 20px;">DUBBING NORM <li style="padding-left: 20px;">TAPE/RADIO OFF 7 BALANCE control 8 5 BAND GRAPHIC EQUALIZER controls | <ul style="list-style-type: none"> 9 PRESET MODE selector 10 BAND selector 11 TUNING control 12 FINE TUNING control 13 Tape operating buttons <li style="padding-left: 20px;">● REC (record) button : Deck B only <li style="padding-left: 20px;">▶ PLAY (playback) button <li style="padding-left: 20px;">◀◀ REW (rewind) button <li style="padding-left: 20px;">▶▶ FF (fast-forward) button <li style="padding-left: 20px;">■▲ STOP/EJECT button <li style="padding-left: 20px;"> PAUSE button |
|---|---|

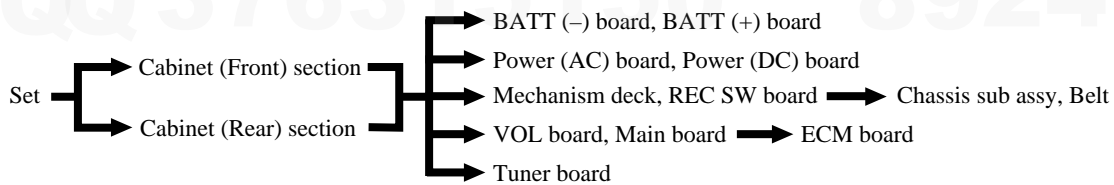
REAR PANEL



- 1 LOCK tab (right side)
- 2 FM MODE switch
- 3 Telescopic aerial
- 4 SPEAKER terminals
- 5 LOCK tab (Left side)
- 6 ~ AC IN (AC power input) socket
- 7 Battery compartment

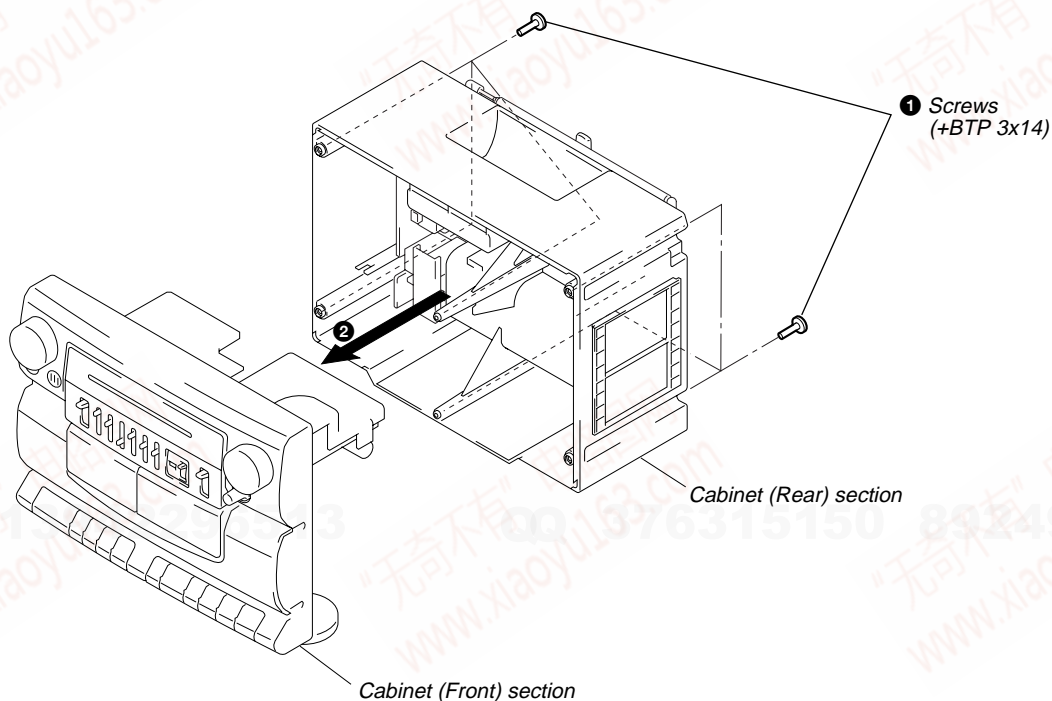
SECTION 2 DISASSEMBLY

- The equipment can be removed using the following procedure.

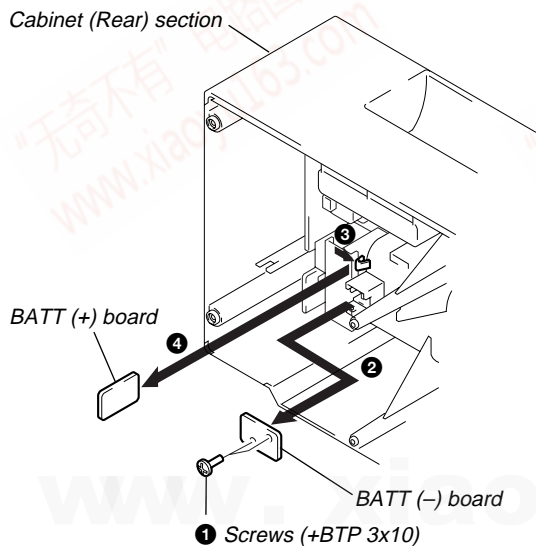


Note : Follow the disassembly procedure in the numerical order given.

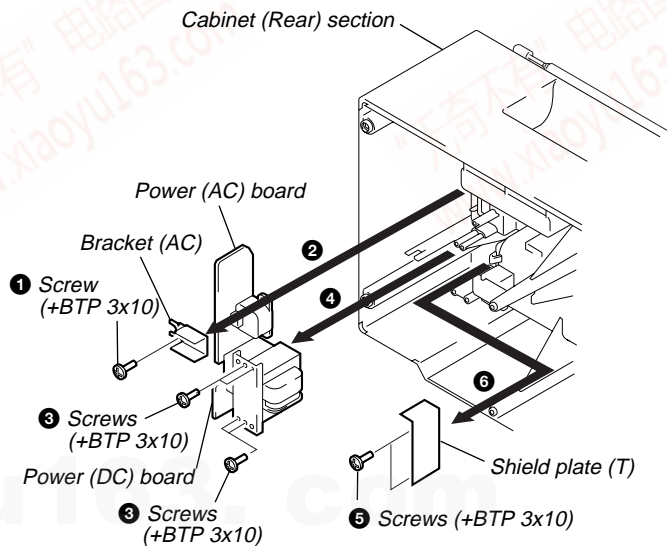
2-1. CABINET (FRONT) SECTION, CABINET (REAR) SECTION



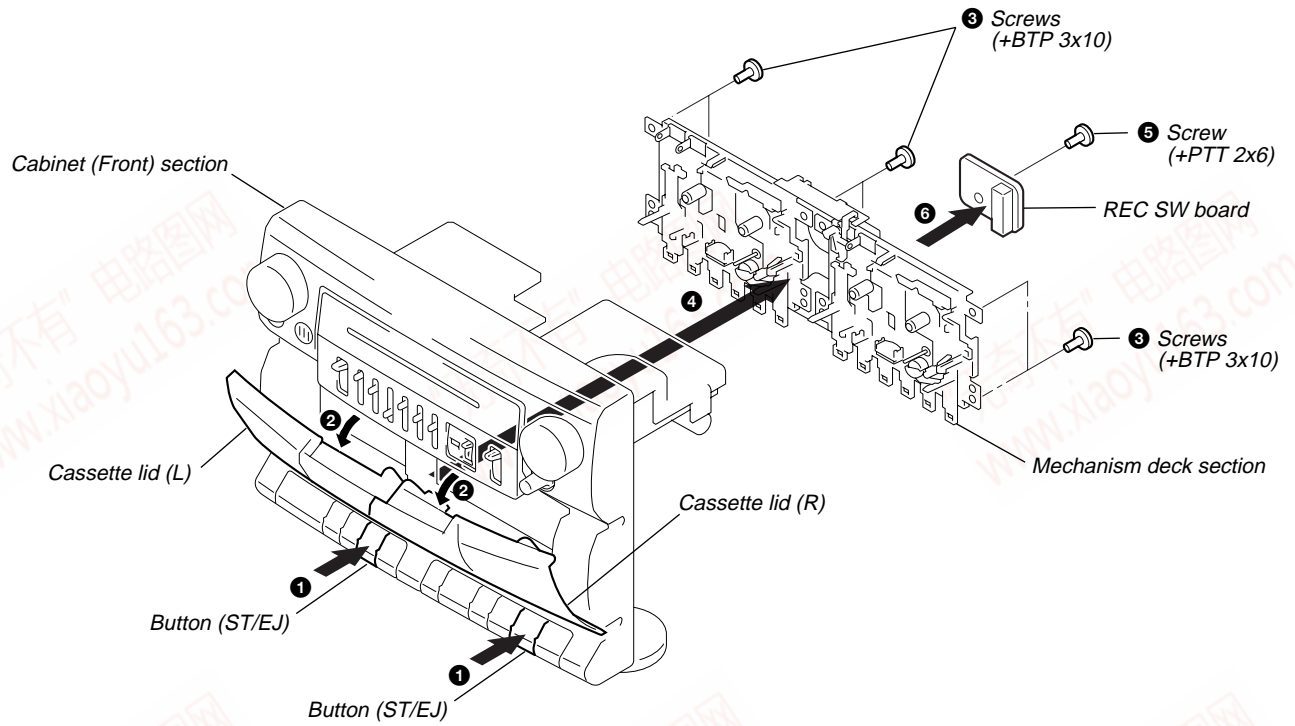
2-2. BATT (-) BOARD, BATT (+) BOARD



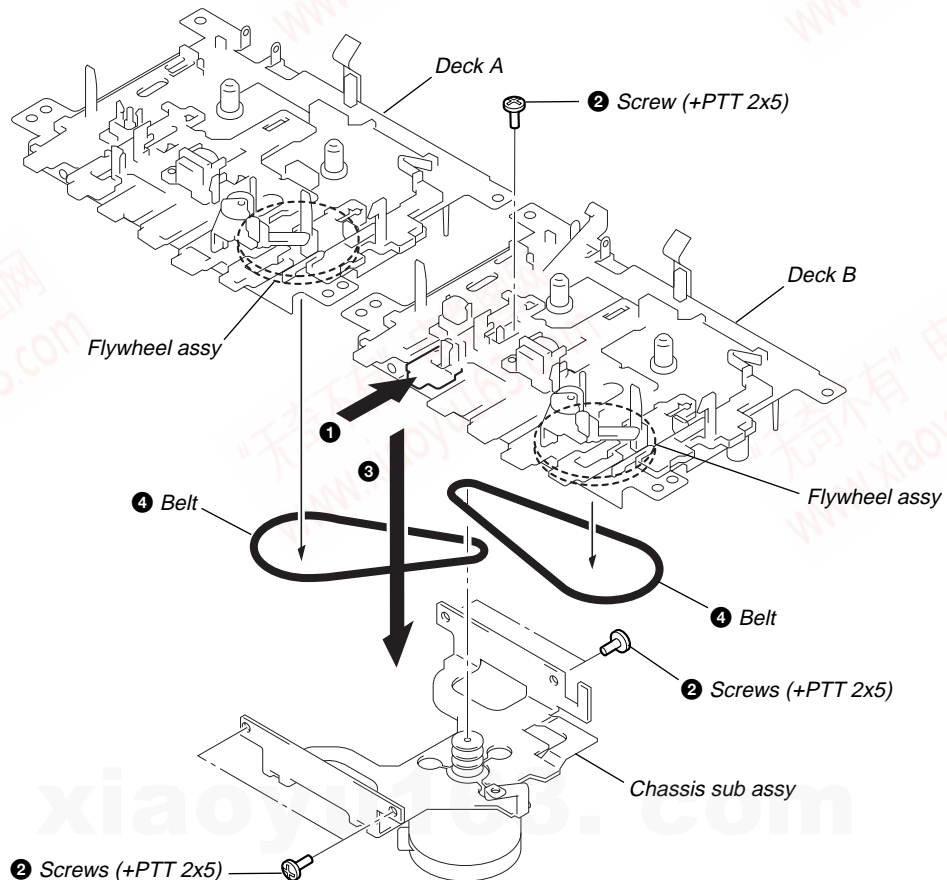
2-3. POWER (AC) BOARD, POWER (DC) BOARD



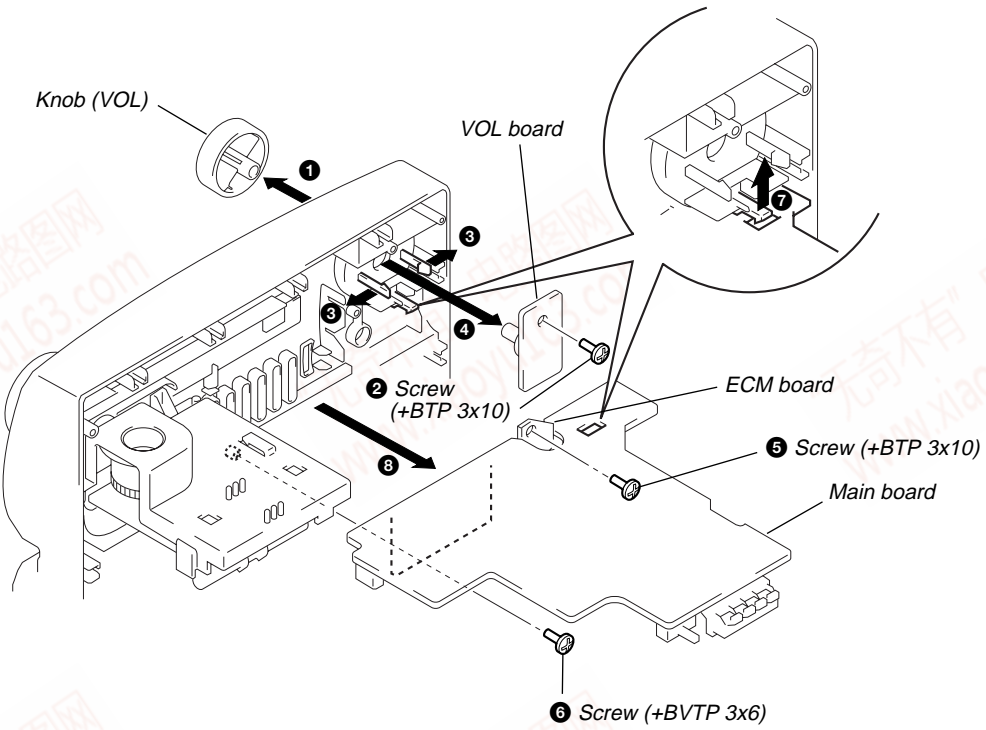
2-4. MECHANISM DECK, REC SW BOARD



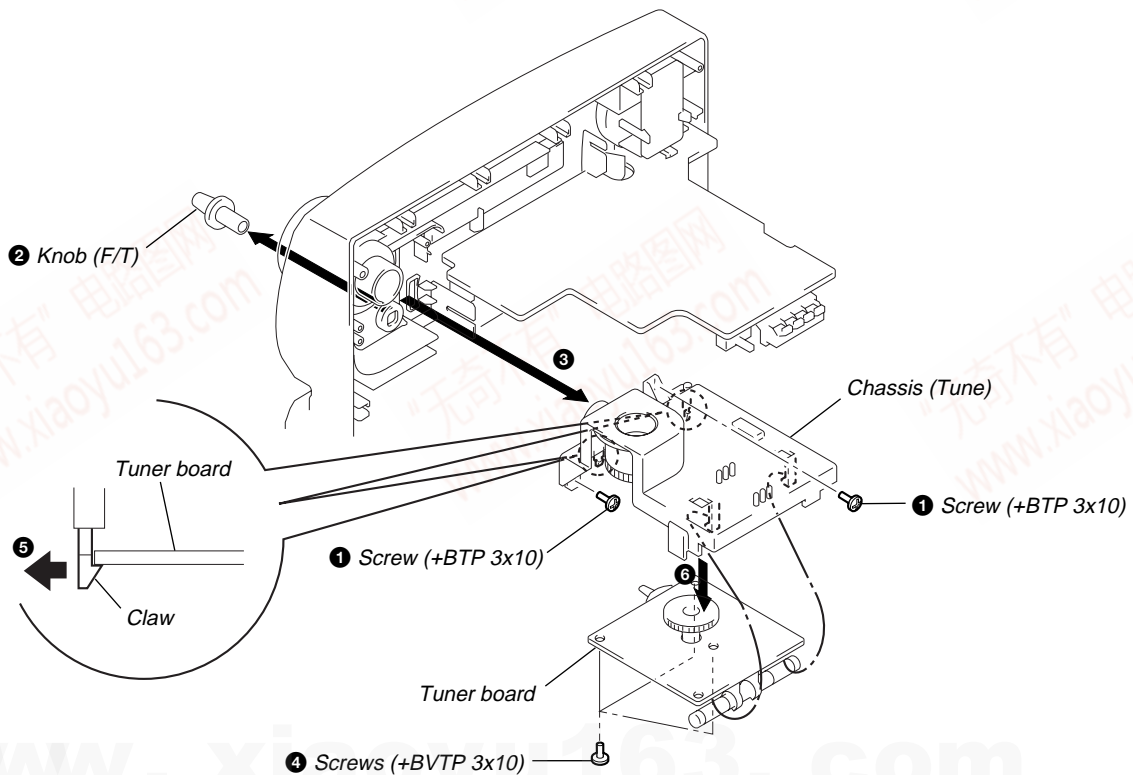
2-5. CHASSIS SUB ASSY, BELT



2-6. VOL BOARD, MAIN BOARD, ECM BOARD

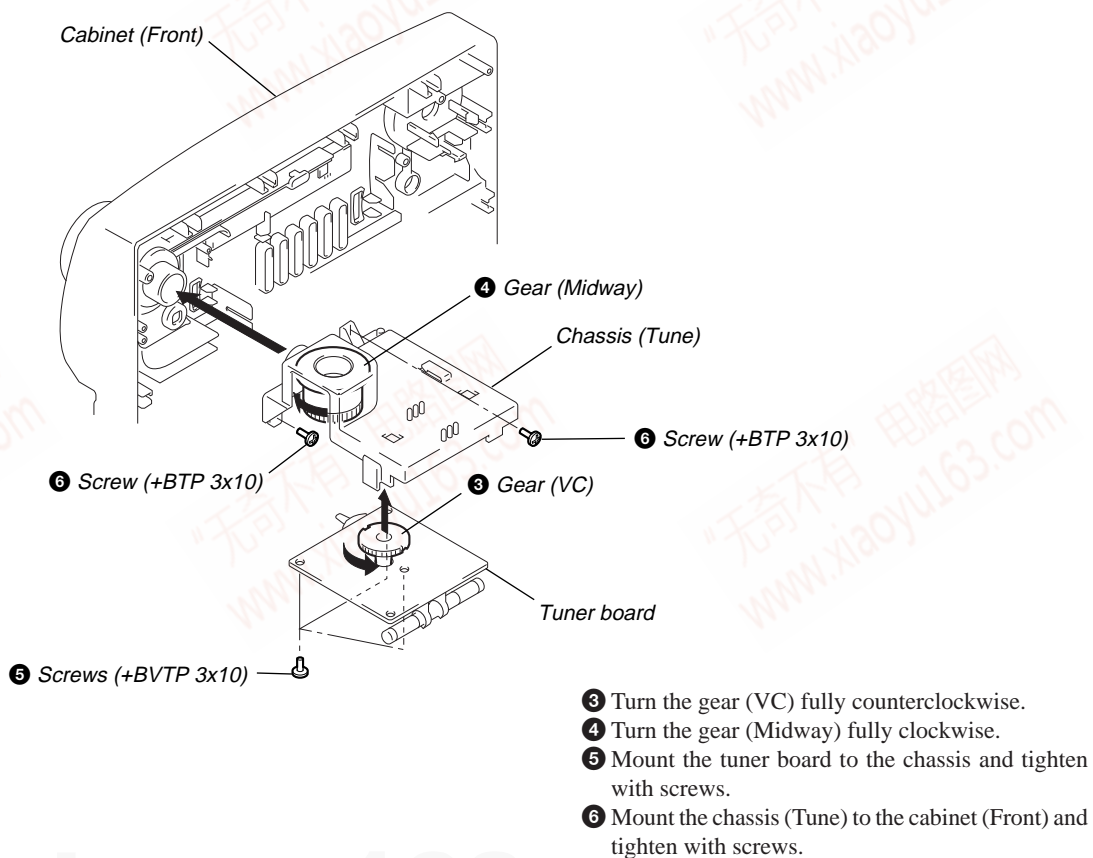
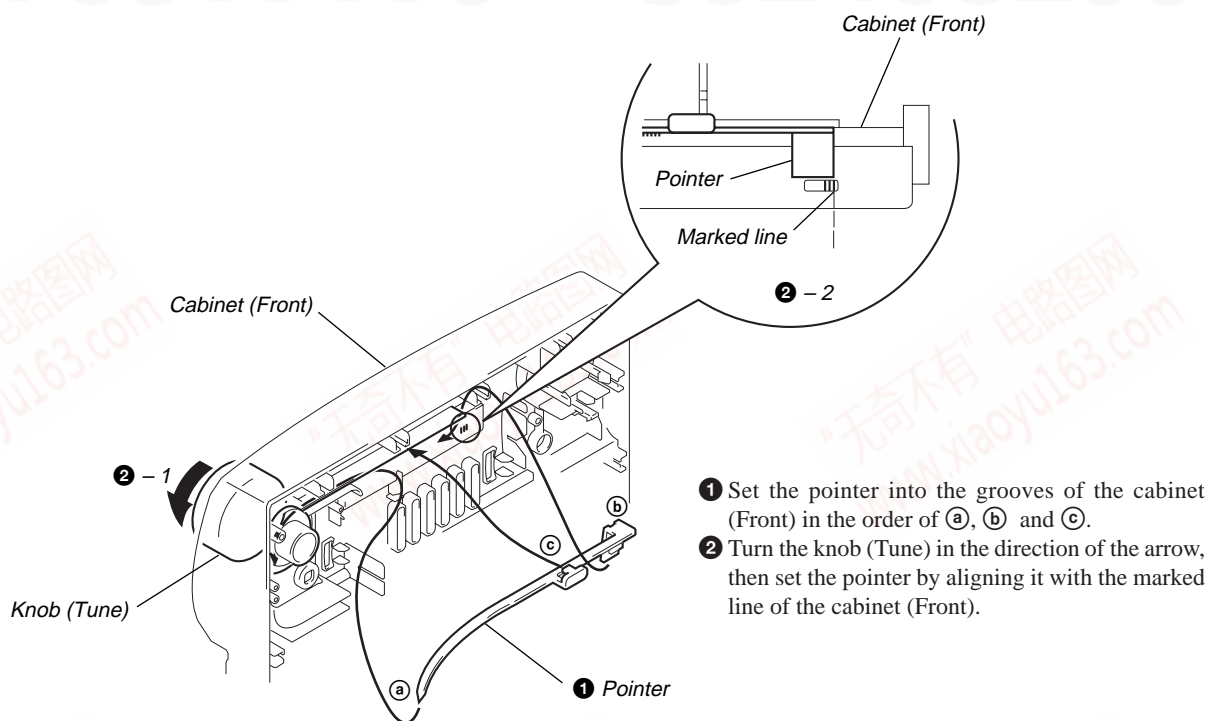


2-7. TUNER BOARD



SECTION 3 DIAL POINTER INSTALLATION

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



SECTION 4 ADJUSTMENTS

4-1. MECHANICAL ADJUSTMENTS

PRECAUTION

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

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

Torque Measurement

Torque	Torque Meter	Meter Reading
Playback	CQ-102C	18 – 60 g • cm (0.25 – 0.83 oz • inch)
Back Tension	CQ-102C	1 – 5 g • cm (0.014 – 0.069 oz • inch)
Rewind	CQ-201B	45 – 95 g • cm
Fast Forward		(0.63 – 1.31 oz • inch)

Tape Tension Measurement

Mode	Tension Meter	Meter Reading
FWD	CQ-403A	more than 60g (2.12 oz)

4-2. ELECTRICAL ADJUSTMENTS

TAPE SECTION

- The adjustments should be performed in the order give in the service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
- The adjustments should be performed for both L-CH and R-CH unless otherwise indicated.

- Switch location
- FUNCTION switch TAPE (RADIO OFF)
- PRESET MODE MANUAL
- GRAPHIC EQUALIZER center click
- BALANCE center click
- VOLUME MAX
- MEGA BASS mechanical center

Standard Output Level

Output terminal	PHONES	SP (FRONT) OUT
Load impedance	32Ω	6Ω
Output signal level	0.25V (-10dB)	0.775V (0dB)

Test Tape

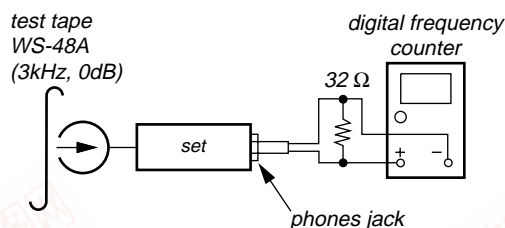
Type	Signal	Used for
WS-48A	3kHz, 0dB	Tape Speed Adjustment

0dB=0.775V

Tape Speed Adjustment

Procedure :

Mode : Playback



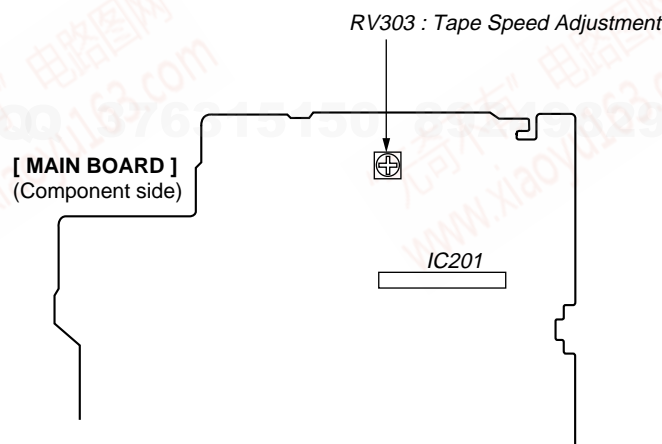
(Normal speed)

- Deck A to playback mode.
- Adjust the RV303 for 2,985 – 3,015Hz reading on digital frequency counter.
- Frequency difference between the beginning and the end of the tape should be within 1% (30Hz).

(High speed)

- Deck B to record mode.
- Deck A to high speed playback mode.
- Confirm that the reading of the digital voltmeter becomes 5,500 – 6,500Hz.
- Frequency difference between the beginning and the end of the tape should be within 1% (30Hz).

Adjustment Location :



TUNER SECTION

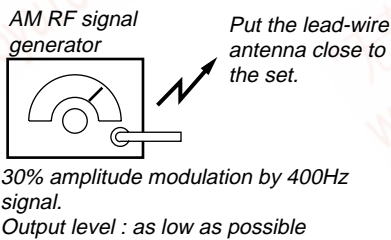
0dB = 1μV

- Switch location
 FUNCTION switch RADIO
 PRESET MODE MANUAL
 GRAPHIC EQUALIZER center click
 BALANCE center click
 VOLUME MAX
 MEGA BASS mechanical center

MW Section

Procedure :

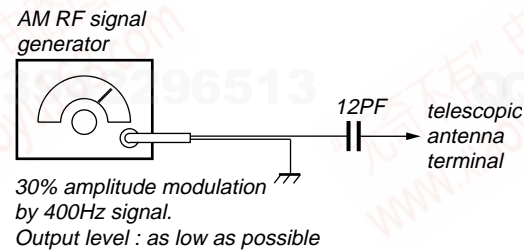
- BAND switch : MW (LW)
- FINE TUNING control : mechanical center



SW Section

Procedure :

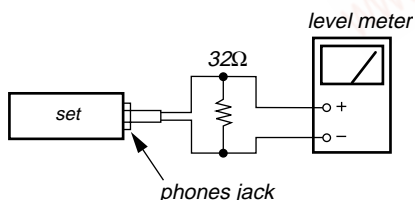
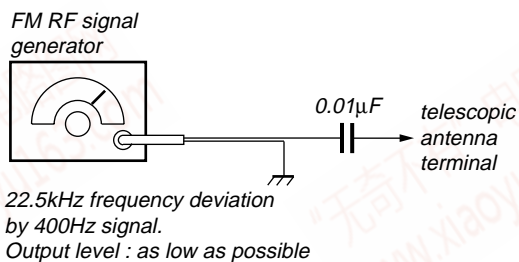
- BAND switch : SW
- FINE TUNING control : mechanical center



FM Section

Procedure :

- BAND switch : FM
- FINE TUNING control : mechanical center



- 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	455kHz

MW FREQUENCY COVERAGE ADJUSTMENT

Adjust for a maximum reading on level meter.	
L4	520kHz
CT4	1,680kHz

MW TRACKING ADJUSTMENT

Adjust for a maximum reading on level meter.	
L3	600kHz
CT3	1,400kHz

SW FREQUENCY COVERAGE ADJUSTMENT

Adjust for a maximum reading on level meter.	
L6	5.8MHz
CT6	18.4MHz

SW TRACKING ADJUSTMENT

Adjust for a maximum reading on level meter.	
L5	5.8MHz
CT5	18.4MHz

LW FREQUENCY COVERAGE ADJUSTMENT

Adjust for a maximum reading on level meter.	
L8	145kHz
CT8	300kHz

LW TRACKING ADJUSTMENT

Adjust for a maximum reading on level meter.	
L7	160kHz
CT7	260kHz

FM IF ADJUSTMENT

Adjust for a maximum reading on level meter.	
T2	10.7MHz

FM FREQUENCY COVERAGE ADJUSTMENT

Adjust for a maximum reading on level meter.	
L2	64.0MHz
CT2	109.5MHz

FM TRACKING ADJUSTMENT

Adjust for a maximum reading on level meter.	
L1	68.0MHz
CT1	102.0MHz

Adjustment Location : TUNER board (Page 10)

FM VCO Adjustment

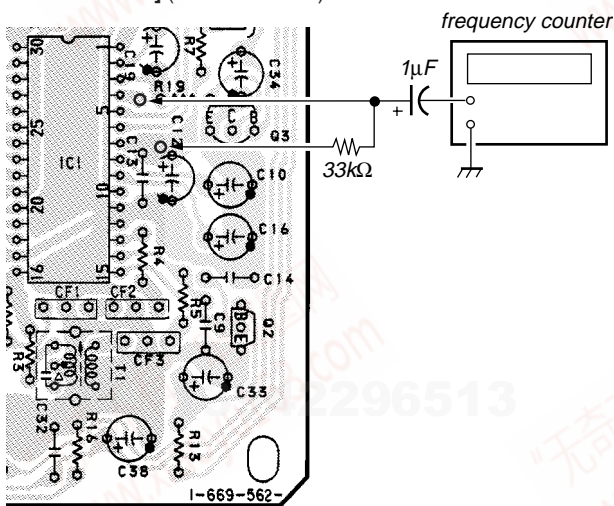
Procedure :



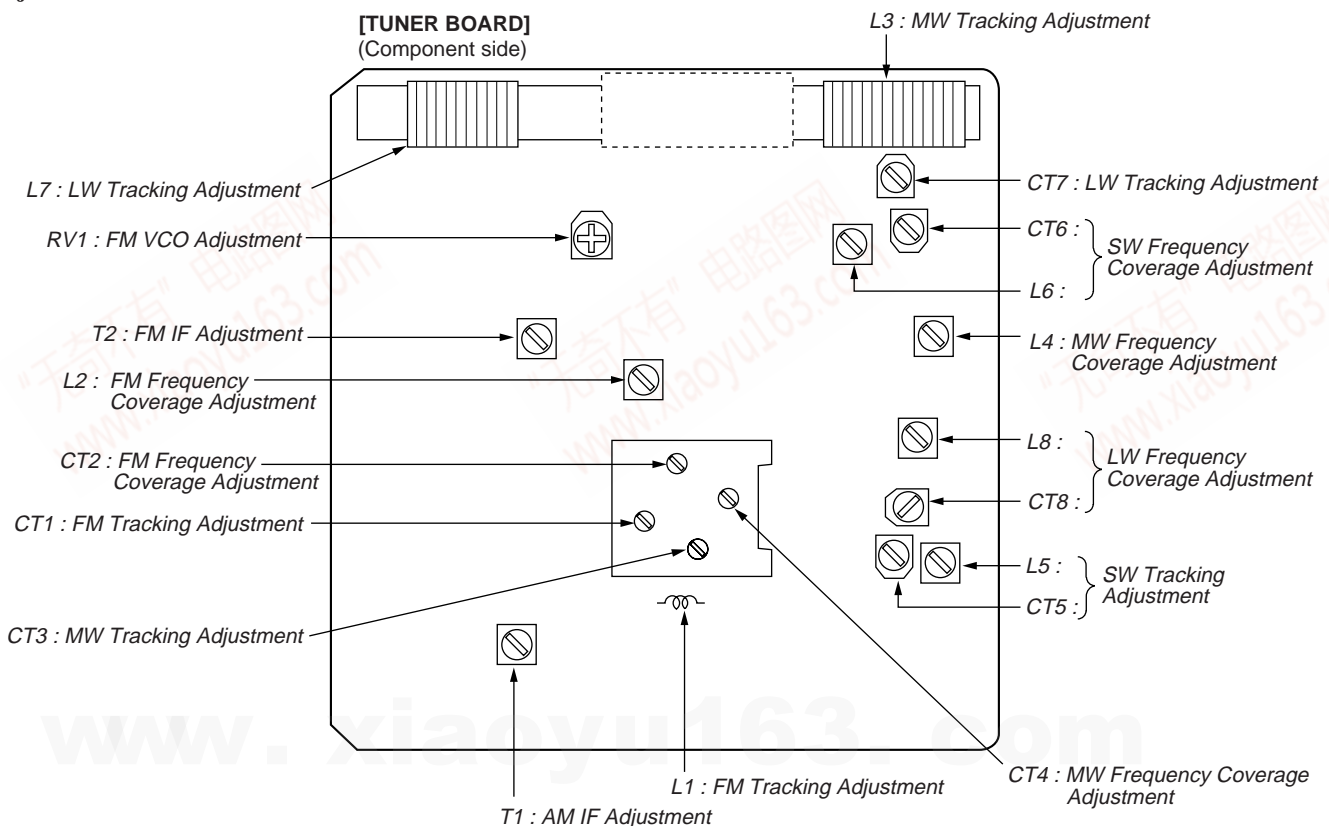
Carrier frequency : 90MHz
 Modulation : no modulation
 Output level : 65dB (1.8mV)

1. Connect the frequency counter to ④ and ⑦ pins of IC1 as shown the figure below.
2. Turn the set to 98MHz.
3. Adjust RV1 for 75.95kHz – 76.05kHz reading on frequency counter.

[TUNER BOARD] (Conductor side)

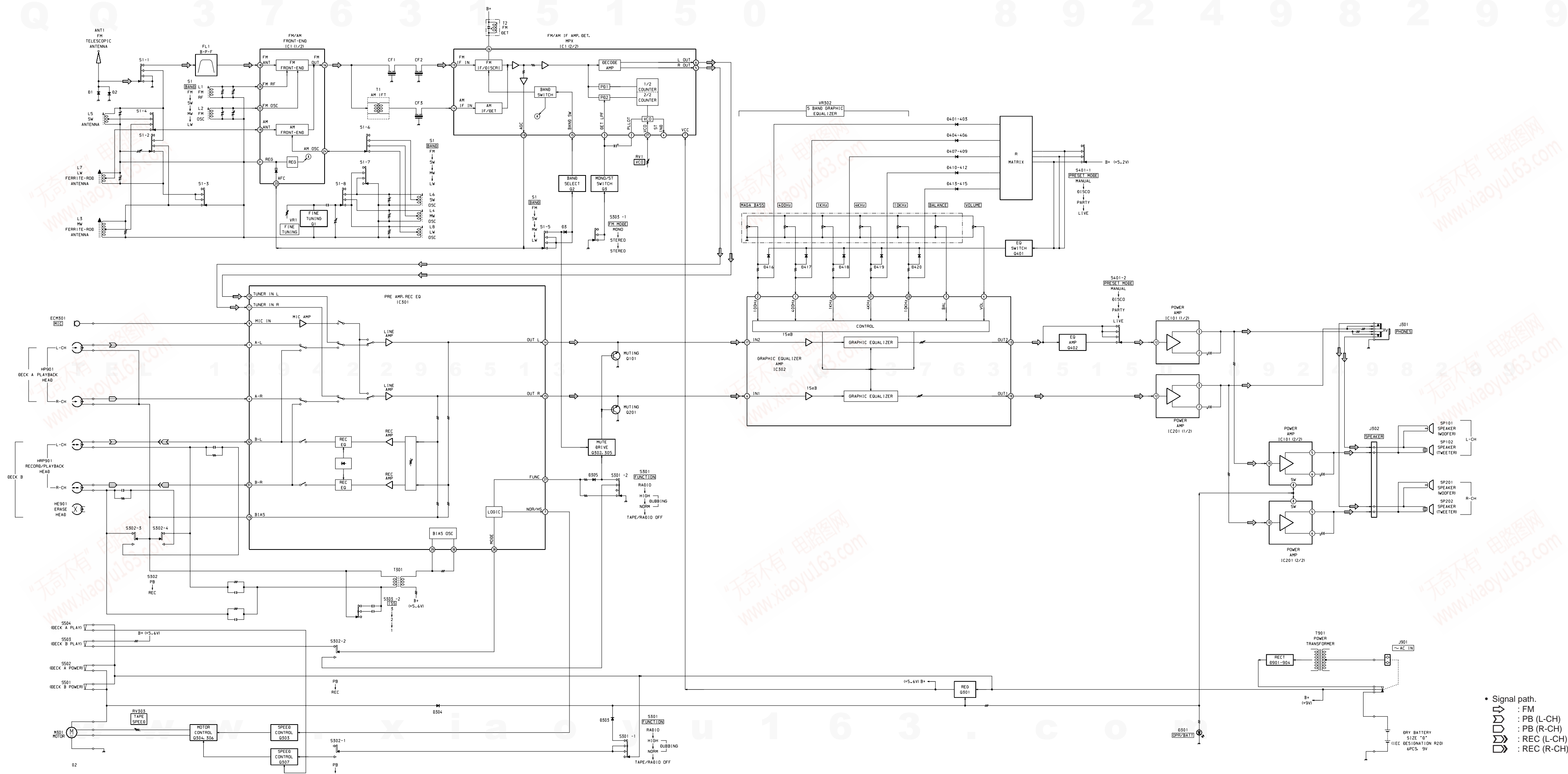


Adjustment Location : Tuner board



SECTION 5 DIAGRAMS

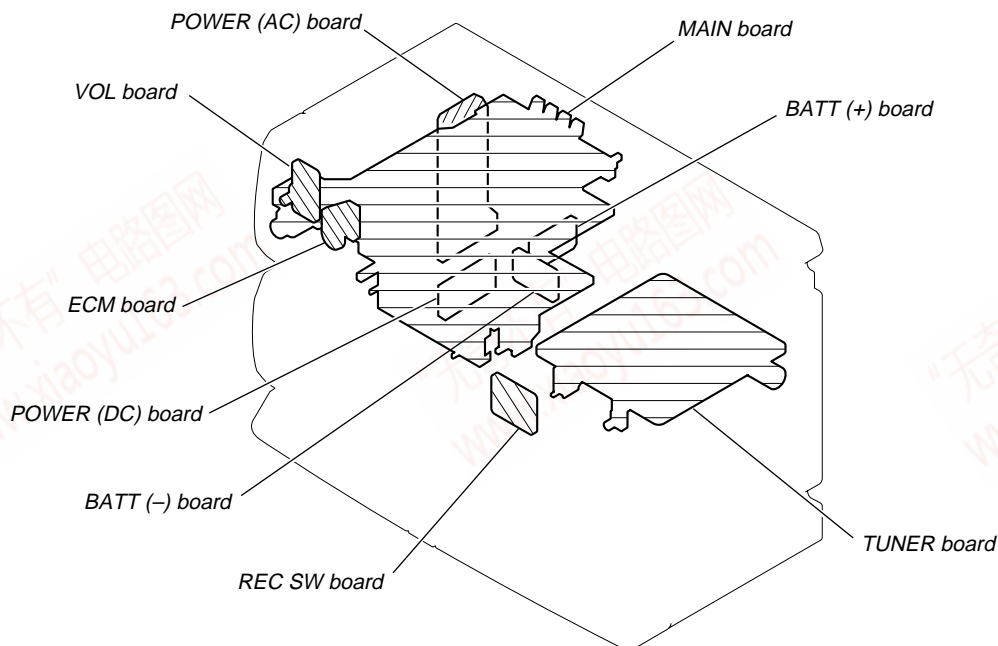
5-1. BLOCK DIAGRAM



- Signal path.
- ◻ : FM
- ◻ : PB (L-CH)
- ◻ : PB (R-CH)
- ◻ : REC (L-CH)
- ◻ : REC (R-CH)

CFS-515L


● Circuit Boards Location










● Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D301	H-7	D417	H-10
D302	G-7	D418	H-10
D303	G-8	D419	H-10
D304	D-8		
D305	G-8	D420	H-10
D306	G-7		
D401	F-11	IC101	F-7
D402	G-11	IC201	D-7
D403	F-11	IC301	E-9
D404	F-11	IC302	G-10
D405	G-11		
D406	F-11	Q101	F-11
D407	F-11	Q201	F-10
D408	G-11	Q301	G-7
D409	F-11	Q302	H-9
		Q303	C-8
D410	F-11		
D411	G-11	Q304	C-8
D412	F-11	Q305	F-10
D413	F-11	Q306	D-8
D414	G-11	Q307	G-9
		Q401	H-11
D415	F-11		
D416	H-10	Q402	H-11




Note on Schematic Diagram:

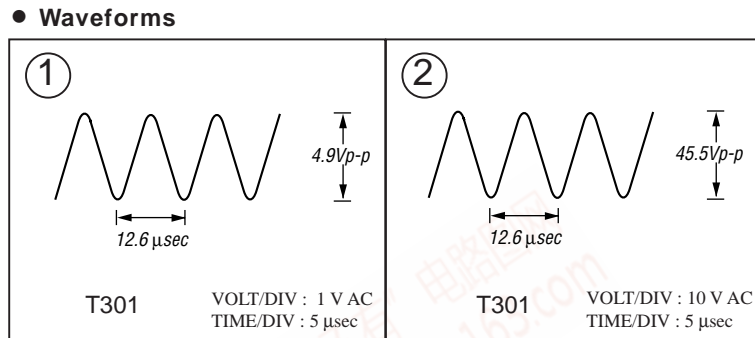
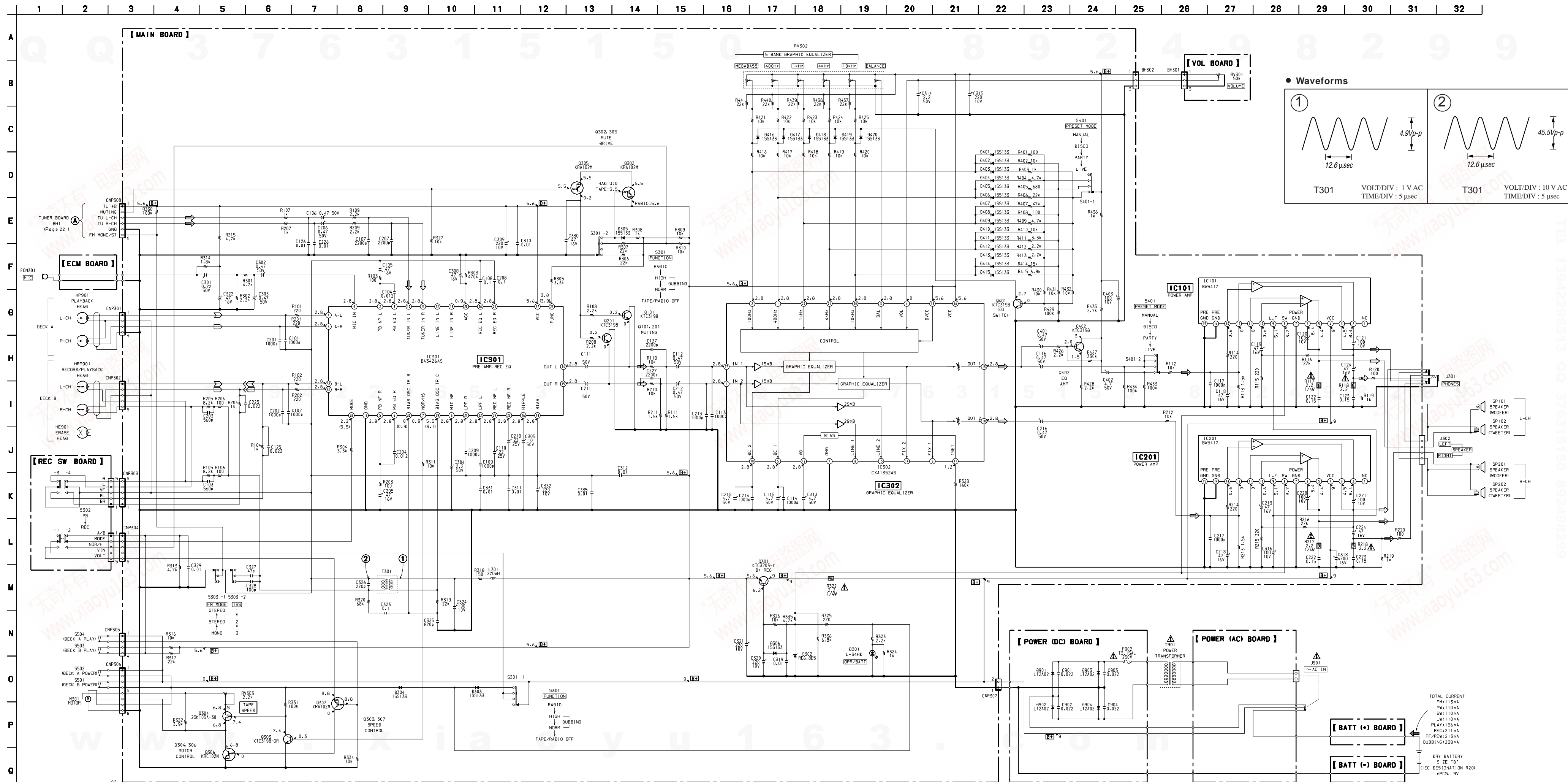
- All capacitors are in μF unless otherwise noted. pF : $\mu\mu\text{F}$
50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.
- Δ : internal component.
-  : nonflammable resistor.

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

-  : B+ Line.
-  : adjustment for repair.
- Power voltage is dc 9V and fed with regulated dc power supply from battery terminal.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
no mark : PLAY
() : REC
- Voltages are taken with a VOM (Input impedance $10\text{M}\Omega$). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
 : FM
 : PB (L-CH)
 : PB (R-CH)
 : REC (L-CH)
 : REC (R-CH)

Note on Printed Wiring Boards:

-  : parts extracted from the component side.
-  : parts mounted on the conductor side.
-  : Pattern from the side which enables seeing.



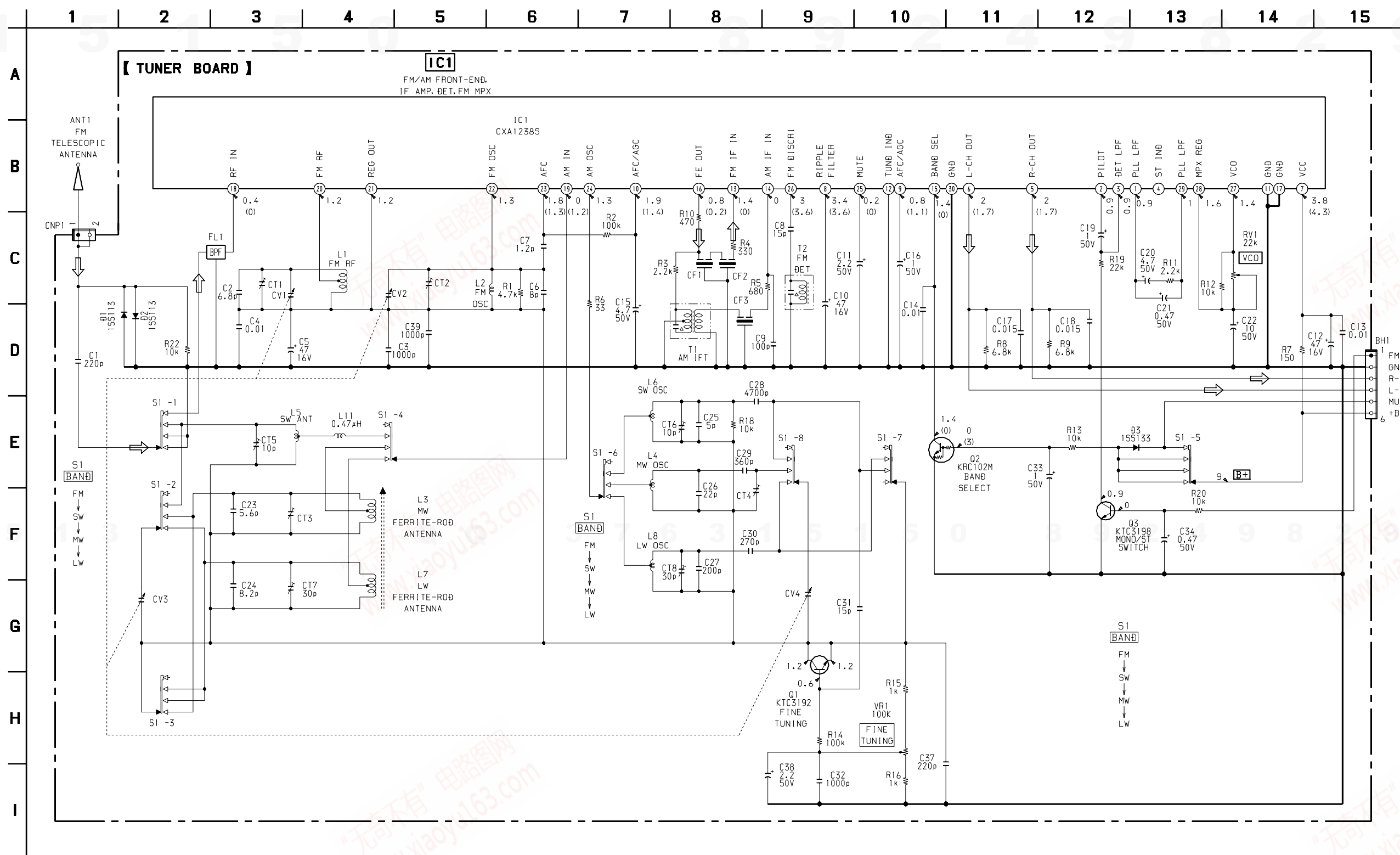
5-4. PRINTED WIRING BOARDS – TUNER SECTION –

5-5. SCHEMATIC DIAGRAM – TUNER SECTION – Refer to page 24 for IC Block Diagram.

● Semiconductor Location

Ref. No.	Location
D1	E-2
D2	E-3
D3	D-3
IC1	D-4
Q1	C-3
Q2	E-5

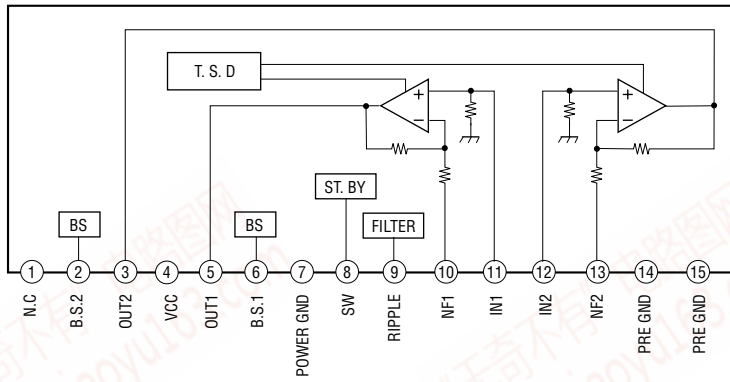
Note:
 ○ : parts extracted from the component side.
 ■ : Pattern from the side which enables seeing.



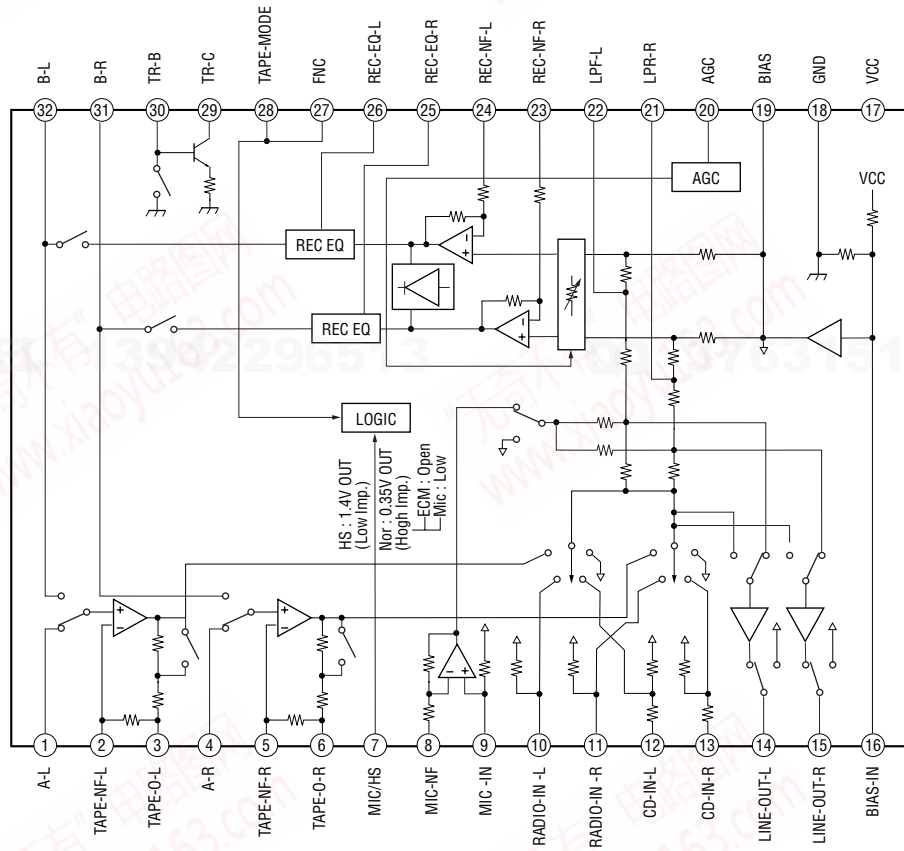
Note:
 • All capacitors are in μF unless otherwise noted. pF: μF 50 WV or less are not indicated except for electrolytics and tantalums.
 • All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.
 • Δ : internal component.
 • **B+** : B+ Line.
 • **B+** : adjustment for repair.
 • Power voltage is dc 9V and fed with regulated dc power supply from battery terminal.
 • Voltages are dc with respect to ground under no-signal (detuned) conditions.
 no mark : FM
 () : MW/LW/SW
 • Voltages are taken with a VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
 • Signal path
 ⇨ : FM

● IC Block Diagrams (Main Section)

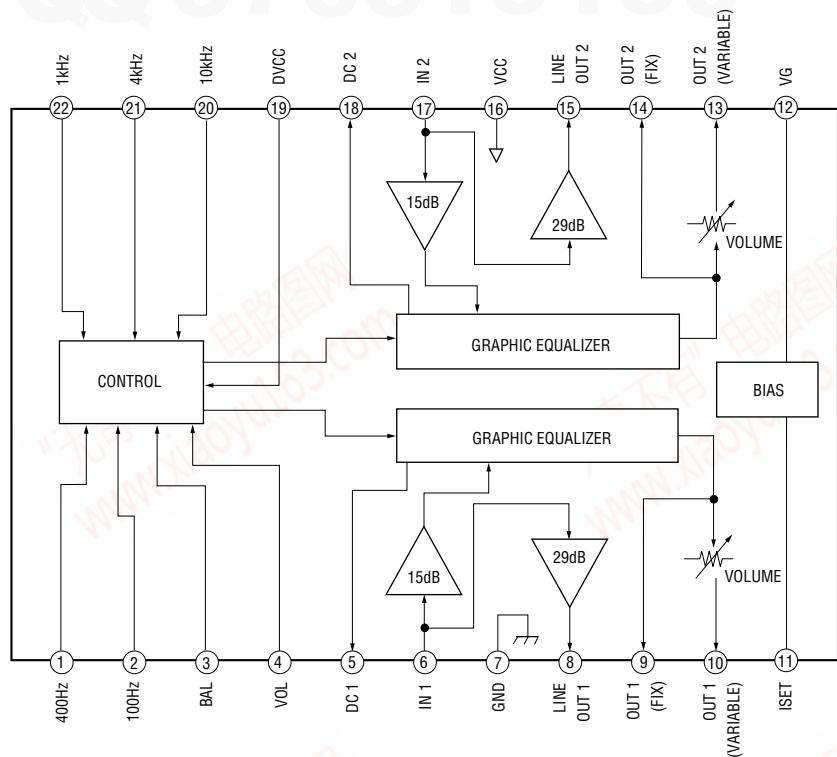
IC101, 201 BA5417



IC301 BA3426AS

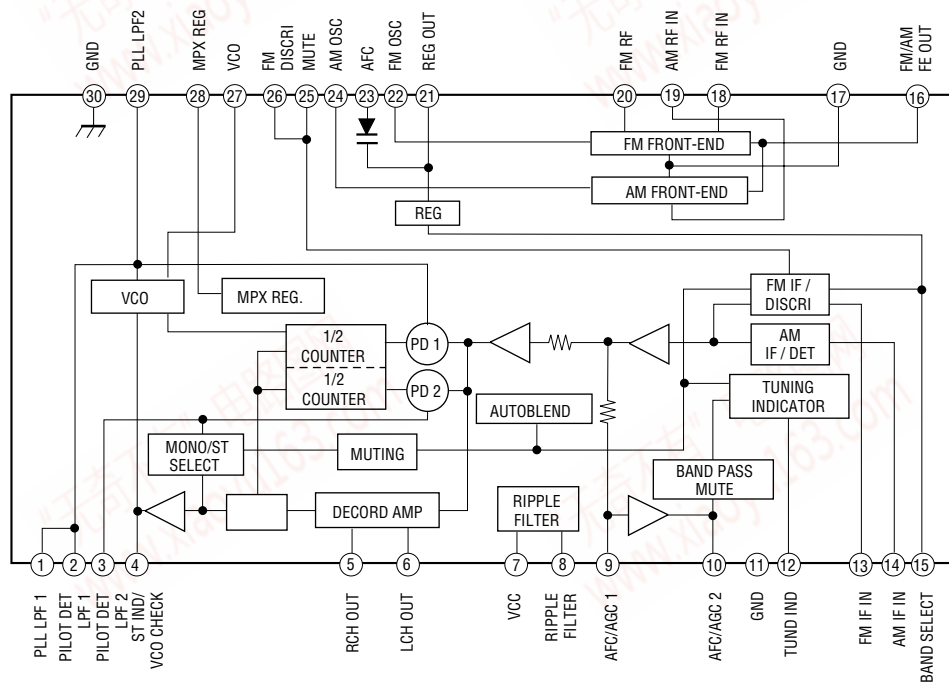


IC302 CXA1352AS



• IC Block Diagram (Tuner Section)

IC1 CXA1238S



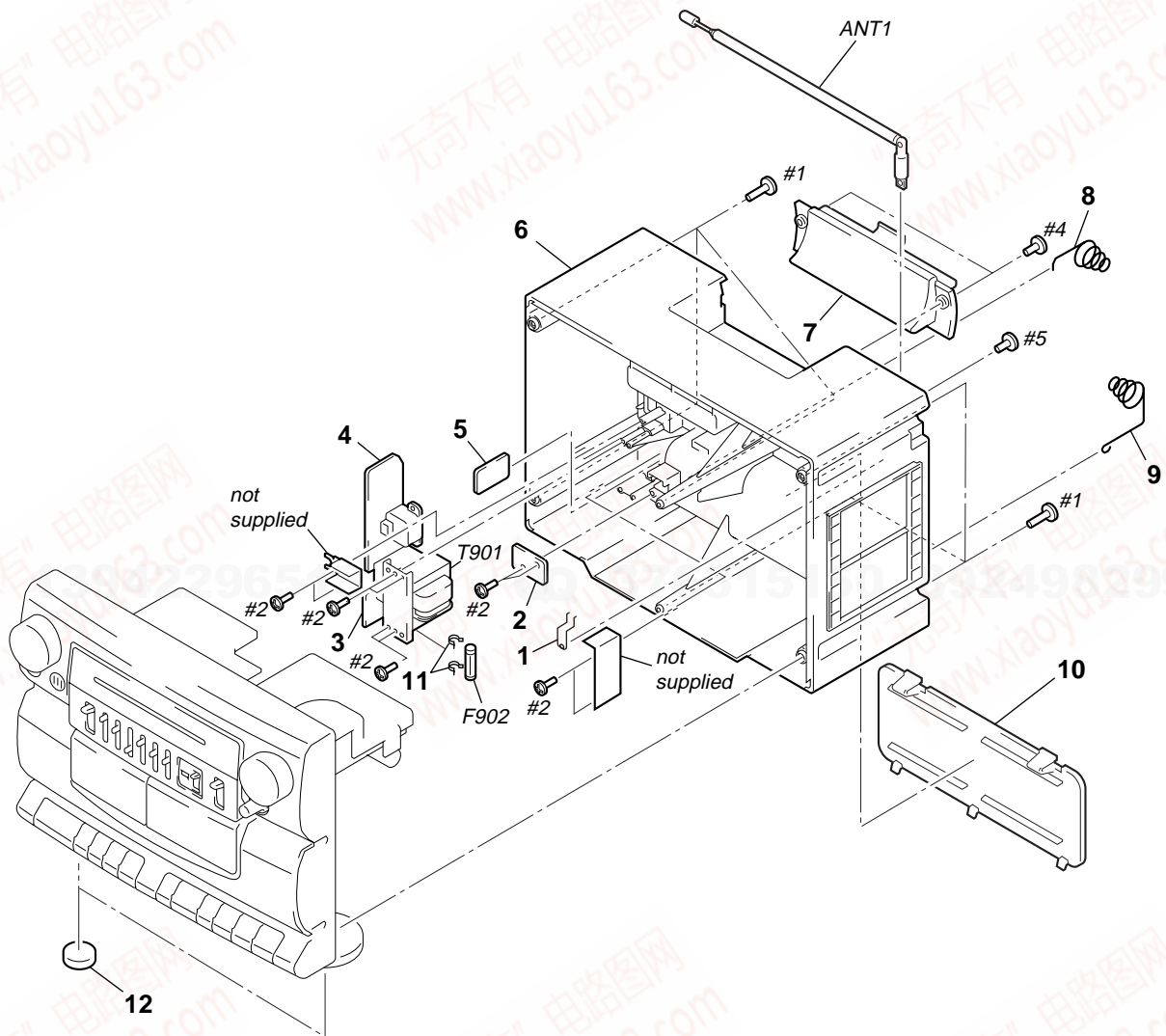
SECTION 6 EXPLODED VIEWS

NOTE :

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked “ * ” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

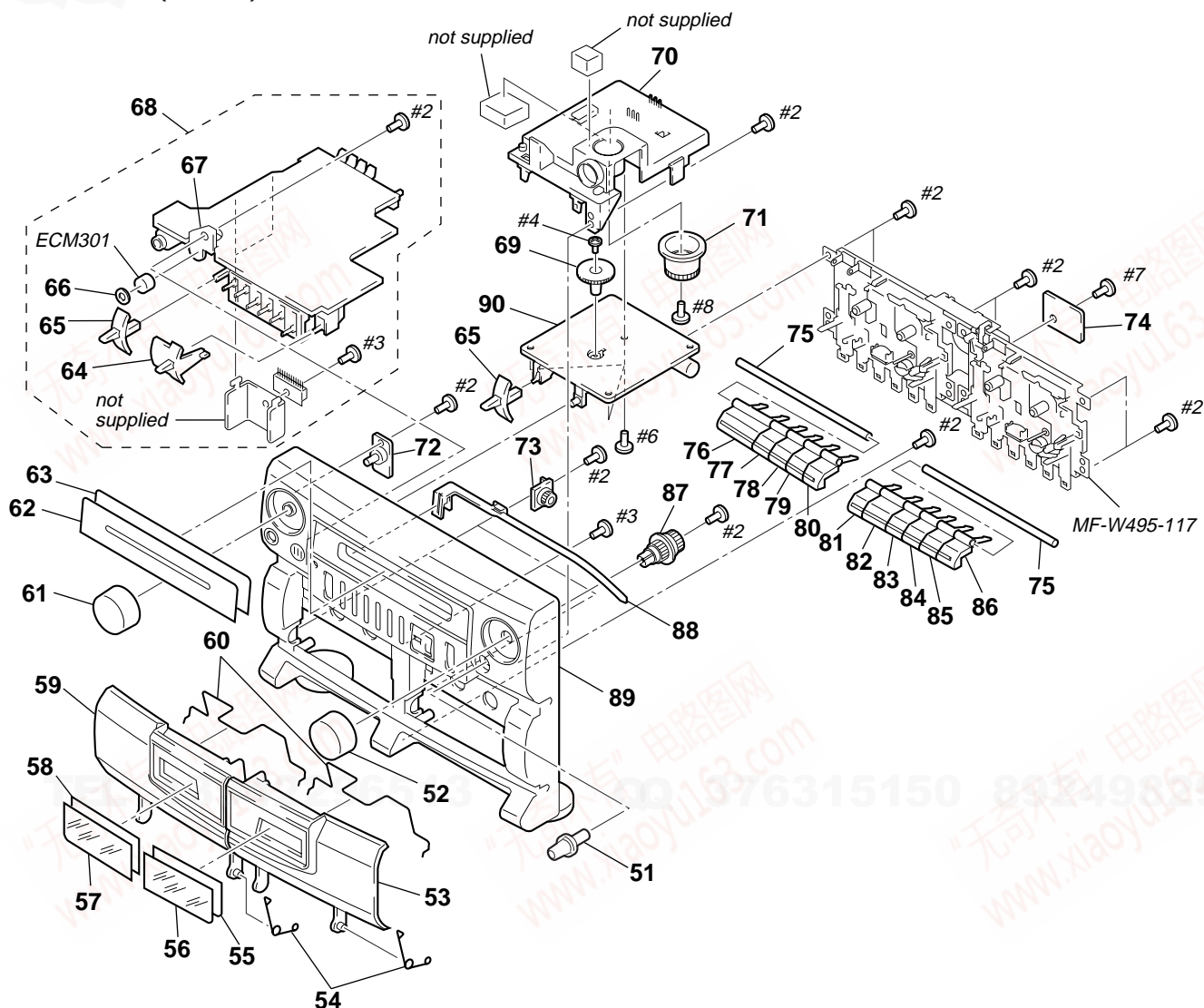
The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

6-1. CABINET (REAR) SECTION



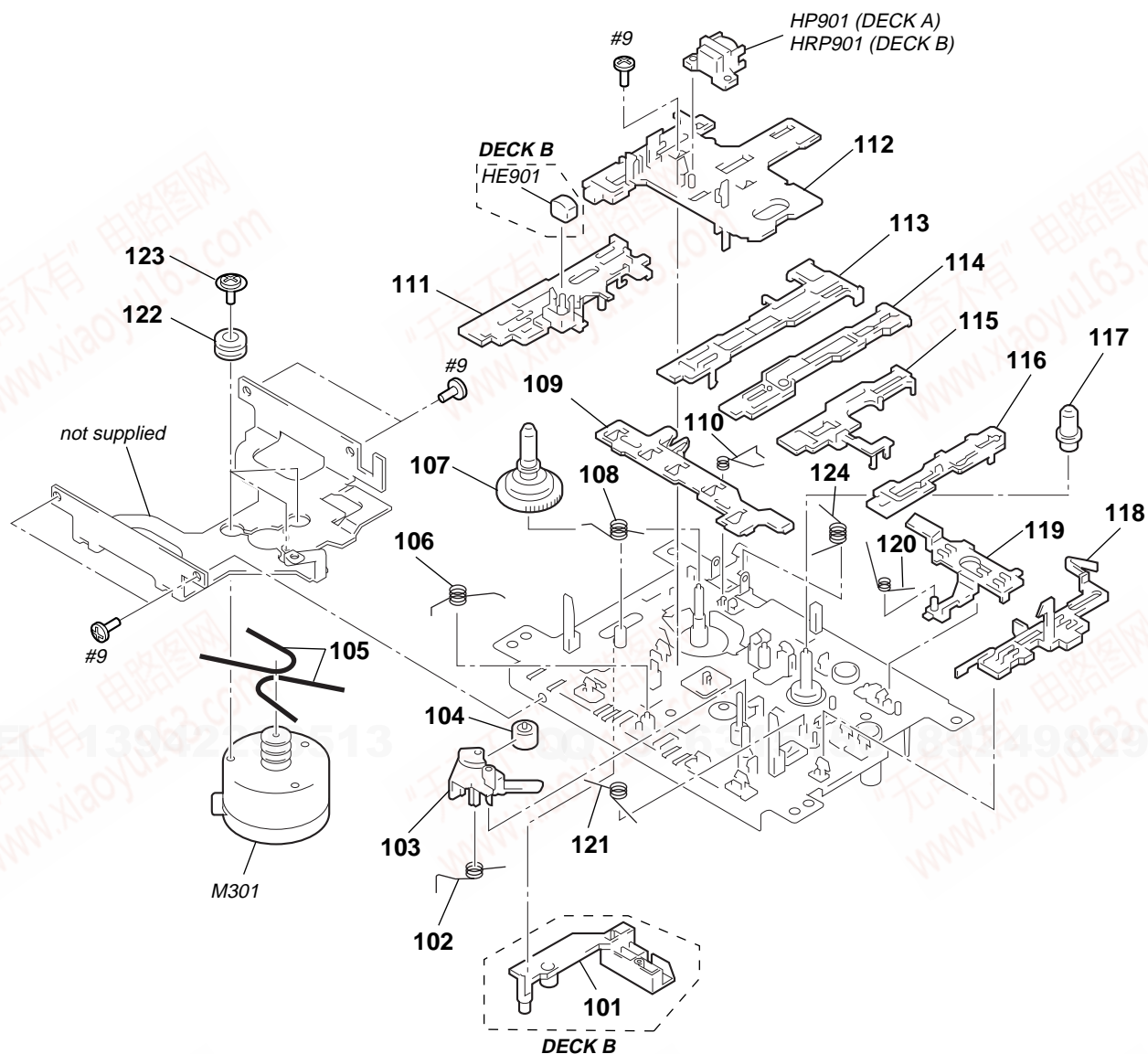
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	3-026-399-01	SPRING, ANTENNA CONTACT		10	3-918-472-01	LID, BATTERY CASE	
* 2	1-669-569-11	BATT (-) BOARD		11	1-533-233-31	HOLDER, FUSE	
* 3	1-669-565-11	POWER (DC) BOARD		12	3-908-999-01	FOOT	
* 4	1-669-564-11	POWER (AC) BOARD		ANT1	1-501-383-21	ANTENNA, TELESCOPIC	
* 5	1-669-568-11	BATT (+) BOARD		Δ F902	1-532-465-31	FUSE (T3.15AL/250V)	
6	3-024-738-21	CABINET (REAR)		Δ T901	1-431-936-11	TRANSFORMER, POWER	
7	3-026-405-01	COVER, HANDLE					
8	3-024-770-01	TERMINAL (-), BATT					
9	3-364-532-01	TERMINAL (+ -), BATTERY					

6-2. CABINET (FRONT) SECTION



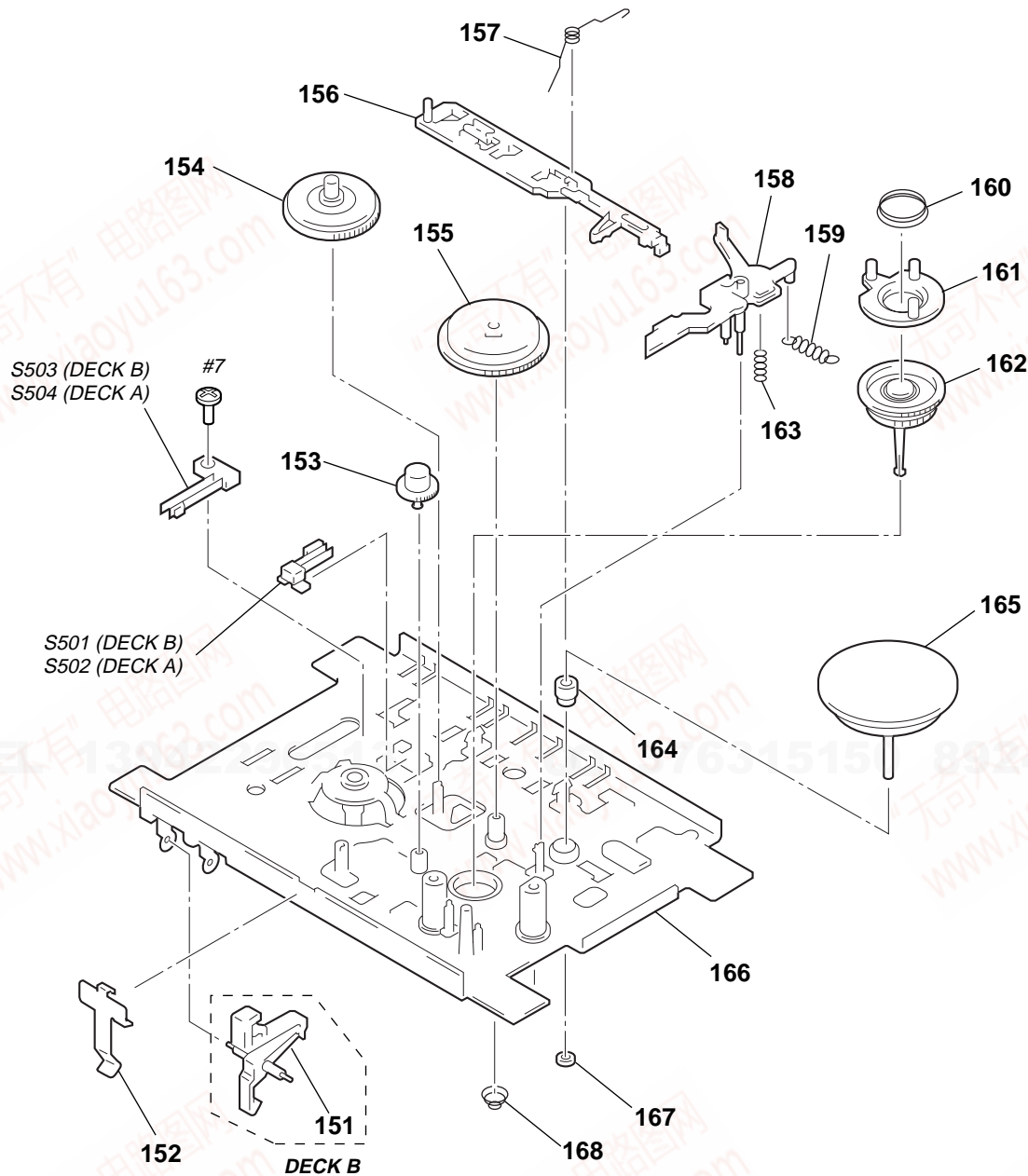
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	3-026-404-01	KNOB (F/T)		* 72	1-669-566-11	VOL BOARD	
52	3-024-758-01	KNOB (TUNE)		73	3-351-377-01	DAMPER	
53	3-024-741-11	LID (R), CASSETTE		* 74	1-669-567-11	REC SW BOARD	
54	3-024-769-01	SPRING (OPEN), CASSETTE		75	3-024-766-01	SHAFT, MD	
55	3-024-776-01	SHEET (C-R), ADHESIVE		76	3-024-742-01	BUTTON (PLAY A), MD	
56	3-024-772-11	WINDOW (R), CASSETTE		77	3-024-743-01	BUTTON (REW A), MD	
57	3-024-771-01	WINDOW (L), CASSETTE		78	3-024-744-01	BUTTON (FF A), MD	
58	3-024-775-01	SHEET (C-L), ADHESIVE		79	3-024-745-01	BUTTON (ST/EJ A), MD	
59	3-024-740-01	LID (L), CASSETTE		80	3-024-746-01	BUTTON (PAUSE A), MD	
60	3-024-768-01	SPRING (HOLDE), CASSETTE		81	3-024-747-01	BUTTON (REC), MD	
61	3-024-759-01	KNOB (VOL)		82	3-024-748-01	BUTTON (PLAY B), MD	
62	3-024-773-21	WINDOW, SCALE		83	3-024-749-01	BUTTON (REW B), MD	
63	3-024-774-01	SHEET (C-F), ADHESIVE		84	3-024-750-01	BUTTON (FF B), MD	
64	3-024-756-01	KNOB (DSS)		85	3-024-751-01	BUTTON (ST/EJ B), MD	
65	3-024-757-01	KNOB (FUNC)		86	3-024-752-01	BUTTON (PAUSE B), MD	
66	3-366-963-01	CUSHION (MIC)		87	3-024-754-01	GEAR (TUNER)	
* 68	A-3293-953-A	MAIN BOARD, COMPLETE		88	3-024-760-01	POINTER	
* 67	1-670-291-11	ECM BOARD		89	3-024-737-11	CABINET (FRONT)	
69	3-024-755-01	GEAR (VC)		* 90	A-3321-367-A	TUNER BOARD, COMPLETE	
70	3-024-739-01	CHASSIS (TUNE)		ECM301	1-542-118-11	MICROPHONE, ELECTRET CONDENSER (MIC)	
71	3-024-753-01	GEAR (MIDWAY)					

6-3. MECHANISM DECK SECTION-1
(MF-W495-117)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	3-025-846-01	LEVER (REC) (DECK B)		* 116	3-008-591-01	SLIDER (PAUSE)	
102	3-933-025-01	SPRING (P), TORSION		117	3-933-004-01	CLAW, REEL	
103	3-933-026-01	LEVER (P)		* 118	3-933-006-01	SLIDER (EJECT)	
104	3-933-024-01	ROLLER, PINCH		* 119	3-933-021-01	SLIDER (FRP)	
105	3-016-031-11	BELT		120	3-934-833-01	SPRING (FRP)	
106	3-933-019-01	SPRING (F/R), TORSION		121	3-933-010-01	SPRING (S/P), TORSION	
107	3-933-016-01	GEAR (S REEL)		122	3-014-797-01	CUSHION, MOTOR	
108	3-933-028-01	SPRING (FWD), TORSION		123	3-570-027-00	SCREW, MOTOR	
109	3-933-007-01	PLATE, LOCK		124	3-023-780-01	SPRING	
110	3-022-794-02	SPRING (BT)		M301	A-3311-837-A	MOTOR ASSY (W)	
111	3-008-590-01	SLIDER (REC)		HE901	1-543-876-11	HEAD (ERASE) (DECK B)	
112	3-008-592-01	BASE (H), HEAD		HP901	1-500-454-11	HEAD,MAGNETIC(PLAYBACK) (DECK A)	
* 113	3-008-588-01	SLIDER (REW)		HRP901	1-500-454-11	HEAD,MAGNETIC(RECORD/PLAYBACK) (DECK B)	
* 114	3-008-589-13	SLIDER (FF)					
* 115	3-008-587-01	SLIDER (STOP)					

6-4. MECHANISM DECK SECTION-2
(MF-W495-117)

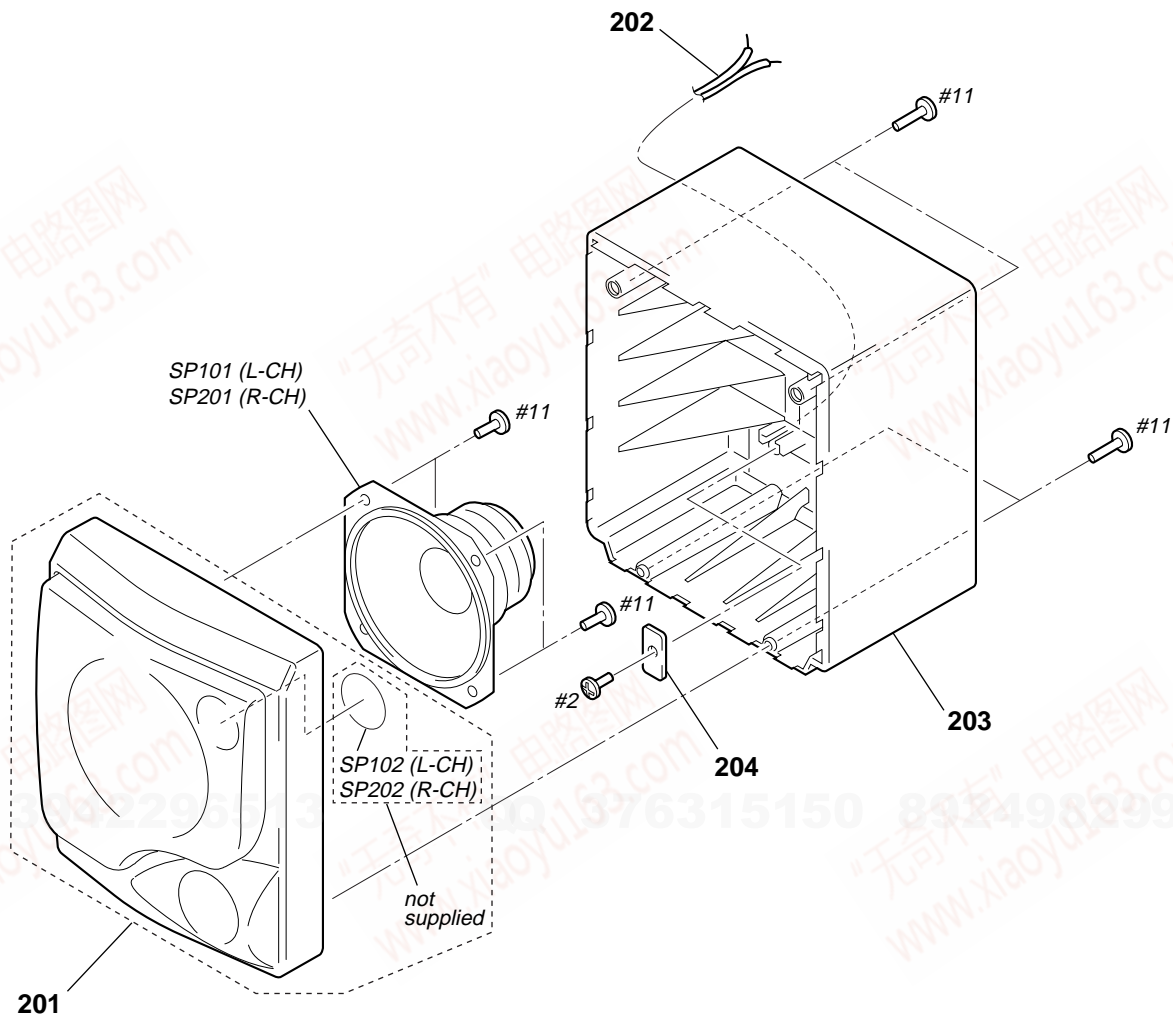


Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
151	3-933-029-01	LEVER, ERASING PREVENTION (DECK B)		162	X-3373-572-1	REEL ASSY (N), T	
152	3-933-182-01	SPRING, CASSETTE		163	3-939-383-02	SPRING, COMPRESSION	
153	3-932-995-01	GEAR (MID)		164	3-934-336-01	BEARING	
154	X-3371-667-1	CLUTCH ASSY		165	X-3374-077-1	FLYWHEEL ASSY (W)	
155	3-932-997-01	GEAR (CAM)		166	3-932-993-01	CHASSIS, OUTSERT	
* 156	3-932-999-11	SLIDER (SW)		167	3-343-358-01	RING, RETAINING	
157	3-932-998-01	SPRING (GROUND), TORSION		168	3-933-005-01	SPRING (CAM), COMPRESSION	
158	3-009-648-01	LEVER (S.OFF)		S501	1-762-679-11	SWITCH, LEAF(MD POWER) (DECK B)	
159	3-020-108-01	SPRING, TENSION		S502	1-771-059-11	SWITCH, LEAF(MD POWER) (DECK A)	
160	3-009-650-02	SPRING (K), COMPRESSION		S503	1-762-679-11	SWITCH, LEAF (PLAY) (DECK B)	
161	3-936-438-01	LEVER (K)		S504	1-771-059-11	SWITCH, LEAF (PLAY) (DECK A)	

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6-5. SPEAKER SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
201	A-3320-364-A	BOX (FRONT) SUB ASSY, SP (L-CH)		* 204	1-670-292-11	RETAINER BOARD	
201	A-3320-367-A	BOX (FRONT) SUB ASSY, SP (R-CH)		SP101	1-505-965-11	SPEAKER (WOOFER) (L-CH)	
202	1-690-969-11	CORD, SPEAKER CONNECTION		SP201	1-505-965-11	SPEAKER (WOOFER) (R-CH)	
* 203	3-007-895-01	CABINET (REAR), SP (L-CH)					
* 203	3-007-896-01	CABINET (REAR), SP (R-CH)					

BATT (+) **BATT (-)**

ECM **MAIN**

**SECTION 7
ELECTRICAL PARTS LIST**

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, -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
- 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
*	1-669-568-11	BATT (+) BOARD *****		C122	1-130-497-00	MYLAR 0.15uF 5% 50V	
*****				C123	1-130-497-00	MYLAR 0.15uF 5% 50V	
*****				C124	1-104-664-11	ELECT 47uF 20% 16V	
*	1-669-569-11	BATT (-) BOARD *****		C125	1-161-494-00	CERAMIC 0.022uF 30% 25V	
*****				C126	1-162-306-11	CERAMIC 0.01uF 20% 16V	
*****				C127	1-161-375-00	CERAMIC 2200PF 20% 50V	
*****				C201	1-162-294-31	CERAMIC 0.001uF 10% 50V	
*****				C202	1-162-294-31	CERAMIC 0.001uF 10% 50V	
*	1-670-291-11	ECM BOARD ***** < MIC >		C203	1-162-291-31	CERAMIC 560PF 10% 50V	
ECM301	1-542-118-11	MICROPHONE, ELECTRET CONDENSER (MIC) *****		C204	1-162-840-11	CERAMIC 0.012uF 10% 16V	
*****				C205	1-104-664-11	ELECT 47uF 20% 16V	
*	A-3293-953-A	MAIN BOARD, COMPLETE *****		C206	1-124-902-00	ELECT 0.47uF 20% 50V	
*****				C207	1-161-375-00	CERAMIC 2200PF 20% 50V	
*****				C208	1-162-851-11	CERAMIC 0.1uF 10% 16V	
*****				C209	1-162-294-31	CERAMIC 0.001uF 10% 50V	
*****				C210	1-126-233-11	ELECT 22uF 20% 50V	
*****				C211	1-124-903-11	ELECT 1uF 20% 50V	
*****				C212	1-124-902-00	ELECT 0.47uF 20% 50V	
*****				C213	1-162-294-31	CERAMIC 0.001uF 10% 50V	
*****				C214	1-162-294-31	CERAMIC 0.001uF 10% 50V	
*****				C215	1-126-963-11	ELECT 4.7uF 20% 50V	
*****				C216	1-124-902-00	ELECT 0.47uF 20% 50V	
C101	1-162-294-31	CERAMIC 0.001uF 10% 50V		C217	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C102	1-162-294-31	CERAMIC 0.001uF 10% 50V		C218	1-104-664-11	ELECT 47uF 20% 16V	
C103	1-162-291-31	CERAMIC 560PF 10% 50V		*****			
C104	1-162-840-11	CERAMIC 0.012uF 10% 16V		C219	1-104-664-11	ELECT 47uF 20% 16V	
C105	1-104-664-11	ELECT 47uF 20% 16V		C220	1-124-443-00	ELECT 100uF 20% 10V	
C106	1-124-902-00	ELECT 0.47uF 20% 50V		C221	1-124-443-00	ELECT 100uF 20% 10V	
C107	1-161-375-00	CERAMIC 2200PF 20% 50V		C222	1-130-497-00	MYLAR 0.15uF 5% 50V	
C108	1-162-851-11	CERAMIC 0.1uF 10% 16V		C223	1-130-497-00	MYLAR 0.15uF 5% 50V	
C109	1-162-294-31	CERAMIC 0.001uF 10% 50V		*****			
C110	1-126-233-11	ELECT 22uF 20% 50V		C224	1-104-664-11	ELECT 47uF 20% 16V	
C111	1-124-903-11	ELECT 1uF 20% 50V		C225	1-161-494-00	CERAMIC 0.022uF 30% 25V	
C112	1-124-902-00	ELECT 0.47uF 20% 50V		C226	1-162-306-11	CERAMIC 0.01uF 20% 16V	
C113	1-162-294-31	CERAMIC 0.001uF 10% 50V		C227	1-161-375-00	CERAMIC 2200PF 20% 50V	
C114	1-162-294-31	CERAMIC 0.001uF 10% 50V		C301	1-124-464-11	ELECT 0.22uF 20% 50V	
C115	1-126-963-11	ELECT 4.7uF 20% 50V		*****			
C116	1-124-902-00	ELECT 0.47uF 20% 50V		C302	1-124-902-00	ELECT 0.47uF 20% 50V	
C117	1-162-294-31	CERAMIC 0.001uF 10% 50V		C303	1-124-902-00	ELECT 0.47uF 20% 50V	
C118	1-104-664-11	ELECT 47uF 20% 16V		C304	1-126-961-11	ELECT 2.2uF 20% 50V	
C119	1-104-664-11	ELECT 47uF 20% 16V		C305	1-124-907-11	ELECT 10uF 20% 50V	
C120	1-124-443-00	ELECT 100uF 20% 10V		C308	1-104-664-11	ELECT 47uF 20% 16V	
C121	1-124-443-00	ELECT 100uF 20% 10V		*****			
*****				C309	1-104-666-11	ELECT 220uF 20% 10V	
*****				C310	1-162-306-11	CERAMIC 0.01uF 20% 16V	
*****				C311	1-162-306-11	CERAMIC 0.01uF 20% 16V	
*****				C312	1-162-306-11	CERAMIC 0.01uF 20% 16V	

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C313	1-126-963-11	ELECT	4.7uF 20% 50V	D416	8-719-991-33	DIODE 1SS133T-77	
C314	1-126-961-11	ELECT	2.2uF 20% 50V	D417	8-719-991-33	DIODE 1SS133T-77	
C315	1-104-666-11	ELECT	220uF 20% 10V	D418	8-719-991-33	DIODE 1SS133T-77	
C316	1-124-443-00	ELECT	100uF 20% 10V	D419	8-719-991-33	DIODE 1SS133T-77	
C318	1-126-937-11	ELECT	4700uF 20% 16V	D420	8-719-991-33	DIODE 1SS133T-77	
C319	1-162-306-11	CERAMIC	0.01uF 20% 16V			< IC >	
C320	1-104-666-11	ELECT	220uF 20% 10V	IC101	8-759-426-51	IC BA5417	
C321	1-104-666-11	ELECT	220uF 20% 10V	IC201	8-759-426-51	IC BA5417	
C322	1-104-664-11	ELECT	47uF 20% 16V	IC301	8-759-457-58	IC BA3426AS	
C323	1-162-851-11	CERAMIC	0.1uF 10% 16V	IC302	8-752-067-34	IC CXA1352AS	
C324	1-124-443-00	ELECT	100uF 20% 10V			< JACK >	
C325	1-162-293-31	CERAMIC	820PF 10% 50V	J301	1-566-891-11	JACK (PHONES)	
C326	1-130-048-00	FILM	220PF 5% 50V	J302	1-537-330-11	TERMINAL BOARD (SPEAKER)	
C327	1-162-215-31	CERAMIC	47PF 5% 50V			< COIL >	
C328	1-162-282-31	CERAMIC	100PF 10% 50V	L301	1-410-336-11	INDUCTOR 220uH	
C329	1-162-306-11	CERAMIC	0.01uF 20% 16V			< TRANSISTOR >	
C330	1-104-664-11	ELECT	47uF 20% 16V	Q101	8-729-036-89	TRANSISTOR KTC3198GR-AT	
C331	1-162-306-11	CERAMIC	0.01uF 20% 16V	Q201	8-729-036-89	TRANSISTOR KTC3198GR-AT	
C332	1-104-666-11	ELECT	220uF 20% 10V	Q301	8-729-036-86	TRANSISTOR KTC3203Y-AT	
C335	1-162-306-11	CERAMIC	0.01uF 20% 16V	Q302	8-729-037-29	TRANSISTOR KRA102M	
C401	1-124-902-00	ELECT	0.47uF 20% 50V	Q303	8-729-036-89	TRANSISTOR KTC3198GR-AT	
C402	1-126-963-11	ELECT	4.7uF 20% 50V	Q304	8-729-115-30	TRANSISTOR 2SK105A-30	
C403	1-124-443-00	ELECT	100uF 20% 10V	Q305	8-729-037-29	TRANSISTOR KRA102M	
		< CONNECTOR >		Q306	8-729-036-58	TRANSISTOR KRC102M-AT	
CNP301	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P		Q307	8-729-037-29	TRANSISTOR KRA102M	
CNP302	1-506-987-11	PIN, CONNECTOR (PC BOARD) 5P		Q401	8-729-036-89	TRANSISTOR KTC3198GR-AT	
CNP303	1-506-987-11	PIN, CONNECTOR (PC BOARD) 5P		Q402	8-729-036-89	TRANSISTOR KTC3198GR-AT	
CNP304	1-506-986-11	PIN, CONNECTOR (PC BOARD) 5P				< RESISTOR >	
CNP305	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P		R101	1-247-815-91	CARBON 220 5% 1/4W	
* CNP306	1-580-160-11	PIN, CONNECTOR (PC BOARD) 8P		R102	1-247-815-91	CARBON 220 5% 1/4W	
CNP307	1-564-505-11	PLUG, CONNECTOR 2P		R103	1-247-807-31	CARBON 100 5% 1/4W	
* CNP308	1-580-158-11	PIN, CONNECTOR (PC BOARD) 6P		R104	1-249-417-11	CARBON 1K 5% 1/4W	
		< DIODE >		R105	1-249-428-11	CARBON 8.2K 5% 1/4W	
D301	8-719-059-97	LED L-34HD (OPR/BATT)		R106	1-247-807-31	CARBON 100 5% 1/4W	
D302	8-719-109-97	DIODE RD6.8ES-B2		R107	1-249-417-11	CARBON 1K 5% 1/4W	
D303	8-719-991-33	DIODE 1SS133T-77		R108	1-249-421-11	CARBON 2.2K 5% 1/4W	
D304	8-719-991-33	DIODE 1SS133T-77		R109	1-249-421-11	CARBON 2.2K 5% 1/4W	
D305	8-719-991-33	DIODE 1SS133T-77		R110	1-249-429-11	CARBON 10K 5% 1/4W	
D306	8-719-991-33	DIODE 1SS133T-77		R111	1-249-419-11	CARBON 1.5K 5% 1/4W	
D401	8-719-991-33	DIODE 1SS133T-77		R112	1-249-429-11	CARBON 10K 5% 1/4W	
D402	8-719-991-33	DIODE 1SS133T-77		R113	1-249-419-11	CARBON 1.5K 5% 1/4W	
D403	8-719-991-33	DIODE 1SS133T-77		R114	1-247-815-91	CARBON 220 5% 1/4W	
D404	8-719-991-33	DIODE 1SS133T-77		R115	1-247-815-91	CARBON 220 5% 1/4W	
D405	8-719-991-33	DIODE 1SS133T-77		R116	1-249-434-11	CARBON 27K 5% 1/4W	
D406	8-719-991-33	DIODE 1SS133T-77		△R117	1-249-385-11	CARBON 2.2 5% 1/6W F	
D407	8-719-991-33	DIODE 1SS133T-77		△R118	1-249-385-11	CARBON 2.2 5% 1/6W F	
D408	8-719-991-33	DIODE 1SS133T-77		R119	1-249-417-11	CARBON 1K 5% 1/4W	
D409	8-719-991-33	DIODE 1SS133T-77		R120	1-247-807-31	CARBON 100 5% 1/4W	
D410	8-719-991-33	DIODE 1SS133T-77		R201	1-247-815-91	CARBON 220 5% 1/4W	
D411	8-719-991-33	DIODE 1SS133T-77		R202	1-247-815-91	CARBON 220 5% 1/4W	
D412	8-719-991-33	DIODE 1SS133T-77		R203	1-247-807-31	CARBON 100 5% 1/4W	
D413	8-719-991-33	DIODE 1SS133T-77					
D414	8-719-991-33	DIODE 1SS133T-77					
D415	8-719-991-33	DIODE 1SS133T-77					

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

MAIN POWER (AC)

Ref. No.	Part No.	Description	Remark
R204	1-249-417-11	CARBON 1K	5% 1/4W
R205	1-249-428-11	CARBON 8.2K	5% 1/4W
R206	1-247-807-31	CARBON 100	5% 1/4W
R207	1-249-417-11	CARBON 1K	5% 1/4W
R208	1-249-421-11	CARBON 2.2K	5% 1/4W
R209	1-249-421-11	CARBON 2.2K	5% 1/4W
R210	1-249-429-11	CARBON 10K	5% 1/4W
R211	1-249-419-11	CARBON 1.5K	5% 1/4W
R212	1-249-429-11	CARBON 10K	5% 1/4W
R213	1-249-419-11	CARBON 1.5K	5% 1/4W
R214	1-247-815-91	CARBON 220	5% 1/4W
R215	1-247-815-91	CARBON 220	5% 1/4W
R216	1-249-434-11	CARBON 27K	5% 1/4W
△R217	1-249-385-11	CARBON 2.2	5% 1/6W F
△R218	1-249-385-11	CARBON 2.2	5% 1/6W F
R219	1-249-417-11	CARBON 1K	5% 1/4W
R220	1-247-807-31	CARBON 100	5% 1/4W
R301	1-249-425-11	CARBON 4.7K	5% 1/4W
R302	1-249-421-11	CARBON 2.2K	5% 1/4W
R303	1-247-895-91	CARBON 470K	5% 1/4W
R304	1-247-843-11	CARBON 3.3K	5% 1/4W
R305	1-247-843-11	CARBON 3.3K	5% 1/4W
R306	1-247-863-91	CARBON 22K	5% 1/4W
R307	1-247-863-91	CARBON 22K	5% 1/4W
R308	1-249-417-11	CARBON 1K	5% 1/4W
R309	1-249-429-11	CARBON 10K	5% 1/4W
R310	1-249-429-11	CARBON 10K	5% 1/4W
R311	1-249-429-11	CARBON 10K	5% 1/4W
R313	1-249-425-11	CARBON 4.7K	5% 1/4W
R314	1-249-420-11	CARBON 1.8K	5% 1/4W
R315	1-249-425-11	CARBON 4.7K	5% 1/4W
R316	1-249-429-11	CARBON 10K	5% 1/4W
R317	1-247-863-91	CARBON 22K	5% 1/4W
R318	1-249-407-11	CARBON 150	5% 1/4W
R319	1-247-863-91	CARBON 22K	5% 1/4W
R320	1-249-439-11	CARBON 68K	5% 1/4W
△R322	1-249-385-11	CARBON 2.2	5% 1/6W F
R323	1-249-421-11	CARBON 2.2K	5% 1/4W
R324	1-249-417-11	CARBON 1K	5% 1/4W
R325	1-247-815-91	CARBON 220	5% 1/4W
R326	1-249-429-11	CARBON 10K	5% 1/4W
R327	1-249-429-11	CARBON 10K	5% 1/4W
R328	1-247-884-11	CARBON 160K	5% 1/4W
R330	1-249-441-11	CARBON 100K	5% 1/4W
R331	1-249-441-11	CARBON 100K	5% 1/4W
R332	1-249-424-11	CARBON 3.9K	5% 1/4W
R334	1-249-429-11	CARBON 10K	5% 1/4W
R335	1-249-425-11	CARBON 4.7K	5% 1/4W
R336	1-249-427-11	CARBON 6.8K	5% 1/4W
R401	1-247-807-31	CARBON 100	5% 1/4W
R402	1-249-429-11	CARBON 10K	5% 1/4W
R403	1-249-417-11	CARBON 1K	5% 1/4W
R404	1-249-425-11	CARBON 4.7K	5% 1/4W
R405	1-249-415-11	CARBON 680	5% 1/4W
R406	1-247-863-91	CARBON 22K	5% 1/4W
R407	1-249-437-11	CARBON 47K	5% 1/4W
R408	1-247-807-31	CARBON 100	5% 1/4W

Ref. No.	Part No.	Description	Remark
R409	1-249-425-11	CARBON 4.7K	5% 1/4W
R410	1-249-429-11	CARBON 10K	5% 1/4W
R411	1-247-843-11	CARBON 3.3K	5% 1/4W
R412	1-249-421-11	CARBON 2.2K	5% 1/4W
R413	1-249-421-11	CARBON 2.2K	5% 1/4W
R414	1-249-431-11	CARBON 15K	5% 1/4W
R415	1-249-427-11	CARBON 6.8K	5% 1/4W
R416	1-249-429-11	CARBON 10K	5% 1/4W
R417	1-249-429-11	CARBON 10K	5% 1/4W
R418	1-249-429-11	CARBON 10K	5% 1/4W
R419	1-249-429-11	CARBON 10K	5% 1/4W
R420	1-249-429-11	CARBON 10K	5% 1/4W
R421	1-249-429-11	CARBON 10K	5% 1/4W
R422	1-249-429-11	CARBON 10K	5% 1/4W
R423	1-249-429-11	CARBON 10K	5% 1/4W
R424	1-249-429-11	CARBON 10K	5% 1/4W
R425	1-249-429-11	CARBON 10K	5% 1/4W
R426	1-249-421-11	CARBON 2.2K	5% 1/4W
R427	1-247-891-00	CARBON 330K	5% 1/4W
R428	1-249-421-11	CARBON 2.2K	5% 1/4W
R429	1-249-441-11	CARBON 100K	5% 1/4W
R430	1-249-429-11	CARBON 10K	5% 1/4W
R431	1-249-429-11	CARBON 10K	5% 1/4W
R432	1-249-429-11	CARBON 10K	5% 1/4W
R433	1-249-441-11	CARBON 100K	5% 1/4W
R434	1-249-441-11	CARBON 100K	5% 1/4W
R435	1-249-422-11	CARBON 2.7K	5% 1/4W
R436	1-249-417-11	CARBON 1K	5% 1/4W
R437	1-247-863-91	CARBON 22K	5% 1/4W
R438	1-247-863-91	CARBON 22K	5% 1/4W
R439	1-247-863-91	CARBON 22K	5% 1/4W
R440	1-247-863-91	CARBON 22K	5% 1/4W
R441	1-247-863-91	CARBON 22K	5% 1/4W
< VARIABLE RESISTOR >			
RV302	1-225-654-11	RES, VAR, SLIDE 8.33K/8.33KX5 (5 BAND GRAPHIC EQUALIZER)	
RV303	1-238-598-11	RES, ADJ, CARBON 2.2K (TAPE SPEED)	
< SWITCH >			
S301	1-571-476-21	SWITCH, LEVER SLIDE (FUNCTION)	
S303	1-771-521-11	SWITCH, SLIDE (FM MODE/ISS)	
S401	1-571-476-21	SWITCH, LEVER SLIDE (PRESET MODE)	
< TRANSFORMER >			
T301	1-416-041-11	TRANSFORMER, BIAS OSCILLATION	

*	1-669-564-11	POWER (AC) BOARD	*****
< JACK >			
△J901	1-526-838-11	INLET, AC 2P (~ AC IN)	*****

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

POWER (DC)

REC SW

TUNER

Ref. No.	Part No.	Description	Remark
*	1-669-565-11	POWER (DC) BOARD *****	
	1-533-233-31	HOLDER, FUSE < CAPACITOR >	
C901	1-101-005-00	CERAMIC 22000PF	50V
C902	1-101-005-00	CERAMIC 22000PF	50V
C903	1-101-005-00	CERAMIC 22000PF	50V
C904	1-101-005-00	CERAMIC 22000PF	50V
		< DIODE >	
D901	8-719-046-07	DIODE 2A02M	
D902	8-719-046-07	DIODE 2A02M	
D903	8-719-046-07	DIODE 2A02M	
D904	8-719-046-07	DIODE 2A02M	
		< FUSE >	
△ F902	1-532-465-31	FUSE (T3.15AL/250V) *****	
*	1-669-567-11	REC SW BOARD *****	
		< SWITCH >	
S302	1-572-325-11	SWITCH, SLIDE (PB/REC) *****	
*	A-3321-367-A	TUNER BOARD, COMPLETE *****	
		< CAPACITOR >	
C1	1-162-286-21	CERAMIC 220PF 10%	50V
C2	1-162-197-31	CERAMIC 6.8PF 10%	50V
C3	1-162-294-31	CERAMIC 0.001uF 10%	50V
C4	1-162-306-11	CERAMIC 0.01uF 20%	16V
C5	1-104-664-11	ELECT 47uF 20%	16V
C6	1-102-945-00	CERAMIC 8.0PF +-0.5PF	50V
C7	1-162-188-31	CERAMIC 1.2PF 20%	50V
C8	1-162-203-31	CERAMIC 15PF 5%	50V
C9	1-162-282-31	CERAMIC 100PF 10%	50V
C10	1-104-664-11	ELECT 47uF 20%	16V
C11	1-126-961-11	ELECT 2.2uF 20%	50V
C12	1-104-664-11	ELECT 47uF 20%	16V
C13	1-162-306-11	CERAMIC 0.01uF 20%	16V
C14	1-162-306-11	CERAMIC 0.01uF 20%	16V
C15	1-126-963-11	ELECT 4.7uF 20%	50V
C16	1-124-903-11	ELECT 1uF 20%	50V
C17	1-162-841-11	CERAMIC 0.015uF 10%	16V
C18	1-162-841-11	CERAMIC 0.015uF 10%	16V
C19	1-124-903-11	ELECT 1uF 20%	50V
C20	1-126-963-11	ELECT 4.7uF 20%	50V
C21	1-124-902-00	ELECT 0.47uF 20%	50V
C22	1-124-907-11	ELECT 10uF 20%	50V
C23	1-162-196-31	CERAMIC 5.6PF 10%	50V
C24	1-162-198-31	CERAMIC 8.2PF 10%	50V
C25	1-102-942-00	CERAMIC 5.0PF +-0.5PF	50V

Ref. No.	Part No.	Description	Remark
C26	1-102-959-00	CERAMIC 22PF 5%	50V
C27	1-104-730-11	FILM 200PF 5%	100V
C28	1-136-287-11	FILM 0.0047uF 5%	100V
C29	1-107-734-11	FILM 360PF 5%	100V
C30	1-104-731-11	FILM 270PF 5%	100V
C31	1-162-203-31	CERAMIC 15PF 5%	50V
C32	1-162-294-31	CERAMIC 0.001uF 10%	50V
C33	1-124-903-11	ELECT 1uF 20%	50V
C34	1-124-902-00	ELECT 0.47uF 20%	50V
C37	1-162-286-21	CERAMIC 220PF 10%	50V
C38	1-126-961-11	ELECT 2.2uF 20%	50V
C39	1-162-294-31	CERAMIC 0.001uF 10%	50V
		< FILTER >	
CF1	1-760-738-61	FILTER, CERAMIC	
CF2	1-760-738-61	FILTER, CERAMIC	
CF3	1-767-615-11	FILTER, CERAMIC	
		< CONNECTOR >	
* CNP1	1-580-154-11	PIN, CONNECTOR (PC BOARD) 2P	
		< TRIMMER >	
CT1	1-151-710-11	CAP, VAR (TUNING)	
CT2	1-151-710-11	CAP, VAR (TUNING)	
CT3	1-151-710-11	CAP, VAR (TUNING)	
CT4	1-151-710-11	CAP, VAR (TUNING)	
CT5	1-141-290-41	CAP, FILM TRIMMER 10PF	
CT6	1-141-290-41	CAP, FILM TRIMMER 10PF	
CT7	1-141-604-11	CAP, TRIMMER 30PF	
CT8	1-141-604-11	CAP, TRIMMER 30PF	
		< VARIABLE CAPACITOR >	
CV1	1-151-710-11	CAP, VAR (TUNING)	
CV2	1-151-710-11	CAP, VAR (TUNING)	
CV3	1-151-710-11	CAP, VAR (TUNING)	
CV4	1-151-710-11	CAP, VAR (TUNING)	
		< DIODE >	
D1	8-719-991-33	DIODE 1SS133T-77	
D2	8-719-991-33	DIODE 1SS133T-77	
D3	8-719-991-33	DIODE 1SS133T-77	
		< FILTER >	
FL1	1-239-831-11	FILTER, BAND PASS	
		< IC >	
IC1	8-752-050-20	IC CXA1238S	
		< COIL >	
* L1	1-428-212-11	COIL, AIR-CORE	
L2	1-402-683-11	COIL (OSC)	
L3	1-402-590-11	ANTENNA, FERRITE-ROD (MW)	
L4	1-406-253-11	COIL (OSC)	
L5	1-402-596-61	COIL (ANT)	
L6	1-406-471-11	COIL (OSC)	
L7	1-402-590-11	ANTENNA, FERRITE-ROD (LW)	

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Replace only with part number specified.

CFS-515L

TUNER

VOL

Ref. No.	Part No.	Description	Remark
L8	1-406-252-11	COIL (OSC)	
L11	1-410-750-41	INDUCTOR	0.47uH
< TRANSISTOR >			
Q1	8-729-922-66	TRANSISTOR	2SC2410SN
Q2	8-729-036-58	TRANSISTOR	KRC102M-AT
Q3	8-729-036-89	TRANSISTOR	KTC3198GR-AT
< RESISTOR >			
R1	1-249-425-11	CARBON	4.7K 5% 1/4W
R2	1-249-441-11	CARBON	100K 5% 1/4W
R3	1-249-421-11	CARBON	2.2K 5% 1/4W
R4	1-249-411-11	CARBON	330 5% 1/4W
R5	1-249-415-11	CARBON	680 5% 1/4W
R6	1-249-399-11	CARBON	33 5% 1/4W
R7	1-249-407-11	CARBON	150 5% 1/4W
R8	1-249-427-11	CARBON	6.8K 5% 1/4W
R9	1-249-427-11	CARBON	6.8K 5% 1/4W
R10	1-249-413-11	CARBON	470 5% 1/4W
R11	1-249-421-11	CARBON	2.2K 5% 1/4W
R12	1-249-429-11	CARBON	10K 5% 1/4W
R13	1-249-429-11	CARBON	10K 5% 1/4W
R14	1-249-441-11	CARBON	100K 5% 1/4W
R15	1-249-417-11	CARBON	1K 5% 1/4W
R16	1-249-417-11	CARBON	1K 5% 1/4W
R18	1-249-429-11	CARBON	10K 5% 1/4W
R19	1-247-863-91	CARBON	22K 5% 1/4W
R20	1-249-429-11	CARBON	10K 5% 1/4W
R22	1-249-429-11	CARBON	10K 5% 1/4W
< VARIABLE RESISTOR >			
RV1	1-241-765-11	RES, ADJ, CARBON 22K (VCO)	
< SWITCH >			
S1	1-771-422-11	SWITCH, LEVER SLIDE (BAND)	
< TRANSFORMER >			
T1	1-404-158-11	COIL, IFT	
T2	1-409-944-11	COIL (DET)	
< VARIABLE RESISTOR >			
VR1	1-223-693-11	RES, VAR, CARBON 100K (FINE TUNING)	

*	1-669-566-11	VOL BOARD	*****
< VARIABLE RESISTOR >			
RV301	1-223-761-11	RES, VAR, CARBON 50K (VOLUME)	

MISCELLANEOUS			

11	1-533-233-31	HOLDER, FUSE	
202	1-690-969-11	CORD, SPEAKER CONNECTION	
* 204	1-670-292-11	RETAINER BOARD	

Ref. No.	Part No.	Description	Remark
ANT1	1-501-383-21	ANTENNA, TELESCOPIC	
ECM301	1-542-118-11	MICROPHONE, ELECTRET CONDENSER (MIC)	
△ F902	1-532-465-31	FUSE (T3.15AL/250V)	
HE901	1-543-876-11	HEAD (ERASE) (DECK B)	
HP901	1-500-454-11	HEAD, MAGNETIC (PLAYBACK) (DECK A)	
HRP901	1-500-454-11	HEAD, MAGNETIC (RECORD/PLAYBACK) (DECK B)	
M301	A-3311-837-A	MOTOR ASSY (W)	
S501	1-762-679-11	SWITCH, LEAF (MD POWER) (DECK B)	
S502	1-771-059-11	SWITCH, LEAF (MD POWER) (DECK A)	
S503	1-762-679-11	SWITCH, LEAF (PLAY) (DECK B)	
S504	1-771-059-11	SWITCH, LEAF (PLAY) (DECK A)	
SP101	1-505-965-11	SPEAKER (WOOFER) (L-CH)	
SP201	1-505-965-11	SPEAKER (WOOFER) (R-CH)	
△ T901	1-431-936-11	TRANSFORMER, POWER	

ACCESSORIES & PACKING MATERIALS			

△	1-769-412-11	CORD, POWER	
	3-862-882-11	MANUAL, INSTRUCTION (ENGLISH) (EE)	
	3-862-882-31	MANUAL, INSTRUCTION (POLISH, RUSSIAN)	
	3-862-882-41	MANUAL, INSTRUCTION (CZECH, HUNGARIAN)	

HARDWARE LIST			

#1	3-685-549-14	SCREW +BTP 3X14 TYPE2 N-S	
#2	7-685-547-14	SCREW +BTP 3X10 TYPE2 N-S	
#3	7-685-645-79	SCREW +BVTP 3X6 TYPE2	
#4	7-621-770-87	SCREW +B 2.6X5	
#5	7-682-548-09	SCREW +B 3X8	
#6	7-685-647-79	SCREW +BVTP 3X10 TYPE2	
#7	7-685-783-09	SCREW +PTT 2X6 (S)	
#8	7-685-134-19	SCREW, +P 2.6X8, TYPE2 NON-SLIT	
#9	7-685-782-01	SCREW +PTT 2X5 (S)	
#10	7-685-649-79	SCREW +BVTP 3X14 TYPE2	
#11	7-687-264-11	SCREW, TOTSU PTPWH 4X10, TYPE2	

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