

WM-FX495

SERVICE MANUAL

Ver 1.1 2003.10

US Model
AEP Model



Model Name Using Similar Mechanism	NEW
MD Mechanism Type	MF-WMFX495-147

SPECIFICATIONS

- **Frequency range**
FM : 87.5 - 108 MHz
AM: 530 - 1 710 kHz (North, America)
531 - 1 602 kHz (Other countries)
- **Output**
Headphones (🎧) jack Load impedance 8 - 300 Ω
- **Power requirements**
1.5V DC, battery R6 (size AA) x 1
- **Dimensions (w/h/d)**
Approx. 81.1 x 111.2 x 29.3 mm ($3\frac{1}{4}$ x $4\frac{1}{2}$ x $1\frac{3}{16}$ in.), excl. projecting parts and controls
- **Mass**
Approx. 137 g (4.9 oz) (main unit only)
- **Supplied accessories**
Stereo headphones or earphones with remote control (1)
Carrying case or Carrying pouch or Hand strap (1)

Design and specifications are subject to change without notice.

Battery life* (approximate hours)

	Sony alkaline LR6 (SG)**	Sony R6P (SR)
Tape playback	35	9
Radio reception	40	14

* Measured value by the standard of JEITA (Japan Electronics and Information Technology Industries Association).
(Using a Sony HF series cassette tape)

**When using a Sony LR6(SG) "STAMINA" alkaline dry battery (produced in Japan).

Note

- The battery life may be shorter depending on the operating condition, the surrounding temperature and battery type.

RADIO CASSETTE PLAYER

SONY®

9-877-098-02
2003J02-1
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Sony Corporation
Personal Audio Company
Published by Sony Engineering Corporation

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Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270°C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

SECTION 1 SERVICING NOTES

This set detects the rotation of the idler gear (A) (side S) using the photo reflector (PH751). The PH751 is mounted on the MAIN board, therefore the idler gear (A) (side S) cannot be detected with the MAIN board removed. As a result, the motor (M601) cannot be controlled, causing malfunction.

Further, the MD CONT switch (S601) is also mounted on the MAIN board, and with the board removed, the mechanism position cannot be detected and the operation is not changed over.

Therefore, when the voltage check is executed with the MAIN board removed, follow the procedure provided below.

1. Setting

- 1) Refer to "3. DISASSEMBLY", and remove the MAIN board.
- 2) Connect the MAIN board to the motor (M601) using jumper wires. These can be connected easily with the use of the extension tool (Part No. 1-769-143-11) (ten in one set).
- 3) Connect the AF oscillator to the TP752 and the BT401 (BATT-).
- 4) Supply 1.5 V to the battery terminals using the regulated power supply.

2. Preset state

To set the PLAY, FF, REW modes, the preset state must be set.

- 1) Check that the slider (NRA) and the MD CONT switch (S601) are set to the center position. If not, set the preset state as follow.
- 2) Move the MD CONT switch (S601) to the side, which the slider (NRA) is facing.
- 3) The slider (NRA) will move when the regulated power supply switch is set to OFF once and then set to ON. Move the MD CONT switch (S601) according to this timing and set to the center position.

3. FF, REW modes

- 1) Check that the preset state is set.
- 2) Input the square wave or sine wave to the TP752 and the BT401 (BATT-).
- 3) Press the **[FF]** button or **[REW]** button.

4. PLAY mode

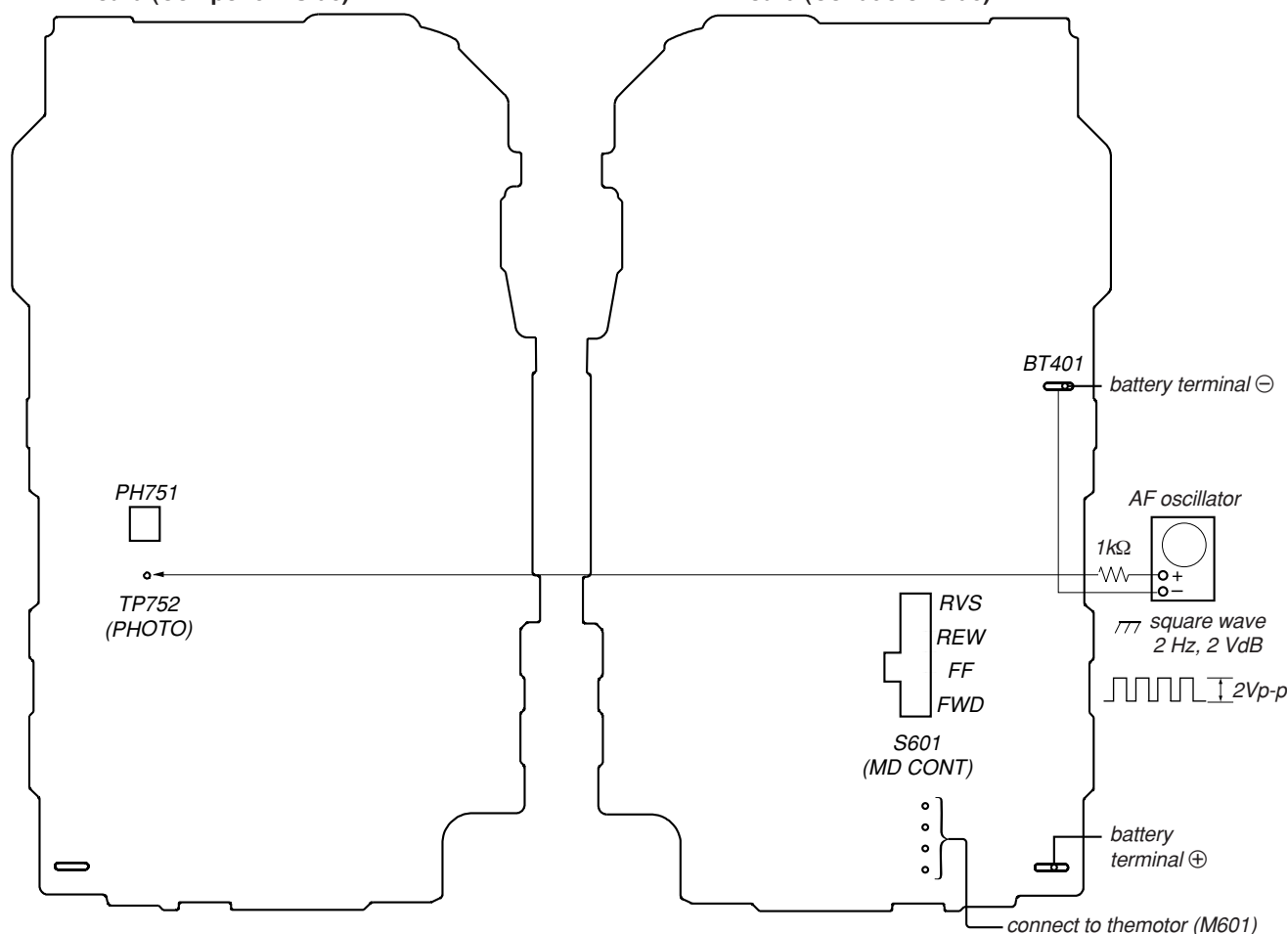
- 1) Check that the preset state is set.
- 2) Input the square wave to the TP752 and the BT401 (BATT-).
- 3) Press the **[▶◀]** button will move the slider (NRA) once towards the side REV and then to the side FWD. Move the MD CONT switch (S601) according to this timing will set the PLAY mode (side FWD). Press the **[▶◀]** button another time for a second and move the MD CONT switch (S601) according to the movement of the slider (NRA) will set the PLAY mode (side REV).

Note 1: If the above fails, perform from preset again.

Note 2: When using headphones, the timing for move the MD CONT switch (S601) can be determined from the beep sound.

– MAIN Board (Component Side) –□

– MAIN Board (Conductor Side) –□

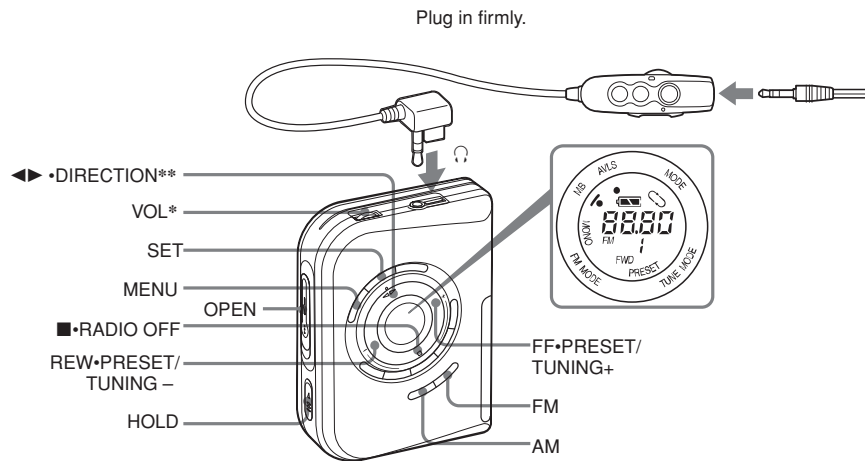


SECTION 2 GENERAL

This section is extracted from instruction manual.

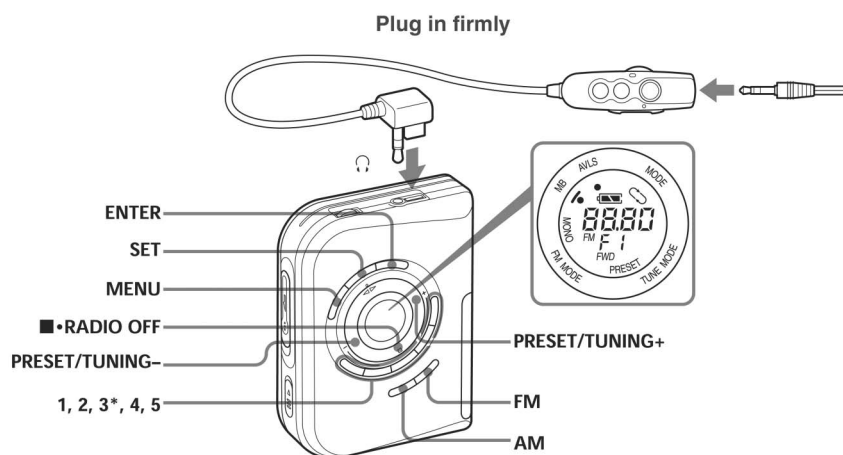
LOCATING THE CONTROLS

–Tape mode–



- * There is a tactile dot beside VOL on the main unit to show the direction to turn up the volume.
 ** The button has a tactile dot.

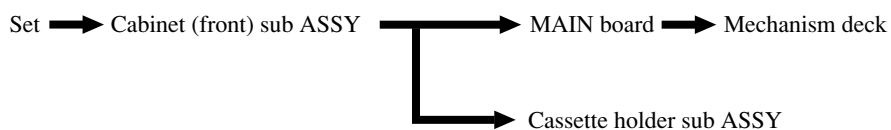
–Radio mode–



- * The button has a tactile dot.

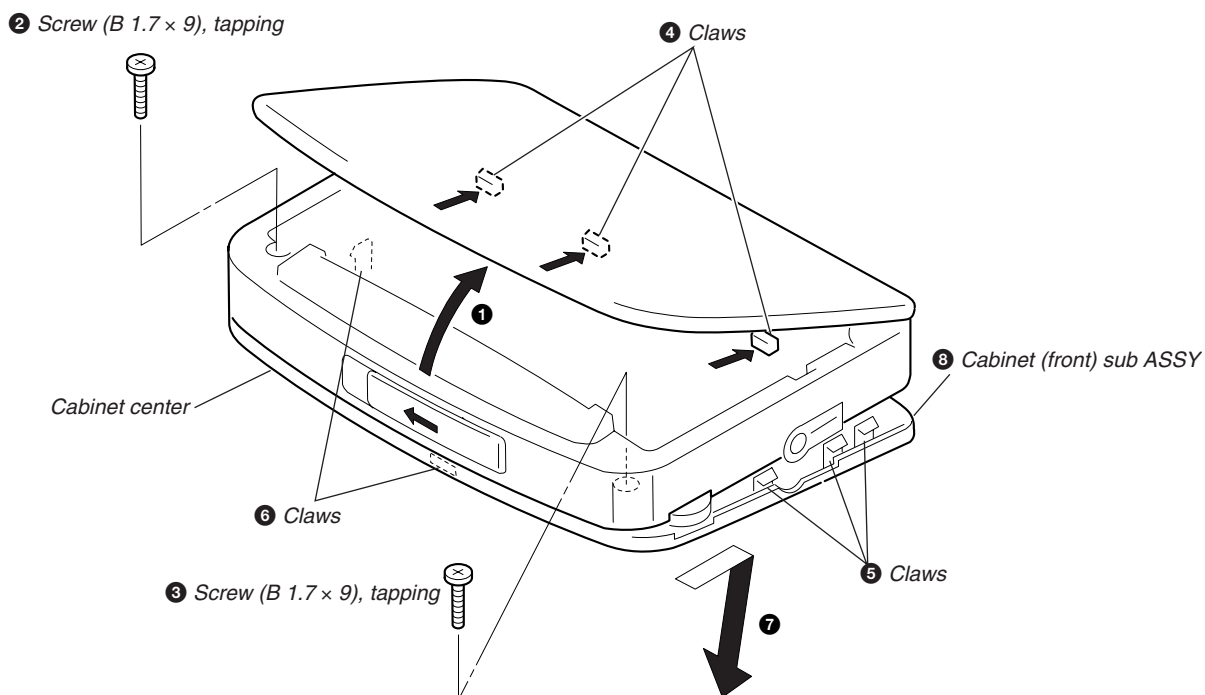
SECTION 3 DISASSEMBLY

- The equipment can be removed using the following procedure.

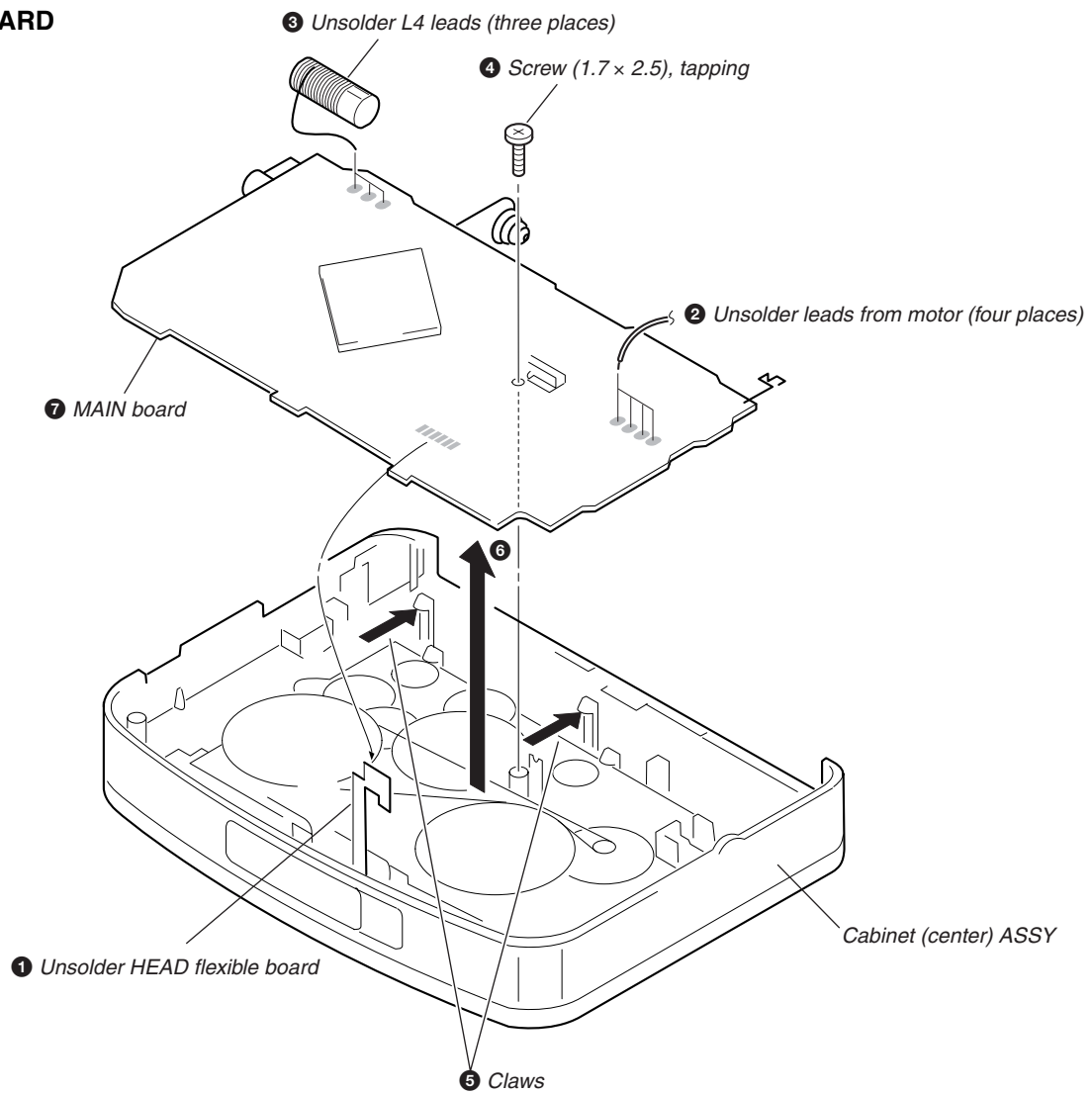


Note : Follow the disassembly procedure in the numerical order given.

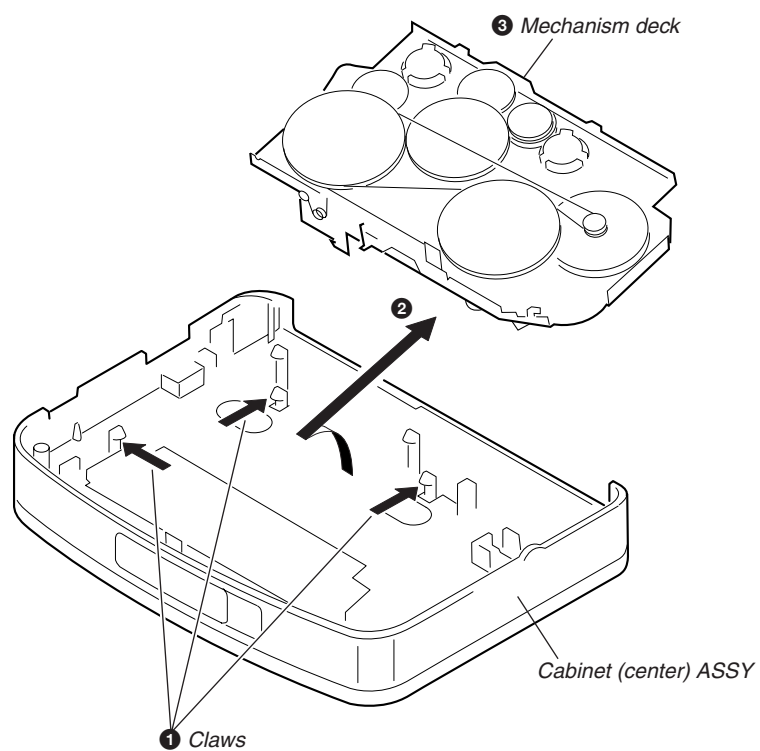
3-1. CABINET (FRONT) SUB ASSY



3-2. MAIN BOARD

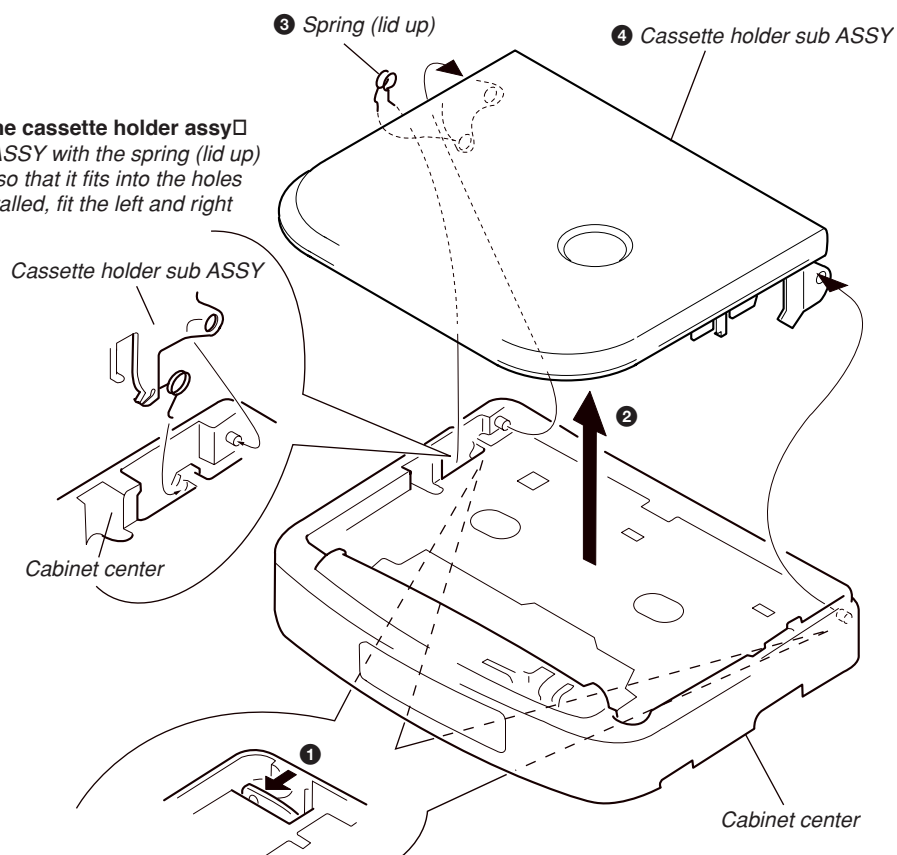


3-3. MECHANISM DECK



3-4. CASSETTE HOLDER SUB ASSY

- **Use caution when installing the cassette holder assy**□
Install the cassette holder sub ASSY with the spring (lid up) as shown below in the drawing so that it fits into the holes on the cabinet center. Once installed, fit the left and right pieces on.



- Press on the left & right clips from the rear of the cabinet center and remove the boss.

SECTION 4
ADJUSTMENTS

4-1. MECHANICAL ADJUSTMENTS

PRECAUTION

- 1. Clean the following parts with a denatured-alcohol-moistened swab :
 playback head pinch roller
 capstan rubber belt
- 2. Demagnetize the playback head with a head demagnetizer.
Do not use a magnetized screwdriver for the adjustments.
- 3. These measurement and adjustment should be performed with the rated power supply voltage (1.5 V) unless otherwise noted.

Torque Measurement

Mode	Torque meter	Meter reading
FWD	CQ-102C	1.97 – 4.11 mN • m 20 – 42 g • cm (0.28 – 0.58 oz • inch)
FWD back tension		less than 0.19 mN • m less than 2 g • cm (less than 0.027 oz • inch)
REV	CQ-102RC	1.97 – 4.11 mN • m 20 – 42 g • cm (0.28 – 0.58 oz • inch)
REV back tension		less than 0.19 mN • m less than 2 g • cm (less than 0.027 oz • inch)
FF, REW	CQ-201B	more than 5.89 mN • m more than 60 g • cm (more than 0.84 oz • inch)

4-2. ELECTRICAL ADJUSTMENTS

PRECAUTION

- Supplied voltage : 1.5V.
- Switch and control position
VOLUME control (RV301) : maximum
HOLD : OFF

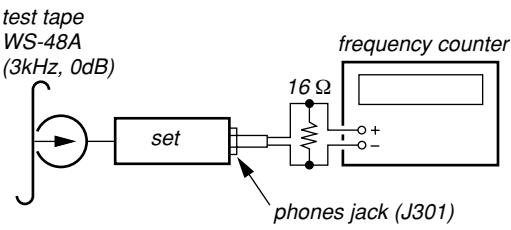
TAPE SECTION

0 dB = 0.775V

Test Tape

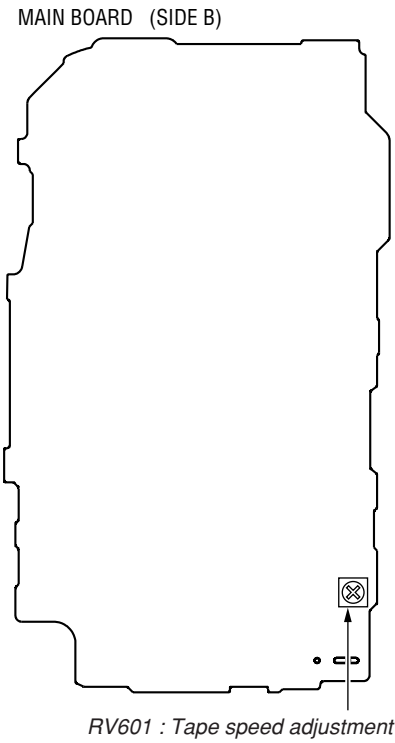
Type	Signal	Used for
WS-48A	3kHz, 0dB	Tape Speed Adjustment

Tape Speed Adjustment
Procedure :



- 1. Playback WS-48A (tape center part) in the FWD state and adjust RV601 so that the frequency counter reading becomes 3,000Hz.
Standard value : 2,910–3,090Hz
- 2. Playback WS-48A (tape center part) in the REV state.
Check that frequency counter reading is within ±1.5% (approx.45Hz) of the reading of step 1.

Adjustment Location :

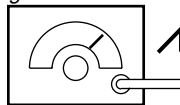


TUNER SECTION

0 dB = 1μV

AM section

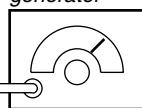
BAND : AM

AM RF signal
generatorPut the lead-wire
antenna close to
the set.30% amplitude modulation by 400Hz
signal.

Output level : as low as possible

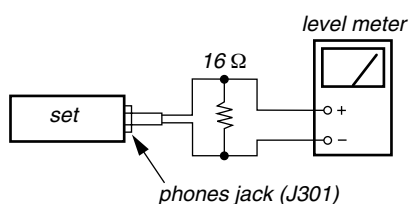
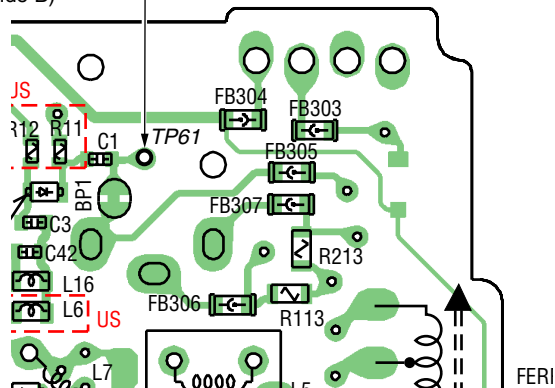
FM section

BAND : FM

FM RF signal
generator

0.01μF

TP61

33.75kHz frequency deviation
by 1kHz signal.
Output level :
as low as possible**[MAIN BOARD]**
(Side B)

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

no mark : US

< : AEP

AM FREQUENCY COVERAGE ADJUSTMENT

Adjust parts	Frequency display	Reading on digital voltmeter
L5	530kHz <531kHz>	Adjustment value : 1.2V Standard value : 1.05–1.35V
Confirmation	1,710kHz <1,602kHz>	Standard value : 8.5V or less

AM TRACKING ADJUSTMENT

Adjust for a maximum reading on level meter.

L4	620kHz <621kHz>
CT1	1,400kHz <1,395kHz>

FM FREQUENCY COVERAGE CONFIRMATION

	Frequency display	Reading on digital voltmeter
Confirmation	87.5MHz	Adjustment value : 4.6V Standard value : 4.1–5.1V
	108MHz	Adjustment value : 7.8V Standard value : 6.8–8.8V

FM TRACKING ADJUSTMENT

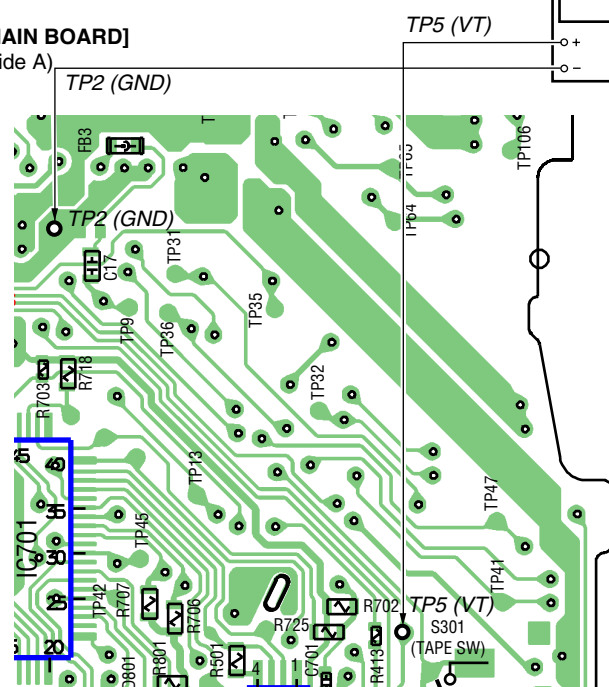
Adjust for a maximum reading on level meter.

L7	98.0MHz
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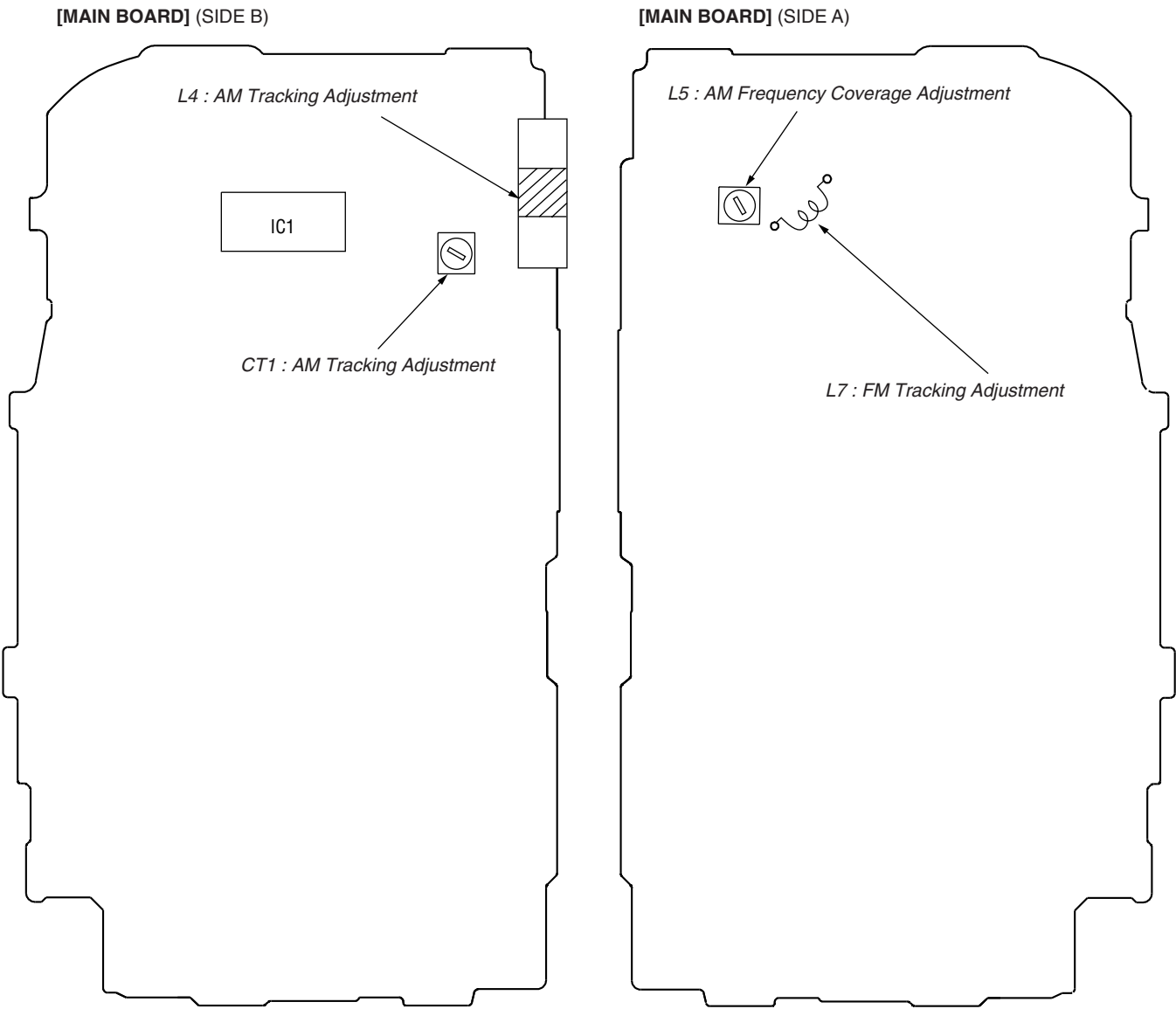
Adjustment Location : Main board

Frequency Coverage Adjustment

Setting :

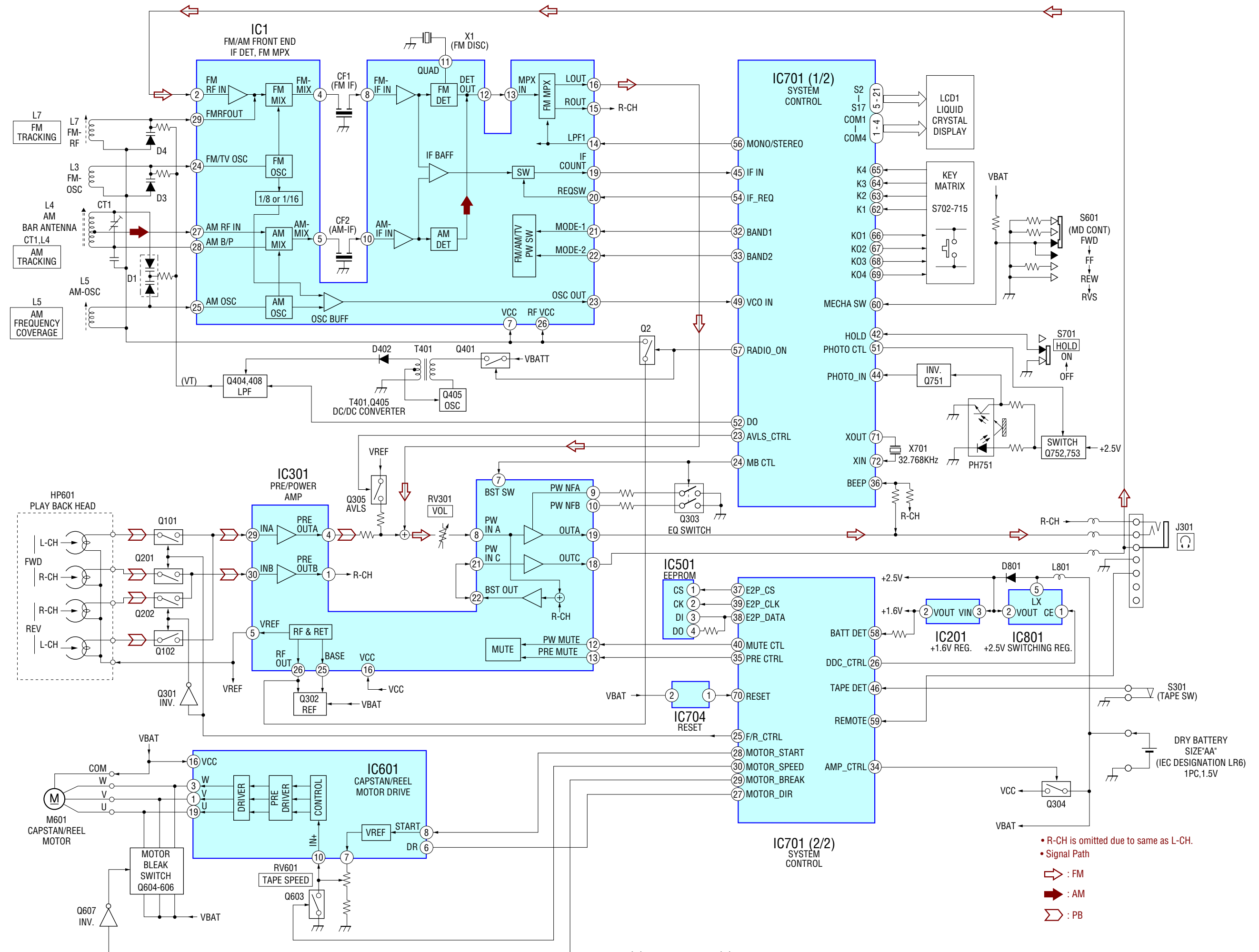
digital voltmeter
(DC range)**[MAIN BOARD]**
(Side A)

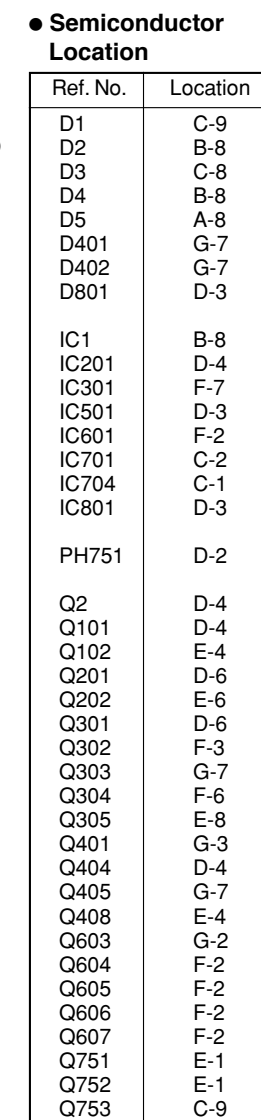
Adjustment Location :



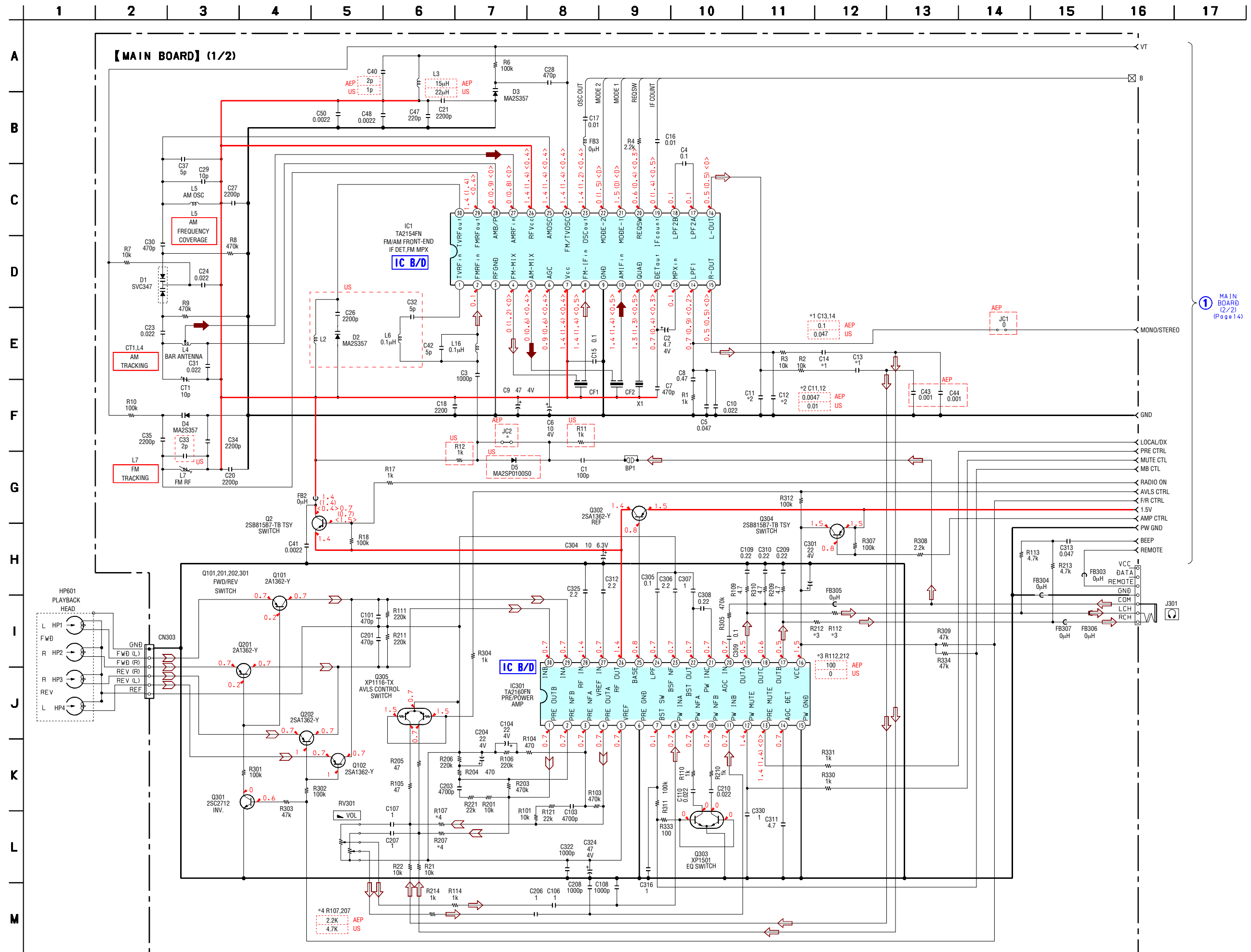
SECTION 5 DIAGRAMS

5-1. BLOCK DIAGRAMS

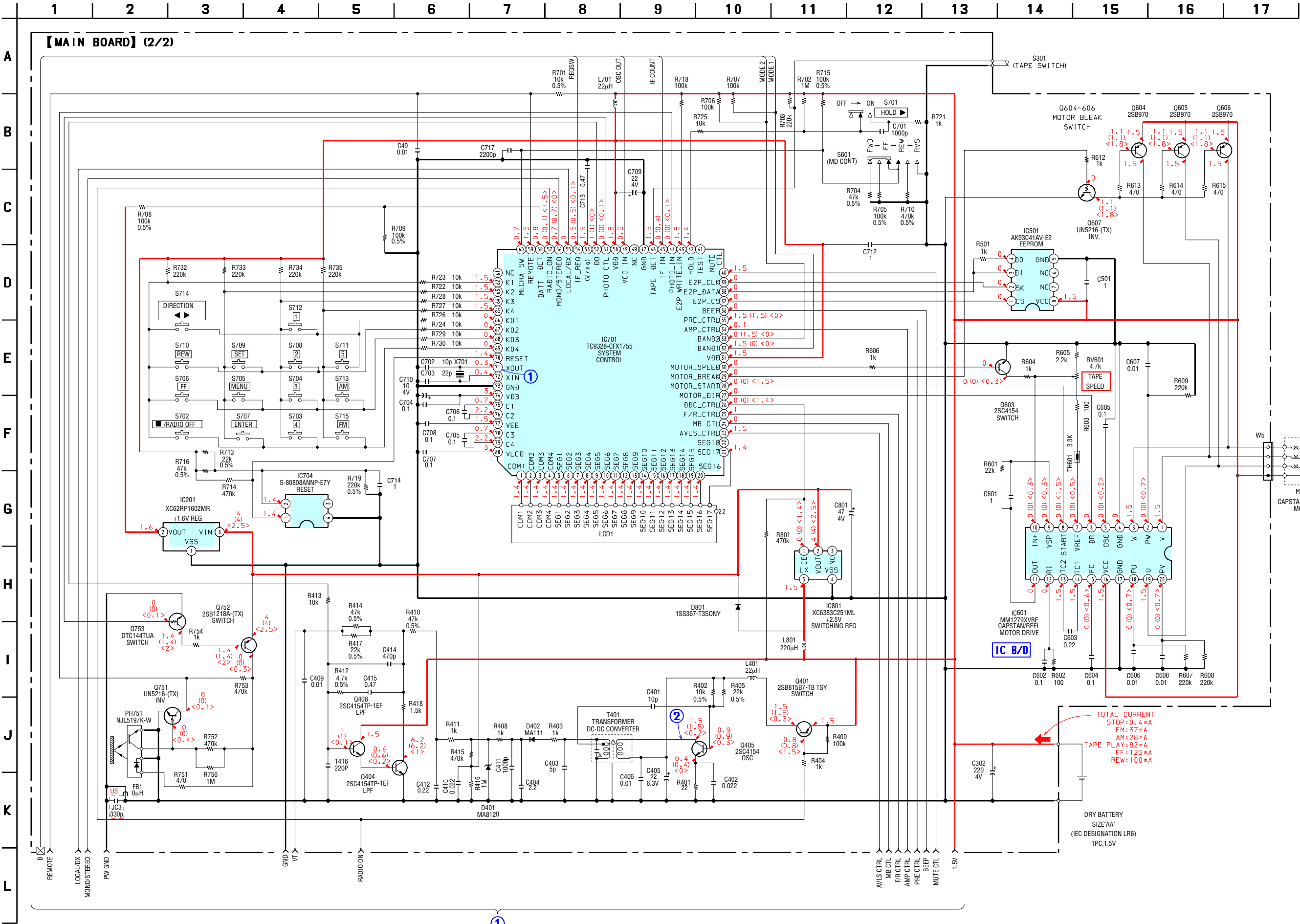




5-3. SCHEMATIC DIAGRAM –MAIN SECTION (1/2) – ● See page 15 for Notes.

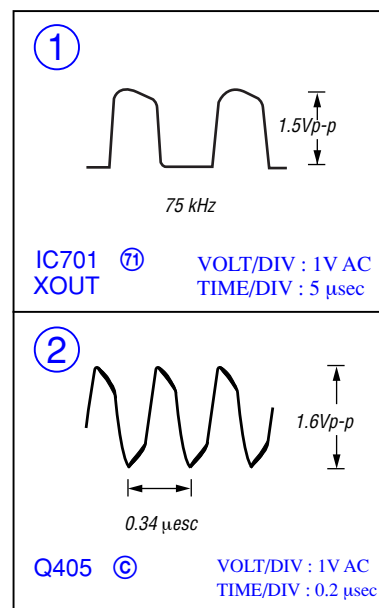


5-4. SCHEMATIC DIAGRAM –MAIN SECTION (2/2) – ● See page 15 for Notes.



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 $\frac{1}{4}\text{W}$ or less unless otherwise specified.
- Δ : internal component.
- : panel designation.
- : B+ Line.
- : adjustment for repair.
- Power voltage is dc 1.5V 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 : FM
- () : AM
- < > : Tape Play
- Voltages are taken with a VOM (Input impedance 10 M Ω). 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.
 - : PB
 - : FM
 - : AM

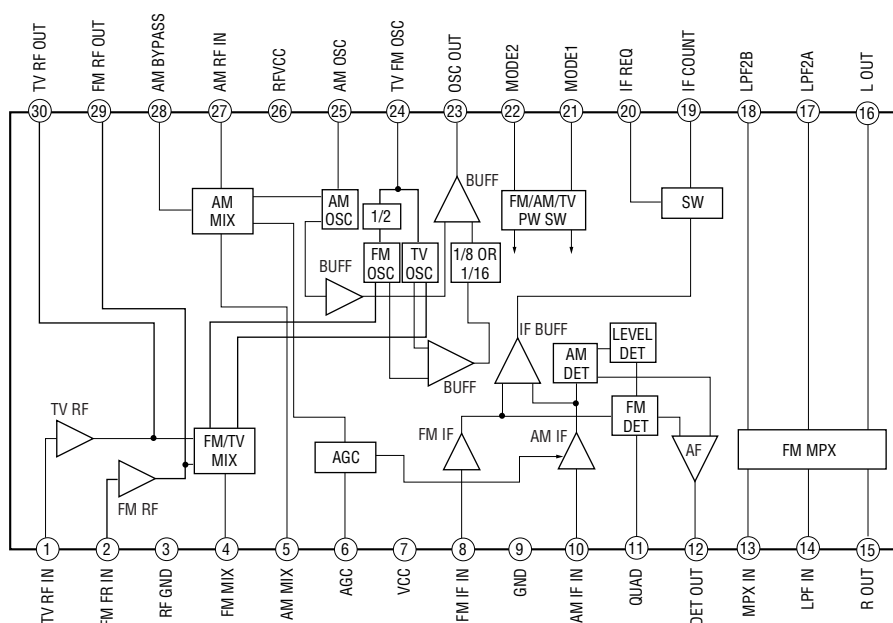
• Waveforms**Note on Printed Wiring Board**

- \circ — : parts extracted from the component side.
- \circ : Through hole.
- : Pattern from the side which enables seeing. (The other layers' patterns are not indicated.)

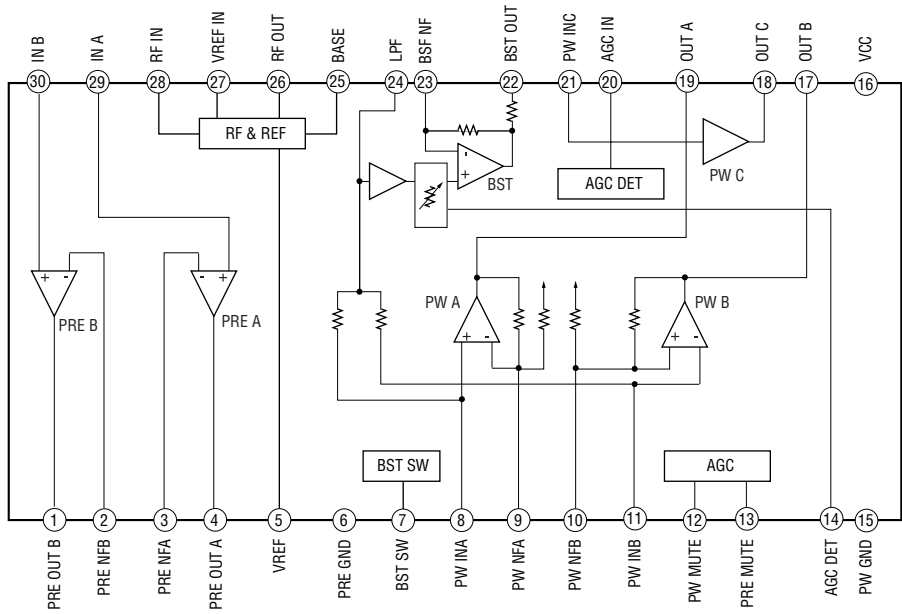
Caution:

Pattern face side: Parts on the pattern face side seen from the pattern face are indicated.
(Side B)

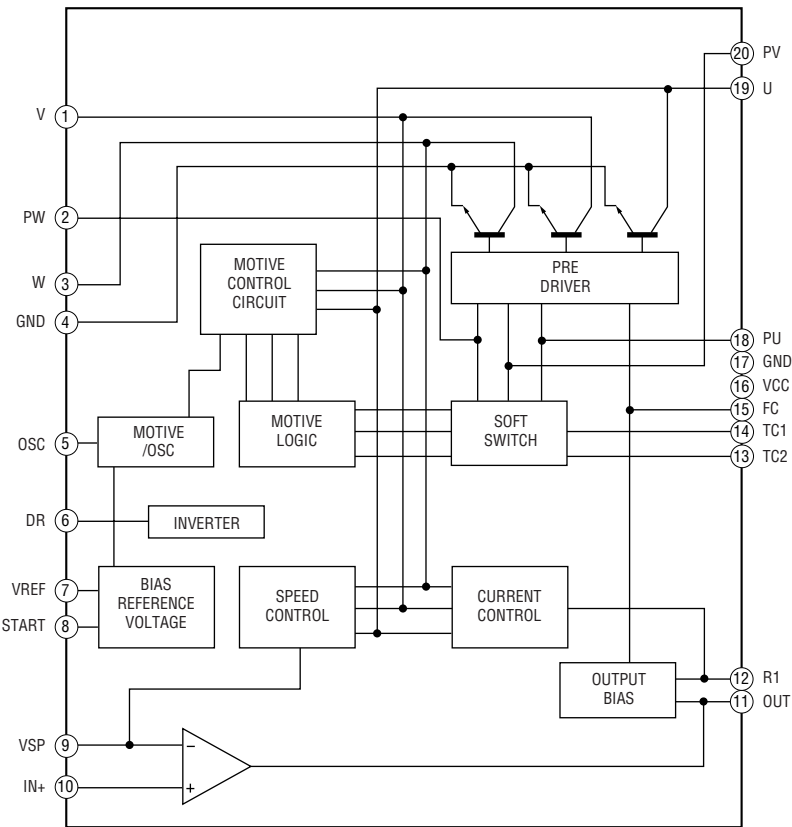
Parts face side: Parts on the parts face side seen from the parts face are indicated.
(Side A)

5-5. IC BLOCK DIAGRAMS**IC1 TA2154FN (EL)**

IC301 TA2160FN (EL)



IC601 MM1279XVBE

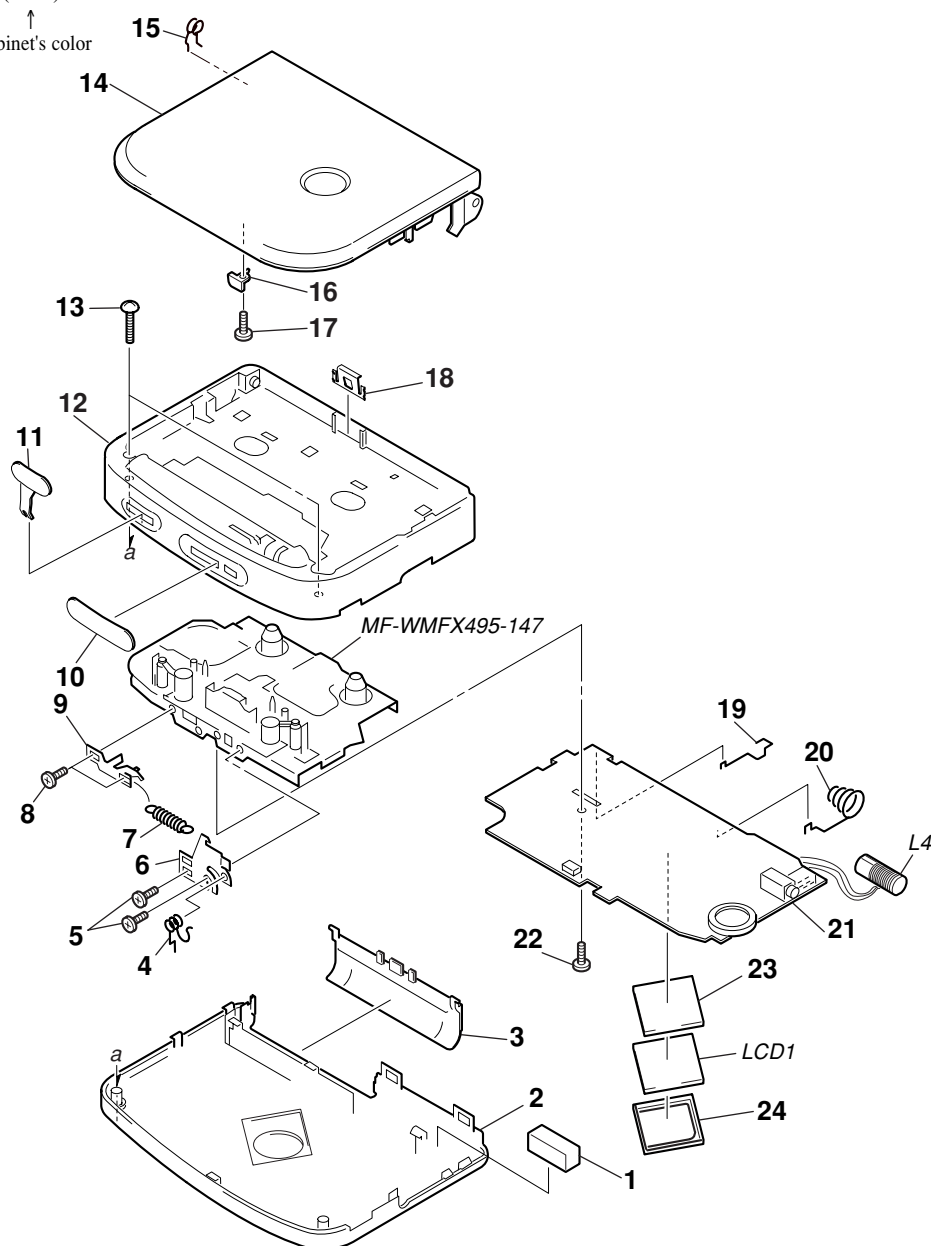


SECTION 6 EXPLODED VIEWS

NOTE :

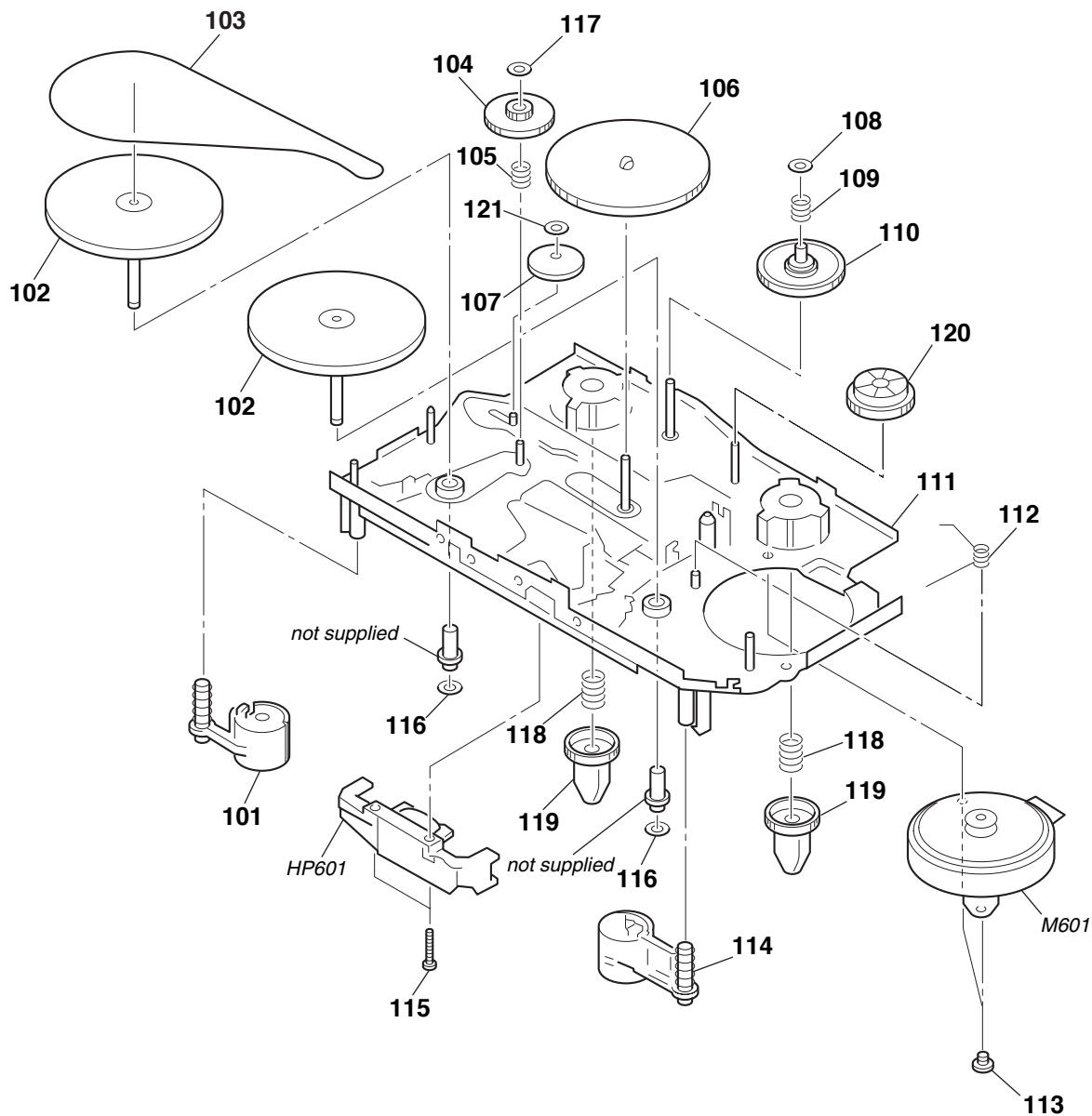
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Color indication of Appearance Parts
Example :
KNOB, BALANCE (WHITE) ... (RED)
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering 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.

6-1. CABINET SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	3-254-540-01	RUBBER		12	3-252-494-11	CABINET (CENTER) (BLUE)	
2	X-3384-757-1	CABINET FRONT ASSY (SILVER) (AEP)		13	3-318-203-91	SCREW (B1.7X9), TAPPING	
2	X-3384-758-1	CABINET FRONT ASSY (BLUE) (AEP)		14	X-3383-382-1	HOLDER SUB ASSY, CASSETTE (SILVER)	
2	X-3384-759-1	CABINET FRONT ASSY (SILVER) (US)					
3	3-252-498-01	LID, BATTERY (SILVER)		14	X-3383-383-1	HOLDER SUB ASSY, CASSETTE (BLUE)	
3	3-252-498-11	LID, BATTERY (BLUE) (AEP)		15	3-025-276-02	SPRING (LID UP)	
4	3-022-857-01	SPRING (OPEN)		16	3-039-661-01	LOCKER (OPEN)	
5	3-704-197-91	SCREW (M1.4X1.8), LOCKING		17	3-375-114-21	SCREW	
6	3-252-507-01	LEVER OPEN		18	3-245-293-01	SPRING (CASSETTE)	
7	3-022-856-01	SPRING (KNOB), TENSION					
8	3-349-825-11	SCREW		19	3-252-508-01	TERMINAL BATTERY (+)	
9	3-019-422-01	JOINT		20	3-252-509-01	TERMINAL BATTERY (-)	
10	3-252-499-01	KNOB (OPEN) (SILVER)		* 21	A-3683-571-A	MAIN PC BOARD ASSY (AEP)	
10	3-252-499-11	KNOB (OPEN) (BLUE)		* 21	A-3683-575-A	MAIN PC BOARD ASSY (US)	
11	3-252-500-01	KNOB (HOLD) (SILVER)		22	3-704-197-11	LOCK, SERRAT IB	
11	3-252-500-11	KNOB (HOLD) (BLUE)					
12	3-252-494-01	CABINET (CENTER) (SILVER)		23	3-252-724-01	RUBBER, CONDUCTIVE	
				24	3-252-505-01	HOLDER LCD	
				L4	1-754-287-11	COIL, FERRITE-ROD ANTENNA (MW)	
				LCD1	1-805-199-11	DISPLAY PANEL, LIQUID CRYSTAL	

6-2. MECHANISM DECK SECTION (MF-WMFX495-147)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	X-3375-020-2	PINCH LEVER (N-F) ASSY		113	3-238-876-04	SCREW (M1.4), TOOTHED LOCK	
102	X-3372-619-1	WHEEL ASSY (NP), CAPSTAN		114	X-3375-021-3	PINCH LEVER (R-F) ASSY	
103	3-354-868-01	BELT		115	3-704-197-71	SCREW (M1.4x4.5)	
104	3-021-950-02	GEAR (DF)		116	3-921-797-01	WASHER	
105	3-021-982-01	SPRING (MODE), COMPRESSION		117	3-338-647-31	WASHER (1.0-2.5)	
106	X-3375-024-4	CLUTCH ASSY (F)		118	3-022-100-01	SPRING (B.T.), COMPRESSION	
107	3-021-951-02	GEAR (CAM)		119	3-024-223-11	GEAR (REEL-2)	
108	3-348-953-21	WASHER		120	X-3375-268-1	GEAR (AF-SV) ASSY	
109	3-021-979-02	SPRING (UDF), COMPRESSION		121	3-034-685-01	WASHER (1.03-3.0)	
110	3-021-949-01	GEAR (BF)		HP601	1-500-648-11	HEAD, MAGNETIC (PLAYBACK)	
111	X-3375-022-7	CHASSIS ASSY (F)		M601	1-763-798-11	MOTOR, DC (CAPSTAN/REEL)	
112	3-021-974-04	SPRING (HEAD BASE)					(including PULLEY)

SECTION 7 ELECTRICAL PARTS LIST

MAIN

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

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

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
*	A-3683-571-A	MAIN BOARD, COMPLETE (AEP)				C41	1-164-357-11	CERAMIC CHIP	0.001uF	5%	50V
*	A-3683-575-A	MAIN BOARD, COMPLETE (US)				C42	1-164-845-11	CERAMIC CHIP	5PF	0.25PF	50V
		*****				C43	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
		< CAPACITOR >				C44	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C1	1-164-874-11	CERAMIC CHIP	100PF	5%	50V						(AEP)
C2	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V	C47	1-164-882-11	CERAMIC CHIP	220PF	5%	16V
C3	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V	C48	1-164-357-11	CERAMIC CHIP	0.001uF	5%	50V
C4	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V						
C5	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V	C101	1-164-935-11	CERAMIC CHIP	470PF	10%	50V
C6	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V	C103	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V
C7	1-162-962-11	CERAMIC CHIP	470PF	10%	50V	C104	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C8	1-117-863-11	CERAMIC CHIP	0.47uF	10%	6.3V	C106	1-115-156-11	CERAMIC CHIP	1uF		10V
C9	1-131-862-91	TANTAL. CHIP	47uF	20%	4V	C107	1-115-156-11	CERAMIC CHIP	1uF		10V
C10	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V						
C11	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V	C108	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
						C109	1-165-128-11	CERAMIC CHIP	0.22uF		16V
C11	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V(US)	C110	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C12	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V	C201	1-164-935-11	CERAMIC CHIP	470PF	10%	50V
						C203	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V
C12	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V(US)						
C13	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V(US)	C204	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
						C206	1-115-156-11	CERAMIC CHIP	1uF		10V
C13	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C207	1-115-156-11	CERAMIC CHIP	1uF		10V
						C208	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C14	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V(US)	C209	1-165-128-11	CERAMIC CHIP	0.22uF		16V
C14	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V						
						C210	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C15	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	C301	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C16	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C302	1-124-434-00	ELECT	220uF	20%	4V
						C304	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C17	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C305	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C18	1-164-357-11	CERAMIC CHIP	0.001uF	5%	50V						
C20	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V	C306	1-125-838-11	CERAMIC CHIP	2.2uF	10%	6.3V
C21	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V	C307	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C23	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V	C308	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
						C309	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C24	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V	C310	1-165-128-11	CERAMIC CHIP	0.22uF		16V
C26	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V(US)						
C27	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V	C311	1-117-720-11	CERAMIC CHIP	4.7uF		10V
C28	1-164-315-11	CERAMIC CHIP	470PF	5%	50V	C312	1-125-838-11	CERAMIC CHIP	2.2uF	10%	6.3V
C29	1-164-850-11	CERAMIC CHIP	10PF	0.50PF	50V	C313	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
						C316	1-115-156-11	CERAMIC CHIP	1uF		10V
C30	1-164-315-11	CERAMIC CHIP	470PF	5%	50V	C322	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C31	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V						
C32	1-164-845-11	CERAMIC CHIP	5PF	0.25PF	50V(US)	C324	1-131-862-91	TANTAL. CHIP	47uF	20%	4V
C33	1-164-842-11	CERAMIC CHIP	2PF	0.25PF	50V(US)	C325	1-125-838-11	CERAMIC CHIP	2.2uF	10%	6.3V
C34	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V	C330	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
						C401	1-164-850-11	CERAMIC CHIP	10PF	0.50PF	50V
C35	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V	C402	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C37	1-164-845-11	CERAMIC CHIP	5PF	0.25PF	50V						
C40	1-164-840-11	CERAMIC CHIP	1PF	0.25PF	50V(US)	C403	1-164-845-11	CERAMIC CHIP	5PF	0.25PF	50V
C40	1-164-842-11	CERAMIC CHIP	2PF	0.25PF	50V	C404	1-164-505-11	CERAMIC CHIP	2.2uF		16V
						C405	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
						C406	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
						C409	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V

MAIN

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C410	1-107-819-11	CERAMIC CHIP 0.022uF 10%	16V	IC601	8-759-356-46	IC MM1279XVBE	
C411	1-164-937-11	CERAMIC CHIP 0.001uF 10%	50V	IC701	6-802-987-01	IC TC9328AF-117	
C412	1-165-128-11	CERAMIC CHIP 0.22uF	16V				
C414	1-164-935-11	CERAMIC CHIP 470PF 10%	50V	IC704	8-759-572-21	IC S-80808ANNP-E7Y-T2	
C415	1-125-891-11	CERAMIC CHIP 0.47uF 10%	10V	IC801	8-759-553-28	IC XC6383C251ML	
C416	1-162-960-11	CERAMIC CHIP 220PF 10%	50V			< JACK >	
C501	1-115-156-11	CERAMIC CHIP 1uF	10V				
C601	1-125-837-91	CERAMIC CHIP 1uF 10%	6.3V	J301	1-785-164-12	JACK (☹)	
C602	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V			< JUMPER RESISTOR >	
C603	1-115-467-11	CERAMIC CHIP 0.22uF 10%	10V				
C604	1-164-156-11	CERAMIC CHIP 0.1uF	25V	JC1	1-216-864-11	METAL CHIP 0 5%	1/10W
C605	1-107-826-11	CERAMIC CHIP 0.1uF 10%	16V				(AEP)
C606	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V	JC2	1-216-864-11	METAL CHIP 0 5%	1/10W
C607	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V				(AEP)
C608	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V	JC3	1-163-193-00	CERAMIC CHIP 330PF 5%	50V(US)
C700	1-164-939-11	CERAMIC CHIP 0.0022uF 10%	50V			< COIL >	
C701	1-164-937-11	CERAMIC CHIP 0.001uF 10%	50V				
C702	1-162-915-11	CERAMIC CHIP 10PF 0.5PF	50V	L2	1-424-998-11	COIL, AIR-CORE (US)	
C703	1-164-858-11	CERAMIC CHIP 22PF 5%	50V	L3	1-400-215-21	INDUCTOR 22NH (US)	
C704	1-107-820-11	CERAMIC CHIP 0.1uF	16V	L3	1-400-216-21	INDUCTOR 15uH (AEP)	
				L5	1-428-859-11	COIL (AM OSC) (AM FREQUENCY COVERAGE)	
C705	1-107-820-11	CERAMIC CHIP 0.1uF	16V	L6	1-412-967-31	INDUCTOR 0.1uH (US)	
C706	1-107-820-11	CERAMIC CHIP 0.1uF	16V				
C707	1-107-820-11	CERAMIC CHIP 0.1uF	16V	L7	1-456-416-11	COIL (FM RF) (FM TRACKING) (AEP)	
C708	1-107-820-11	CERAMIC CHIP 0.1uF	16V	L7	1-456-417-11	COIL (FM RF) (FM TRACKING) (US)	
C709	1-104-847-11	TANTAL. CHIP 22uF 20%	4V	L16	1-412-967-31	INDUCTOR 0.1uH	
				L401	1-412-010-41	INDUCTOR 22uH	
C710	1-135-201-11	TANTALUM CHIP 10uF 20%	4V	L701	1-412-010-41	INDUCTOR 22uH	
C712	1-115-156-11	CERAMIC CHIP 1uF	10V				
C713	1-117-863-11	CERAMIC CHIP 0.47uF 10%	6.3V	L801	1-412-033-11	INDUCTOR CHIP 220uH	
C714	1-115-156-11	CERAMIC CHIP 1uF	10V			< REFLECTOR >	
C719	1-164-939-11	CERAMIC CHIP 0.0022uF 10%	50V				
				PH751	8-749-016-61	REFLECTOR NJL5197K-W-F20(TE1)	
C801	1-131-862-91	TANTAL. CHIP 47uF 20%	4V			< TRANSISTOR >	
		< FILTER >					
CF1	1-577-574-11	FILTER, CERAMIC		Q2	8-729-800-71	TRANSISTOR 2SB815B7-TB	
CF2	1-781-271-11	FILTER, CERAMIC		Q101	8-729-230-72	TRANSISTOR 2SA1362YG	
CT1	1-141-327-11	CAP, CHIP TYPE TRIMMER 10PF		Q102	8-729-230-72	TRANSISTOR 2SA1362YG	
		< DIODE >		Q201	8-729-230-72	TRANSISTOR 2SA1362YG	
				Q202	8-729-230-72	TRANSISTOR 2SA1362YG	
D1	8-759-072-60	IC Z84C4306FEC		Q301	8-729-230-49	TRANSISTOR 2SC2712-YG	
D2	8-719-080-77	DIODE MA2S357(E)-(TX).SO (US)		Q302	8-729-230-72	TRANSISTOR 2SA1362YG	
D3	8-719-080-77	DIODE MA2S357(E)-(TX).SO		Q303	8-729-429-44	TRANSISTOR XP1501	
D4	8-719-080-77	DIODE MA2S357(E)-(TX).SO		Q304	8-729-800-71	TRANSISTOR 2SB815B7-TB	
D5	6-500-174-01	DIODE MA2SP0100LSO (US)		Q305	8-729-425-94	TRANSISTOR XP1116-TXE	
D401	8-719-158-49	DIODE RD12SB2		Q401	8-729-800-71	TRANSISTOR 2SB815B7-TB	
D402	8-719-404-50	DIODE MA111-TX		Q404	8-729-602-21	TRANSISTOR 2SC4154-F	
D801	8-719-049-09	DIODE 1SS367-T3SONY		Q405	8-729-602-21	TRANSISTOR 2SC4154-F	
		< FERRITE BEAD >		Q408	8-729-602-21	TRANSISTOR 2SC4154-F	
				Q603	8-729-602-21	TRANSISTOR 2SC4154-F	
FB1	1-414-760-21	FERRITE 0uH		Q604	8-729-046-90	TRANSISTOR 2SB970-(TX).SO	
FB2	1-414-760-21	FERRITE 0uH		Q605	8-729-046-90	TRANSISTOR 2SB970-(TX).SO	
FB3	1-414-760-21	FERRITE 0uH		Q606	8-729-046-90	TRANSISTOR 2SB970-(TX).SO	
FB303	1-414-760-21	FERRITE 0uH		Q607	8-729-421-26	TRANSISTOR UN5216QRS	
FB304	1-414-760-21	FERRITE 0uH		Q751	8-729-421-26	TRANSISTOR UN5216QRS	
FB305	1-414-760-21	FERRITE 0uH		Q752	8-729-420-24	TRANSISTOR 2SB1218A-QRS	
FB306	1-414-760-21	FERRITE 0uH		Q753	8-729-029-15	TRANSISTOR DTC144TUA-T106	
FB307	1-414-760-21	FERRITE 0uH				< RESISTOR >	
		< IC >					
IC1	6-701-310-01	IC TA2154FN(EL)		R1	1-218-953-11	RES-CHIP 1K 5%	1/16W
IC201	8-759-457-70	IC XC62RP1602MR		R2	1-218-965-11	RES-CHIP 10K 5%	1/16W
IC301	6-701-831-01	IC TA2160FN(EL)		R3	1-218-871-11	METAL CHIP 10K 0.5%	1/10W
				R4	1-216-825-11	METAL CHIP 2.2K 5%	1/10W

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
R6	1-216-845-11	METAL CHIP	100K	5%	1/10W	R330	1-216-821-11	METAL CHIP	1K	5%	1/10W
R7	1-216-833-11	METAL CHIP	10K	5%	1/10W	R331	1-216-821-11	METAL CHIP	1K	5%	1/10W
R8	1-216-853-11	METAL CHIP	470K	5%	1/10W	R333	1-218-941-81	RES-CHIP	100	5%	1/16W
R9	1-216-853-11	METAL CHIP	470K	5%	1/10W	R334	1-216-841-11	METAL CHIP	47K	5%	1/10W
R10	1-218-977-11	RES-CHIP	100K	5%	1/16W	R401	1-218-933-11	RES-CHIP	22	5%	1/16W
R11	1-218-953-11	RES-CHIP	1K	5%	1/16W (US)	R402	1-208-707-11	METAL CHIP	10K	0.5%	1/16W
R12	1-218-953-11	RES-CHIP	1K	5%	1/16W (US)	R403	1-218-953-11	RES-CHIP	1K	5%	1/16W
R17	1-216-821-11	METAL CHIP	1K	5%	1/10W	R404	1-216-821-11	METAL CHIP	1K	5%	1/10W
R18	1-218-977-11	RES-CHIP	100K	5%	1/16W	R405	1-208-715-11	METAL CHIP	22K	0.5%	1/16W
R21	1-218-965-11	RES-CHIP	10K	5%	1/16W	R408	1-218-953-11	RES-CHIP	1K	5%	1/16W
R22	1-218-871-11	METAL CHIP	10K	0.5%	1/10W	R409	1-216-845-11	METAL CHIP	100K	5%	1/10W
R101	1-218-965-11	RES-CHIP	10K	5%	1/16W	R410	1-218-887-11	METAL CHIP	47K	0.5%	1/10W
R103	1-218-985-11	RES-CHIP	470K	5%	1/16W	R411	1-216-821-11	METAL CHIP	1K	5%	1/10W
R104	1-216-817-11	METAL CHIP	470	5%	1/10W	R412	1-208-699-11	METAL CHIP	4.7K	0.5%	1/16W
R105	1-208-635-11	RES-CHIP	10	5%	1/16W	R413	1-218-965-11	RES-CHIP	10K	5%	1/16W
R106	1-216-849-11	METAL CHIP	220K	5%	1/10W	R414	1-218-887-11	METAL CHIP	47K	0.5%	1/10W
R107	1-216-825-11	METAL CHIP	2.2K	5%	1/10W (AEP)	R415	1-218-985-11	RES-CHIP	470K	5%	1/16W
R107	1-216-829-11	METAL CHIP	4.7K	5%	1/10W (US)	R416	1-218-989-11	RES-CHIP	1M	5%	1/16W
R109	1-220-803-81	RES-CHIP	4.7	5%	1/16W	R417	1-218-879-11	METAL CHIP	22K	0.5%	1/10W
R110	1-218-953-11	RES-CHIP	1K	5%	1/16W	R418	1-208-687-11	METAL CHIP	1.5K	0.5%	1/16W
R111	1-218-981-11	RES-CHIP	220K	5%	1/16W	R501	1-216-821-11	METAL CHIP	1K	5%	1/10W
R112	1-216-809-11	METAL CHIP	100	5%	1/10W (AEP)	R601	1-216-837-11	METAL CHIP	22K	5%	1/10W
R112	1-216-864-11	METAL CHIP	0	5%	1/10W (US)	R602	1-216-809-11	METAL CHIP	100	5%	1/10W
R113	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	R603	1-216-809-11	METAL CHIP	100	5%	1/10W
R114	1-216-821-11	METAL CHIP	1K	5%	1/10W	R604	1-216-821-11	METAL CHIP	1K	5%	1/10W
R121	1-218-969-11	RES-CHIP	22K	5%	1/16W	R605	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R201	1-218-965-11	RES-CHIP	10K	5%	1/16W	R606	1-216-821-11	METAL CHIP	1K	5%	1/10W
R203	1-218-985-11	RES-CHIP	470K	5%	1/16W	R607	1-216-849-11	METAL CHIP	220K	5%	1/10W
R204	1-218-949-11	RES-CHIP	470	5%	1/16W	R608	1-216-849-11	METAL CHIP	220K	5%	1/10W
R205	1-216-797-11	METAL CHIP	10	5%	1/10W	R609	1-216-849-11	METAL CHIP	220K	5%	1/10W
R206	1-216-849-11	METAL CHIP	220K	5%	1/10W	R612	1-216-821-11	METAL CHIP	1K	5%	1/10W
R207	1-218-957-11	RES-CHIP	2.2K	5%	1/16W (AEP)	R613	1-216-817-11	METAL CHIP	470	5%	1/10W
R207	1-218-961-11	RES-CHIP	4.7K	5%	1/16W (US)	R614	1-216-817-11	METAL CHIP	470	5%	1/10W
R209	1-220-803-81	RES-CHIP	4.7	5%	1/16W	R615	1-216-817-11	METAL CHIP	470	5%	1/10W
R210	1-218-953-11	RES-CHIP	1K	5%	1/16W	R701	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R211	1-218-981-11	RES-CHIP	220K	5%	1/16W	R702	1-216-857-11	METAL CHIP	1M	5%	1/10W
R212	1-216-809-11	METAL CHIP	100	5%	1/10W (AEP)	R703	1-218-981-11	RES-CHIP	220K	5%	1/16W
R212	1-216-864-11	METAL CHIP	0	5%	1/10W (US)	R704	1-218-887-11	METAL CHIP	47K	0.5%	1/10W
R213	1-216-829-11	METAL CHIP	4.7K	5%	1/10W	R705	1-218-895-11	METAL CHIP	100K	0.5%	1/10W
R214	1-216-821-11	METAL CHIP	1K	5%	1/10W	R706	1-216-845-11	METAL CHIP	100K	5%	1/10W
R221	1-218-969-11	RES-CHIP	22K	5%	1/16W	R707	1-216-845-11	METAL CHIP	100K	5%	1/10W
R301	1-218-977-11	RES-CHIP	100K	5%	1/16W	R708	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R302	1-216-845-11	METAL CHIP	100K	5%	1/10W	R709	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R303	1-216-841-11	METAL CHIP	47K	5%	1/10W	R710	1-218-911-11	METAL CHIP	470K	0.5%	1/10W
R304	1-216-821-11	METAL CHIP	1K	5%	1/10W	R713	1-208-715-11	METAL CHIP	22K	0.5%	1/16W
R305	1-218-985-11	RES-CHIP	470K	5%	1/16W	R714	1-218-985-11	RES-CHIP	470K	5%	1/16W
R307	1-218-977-11	RES-CHIP	100K	5%	1/16W	R715	1-218-895-11	METAL CHIP	100K	0.5%	1/10W
R308	1-216-825-11	METAL CHIP	2.2K	5%	1/10W	R716	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R309	1-216-841-11	METAL CHIP	47K	5%	1/10W	R718	1-216-845-11	METAL CHIP	100K	5%	1/10W
R310	1-220-803-81	RES-CHIP	4.7	5%	1/16W	R719	1-208-943-11	METAL CHIP	220K	0.5%	1/16W
R311	1-218-977-11	RES-CHIP	100K	5%	1/16W	R721	1-216-821-11	METAL CHIP	1K	5%	1/10W
R312	1-216-845-11	METAL CHIP	100K	5%	1/10W	R722	1-216-833-11	METAL CHIP	10K	5%	1/10W
						R723	1-218-965-11	RES-CHIP	10K	5%	1/16W
						R724	1-216-833-11	METAL CHIP	10K	5%	1/10W
						R725	1-216-833-11	METAL CHIP	10K	5%	1/10W
						R726	1-218-965-11	RES-CHIP	10K	5%	1/16W
						R727	1-216-833-11	METAL CHIP	10K	5%	1/10W
						R728	1-216-833-11	METAL CHIP	10K	5%	1/10W
						R729	1-216-833-11	METAL CHIP	10K	5%	1/10W
						R730	1-216-833-11	METAL CHIP	10K	5%	1/10W
						R732	1-216-849-11	METAL CHIP	220K	5%	1/10W

MAIN

Ref. No.	Part No.	Description	Remark		
R733	1-218-981-11	RES-CHIP	220K	5%	1/16W
R734	1-218-981-11	RES-CHIP	220K	5%	1/16W
R735	1-216-849-11	METAL CHIP	220K	5%	1/10W
R751	1-216-817-11	METAL CHIP	470	5%	1/10W
R752	1-216-853-11	METAL CHIP	470K	5%	1/10W
R753	1-216-853-11	METAL CHIP	470K	5%	1/10W
R754	1-216-821-11	METAL CHIP	1K	5%	1/10W
R756	1-216-857-11	METAL CHIP	1M	5%	1/10W
R801	1-216-853-11	METAL CHIP	470K	5%	1/10W
< VARIABLE RESISTOR >					
RV301	1-225-953-11	RES, VAR, MAIN CARBON 10K/10K (▲ VOL)			
RV601	1-223-258-11	RES, CARBON ADJ VAR 4.7K (TAPE SPEED)			
< SWITCH >					
S301	1-771-040-21	SWITCH, PUSH (TAPE SW)			
S601	1-771-598-11	SWITCH, SLIDE (MD COMT)			
S701	1-572-922-11	SWITCH, SLIDE (HOLD▶)			
S702	1-771-851-21	SWITCH, TACTILE (SMD) (■/RADIO OFF)			
S703	1-771-851-21	SWITCH, TACTILE (SMD) (4)			
S704	1-771-851-21	SWITCH, TACTILE (SMD) (3)			
S705	1-771-851-21	SWITCH, TACTILE (SMD) (MENU)			
S706	1-771-851-21	SWITCH, TACTILE (SMD) (FF)			
S707	1-771-851-21	SWITCH, TACTILE (SMD) (ENTER)			
S708	1-771-851-21	SWITCH, TACTILE (SMD) (2)			
S709	1-771-851-21	SWITCH, TACTILE (SMD) (SET)			
S710	1-771-851-21	SWITCH, TACTILE (SMD) (REW)			
S711	1-771-851-21	SWITCH, TACTILE (SMD) (5)			
S712	1-771-851-21	SWITCH, TACTILE (SMD) (1)			
S713	1-771-851-21	SWITCH, TACTILE (SMD) (AM)			
S714	1-771-851-21	SWITCH, TACTILE (SMD) (◀▶,DIRECTION)			
S715	1-771-851-21	SWITCH, TACTILE (SMD) (FM)			
< TRANSFORMER >					
T401	1-437-599-21	TRANSFORMER, DC-DC CONVERTER			
< THERMISTOR >					
TH601	1-810-794-11	THERMISTOR, POSITIVE			
< VIBRATOR >					
X1	1-795-411-21	FILTER, CERAMIC			
X701	1-577-262-11	VIBRATOR, CRYSTAL (75kHz)			

MISCELLANEOUS					

HP601	1-500-648-11	HEAD, MAGNETIC (PLAYBACK)			
L4	1-754-287-11	ANTENNA, FERRITE-ROD (AM TRACKING)			
LCD1	1-805-199-11	DISPLAY PANEL, LIQUID CRYSTAL			
M601	1-763-798-11	MOTOR, DC (CAPSTAN/REEL)			
(including PULLEY)					

ACCESSORIES					

A-3608-889-A	REMOTE CONTROL ASSY (RM-WMF5)				
3-253-259-11	MANUAL, INSTRUCTION (ENGLISH) (US)				
3-253-259-21	MANUAL, INSTRUCTION				
	(FRENCH, GERMAN, ITALIAN)(AEP)				
3-253-259-31	MANUAL, INSTRUCTION				

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
		(SPANISH, PORTUGUESE, DUTCH)(AEP)	
	3-253-259-41	MANUAL, INSTRUCTION (SWEDISH, FINNISH, RUSSIAN)(AEP)	
	3-253-259-51	MANUAL, INSTRUCTION (HUNGARIAN, CZECH, POLISH)(AEP)	
	3-253-259-61	MANUAL, INSTRUCTION (GREEK, TURKISH, SLOVAKIAN)(AEP)	
	3-253-259-91	MANUAL, INSTRUCTION (ENGLISH, SIMPLIFIED CHINESE)(AEP)	
	8-954-007-91	RECEIVER, EAR MDR-027SP (US)	
	8-954-008-90	RECEIVER, EAR MDR-E808SP (AEP)	

MEMO

REVISION HISTORY

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Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

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