WM-FX141

SERVICE MANUAL

US Model
AEP Model
E Model

Ver 1.3 1999. 05
With SUPPLEMENT-1 (9-923-296-81)
With SUPPLEMENT-2 (9-923-296-82)

Model Name Using Similar Mechanism	WM-FX101
Tape Transport Mechanism Type	MF-WMFX103-48

SPECIFICATIONS

Radio Frequency
FM : 87.6 – 108 MHz (US, Chilean, Latin America, Central and South America Models)
: 65.0 – 107.9MHz (East European Model)
: 87.6 – 107.9 MHz (Other Models)
AM : 530 – 1,710 kHz (US, Chilean, Latin America, Central and South America Models)
: 531 – 1,602kHz (Other Models)

Power requirements
3V DC batteries R6 (size AA) × 2
External DC 3V power sources

Battery life
(Aprroximate hours)

Battery	Playback	Radio
Sony alkaline LR6 (SG)	16 hrs	48 hrs
Sony R6P (SR)	4.5 hrs	16 hrs

Dimensions
93.9 × 118.5 × 35.9 mm (w/h/d)
($3^3/_4 \times 4^3/_4 \times 1^3/_{16}$ in.) incl. projecting parts

Mass
205g (7.3 oz) incl.batteries

Supplied accessories
- Stereo headphones or earphones (1)
- Belt clip (1)

Design and specifications are subject to change without notice.

RADIO CASSETTE PLAYER

MICROFILM

SONY®

TABLE OF CONTENTS

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.

Flexible Circuit Board Repairing

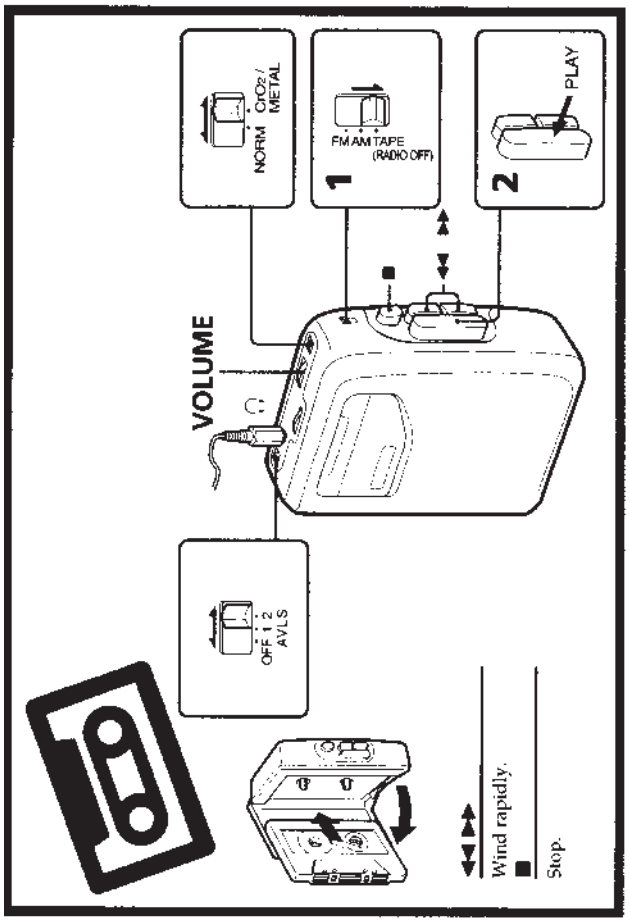
- Keep the temperature of soldering iron around 270˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

This section is extracted from instruction manual.

Using the AVLS feature

The AVLS selector allows you to limit the maximum volume of your Walkman personal stereo without degrading the sound quality.

- When the AVLS selector is set to either position 1 or 2, the volume will be kept at a moderate level without the degradation of the sound quality, even if you attempt to turn the volume up higher.
- When the AVLS selector is set to either position 1 or 2, the playback sound may be distorted or unstable according to the music (especially bass boosted part). If this happens, turn down the volume.
- When the AVLS selector is turned off, you will be able to enjoy the full volume capability of your Walkman personal stereo.

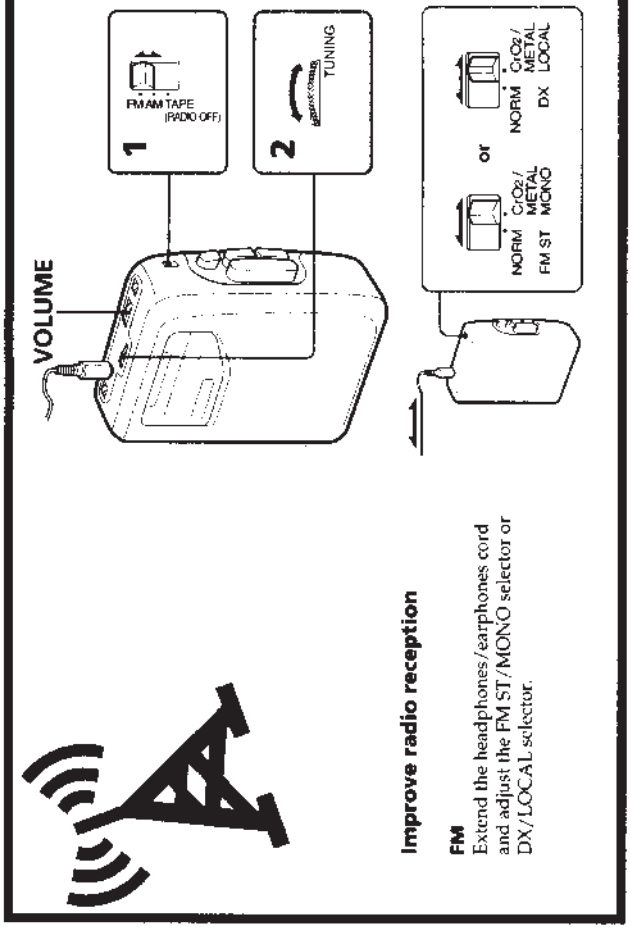


When Listening to the Radio

If you have inserted a cassette with a metallic shell or label, and interference in radio reception occurs, remove the cassette.

AM

Rotate the Walkman.



Improve radio reception

FM

Extend the headphones/earphones cord and adjust the FM ST/MONO selector or DX/LOCAL selector.

About batteries

- When you are not going to use your Walkman for a long time, remove the batteries to prevent damage from battery leakage and corrosion.
- When the sound becomes unstable or cannot be heard, replace the old batteries with new ones.

About external power

You can connect the following external power sources through the DC IN 3 V jack located on the bottom. (When you plug a cord into the DC IN 3 V jack, the internal batteries are automatically bypassed.)

- House current using an AC-E30HG AC power adaptor

Note

Use only the recommended AC-E30HG AC power adaptor (not supplied). Do not use any other AC power adaptor.

Polarity of the plug

If you have any question or problem concerning your Walkman, please consult your nearest Sony dealer.

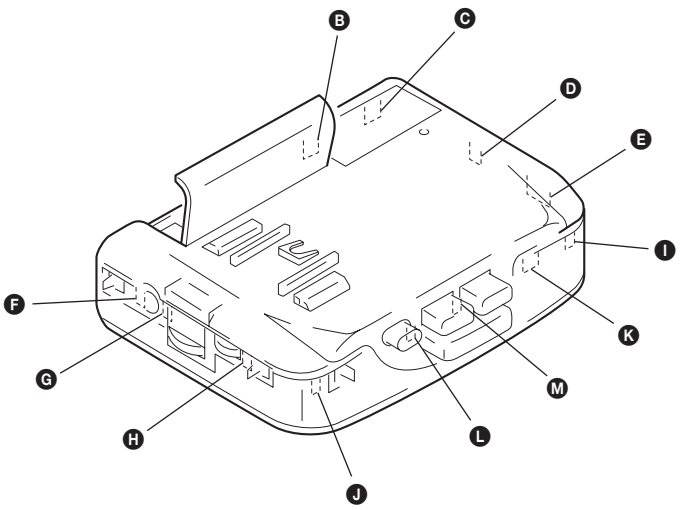
SECTION 2
DISASSEMBLY

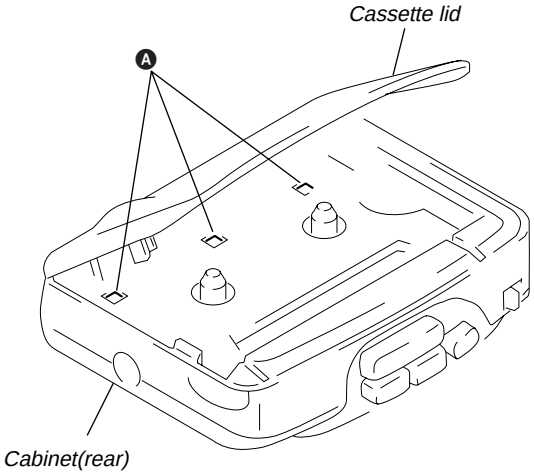
Note : Disassemble the unit in the order as shown below.

Cabinet (Rear) ➡ Mechanism deck and main board ➡ Main board
Cassette lid
Dial pointer setting

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

2-1. CABINET (REAR)

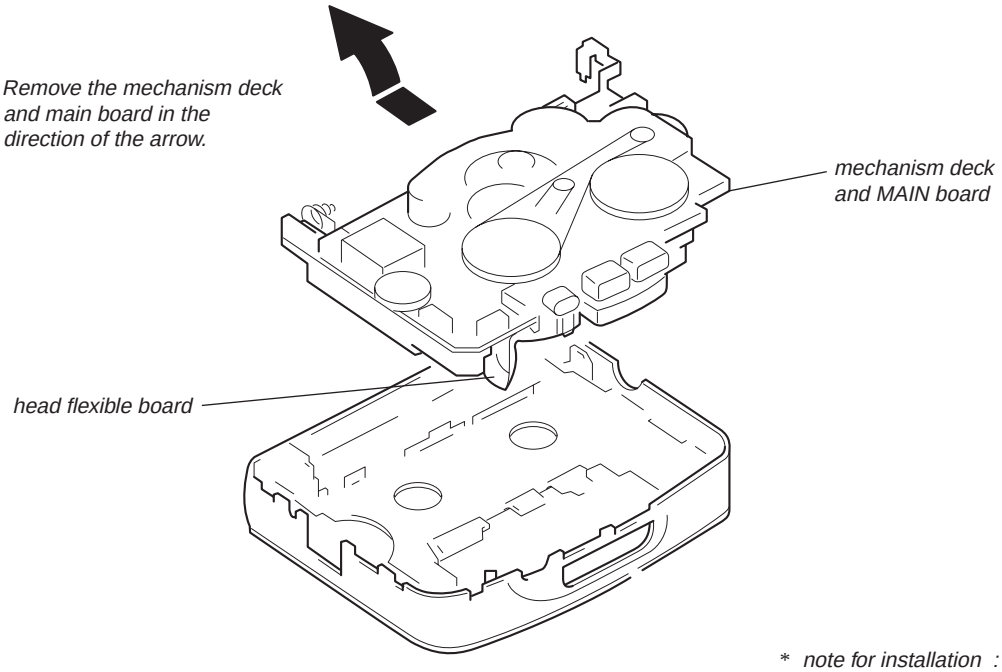




❶ *Open the cassette lid and release claw* Ⓐ.
❷ *Remove the cabinet(rear).(Release all claws* Ⓑ *from* Ⓜ *in alphabetical order.)*

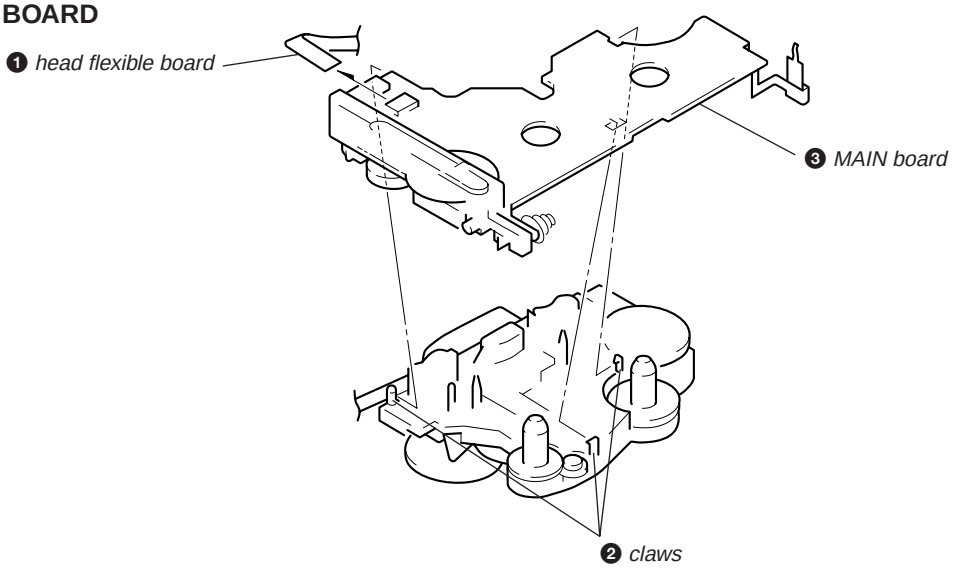
2-2. MECHANISM DECK AND MAIN BOARD

❶ *Remove the mechanism deck and main board in the direction of the arrow.*

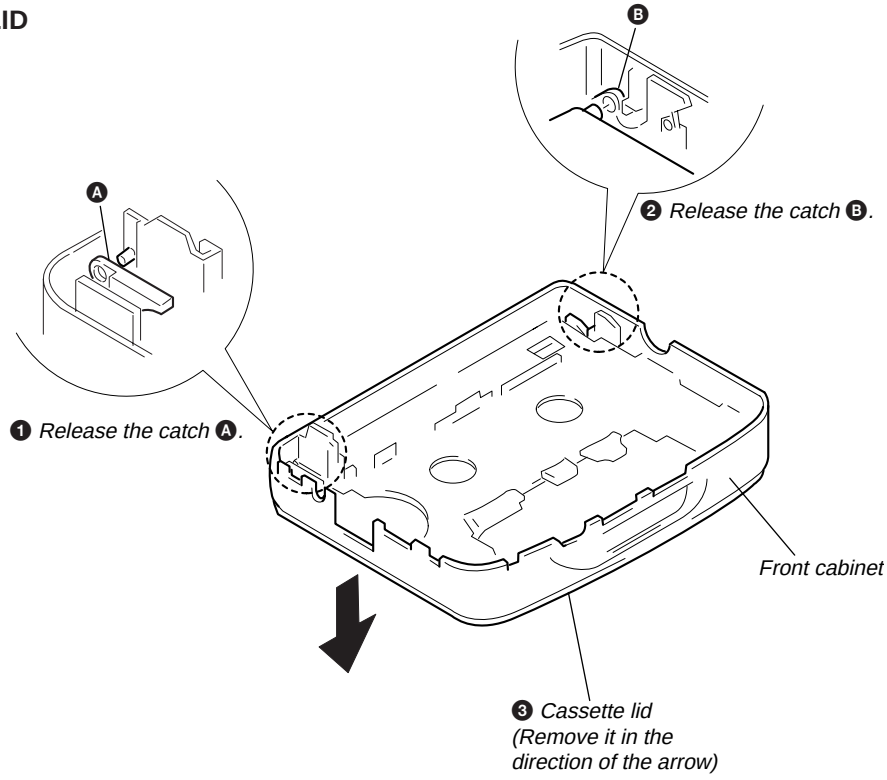


* *note for installation :*
Make sure to put the head flexible board to ditch before install the mechanism deck and MAIN board.

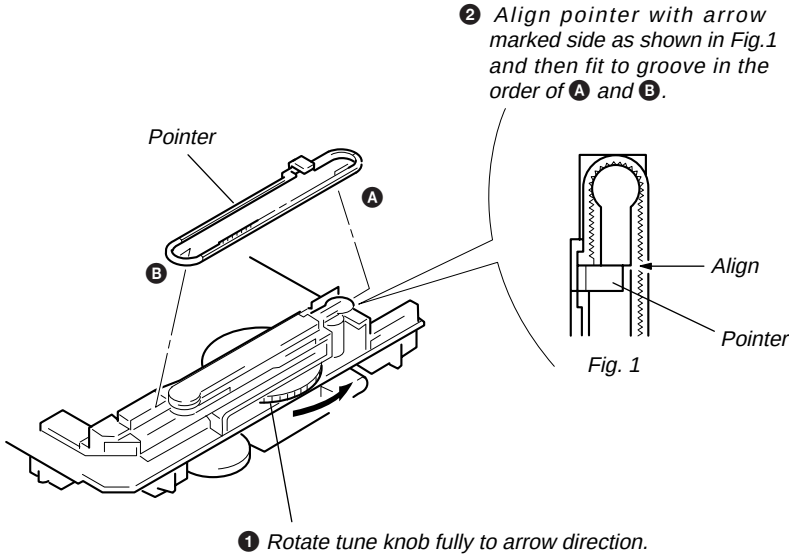
2-3. MAIN BOARD



2-4. CASSETTE LID



2-5. DIAL POINTER SETTING



SECTION 3
ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

Precaution

1. Clean the following parts with a denatured-alcohol-moistend swab :
   playback head pinch roller
   capstan rubber belts
2. Demagnetize the playback head with a head demagnetizer.
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 perfomed with the rated power supply voltage (2.5V) unless otherwise noted.

Torque Measurement

Mode	Torque meter	Meter reading
FWD	CQ-102C	20 to 42 g•cm (0.28 to 0.58 oz•inch)
FWD Back Tension		less than 2 g•cm (less than 0.03 oz•inch)
FF, REW	CQ-201B	more than 60 g•cm (more than 0.83 oz•inch)

3-2. ELECTRICAL ADJUSTMENTS

Precaution

- Supplied voltage : 2.5V
- Switch and control position
  TAPE switch : NORM
  VOLUME control : maximum
  AVLS switch : OFF

TAPE SECTION 0dB=0.775V

- FUNCTION switch : TAPE

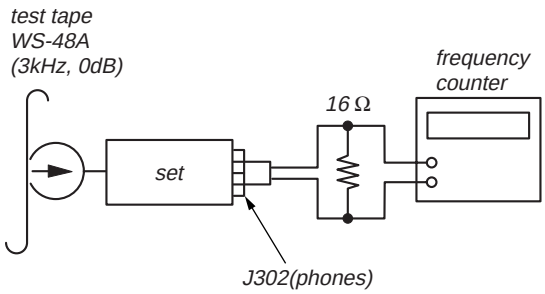
Test tape

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

Tape speed adjustment

Tape selection adjustment : NORM

Procedure :



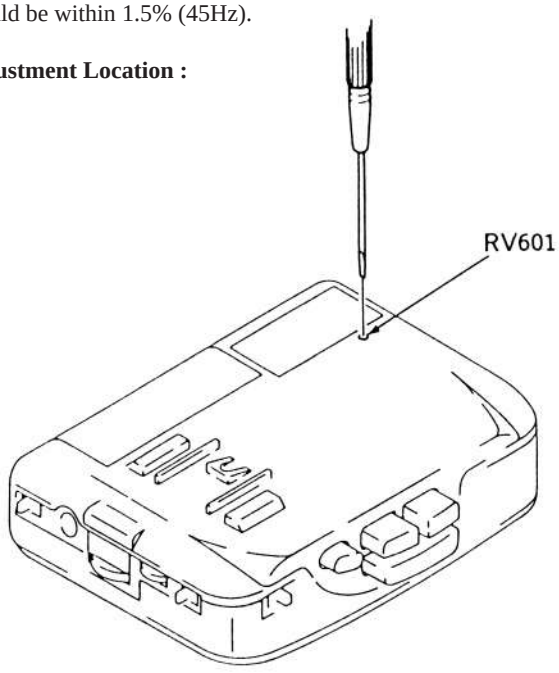
Adjustment Value: normal tape speed
Adjust the tape speed adjustment RV601, so that the freqency counter reading becomes 3,000Hz.

Specification Value:

Digital frequency counter
2,945 to 3,015Hz

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

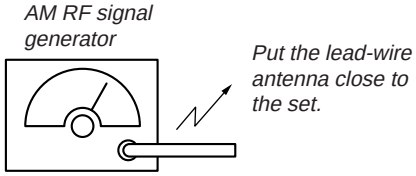
Adjustment Location :



TUNER SECTION

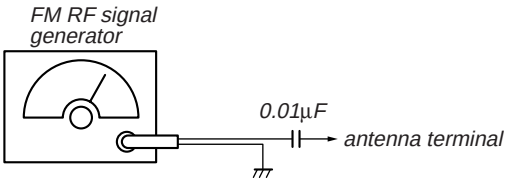
0 dB = 1 µV

[AM]
BAND: AM
Signal generator

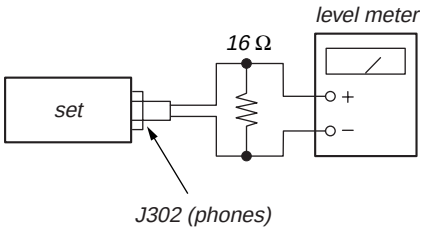


30% amplitude modulation by 400Hz signal.
Output level : as low as possible

[FM]
BAND : FM
Signal generator



75kHz(100%) amplitude modulation by 1kHz signal.
Output level: as low as possible



- Repeat the procedures in each adjustment several times for the maximum level meter indication.
- 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

AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L1	620kHz(800kHz)
CT1	1,400kHz(1,300kHz)

AM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L4	505kHz(516.5kHz)
CT4	1,750kHz(1,631.5kHz)

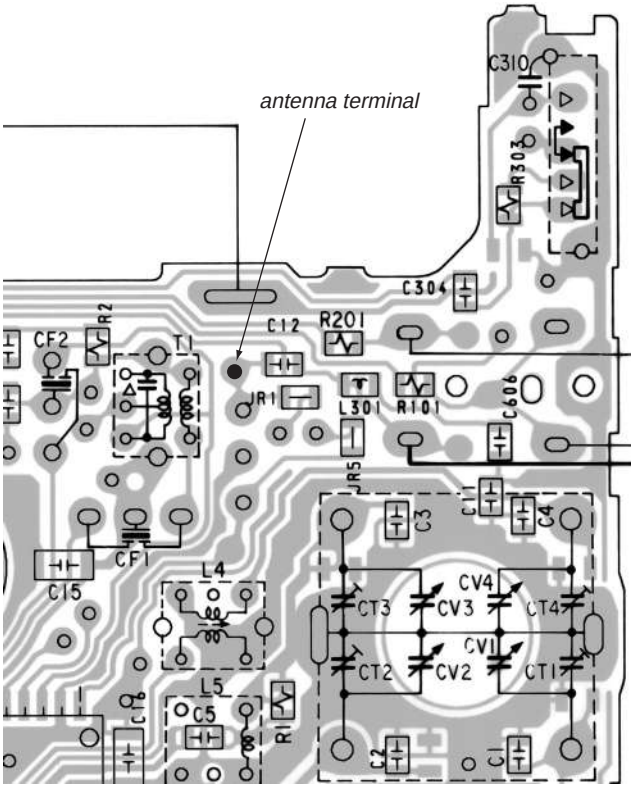
FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L2	86.0MHz[64MHz]
CT2	109.5MHz

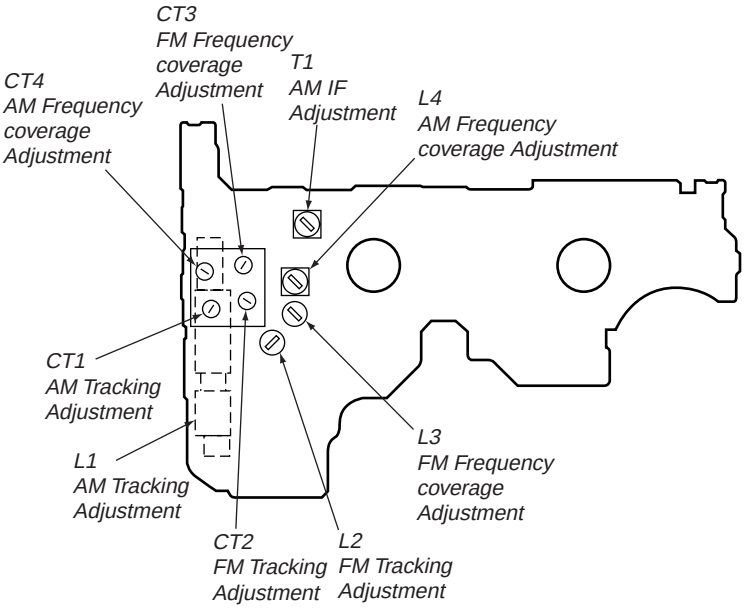
FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L3	86.0MHz[64MHz]
CT3	109.5MHz

( ) :E, Mexican, East European, AEP
[ ] : East European

Adjustment Location: Main board (See page 8)

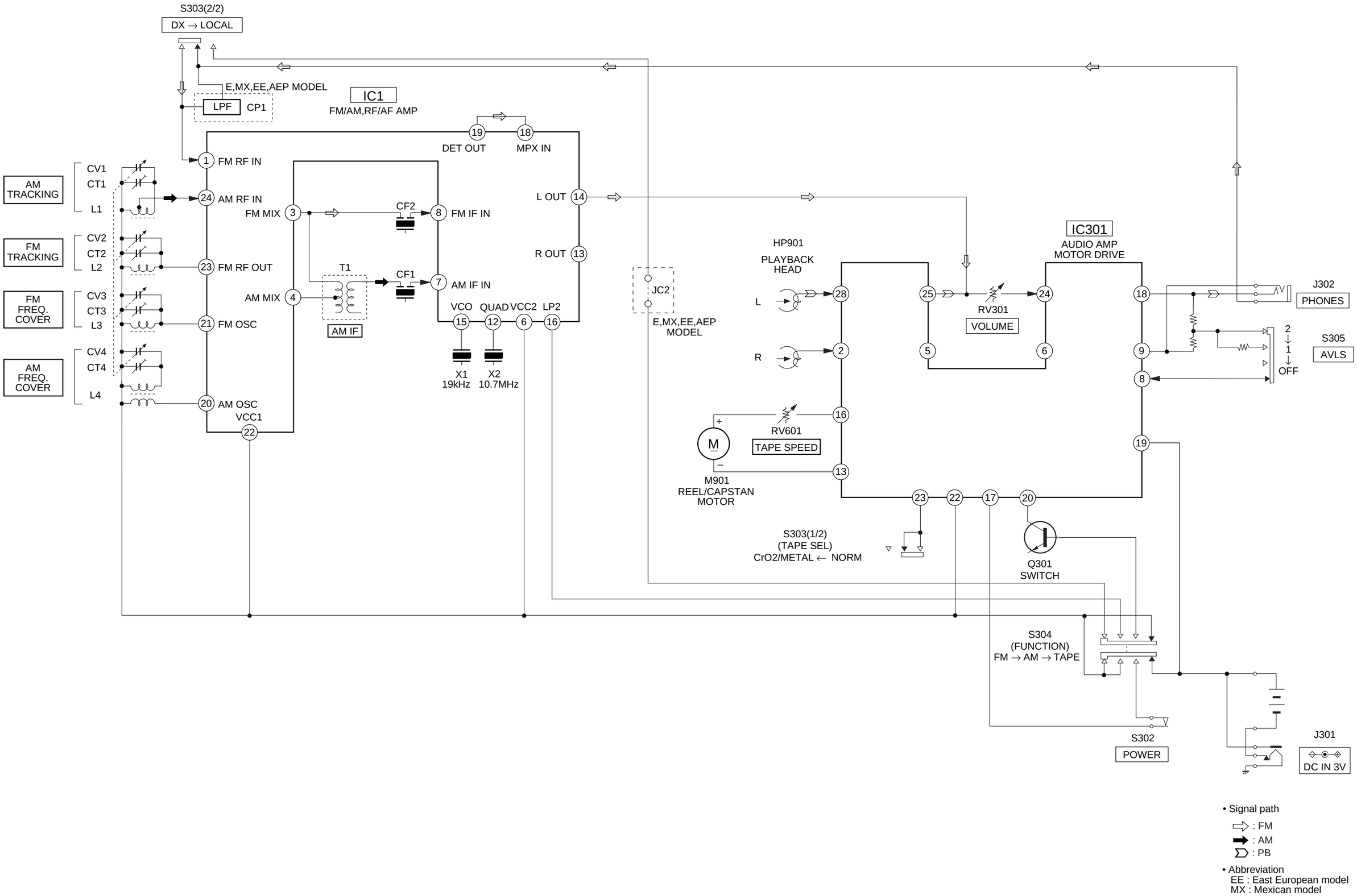
Adjustment Location : Main board



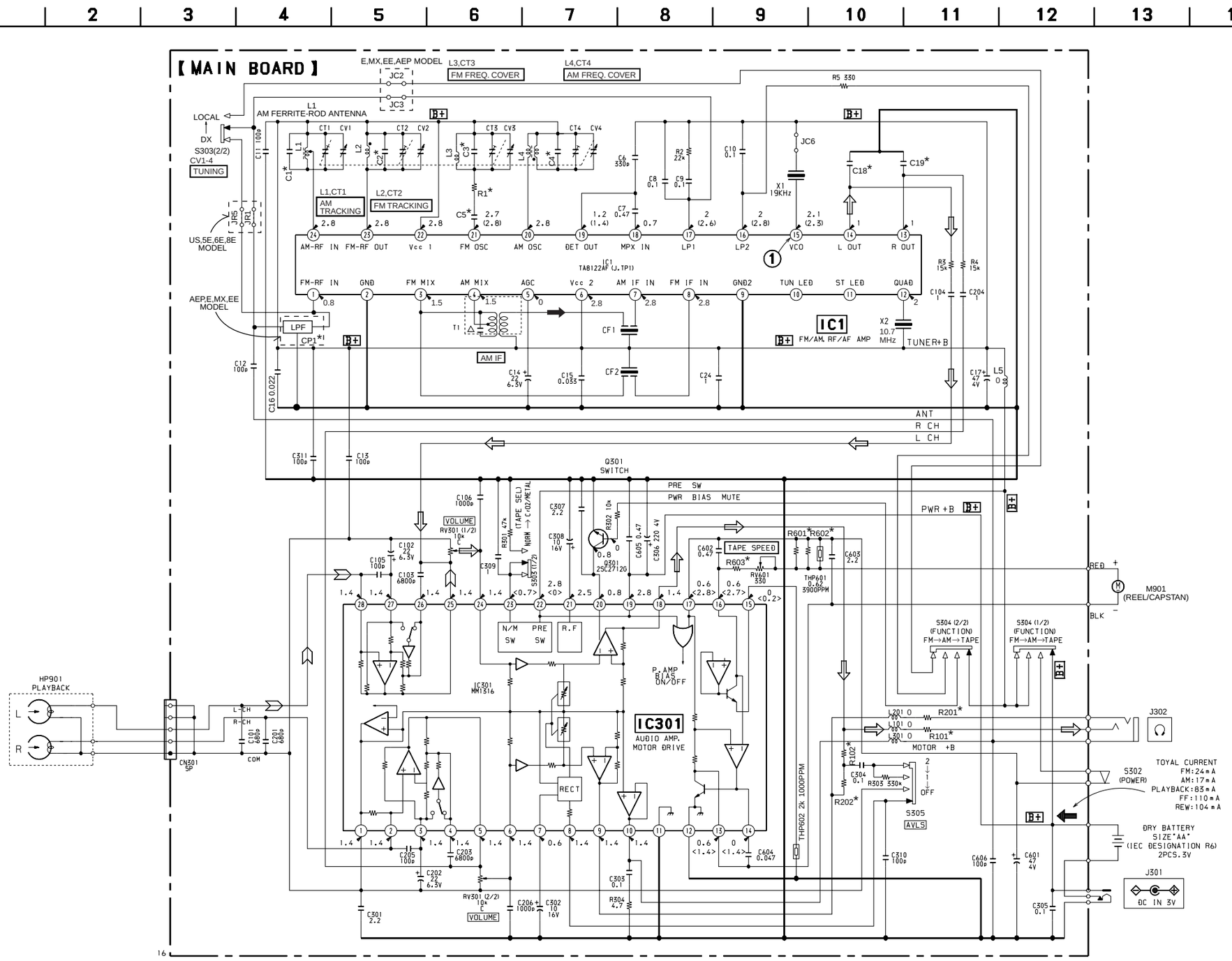


SECTION 4
DIAGRAM

4-1. BLOCK DIAGRAM



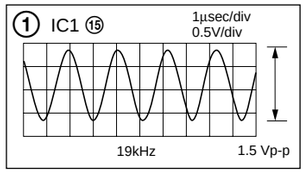
4-2. SCHEMATIC DIAGRAM — MAIN SECTION —



*

	C1	C2	C3	C4	C5	C18,C19	R1	R101,R201	R102,R202	R601	R602	R603
US,5E,6E,8E	1PF	18PF	22PF	6PF	33PF	0.018uF	22	0	180k	3.9	5.6	750
E,MX,AEP	1PF	18PF	22PF	6PF	33PF	0.012uF	22	10	39k	1.5	2.2	680
EE	3PF	6PF	8PF	9PF	0.0022uF/100v	0.012uF	18	0	180k	1.5	2.2	680

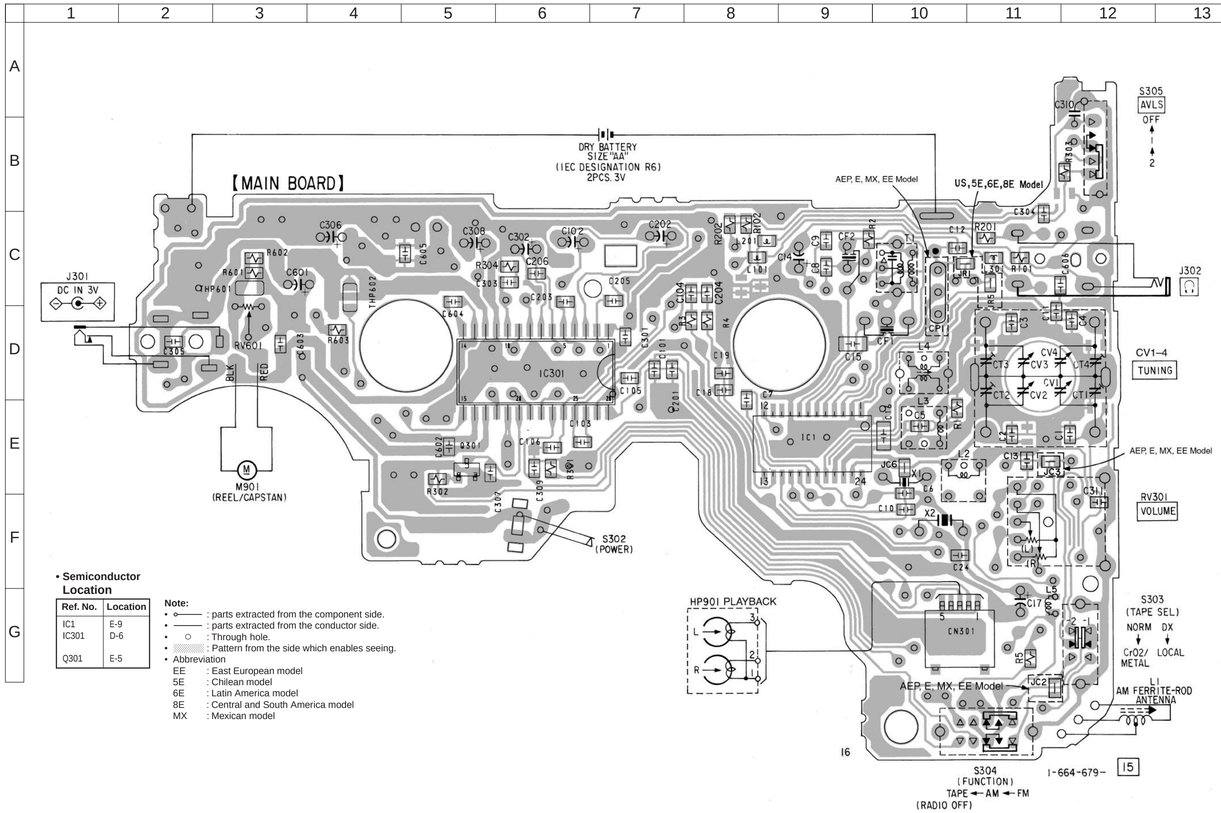
• Waveform



Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 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.
- △ : internal component.
- B+ : B+ Line.
- ▭ : adjustment for repair.
- Power voltage is dc 3V and fed with regulated dc power supply from external power voltage jack (J301) .
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : PB
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
- Signal path.
  ⇨ : FM
  ➡ : AM
  Σ : PB
- Abbreviation
  EE : East European model
  5E : Chilean model
  6E : Latin America model
  8E : Central and South America model
  MX : Mexican model

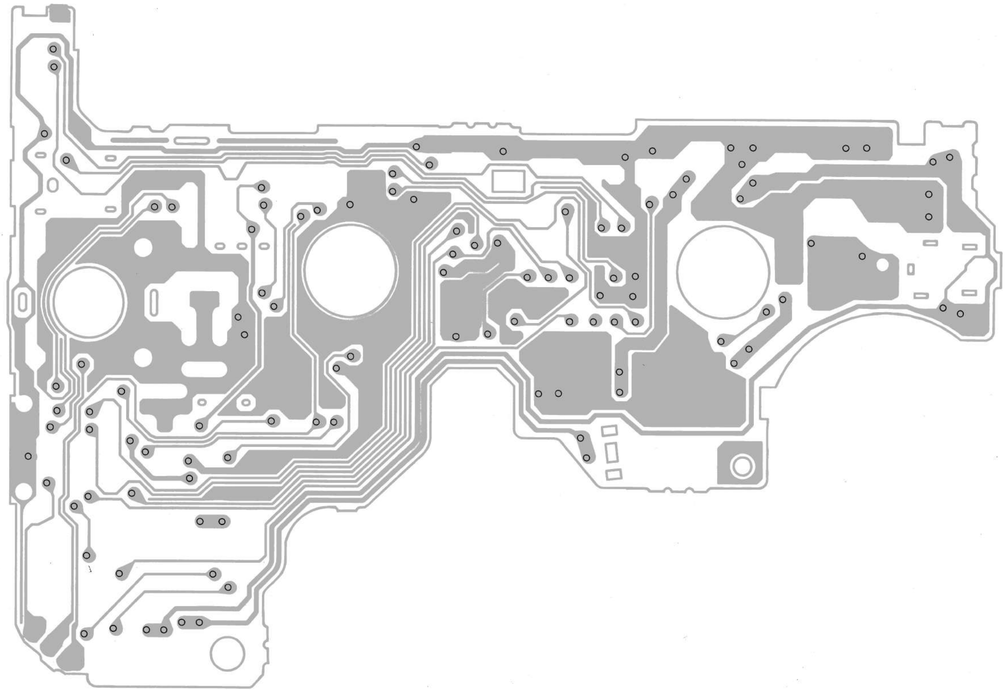
4-3. PRINTED WIRING BOARD — MAIN SECTION —



• **Semiconductor Location**

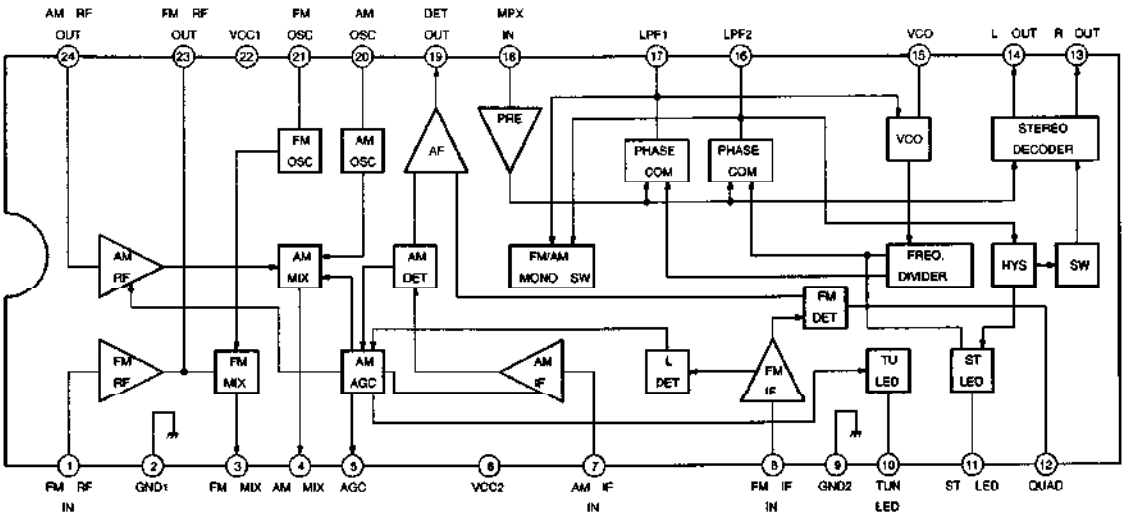
Ref. No.	Location
IC1	E-9
IC301	D-6
Q301	E-5

Note:
- ○—— : parts extracted from the component side.
- —— : parts extracted from the conductor side.
- ○ : Through hole.
- : Pattern from the side which enables seeing.
- Abbreviation
  - EE : East European model
  - 5E : Chilean model
  - 6E : Latin America model
  - 8E : Central and South America model
  - MX : Mexican model



4-4. IC BLOCK DIAGRAM

IC1 TA8122AF

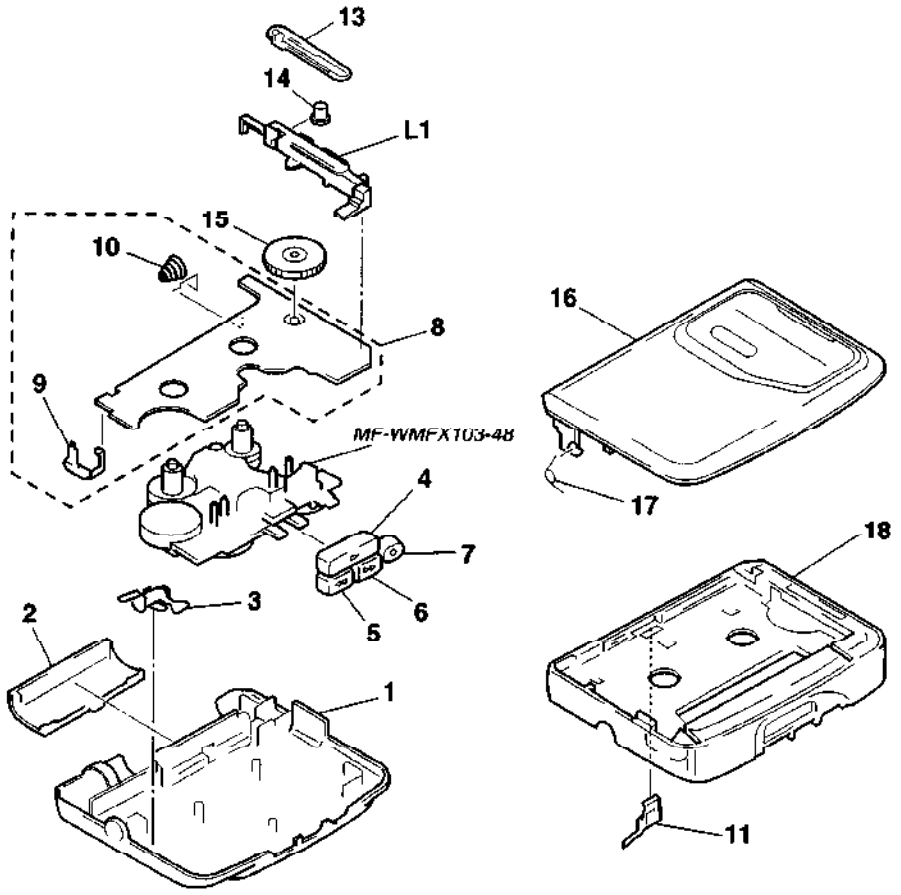


SECTION 5
EXPLODED VIEWS

NOTE:

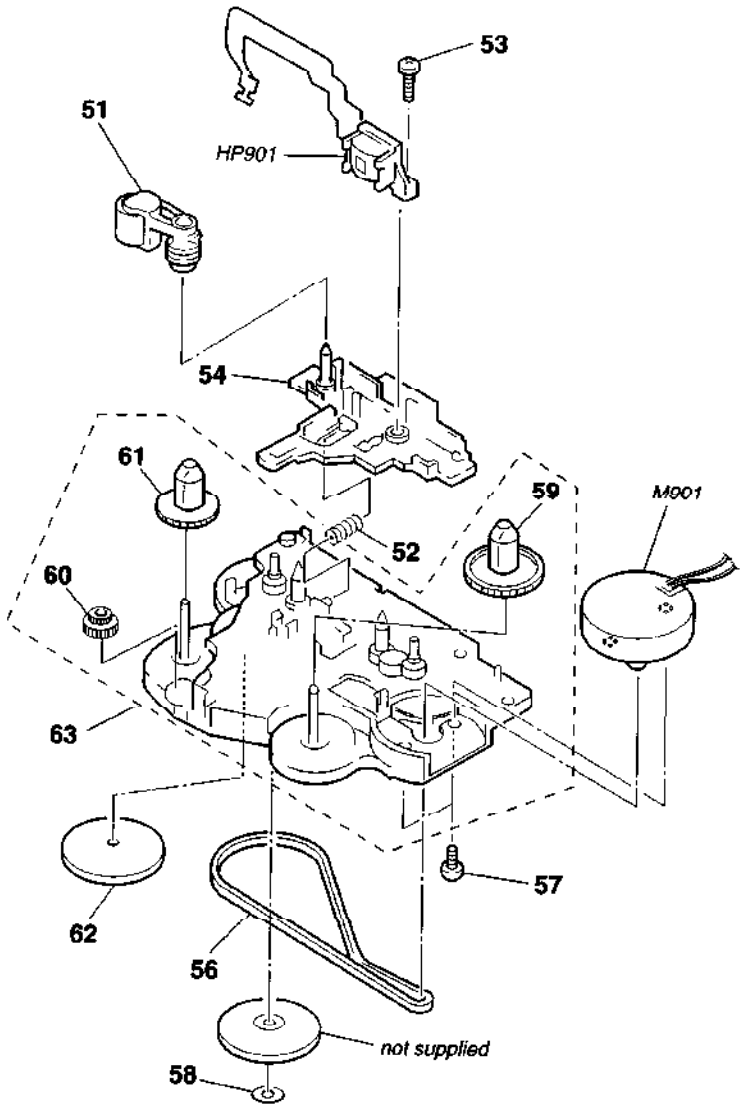
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
  EE : East European model
  5E : Chilean model
  6E : Latin America model
  8E : Central and South America model
  MX : Mexican model

5-1. CABINET AND BOARD SECTION



Ref. No.	Part No.	Description	Remarks
1	3-910-921-41	CABINET (REAR) (CF-O)	
2	3-910-899-11	LID, BATT	
3	3-910-896-01	GROUND, MOTOR	
4	3-910-538-01	BUTTON (PLAY)	
5	3-910-540-11	BUTTON (REW)	
6	3-910-539-11	BUTTON (FF)	
7	3-910-541-11	BUTTON (STOP)	
8	A-3016-889-A	MAIN BOARD, COMPLETE (US, 5E, 6E, 8E)	
8	A-3021-093-A	MAIN BOARD, COMPLETE (EE)	
8	A-3021-094-A	MAIN BOARD, COMPLETE (E, MX, AEP)	
9	3-910-894-01	TERMINAL (+), BATTERY	
10	3-910-895-01	TERMINAL (–), BATTERY	
11	3-364-675-01	SPRING (CASSETTE)	
13	3-910-911-01	POINTER	
14	3-933-675-01	GEAR (TUNE)	
15	3-910-902-12	KNOB (TUNE)	
16	X-3375-408-1	HOLDER (CF-U), CASSETTE ASSY	(US, 5E, 6E, 8E)
16	X-3375-604-1	HOLDER ASSY, CASSETTE (E, MX, AEP)	
16	X-3375-605-1	HOLDER ASSY, CASSETTE (EE)	
17	3-910-903-01	SPRING, TORSION	
18	3-910-920-41	CABINET (FRONT) (CFO) (US, 5E, 6E, 8E)	
18	3-910-920-01	CABINET (FRONT) (CFO) (EE, E, MX, AEP)	
L1	X-3371-847-1	ANTENNA SUB ASSY, FERRITE-ROD	

5-2. MECHANISM SECTION (MF-WMFX103-48)



Ref. No.	Part No.	Description	Remarks
51	X-3367-902-1	ARM (N) ASSY, PINCH	
52	3-364-328-01	SPRING, COMPRESSION	
53	3-910-635-01	SCREW	
54	3-910-647-01	LEVER (PR/O), PLAY	
56	3-354-868-01	BELT	
57	3-352-758-21	SCREW (M1.7), TOOTHED LOCK	
58	3-321-483-11	RING, RETAINING	
59	3-364-320-01	GEAR (S REEL)	
60	3-909-727-01	GEAR (REVERSE)	
61	3-910-640-01	GEAR (T REEL)	
62	X-3367-905-1	CLUTCH ASSY	
63	X-3368-729-1	CHASSIS ASSY	
HP901	1-500-115-11	HEAD, MAGNETIC (PLAYBACK)	
M901	1-698-353-11	MOTOR, DC (REEL/CAPSTAN)(WITH PULLEY)	

MAIN

SECTION 6
ELECTRICAL PARTS LIST

NOTE:

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

- Abbreviation
  EE : East European model
  5E : Chilean model
  6E : Latin America model
  8E : Central and South America model
  MX : Mexican model

- 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.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:
  uF: µF

- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- COILS
  uH: µH
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA...: µA... , uPA... , µPA... ,
  uPB... , µPB... , uPC... , µPC... ,
  uPD..., µPD...

Ref. No.	Part No.	Description			Remarks
	A-3016-889-A	MAIN BOARD, COMPLETE (US, 5E, 6E, 8E)			
		**********			
	A-3021-093-A	MAIN BOARD, COMPLETE (EE)			
		**********			
	A-3021-094-A	MAIN BOARD, COMPLETE (E, MX, AEP)			
		**********			
	3-910-894-01	TERMINAL (+), BATTERY			
	3-910-895-01	TERMINAL (–), BATTERY			
		< CAPACITOR >			
C1	1-163-083-00	CERAMIC CHIP	1PF		50V (EXCEPT EE)
C1	1-163-086-00	CERAMIC CHIP	3PF		50V (EE)
C2	1-163-099-00	CERAMIC CHIP	18PF	5%	50V (EXCEPT EE)
C2	1-163-089-00	CERAMIC CHIP	6PF		50V (EE)
C3	1-163-101-00	CERAMIC CHIP	22PF	5%	50V (EXCEPT EE)
C3	1-163-091-00	CERAMIC CHIP	8PF		50V (EE)
C4	1-163-089-00	CERAMIC CHIP	6PF		50V (EXCEPT EE)
C4	1-163-092-00	CERAMIC CHIP	9PF	0.25PF	50V (EE)
C5	1-163-099-11	CERAMIC CHIP	18PF	5%	50V (EXCEPT EE)
C5	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V (EE)
C6	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C7	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C8	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C9	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C10	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C11	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C12	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C13	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C14	1-126-153-11	ELECT	22uF	20%	6.3V
C15	1-163-078-11	CERAMIC CHIP	0.033uF	10%	25V
C16	1-163-063-91	CERAMIC CHIP	0.022uF	10%	50V
C17	1-126-154-11	ELECT	47uF	20%	6.3V
C18	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V (US, 5E, 6E, 8E)
C18	1-163-022-00	CERAMIC CHIP	0.012uF	10%	50V (EE, E, MX, AEP)
C19	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V (US, 5E, 6E, 8E)
C19	1-163-022-00	CERAMIC CHIP	0.012uF	10%	50V (EE, E, MX, AEP)
C24	1-164-234-11	CERAMIC CHIP	1uF		10V
C101	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C102	1-126-153-11	ELECT	22uF	20%	6.3V
C103	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C104	1-164-234-11	CERAMIC CHIP	1uF		10V
C105	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C106	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C201	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C202	1-126-153-11	ELECT	22uF	20%	6.3V
C203	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C204	1-164-234-11	CERAMIC CHIP	1uF		10V
C205	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C206	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C301	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C302	1-126-157-11	ELECT	10uF	20%	16V
C303	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C304	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C305	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C306	1-124-434-00	ELECT	220uF	20%	4V
C307	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C308	1-126-157-11	ELECT	10uF	20%	16V
C309	1-164-234-11	CERAMIC CHIP	1uF		10V
C310	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C311	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C601	1-126-154-11	ELECT	47uF	20%	6.3V
C602	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C603	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C604	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C605	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C606	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
		< FILTER >			
CF1	1-577-072-11	FILTER, CERAMIC			
CF2	1-567-097-61	FILTER, CERAMIC			
CP1	1-239-813-21	FILTER, BAND PASS (EE)			
CP1	1-236-711-21	FILTER, BAND PASS (E, MX, AEP)			
		< CONNECTOR >			
CN301	1-569-252-21	HOUSING, CONNECTOR (FPC) 5P			
		< VARIABLE CAPACITOR >			
CT1-4	1-141-567-11	CAP, VAR (EXCEPT EE)			
CT1-4	1-141-568-11	CAP, VAR (EE)			
CV1-4	1-141-567-11	CAP, VAR (EXCEPT EE)			
CV1 4	1 141 568 11	CAP, VAR (EE)			
		< IC >			
IC1	8-759-230-39	IC TA8122AF			
IC301	8-759-497-06	IC MM1316AFBE			
		< JACK >			
J301	1-750-061-11	JACK, DC (POLARITY UNIFIED TYPE)			(DC IN 3V)
J302	1-565-287-11	JACK (○)			

Ref. No.	Part No.	Description			Remarks
		< JUMPER CAPACITOR >			
JC2	1-216-295-91	SHORT	0 (EE, E, MX, AEP)		
JC3	1-216-295-91	SHORT	0 (EE, E, MX, AEP)		
JC6	1-216-295-91	SHORT	0		
		< JUMPER RESISTOR >			
JR1	1-216-295-91	SHORT	0 (US, 5E, 6E, 8E)		
JR5	1-216-295-91	SHORT	0 (US, 5E, 6E, 8E)		
JR7	1-216-296-91	SHORT	0 (US, 5E, 6E, 8E)		
		< COIL >			
L2	1-460-120-11	COIL (WITH CORE) (EXCEPT EE)			
L2	1-426-578-11	COIL (WITH CORE) (EE)			
L3	1-403-696-11	COIL (WITH CORE) (EXCEPT EE)			
L3	1-409-655-11	COIL (WITH CORE) (EE)			
L4	1-406-408-11	COIL (OSC) (EXCEPT EE)			
L4	1-406-409-11	COIL (OSC) (EE)			
L5	1-500-245-11	INDUCTOR CHIP	0uH		
L101	1-500-245-11	INDUCTOR CHIP	0uH		
L201	1-500-245-11	INDUCTOR CHIP	0uH		
L301	1-500-245-11	INDUCTOR CHIP	0uH		
		< TRANSISTOR >			
Q301	8-729-230-49	TRANSISTOR	2SC2712-YG		
		< RESISTOR >			
R1	1-216-009-00	METAL CHIP	22	5%	1/10W (EXCEPT EE)
R1	1-216-609-11	METAL CHIP	18	0.5%	1/10W (EE)
R2	1-216-081-00	METAL CHIP	22K	5%	1/10W
R3	1-216-077-00	METAL CHIP	15K	5%	1/10W
R4	1-216-077-00	METAL CHIP	15K	5%	1/10W
R5	1-216-037-00	METAL CHIP	330	5%	1/10W
R101	1-216-295-91	SHORT	0 (EXCEPT E, MX)		
R101	1-216-001-00	METAL CHIP	10	5%	1/10W (E, MX)
R102	1-216-103-00	METAL CHIP	180K	5%	1/10W (EXCEPT E, MX)
R102	1-216-689-11	METAL CHIP	39K	0.5%	1/10W (E, MX)
R201	1-216-295-91	SHORT	0 (EXCEPT E, MX)		
R201	1-216-001-00	METAL CHIP	10	5%	1/10W (E, MX)
R202	1-216-103-00	METAL CHIP	180K	5%	1/10W (EXCEPT E, MX)
R202	1-216-689-11	METAL CHIP	39K	0.5%	1/10W (E, MX)
R301	1-216-089-91	RES, CHIP	47K	5%	1/10W
R302	1-216-073-00	METAL CHIP	10K	5%	1/10W
R303	1-216-109-00	METAL CHIP	330K	5%	1/10W
R304	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R601	1-216-306-11	METAL CHIP	3.9	5%	1/10W (US, 5E, 6E, 8E)

Ref. No.	Part No.	Description			Remarks
R601	1-217-905-11	RES, CHIP	1.5	5%	1/10W (EE, E, MX, AEP)
R602	1-216-309-00	METAL CHIP	5.6	5%	1/10W (US, 5E, 6E, 8E)
R602	1-217-905-11	METAL CHIP	1.5	5%	1/10W (EE, E, MX, AEP)
R603	1-216-046-00	METAL CHIP	750	5%	1/10W (US, 5E, 6E, 8E)
R603	1-216-045-00	METAL CHIP	680	5%	1/10W (EE, E, MX, AEP)
		< VARIABLE RESISTOR >			
RV301	1-223-609-21	RES, VAR, CARBON	10K/10K		
RV601	1-241-028-11	RES, ADJ, CARBON	330		
		< SWITCH >			
S302	1-571-986-11	SWITCH, LEAF (POWER)			
S303	1-692-298-11	SWITCH, SLIDE (TAPE SEL)			
S304	1-692-299-11	SWITCH, SLIDE (FM/AM TAPE)			
S305	1-692-898-11	SWITCH, SLIDE (AVLS)			
		< TRANSFORMER >			
T1	1-404-949-11	TRANSFORMER, IF			
		< THERMISTOR(POSITIVE) >			
THP601	1-809-279-11	THERMISTOR, POSITIVE			
THP602	1-810-764-11	THERMISTOR, POSITIVE			
		< VIBRATOR >			
X1	1-577-091-11	OSCILLATOR, CRYSTAL (19kHz)			
X2	1-567-097-61	FILTER, CERAMIC (10.7MHz)			

****

MISCELLANEOUS
****

L1	X-3371-847-1	ANTENNA SUB ASSY, BAR
HP901	1-500-115-11	HEAD, MAGNETIC (PLAYBACK)
M901	1-698-353-13	MOTOR, DC (REEL/CAPSTAN)(WITH PULLEY)

****

ACCESSORIES & PACKING MATERIALS
****

	1-505-521-11	HEADPHONE (MDR-023) (US, E, EE, 8E, AEP)
	8-953-224-90	HEADPHONE (MDR-E802) (5E, 6E, MX)
	3-346-518-01	CLIP, BELT
	3-860-407-21	MANUAL, INSTRUCTION (ENGLISH) (US, EE, E)
	3-860-407-31	MANUAL, INSTRUCTION (SPANISH, PORTUGUESE) (5E, 6E, 8E, MX)
	3-860-407-61	MANUAL, INSTRUCTION (ENGLICH,POLISH,GREEK,THAI,CZECH, BRAZILIAN,HUNGARIAN,RUSSIAN) (AEP)

9-923-296-12

Sony Corporation
Personal Audio Company

99D1644-1

Published by General Engineering Dept.

WM-FX141

SONY

SERVICE MANUAL

US Model
E Model
East European Model
Chinese Model

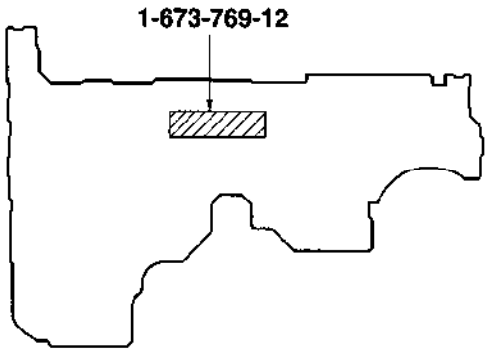
SUPPLEMENT-2

File this supplement with the Service Manual.

Subject : Main board modified (US model)

NEW TYPE IDENTIFICATION

[MAIN BOARD] (Component Side)



SECTION 1
ELECTRICAL ADJUSTMENT

• US Model (Refer to pege 7)

TUNER SECTION

0 dB = 1 µV

- Repeat the procedures in each adjustment several times for the maximum level meter indication.
- 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

AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L1	620kHz
CT1	1,400kHz

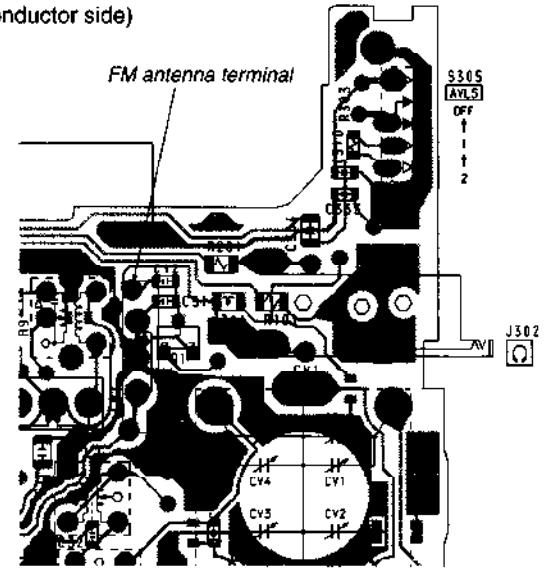
AM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L4	505kHz
CT4	1,750kHz

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L2	86.0MHz
CT2	109.5MHz

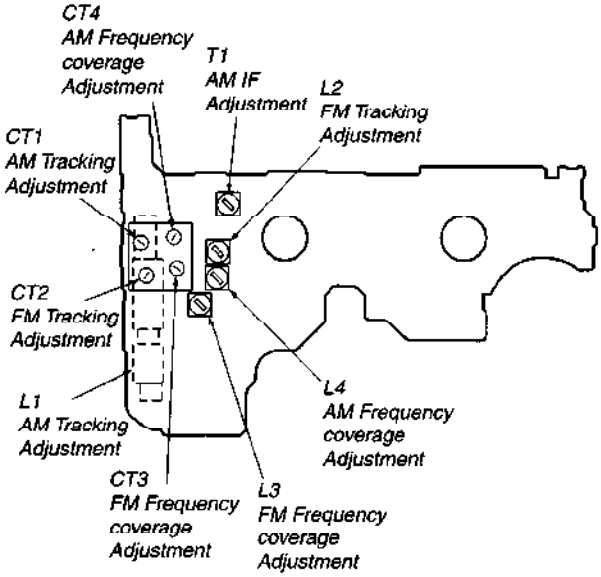
FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L3	86.0MHz
CT3	109.5MHz

Adjustment Location : Main board

(Conductor side)

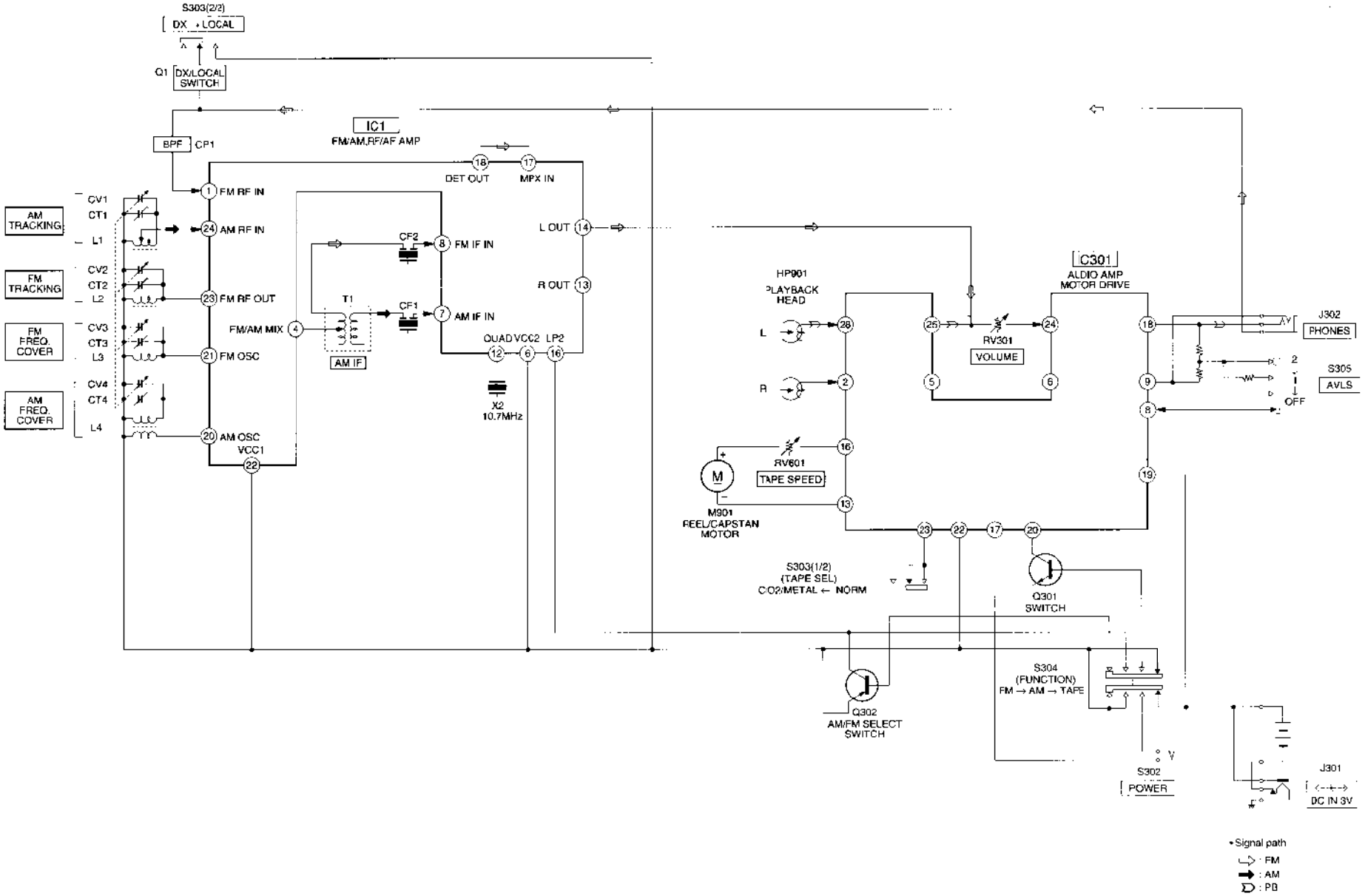


(Component side)



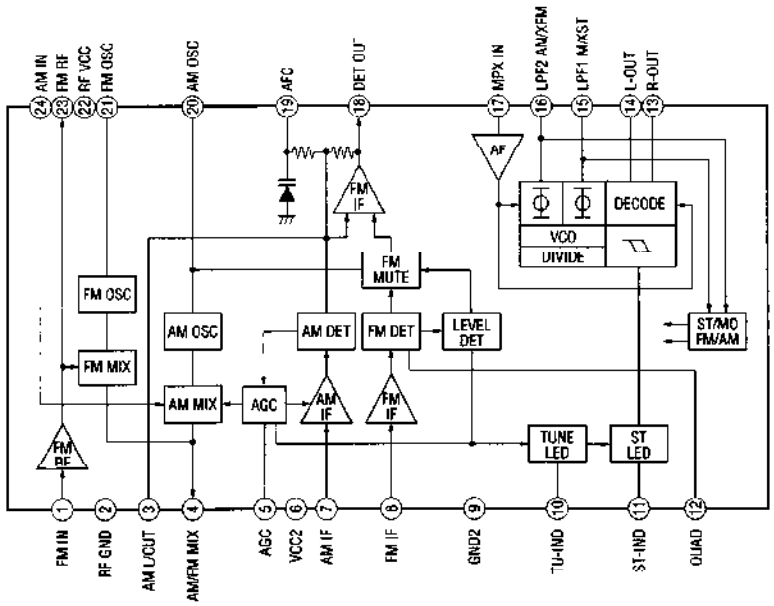
SECTION 2
DIAGRAMS

2-1. BLOCK DIAGRAM

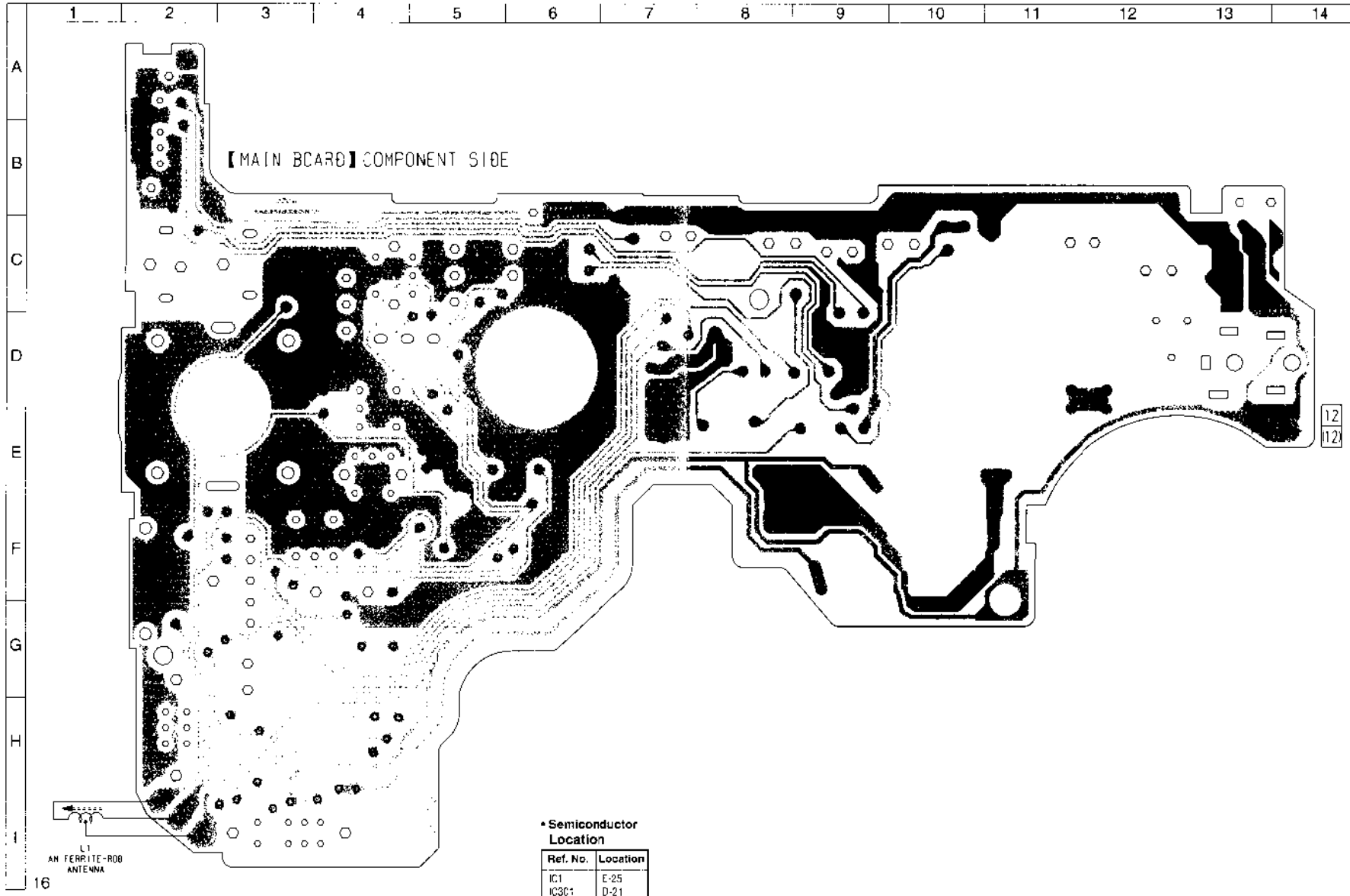


2-2. IC BLOCK DIAGRAM

IC1 TA2111F-EL

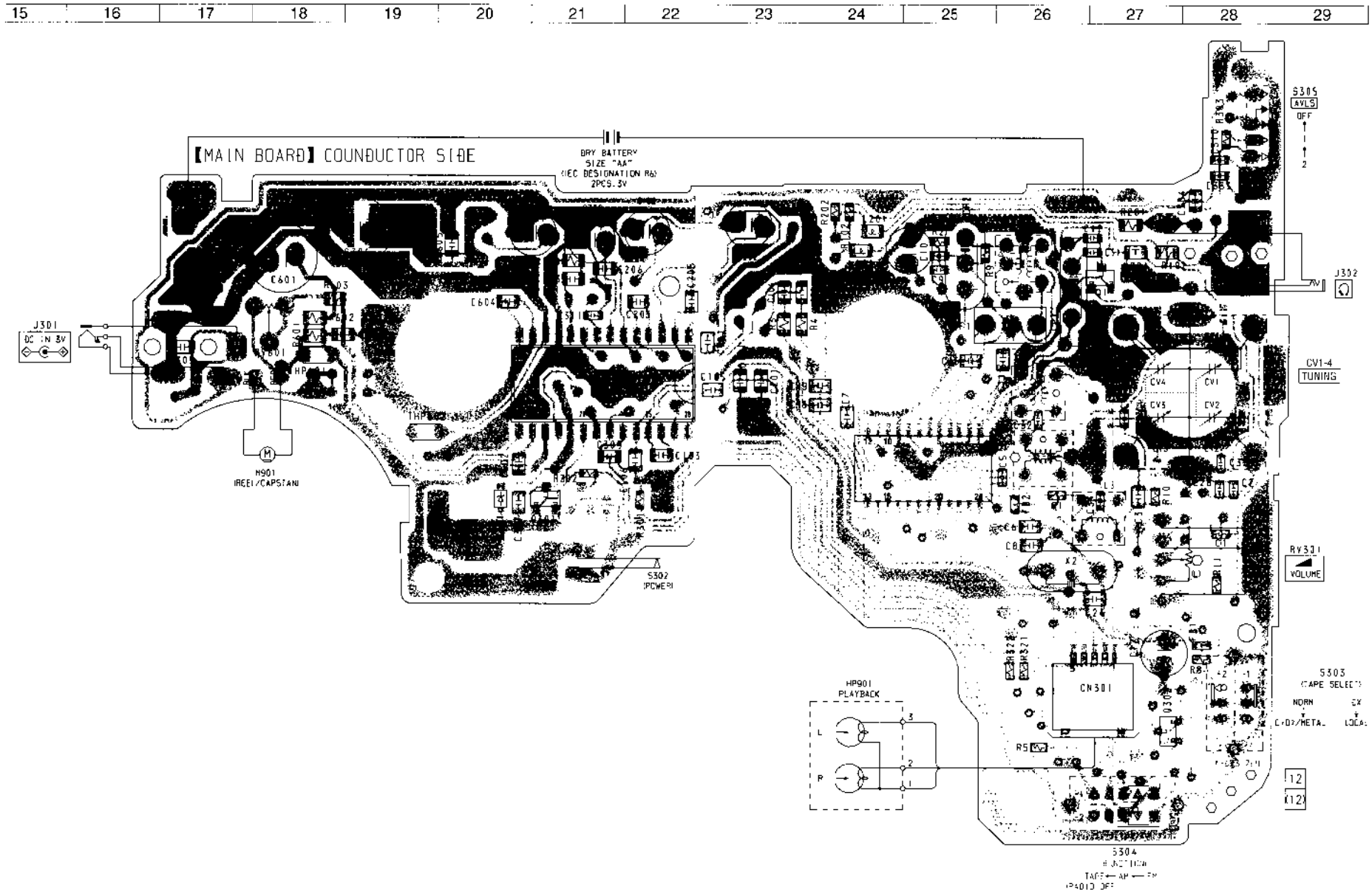


2-3. PRINTED WIRING BOARD



• Semiconductor Location

Ref. No.	Location
IC1	E-25
IC301	D-21
Q1	C-27
Q301	F-21
Q302	H-27


15 16 17 18 19 20 21 22 23 24 25 26 27 28 29
【MAIN BOARD】 CONDUCTOR SIDE
DRY BATTERY
SIZE "AA"
(IEC DESIGNATION R6)
2PCS. 3V
J301
DC IN 3V
H901
(REEL/CAPSTAN)
S302
(POWER)
S305
AVLS
OFF
J302
CV1-4
TUNING
RV301
VOLUME
HP901
PLAYBACK
L
R
CN301
S303
(TAPE SELECT)
NORM
CrO2/META
CX
LOCAL
S304
(JUNCTION)
TAPE ← AM — FM
(P401) OFF
12
(12)

2-4. SCHEMATIC DIAGRAM