WM-FX421/FX423/FX425

SERVICE MANUAL

US Model
WM-FX421/FX423/FX425
Canadian Model
WM-FX421/FX423
AEP Model
WM-FX421/FX423/FX425
UK Model
E Model
WM-FX423/FX425

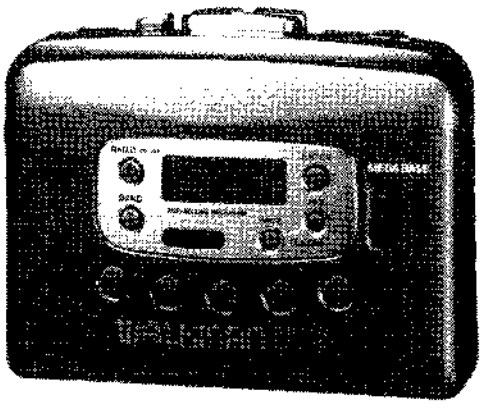


Photo: FX425

Model Name Using Similar Mechanism	WM-FX28
Tape Transport Mechanism Type	MF-WMFX305-43

SPECIFICATIONS

Radio Frequency

FM : 65 – 74 MHz, 87.5 – 108 MHz (0.05 MHz step)(East European Model)
: 87.5 – 108 MHz (0.1 MHz step)(US, Canadian Model)
: 87.5 – 108 MHz (0.05 MHz)(AEP, UK, Italian, E Model)
AM : 530 – 1,710 kHz (10 kHz step)(US, Canadian Model)
: 531 – 1,602 kHz (9 kHz step)
(AEP, UK, Itallian, East European, E Model)

Power Requirements

- 3V DC Batteries R6 (AA) x 2
- External DC 3 V power sources

Battery Life

(approximate hours when using the batteries specified below)

Battery	Playback	Radio
Sony Alkaline LR6 (SG)	13 hours	20 hours
Sony R6P (SR)	4 hours	12 hours

Dimensions

116.5 x 86.3 x 34.6 mm (4 5/8 x 3 1/2 x 1 3/8 in.)(w/h/d)
incl. projecting parts

Mass

210g (7.5 oz) incl. batteries

Supplied Accessories

- Stereo headphones (1)
- Belt clip (1)

Design and specifications are subject to change without notice.

Note:

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

Polarity of the plug

RADIO CASSETTE PLAYER

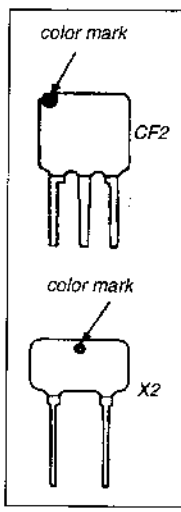
SONY®

TABLE OF CONTEMTS

HOW TO CHANGED THE CERAMIC FILTERS

This model is used two ceramic filters of CF2, X2. 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.



color mark	Center Frequency
red	10.70MHz
blue	10.67MHz
orange	10.73MHz
black	10.64MHz
white	10.76MHz

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 dur ing 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.

SECTION 1
GENERAL

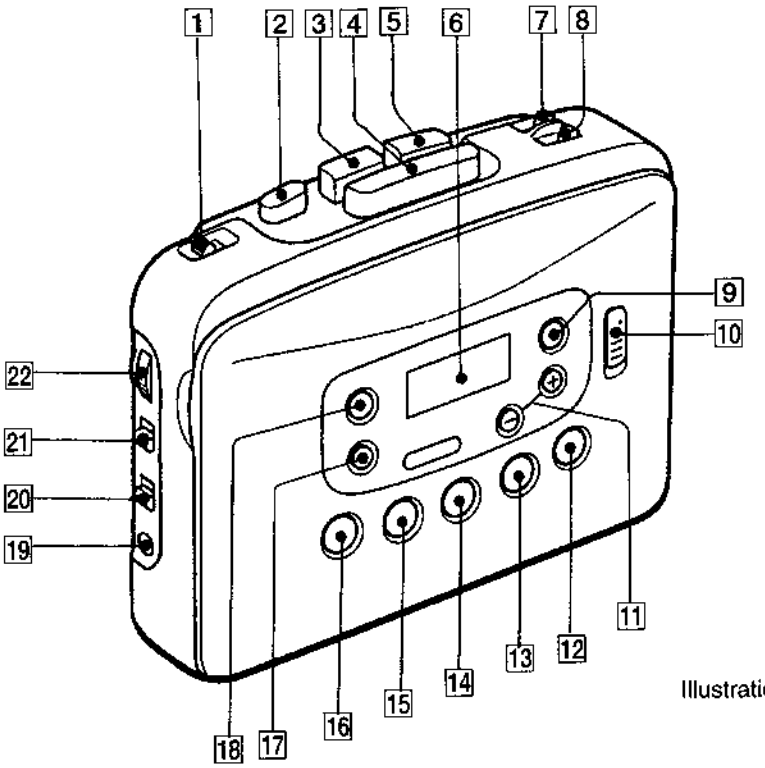


Illustration: FX425 MODEL

1 TAPE (Tape playback equalizer) selector
2 ■ (stop) button
3 ◄◄ (fast-forward) button
4 ◄ PLAY (playback) button
5 ►► (rewind) button
6 Display window
7 MODE (playback mode) selector
8 ◄► DIR (tape transport direction change) selector
9 ENTER button
10 MEGA BASS switch (FX423/FX425 model)
11 TUNING –/+, MINUTE/HOUR buttons

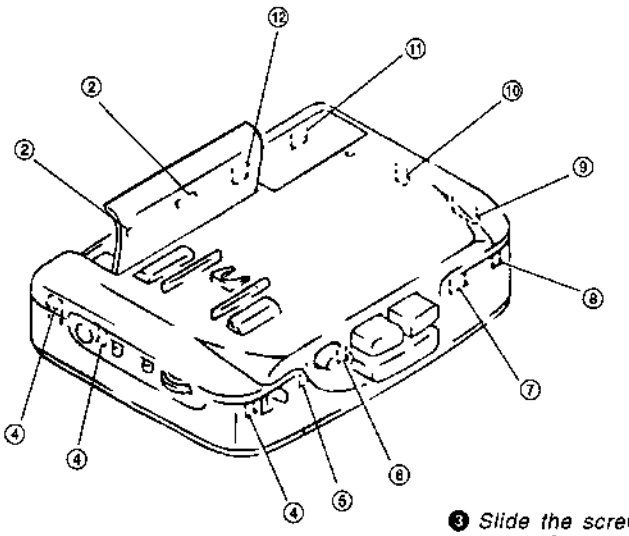
FM/AM PRESET (preset number) buttons
12 5 button
13 4 button
14 3 button
15 2 button
16 1 button
17 BAND (band select) button
18 RADIO ON/OFF button
19 ∩ (headphones) jack
20 AVLS (Automatic Volume Limiter System) selector
21 FM MODE selector (US, Canadian model)/
FM SENS selector (Except US, Canadian model)/
DOLBY NR (playback) switch (FX425 model)
(Dolby Noise Reduction)
22 VOL ◄ (volume) control

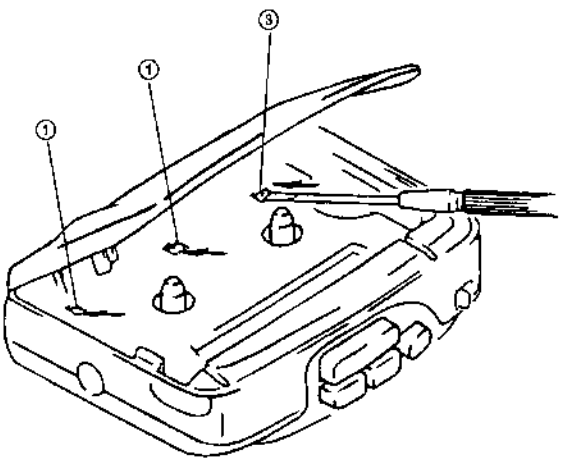
SECTION 2
DISASSEMBLY

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

2-1. CABINET (REAR) ASSEMBLY

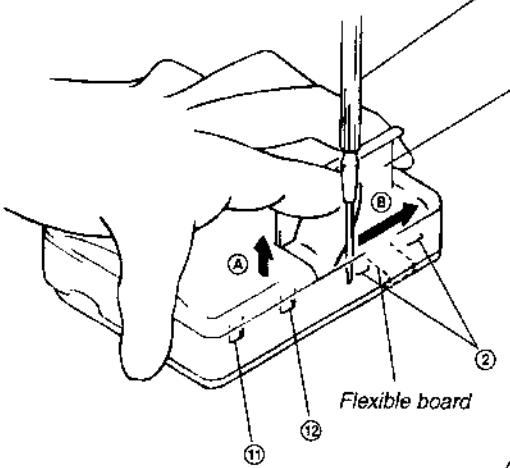
• The cabinet (REAR) assembly has numerious claws.
When removing it, check the positions of these claws as shown below.





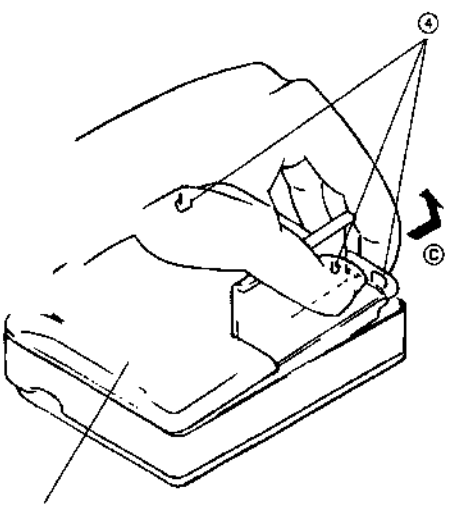
❸ *Slide the screwdriver (flat-blade) in arrow Ⓑ direction to disconnect the two claws ②.*
Note: Take note of the flexible board.

❶ *Open the battery case lid.*



Flexible board

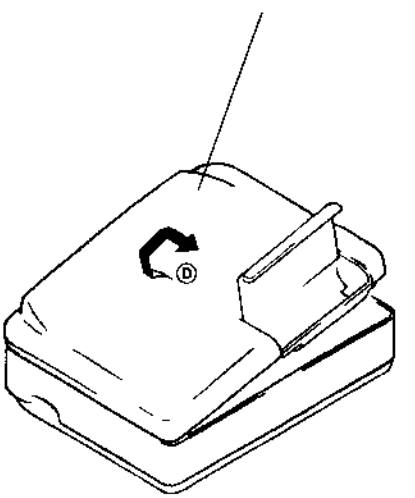
❷ *Put your second finger in the battery case of the cabinet (REAR) assembly, pull in the arrow Ⓐ direction to disconnect claws ①, ⑪ and ⑫.*



Cabinet (REAR) assembly

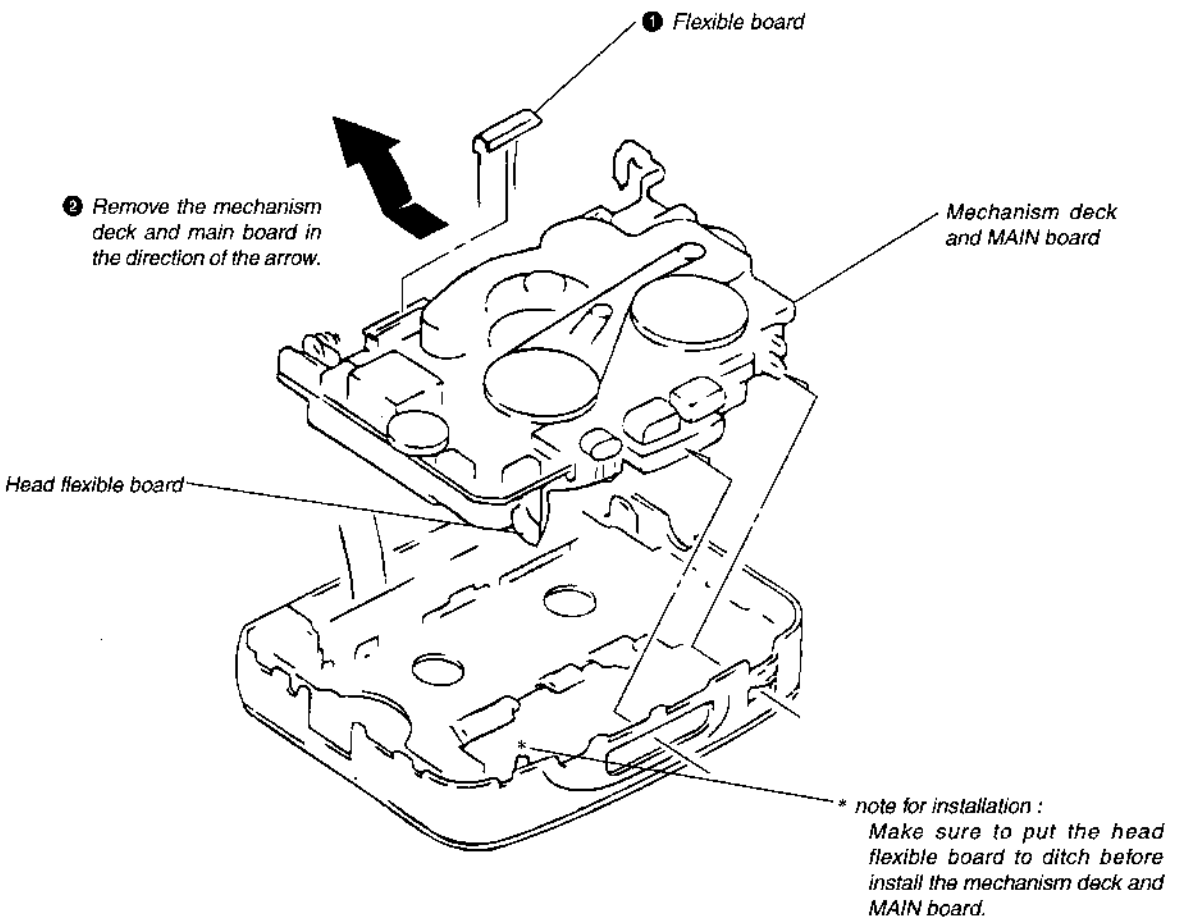
❹ *Disconnect claw ③. As shown in the figure, lift up the cabinet (REAR) assembly, pull in arrow Ⓒ direction to disconnect the three claws ④.*

❺ *Lift the cabinet (REAR) assembly in the arrow Ⓓ derection. Claws ⑤ to ⑩ will disconnect automatically.*

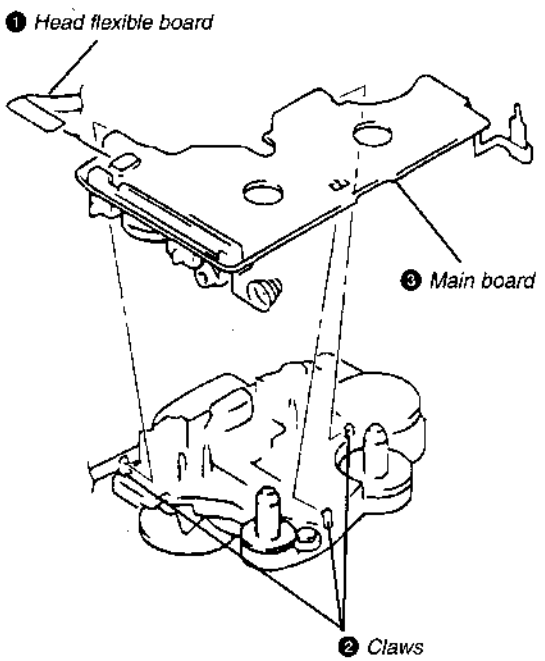


Lift the cabinet assembly, then twist across.

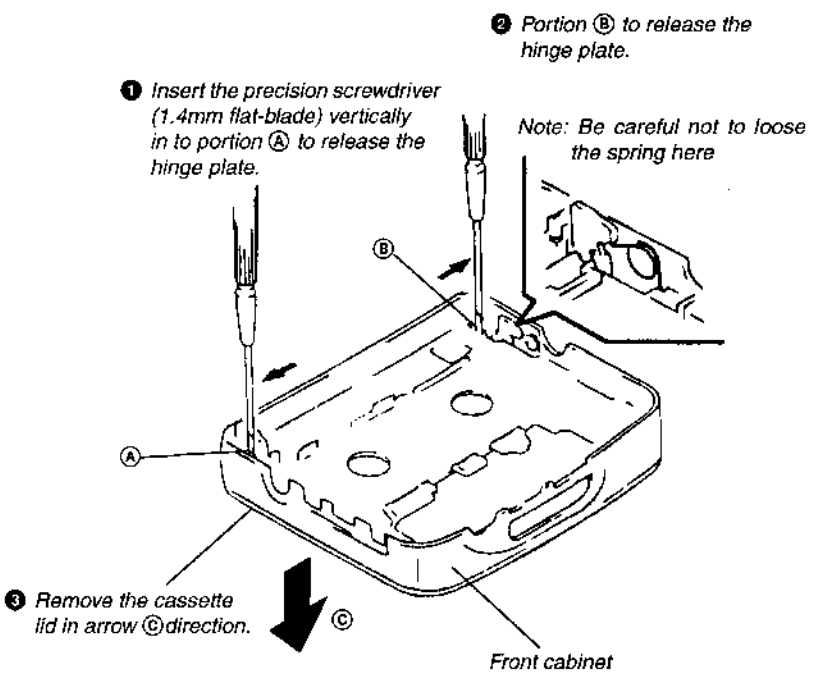
2-2. MECHANISM DECK AND MAIN BOARD



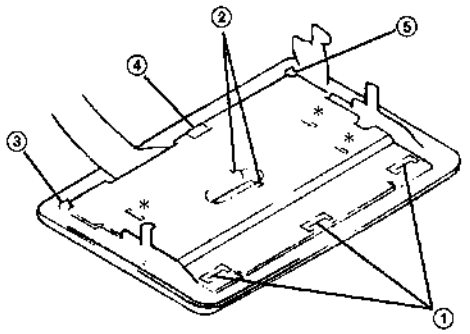
2-3. MAIN BOARD



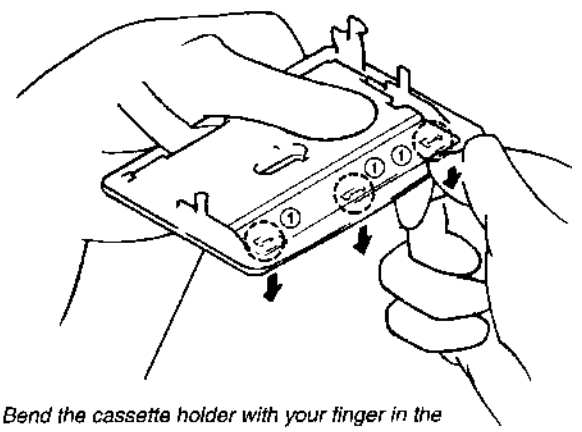
2-4. CASSETTE LID



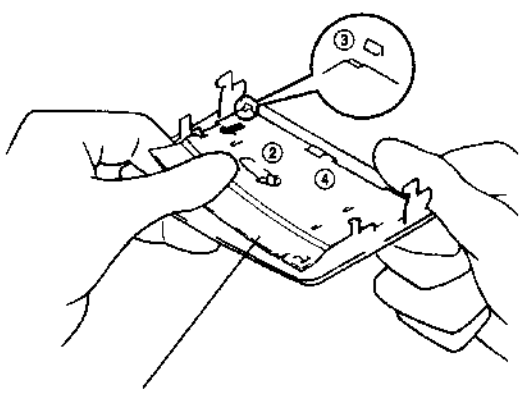
2-5. DISPLAY BOARD



*Note: The * claws will disconnect automatically when this procedure is performed.*



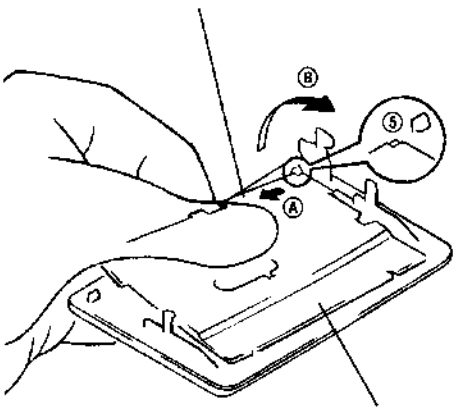
❶ *Bend the cassette holder with your finger in the arrow direction. Disconnect the three claws ①.*



❷ *Put your second finger below the holder cover and disconnect the two claws ②.*

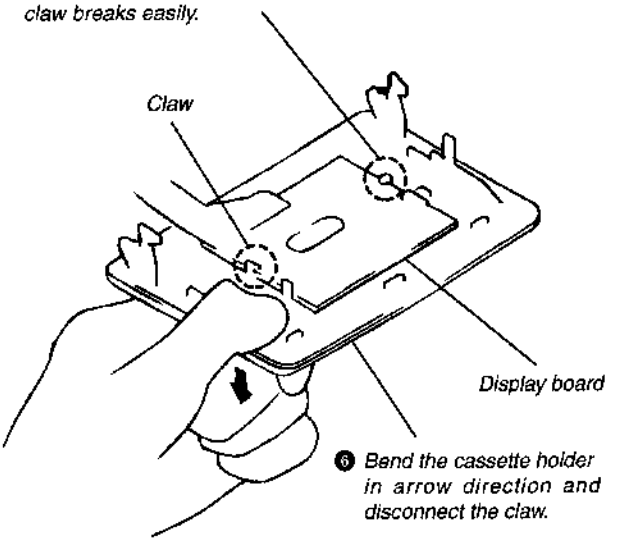
❸ *Pull the holder cover in the arrow direction and remove claw ③, claw ④ will be disconnected automatically when claw ③ is disconnected.*

❹ *As shown in the figure, hold the holder cover, pull the holder cover in the arrow Ⓐ direction, and disconnect claw ⑤.*



❺ *Disconnect the holder cover in arrow Ⓑ direction.*

Note: When removing the display board, take this claw breaks easily.

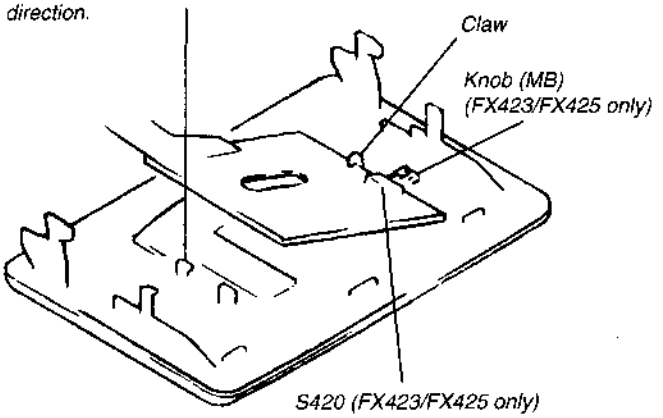


❻ *Bend the cassette holder in arrow direction and disconnect the claw.*

2-6. NOTE FOR INSTALLATION

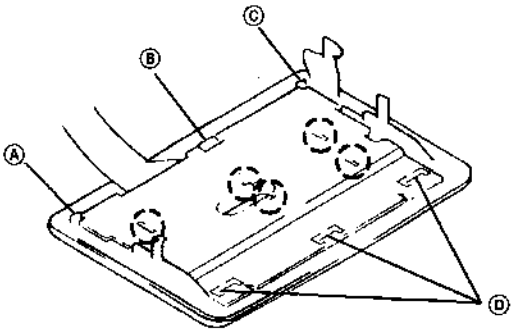
• DISPLAY BOARD

Engage the display board with the claw and align S420 with the knob (MB), the push the display board in the arrow direction.



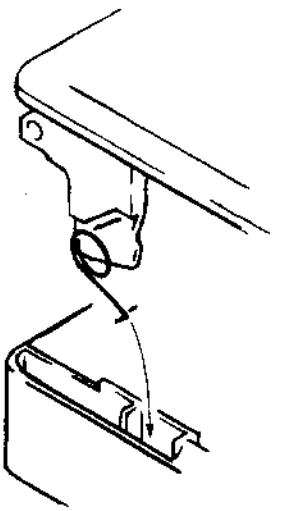
• HOLDER COVER

Insert the claws Ⓐ, Ⓑ and Ⓒ before hand, set the remaining five claws after setting the three claws of Ⓓ.



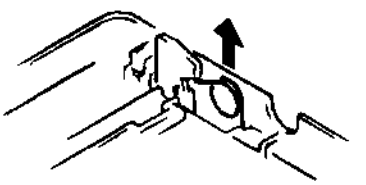
• TORSION SPRING

❶ *Attach the torsion spring as shown in the figure.*



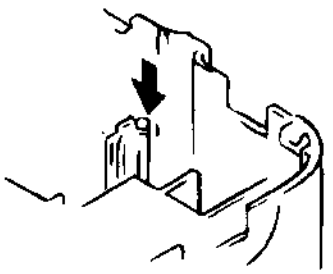
❷ *Insert the torsion spring in the hole as shown n the figure.*

❸ *Lift the torsion spring in the arrow direction and hook it properly.*



• MAIN BOARD

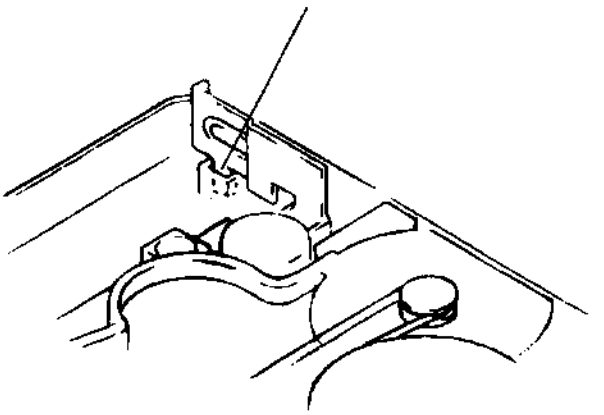
When mounting the main board, insert the head flexible board in the space indicated by the arrow.



• BATTERY TERMINAL

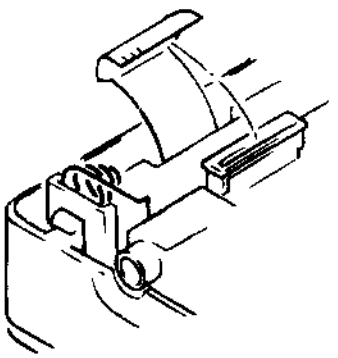
Attach the battery (+) as shown in the figure.

Note: Be sure to insert this claw.



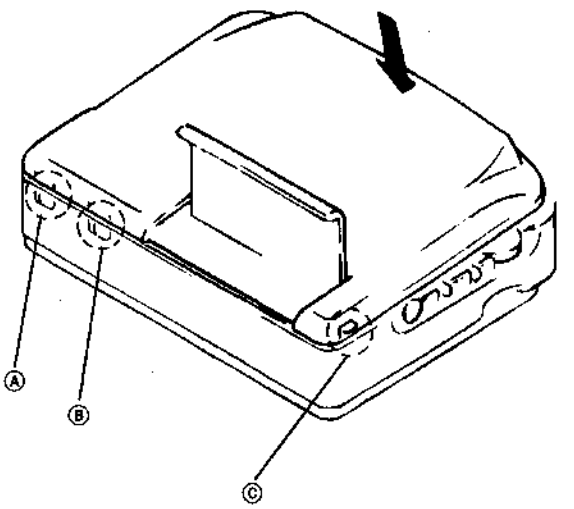
• TUNER FLEXIBLE BOARD

Attach the tuner flexible board as shown in the figure.



• CABINET (REAR) ASSEMBLY

After pushing claws Ⓐ to Ⓒ and locking them.
Push the cabinet (REAR) assembly in the arrow direction, and lock the order claws.



SECTION 3
ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

Precaution

1. Clean the follwing parts with a denatured-alcohol-moistened 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. The adjustments should be performed with the rated power supply voltage (2.5 V) unless otherwise noted.

Torque Measurement

Mode	Torque meter	Meter reading
FWD	CQ-102C	20-42 g • cm (0.28-0.58 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)

Tape Pulling Force Measurement

Mode	Torque meter	Meter reading
FWD	CQ-403A	more than 40g (more than 1.4 oz)

3-2. ELECTRICAL ADJUSTMENTS

Precaution

- Supplied voltage : 2.5V
- Switch and control position
  TAPE switch : NORM
  MODE switch : ST...Except US/ Canadian
  FM SENS switch : DX...US/Canadian
  VOLUME CONTROL : maximum
  MEGA BASS switch : NORM...FX425, OFF...FX423
  AVLS switch : NORM

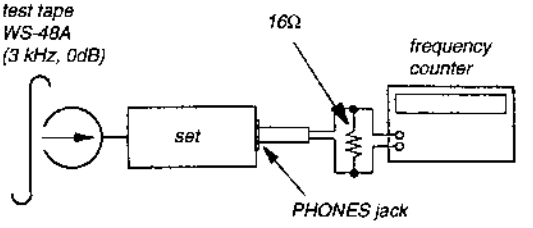
TEST TAPE

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

TAPE SECTION

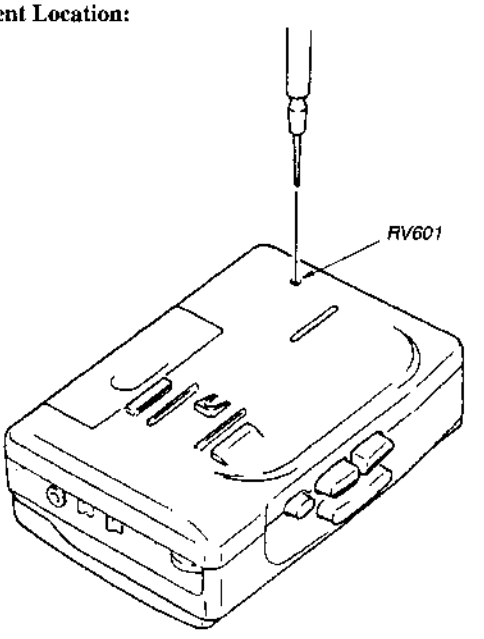
Tape speed adjustment

Procedure:



Play back WS-48A (tape center portion) in FWD mode.
Adjust the RV601 so that the frequency counter reads 3,000Hz ± 15Hz.
Frequency difference between the begining and the end of the tape should be within ± 1.0%.

Adjustment Location:

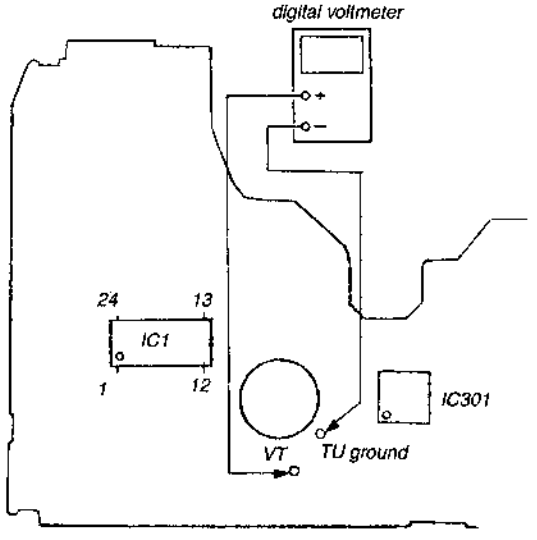


TUNER SECTION

FM SECTION

Setting :
FUNCTION switch : RADIO
BAND switch : FM

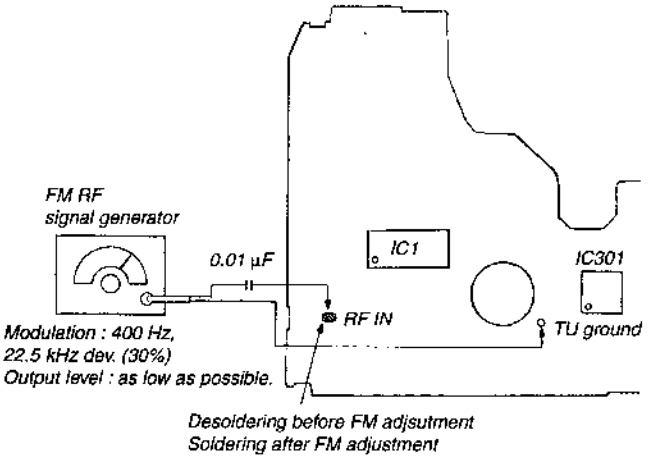
FM TUNING VOLTAGE ADJUSTMENT

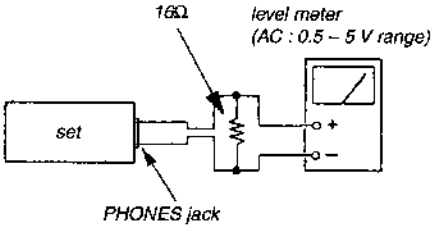


FM TUNING VOLTAGE ADJUSTMENT
Adjust for a 2.4 (1.8) ± 0.1 Vdc reading on digital voltmeter
L3
87.5 (65.0) MHz

( ) : East European model

FM TRACKING ADJUSTMENT



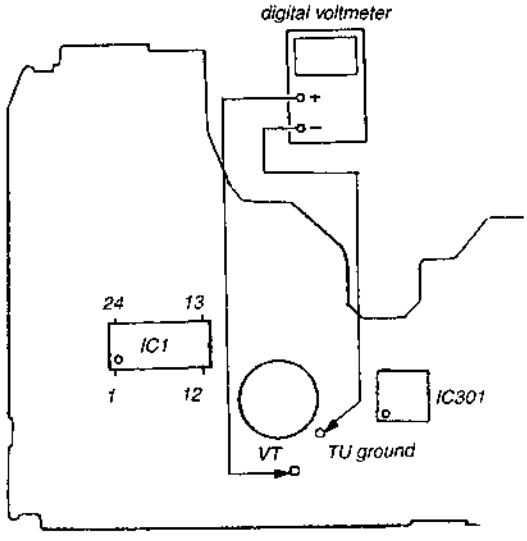


FM TRACKING ADJUSTMENT
Adjust for a maximum reading on level meter
L2
108 MHz

AM SECTION

setting:
FUNCTION switch : RADIO
BAND switch : AM

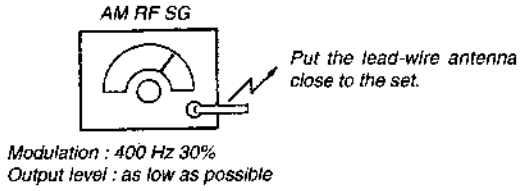
AM TUNING VOLTAGE ADJSUTMENT

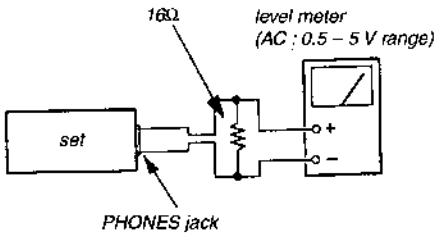


AM TUNING VOLTAGE ADJUSTMENT
Adjust for a 1.4 ± 0.1 Vdc reading on digital voltmeter
L4
530 (531) kHz

( ) : Except US, Canadian model

AM IF ADJUSTMENT, AM TRACKING ADJUSTMENT





*Repeat the procedures in each adjsutment several times, and the tracking adjustment should be finally done by the trimmer capacitros.

AM IF ADJUSTMENT
Adjust for a maximum reading on level meter
T1
1000 (999) kHz

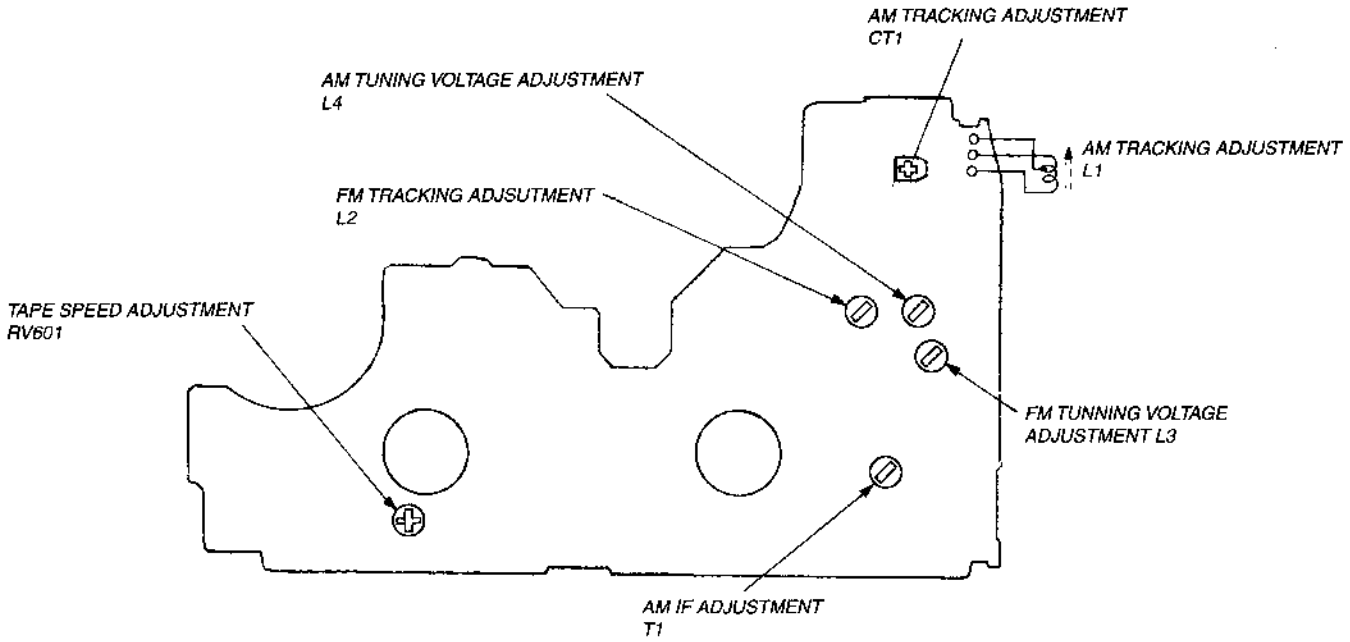
( ) : Except US, Canadian model

AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter	
L1 (BAR ANTENNA)	CT1
620 (621) kHz	1400 (1395) kHz

( ) : Except US, Canadian model

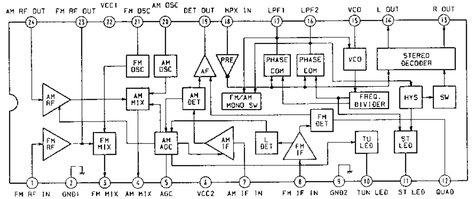
Adjustment Part Location Diagram :

[MAIN BOARD]

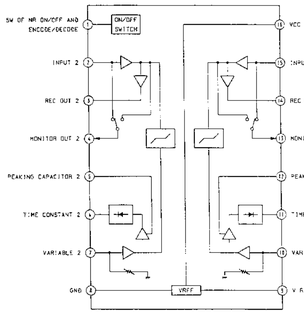


• IC BLOCK DIAGRAMS

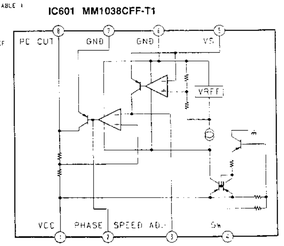
IC1 TA8122AF



IC351 NJM2063AM-T1



IC601 MM1038CFF-T1



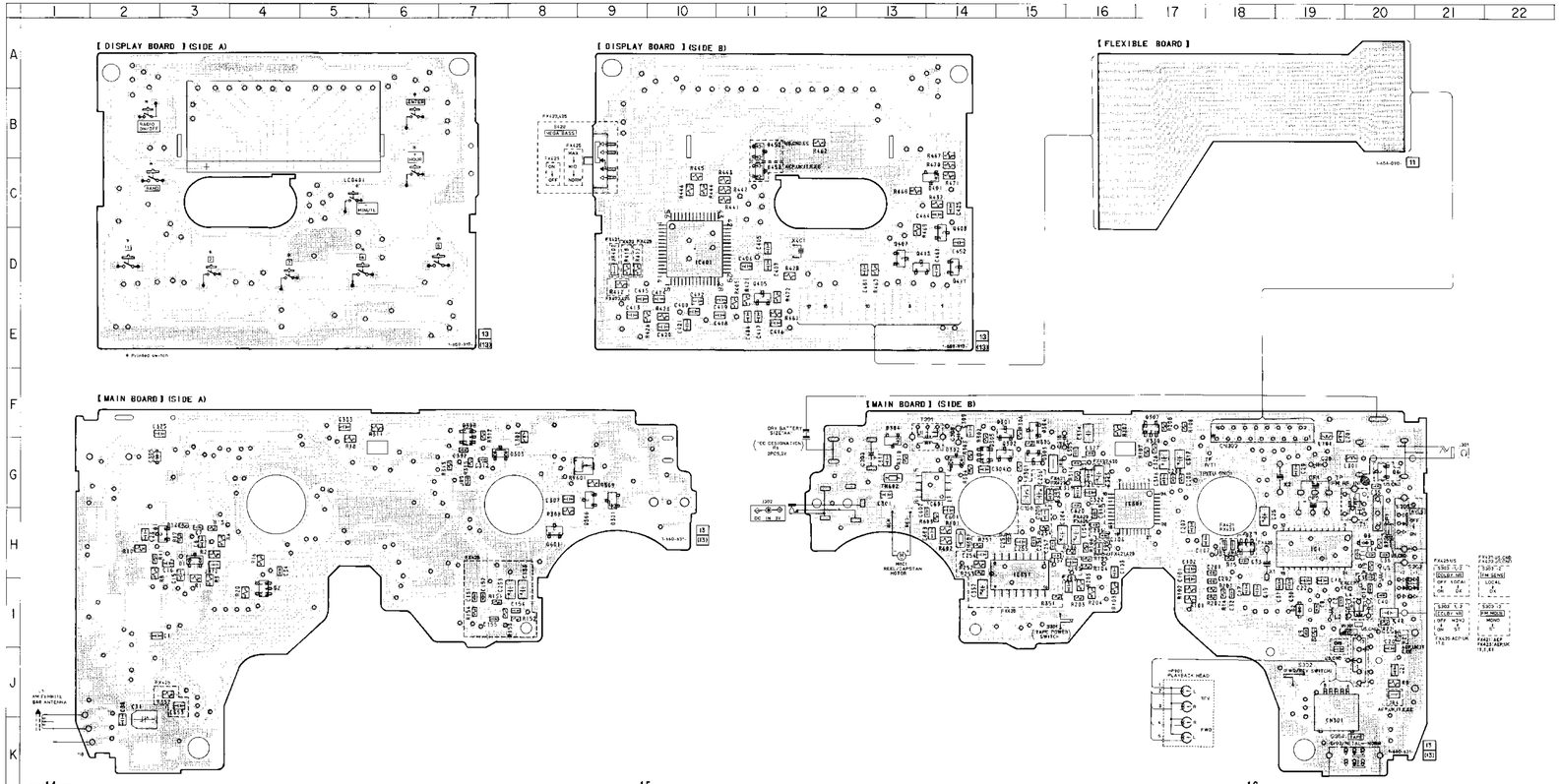
• Semiconductor Location

Ref. No.	Location
D1	H-3
D2	I-19
D3	H-20
D301	G-9
D302	G-14
D303	G-7
D304	G-13
D305	G-2
D401	C-14
D452	B-11
D453	C-11
IC1	H-19
IC301	G-16
IC351	H-15
IC401	D-10
IC601	G-14
Q1	H-3
Q2	I-4
Q3	H-18
Q4	G-20
Q301	F-15
Q302	G-15
Q303	G-15
Q304	F-15
Q305	G-14
Q306	G-9
Q307	F-17
Q308	F-7
Q405	D-11
Q407	D-13
Q408	D-14
Q410	D-13
Q411	D-14
Q601	H-8

Note:
- ——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- ○ : Through hole.
- △ : Internal component.
- ▨ : Pattern from the side which enable seeing. (The other layer's patterns are not indicated.)

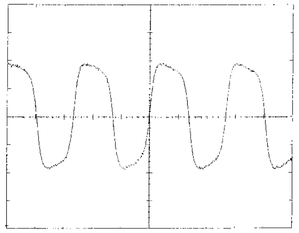
• Abbreviation
CND: Canadian model.
IT : italian model.
EE : East European model.

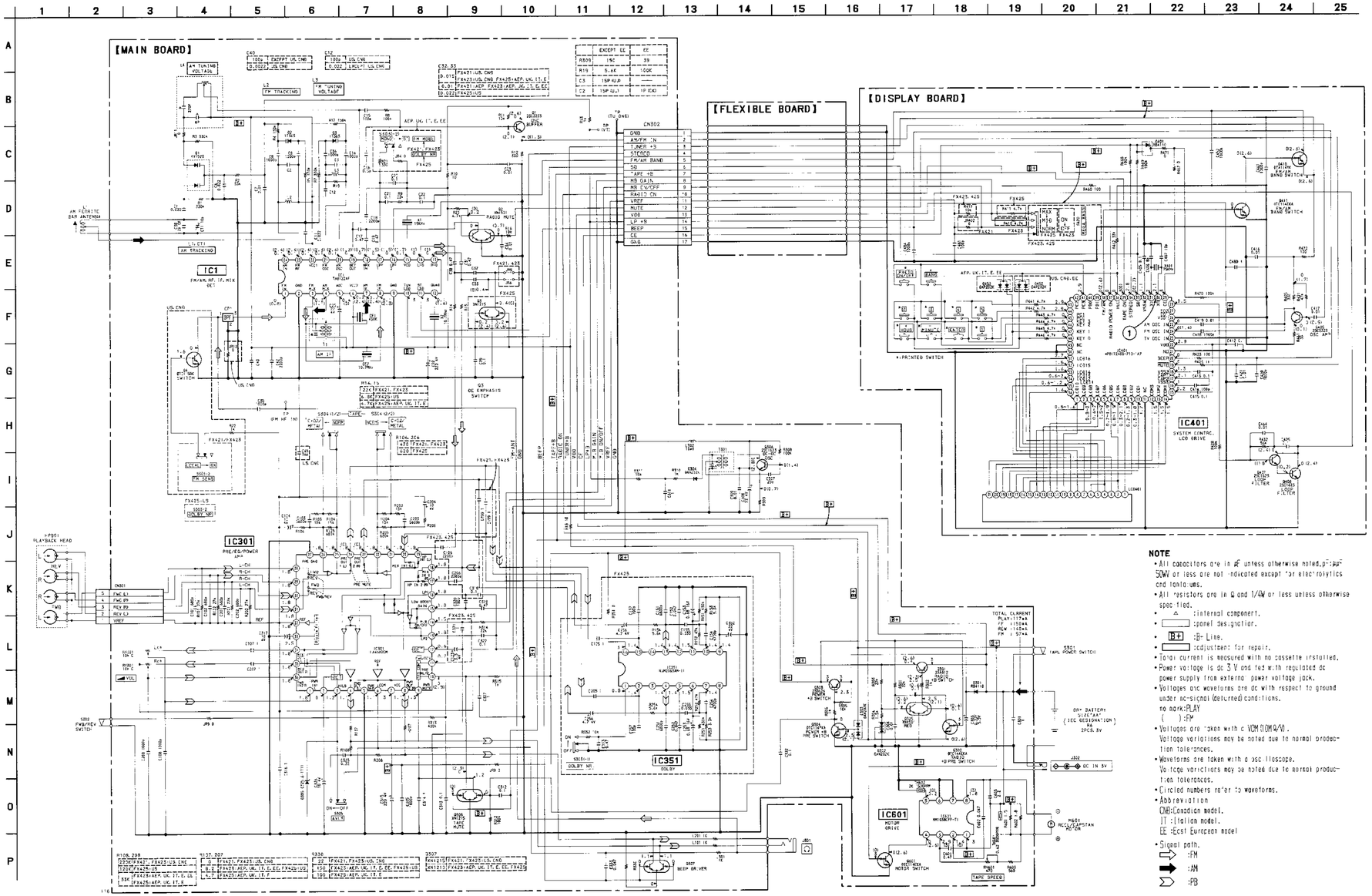
4-1. PRINTED WIRING BOARD



4-2. SCHEMATIC DIAGRAM

• Waveforms
ⓘIC401 ⓟPIN 1.9 Vp-p 75 kHz





NOTE

- All capacitors are in μF unless otherwise noted. pF: μF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.
- B+ : B+ Line.
- ▭ : adjustment for repair.
- Total current is measured with no cassette installed.
- Power voltage is dc 3 V and fed with regulated dc power supply from external power voltage jack.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark: PLAY
  ( ) : FF
- Voltages are taken with a VOM (10MΩ/V). 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.
- Abbreviation
  CND : Canadian model.
  IT : Italian model.
  EE : East European model
- Signal path.
  ⇨ : FM
  ➡ : AM
  ⇨ : PB

4-3. IC PIN FUNCTION

• IC401 TUNER CONTROLLER/LCD DRIVE (μPD1724GB-710-1A7)

Pin No.	Pin Name	I/O	Function
1 to 10	LCD10 to LCD 1	O	LCD segment signal output pin
11	NC	–	Not used
12 to 14	COM3 to COM1	O	LCD common signal output pin
15	VSS3	–	Pins connecting capacitors for doubler circuits generating the LCD drive voltage
16	CAP2	–	
17	CAP1	–	
18	VSS2	–	
19	MUTE	O	Generates 1.12 kHz pulses when using as a VDP (Variable Duty Port)
20	BEEP	O	BEEP signal output terminal ("H": BEEP)
21	NC	–	Not used
22	VDD	–	The internal reset circuit functions when supplied with 0V to 1.5V
23	TV OSC IN	I	Partial oscillation frequency input pin (direct dividing method) (HIGH IMP when CE is low) (Not used)
24	FM OSC IN	I	Partial oscillation frequency input pin (pulse swallow method) (PULL DOWN when CE is low)
25	AM OSC IN	I	
26	VSS1	–	Ground
27	E01	O	Not used
28	E02	O	When the fequency obtained by frequency dividing the partial oscillation frequency is higher than the reference frequency: HIGH output. When Lower: LOW output. When the same: HIGH-IMP.
29	CE	I	The internal reset circuit functions when LOW becomes HIGH
30	XO	O	Connected to the liquid crystal oscillator
31	XI	I	Oscillates 75 kHz liquid crystals
32	VSS4	–	Connected to the regulator circuit capacitor
33	SD	I	No broadcasting station: HIGH output. With: LOW output
34	STEREO	I	Stereo level input ("L": Light on)
35	TAPE ON	I	Tape signal input ("H": TAPE)
36	REC	O	Initialize
37	RADIO POWER ON	O	Radio power on
38	FM/AM	O	Outputs HIGH potential only during AM reception
39	PB1	O	Become LOW potential when TV channels 1 to 3 are received (Not used)
40	PB0	O	Become HIGH potential when TV channel 4 to 12 are received (Not used)
41	PC3	O	Timing signal output for key matrix
42	PC2	O	Not used
43, 44	P0, P1	O	Timing signal output for key matrix
45 to 48	KEY 3 to KEY 0	I	Key input
49, 50	NC	–	Not used
51 to 56	LCD 16 to LCD 11	O	LCD segment signal output pin

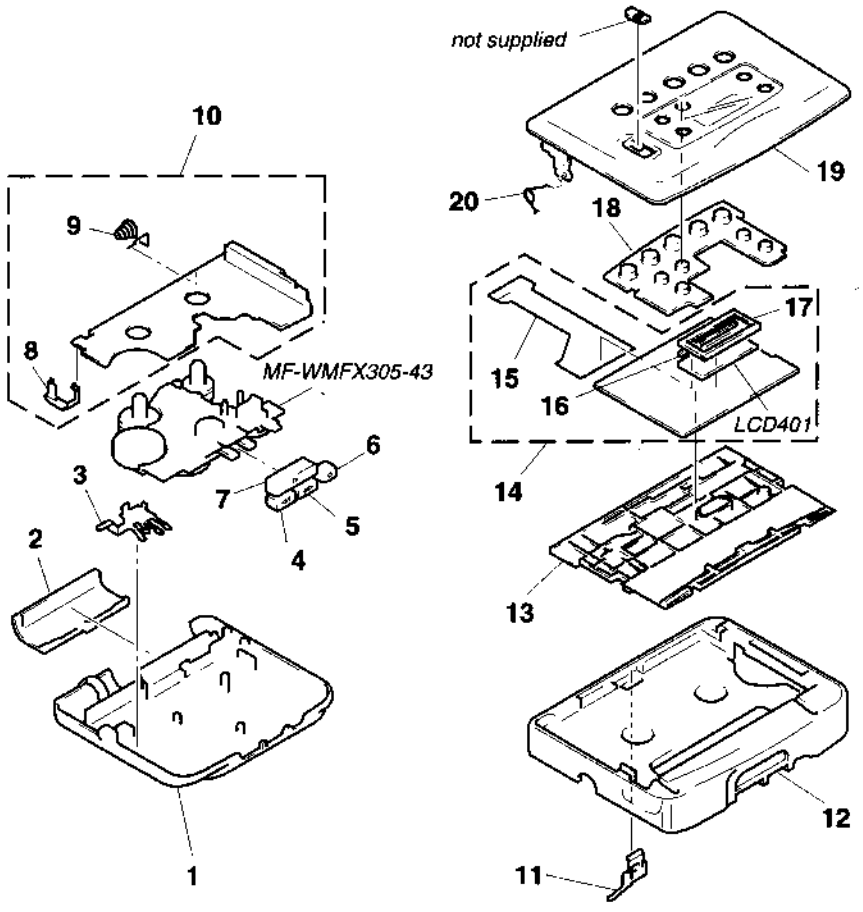
Abbreviation
LCD: Liquid Crystal Display
CE: Chip Enable
IMP: Impedance

SECTION 5
EXPLODED VIEWS

NOTE:

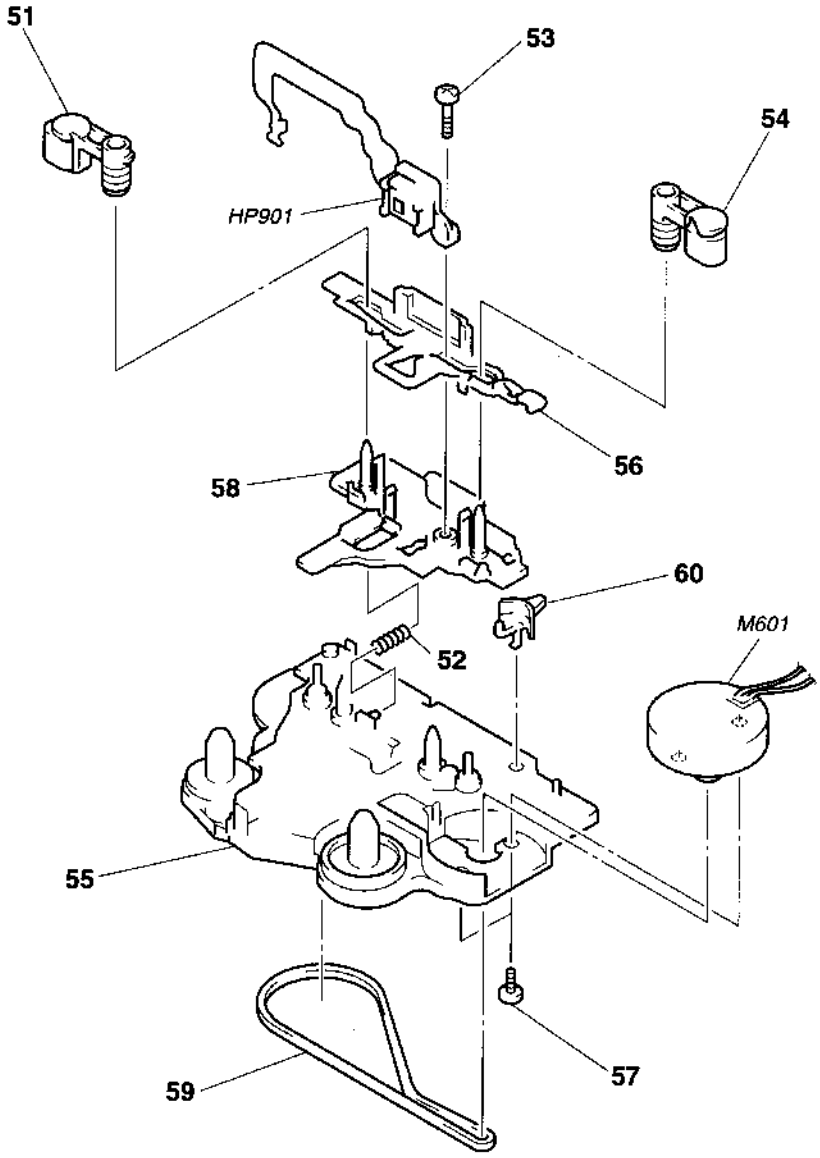
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Color Indication of Appearance Parts Example:
  KNOB. BALANCE (WHITE)...(RED)
  ↑ ↑
  Parts color Cabinet's color
- The mechanical parts with no reference number in the exploded views are not supplied.
- Abbreviation
  CND : Canadian model
  IT : Italian model
  EE : East European model

5-1. CABINET AND BOARD SECTION



Ref. No.	Part No.	Description	Remark
1	3-922-623-11	CABINET (REAR)(51)	
2	3-910-764-21	LID, BATTERY CASE	
3	3-910-896-01	GROUND, MOTOR	
4	3-910-540-11	BUTTON (REW) (FX421/FX423)	
4	3-910-917-21	BUTTON (REW) (FX425)	
5	3-910-539-11	BUTTON (FF) (FX421/FX423)	
5	3-910-916-21	BUTTON (FF) (FX425)	
6	3-910-541-11	BUTTON (STOP) (FX421/FX423)	
6	3-910-915-21	BUTTON (STOP) (FX425)	
7	3-910-538-01	BUTTON (PLAY) (FX421/FX423)	
7	3-910-918-21	BUTTON (PLAY) (FX425)	
8	3-922-066-01	TERMINAL (+), BATTERY	
9	3-922-629-01	TERMINAL (-), BATTERY	
10	A-3016-688-A	MAIN BOARD, COMPLETE (FX425:US)	
10	A-3016-693-A	MAIN BOARD, COMPLETE (FX423:US,CND)	
10	A-3016-697-A	MAIN BOARD, COMPLETE (FX423:AEP,UK,E,IT)	
10	A-3016-706-A	MAIN BOARD, COMPLETE (FX425:AEP,UK,E,IT)	
10	A-3016-767-A	MAIN BOARD, COMPLETE (FX421:US,CND)	
10	A-3016-774-A	MAIN BOARD, COMPLETE (FX423:EE)	
10	A-3016-847-A	MAIN BOARD, COMPLETE (FX421:AEP)	
11	3-364-675-01	SPRING (CASSETTE)	
12	3-933-077-01	CABINET (FRONT)(51)(FX421:US,CND)	
12	3-933-077-11	CABINET (FRONT)(51)(FX423:US,CND)	
12	3-933-077-21	CABINET (FRONT)(51) (FX423:AEP,UK,IT,EE/FX421:AEP)	
12	3-933-077-31	CABINET (FRONT)(51)(FX425:US)	
12	3-933-077-41	CABINET (FRONT)(51)(FX425:AEP,UK,E,IT)	
12	3-933-077-51	CABINET (FRONT)(51)(FX423:E)	
13	3-922-622-01	COVER (51), HOLDER (FX423/FX425)	
13	3-922-635-01	COVER (50), HOLDER (FX421)	
14	A-3016-765-A	DISPLAY BOARD, COMPLETE (FX425:US)	
14	A-3016-766-A	DISPLAY BOARD, COMPLETE (FX425:AEP,UK,E,IT)	
14	A-3016-768-A	DISPLAY BOARD, COMPLETE (FX421:US,CND)	
14	A-3016-769-A	DISPLAY BOARD, COMPLETE (FX421:AEP)	
14	A-3016-772-A	DISPLAY BOARD, COMPLETE (FX423:US,CND)	
14	A-3016-773-A	DISPLAY BOARD, COMPLETE (FX423:AEP,UK,E,IT)	
14	A-3016-775-A	DISPLAY BOARD, COMPLETE (FX423:EE)	
15	1-656-090-11	FLEXIBLE BOARD	
* 16	1-537-870-11	CONNECTOR, RUBBER	
* 17	3-922-067-01	HOLDER, LCD	
18	3-922-621-01	BUTTON (51), RUBBER (FX423)	
18	3-922-621-12	BUTTON (51), RUBBER (FX425)	
18	3-922-634-01	BUTTON (51), RUBBER (FX421)	
19	X-3372-040-1	HOLDER SUB ASSY, CASSETTE (BLACK)(FX423)	
19	X-3372-045-1	HOLDER SUB ASSY, CASSETTE (BLACK)(FX425)	
19	X-3372-041-1	HOLDER SUB ASSY, CASSETTE (SILVER) (FX423:AEP,UK,E,IT,EE)	
19	X-3372-042-1	HOLDER SUB ASSY, CASSETTE (BLUE) (FX423:AEP,UK,E,IT,EE)	
19	X-3372-043-1	HOLDER SUB ASSY, CASSETTE (GREEN) (FX423:AEP,UK,E,IT,EE)	
19	X-3372-044-1	HOLDER SUB ASSY, CASSETTE (GOLD) (FX423:AEP,UK,E,IT,EE)	
19	3-922-633-21	HOLDER (50), CASSETTE (BLACK)(FX421)	
20	3-922-628-01	SPRING, TORSION	
LCD401	1-801-176-11	DISPLAY PANEL, LIQUID CRYSTAL	

5-2. MECHANISM SECTION (MF-WMFX305-43)



Ref. No.	Part No.	Description	Remark
51	X-3367-902-1	ARM (N) ASSY, PINCH	
52	3-364-328-01	SPRING, COMPRESSION	
53	3-910-635-01	SCREW	
54	X-3367-903-1	PINCH (R) ASSY	
55	X-3368-730-1	CHASSIS ASSY	
56	3-910-643-01	ARM (NR)	
57	3-352-758-21	SCREW (M1.7), TOOTHED LOCK	
58	3-910-644-01	LEVER (PR), PLAY	
59	3-354-868-11	BELT	
60	3-909-698-01	LEVER D SELECTION	
HP901	1-543-705-11	HEAD, MAGNETIC (PLAYBACK)	
M601	1-698-353-11	MOTOR, DC (REEL/CAPSTAN)	

SECTION 6
ELECTRICAL PARTS LIST

DISPLAY

Note:

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

- 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.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- 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
- Abbreviation
  CND : Canadian model
  IT : Italian model
  EE : East European model

Ref.No.	Part No.	Description	Remark
	A-3016-768-A	DISPLAY BOARD, COMPLETE (FX421:US,CND) **********	
	A-3016-769-A	DISPLAY BOARD, COMPLETE (FX421:AEP) **********	
	A-3016-772-A	DISPLAY BOARD, COMPLETE (FX423:US,CND) **********	
	A-3016-773-A	DISPLAY BOARD, COMPLETE (FX423:AEP,UK,IT,E) **********	
	A-3016-775-A	DISPLAY BOARD, COMPLETE (FX423:EE) **********	
	A-3016-765-A	DISPLAY BOARD, COMPLETE (FX425:US) **********	
	A-3016-766-A	DISPLAY BOARD, COMPLETE (FX425:AEP,UK,IT,E) **********	
	1-656-090-11	FLEXIBLE BOARD	
*	1-537-870-11	CONNECTOR, RUBBER	
*	3-922-067-01	HOLDER, LCD	
		< CAPACITOR >	
C405	1-163-038-91	CERAMIC CHIP 0.1uF 25V	
C406	1-163-091-00	CERAMIC CHIP 8PF 5% 50V	
C407	1-163-093-00	CERAMIC CHIP 10PF 5% 50V	
C412	1-163-038-91	CERAMIC CHIP 0.1uF 25V	
C413	1-163-038-91	CERAMIC CHIP 0.1uF 25V	
C414	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C415	1-163-038-91	CERAMIC CHIP 0.1uF 25V	
C416	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C417	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C418	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C419	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C420	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C421	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C425	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C452	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C461	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C464	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C480	1-164-346-11	CERAMIC CHIP 1uF 16V	
C481	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C484	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	

Ref.No.	Part No.	Description	Remark
		< DIODE >	
D401	8-719-975-40	DIODE RB411D	
D452	8-719-914-44	DIODE DAP202K (US,CND,EE)	
D453	8-719-914-44	DIODE DAP202K (EXCEPT US,CND)	
		< IC >	
IC401	8-759-385-80	IC uPD1724GB-710-1A7	
		< JUMPER RESISTOR >	
JR402	1-216-295-91	CONDUCTOR, CHIP(2012) (FX421)	
		< LIQUID CRYSTAL DISPLAY >	
LCD401	1-801-176-11	DISPLAY PANEL,LIQUID CRYSTAL	
		< TRANSISTOR >	
Q405	8-729-102-07	TRANSISTOR 2SC2223-F13	
Q407	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q408	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q410	8-729-901-46	TRANSISTOR DTA114YK	
Q411	8-729-900-53	TRANSISTOR DTC114EK	
		< RESISTOR >	
R405	1-216-037-00	METAL CHIP 330 5% 1/10W	
R410	1-216-065-00	METAL CHIP 4.7K 5% 1/10W (FX423)	
R411	1-216-065-00	METAL CHIP 4.7K 5% 1/10W (FX425)	
R412	1-216-073-00	METAL CHIP 10K 5% 1/10W (FX423,FX425)	
R421	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R423	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R426	1-216-049-91	METAL GLAZE 1K 5% 1/10W	
R428	1-216-097-91	METAL GLAZE 100K 5% 1/10W	
R432	1-216-091-00	METAL CHIP 56K 5% 1/10W	
R441	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R442	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R443	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R444	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R445	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R446	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R460	1-216-025-91	METAL GLAZE 100 5% 1/10W	

DISPLAY MAIN

Ref. No.	Part No.	Description			Remark
R461	1-216-013-00	METAL CHIP	33	5%	1/10W
R462	1-216-085-00	METAL CHIP	33K	5%	1/10W
R467	1-216-295-91	CONDUCTOR, CHIP (2012)			
R468	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R469	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R470	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R471	1-216-295-91	CONDUCTOR, CHIP (2012)			
R472	1-216-025-91	METAL GLAZE	100	5%	1/10W
		< SWITCH >			
S420	1-692-605-11	SWITCH, SLIDE (MEGA BASS)(FX423,FX425)			
		< VIBRATOR >			
X401	1-760-666-11	VIBRATOR, CRYSTAL (75KHz)			

****

	A-3016-688-A	MAIN BOARD, COMPLETE (FX425:US)
		**********
	A-3016-693-A	MAIN BOARD, COMPLETE (FX423:US,CND)
		**********
	A-3016-697-A	MAIN BOARD, COMPLETE (FX423:AEP,UK,IT,E)
		**********
	A-3016-706-A	MAIN BOARD, COMPLETE (FX425:AEP,UK,IT,E)
		**********
	A-3016-767-A	MAIN BOARD, COMPLETE (FX421:US,CND)
		**********
	A-3016-774-A	MAIN BOARD, COMPLETE (FX423:EE)
		**********
	A-3016-847-A	MAIN BOARD, COMPLETE (FX421:AEP)
		**********
	3-922-066-01	TERMINAL (+), BATTERY
	3-922-629-01	TERMINAL (-), BATTERY
		< CAPACITOR >

C1	1-163-033-91	CERAMIC CHIP	0.022uF		50V
C2	1-164-118-11	CERAMIC CHIP	15PF	5%	50V (EXCEPT EE)
C2	1-162-905-11	CERAMIC CHIP	1PF	0.25PF	50V (EE)
C3	1-164-118-11	CERAMIC CHIP	15PF	5%	50V (EXCEPT EE)
C6	1-163-033-91	CERAMIC CHIP	0.022uF		50V
C7	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C8	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C9	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C11	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C12	1-162-953-11	CERAMIC CHIP	100PF	5%	50V (US,CND)

Ref. No.	Part No.	Description			Remark
C12	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V (EXCEPT US,CND)
C14	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C15	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C16	1-163-082-00	CERAMIC CHIP	0.5PF	0.25PF	50V
C17	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C18	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C19	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C20	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C21	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C22	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C23	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C25	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C28	1-124-434-00	ELECT	220uF	20%	4V
C29	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C30	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C31	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C32	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V (FX421:US,CND,FX423:US,CND,FX425:AEP,UK,IT,E)
C32	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (FX421:AEP,FX423:AEP,UK,IT,E,EE)
C32	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V (FX425:US)
C33	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V (FX421:US,CND,FX423:US,CND,FX425:AEP,UK,IT,E)
C33	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (FX421:AEP,FX423:AEP,UK,IT,E,EE)
C33	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V (FX425:US)
C34	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C35	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C36	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C38	1-163-085-00	CERAMIC CHIP	2PF		50V
C40	1-162-953-11	CERAMIC CHIP	100pF	5%	50V (EXCEPT US,CND)
C40	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V (US,CND)
C42	1-163-213-00	CERAMIC CHIP	0.0022uF	5%	50V
C45	1-164-149-11	CERAMIC CHIP	36PF	5%	50V (US,CND)
C101	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C102	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C103	1-163-018-00	CERAMIC CHIP	0.0056uF	5%	50V
C104	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C105	1-164-234-11	CERAMIC CHIP	1uF		10V (FX425)
C106	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V (FX423,FX425)
C107	1-164-234-11	CERAMIC CHIP	1uF		10V
C108	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C151	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V (FX425)
C152	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V (FX425)

Ref. No.	Part No.	Description			Remark
C153	1-165-321-11	CERAMIC CHIP	0.68uF	10%	16V (FX425)
C154	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V (FX425)
C155	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V (FX425)
C156	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V (FX425)
C157	1-162-953-11	CERAMIC CHIP	100PF	5%	50V (FX425)
C199	1-164-234-11	CERAMIC CHIP	1uF		10V (FX421,FX423)
C201	1-162-963-11	CERAMIC CHIP	680PF	10%	50V
C202	1-162-963-11	CERAMIC CHIP	680PF	10%	50V
C203	1-163-018-00	CERAMIC CHIP	0.0056uF	5%	50V
C204	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C205	1-164-234-11	CERAMIC CHIP	1uF		10V (FX425)
C206	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V (FX423,FX425)
C207	1-164-234-11	CERAMIC CHIP	1uF		10V
C208	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C251	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V (FX425)
C252	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V (FX425)
C253	1-165-321-11	CERAMIC CHIP	0.68uF	10%	16V (FX425)
C254	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V (FX425)
C255	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V (FX425)
C256	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V (FX425)
C257	1-162-953-11	CERAMIC CHIP	100PF	5%	50V (FX425)
C299	1-164-234-11	CERAMIC CHIP	1uF		10V (FX421,FX423)
C301	1-164-234-11	CERAMIC CHIP	1uF		10V
C303	1-125-624-21	DOUBLE LAYERS	0.22F		5.5V
C304	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C305	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C307	1-163-100-00	CERAMIC CHIP	20PF	5%	50V
C308	1-124-430-00	ELECT	22uF	20%	4V
C309	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C311	1-164-234-11	CERAMIC CHIP	1uF		10V
C312	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C313	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C314	1-162-638-11	CERAMIC CHIP	1uF		16V
C315	1-124-434-00	ELECT	220uF	20%	4V
C316	1-164-234-11	CERAMIC CHIP	1uF		10V
C317	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C318	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V (FX423,FX425)
C319	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C320	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C321	1-164-234-11	CERAMIC CHIP	1uF		10V (FX423,FX425)
C322	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C323	1-135-180-21	TANTALUM CHIP	3.3uF	10%	10V (FX423,FX425)
C325	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C326	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C327	1-115-156-11	CERAMIC CHIP	1uF		10V
C332	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C333	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C352	1-104-847-11	TANTAL. CHIP	22uF	20%	4V (FX425)
C353	1-164-005-11	CERAMIC CHIP	0.47uF		25V (FX425)
C601	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C602	1-164-361-11	CERAMIC CHIP	0.047uF		16V
C603	1-164-505-11	CERAMIC CHIP	2.2uF		16V
		< FILTER >			
CF1	1-760-345-21	FILTER, CERAMIC			
CF2	1-567-097-61	FILTER, CERAMIC			
		< CONNECTOR >			
CN301	1-569-252-21	HOUSING, CONNECTOR (FPC) 5P			
* CN302	1-764-856-12	HOUSING, CONNECTOR 17P			
		< COMPOSITION CIRCUIT BLOCK >			
CP1	1-236-711-21	FILTER, BAND PASS (EXCEPT EE)			
CP1	1-239-813-21	FILTER, BAND PASS (EE)			
		< TRIMMER >			
CT1	1-141-327-11	CAP, VAR, TRIMMER (CHIP TYPE)			
		< DIODE >			
D1	8-719-049-75	DIODE KV1520TL00			
D2	8-719-002-81	DIODE 1T363			
D3	8-719-002-81	DIODE 1T363			
D301	8-719-975-40	DIODE RB411D			
D302	8-719-914-43	DIODE DAN202K			
D303	8-719-914-43	DIODE DAN202K			
D304	8-719-914-43	DIODE DAN202K			
D305	8-719-977-03	DIODE DTZ5.6B			
		< IC >			
IC1	8-759-230-39	IC TA8122AF			
IC301	8-759-285-29	IC LA4582CM-TLM			
IC351	8-759-701-07	IC NJM2063AM (FX425)			
IC601	8-759-334-24	IC MM1038CFF			

MAIN

Ref. No.	Part No.	Description	Remark
		< JACK >	
J301	1-565-287-11	JACK (🎧)	
J302	1-750-061-11	JACK,DC (POLARITY UNIFIED TYPE)(DC IN 3V)	
		< JUMPER RESISTOR >	
JR4	1-216-295-91	CONDUCTOR, CHIP(2012)(EXCEPT US,CND)	
JR5	1-216-864-11	METAL CHIP 0 5% 1/16W	(FX421,FX423)
JR6	1-216-864-11	METAL CHIP 0 5% 1/16W	(FX421,FX423)
JR8	1-216-296-91	CONDUCTOR, CHIP(3216)	
JR9	1-216-864-11	METAL CHIP 0 5% 1/16W	
JR11	1-216-295-91	CONDUCTOR, CHIP(2012)	
JR12	1-216-864-11	CONDUCTOR, CHIP(1608)(US,CND)	
		< COIL >	
L1	1-501-763-11	ANTENNA, FERRITE-ROD (MW)	
L2	1-411-237-11	COIL (FM RF) (EXCEPT EE)	
L2	1-409-754-11	COIL (WITH CORE) (EE)	
L3	1-409-988-11	COIL (WITH CORE) (EXCEPT EE)	
L3	1-409-753-11	COIL (WITH CORE) (EE)	
L4	1-411-238-11	COIL (AM OSC)	
L101	1-500-245-11	METAL CHIP 1K	
L201	1-500-245-11	METAL CHIP 1K	
L301	1-500-245-11	METAL CHIP 1K	
L302	1-412-006-31	INDUCTOR CHIP 10uH	
		< TRANSISTOR >	
Q1	8-729-102-07	TRANSISTOR 2SC2223-F13	
Q2	8-729-402-13	TRANSISTOR XN1501	
Q3	8-729-403-17	TRANSISTOR XN1215 (FX425)	
Q4	8-729-016-74	TRANSISTOR DTC115GK-T146 (US,CND)	
Q301	8-729-216-22	TRANSISTOR 2SA1162-G	
Q302	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q303	8-729-141-48	TRANSISTOR 2SB624-BV345	
Q304	8-729-027-46	TRANSISTOR DTC114YKA-T146	
Q305	8-729-402-13	TRANSISTOR XN1501	
Q306	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q307	8-729-403-17	TRANSISTOR XN1215 (FX421,FX423:US,CND)	
Q307	8-729-022-66	TRANSISTOR XN1210-TX	(FX423:AEP,UK,IT,E,EE,FX425)
Q308	8-729-403-17	TRANSISTOR XN1215	
Q601	8-729-900-53	TRANSISTOR DTC114EK	
		< RESISTOR >	
R1	1-216-109-00	METAL CHIP 330K 5% 1/10W	
R2	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R3	1-216-109-00	METAL CHIP 330K 5% 1/10W	
R4	1-216-101-00	METAL CHIP 150K 5% 1/10W	
R5	1-216-851-11	METAL CHIP 330K 5% 1/16W	
R7	1-216-851-11	METAL CHIP 330K 5% 1/16W	

Ref. No.	Part No.	Description	Remark
R8	1-216-097-91	METAL GLAZE 100K 5% 1/10W	
R9	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R10	1-216-001-00	METAL CHIP 10 5% 1/10W	
R11	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R12	1-216-815-11	METAL CHIP 330 5% 1/16W	
R13	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R14	1-216-837-11	METAL CHIP 22K 5% 1/16W	(FX421,FX423)
R14	1-216-831-11	METAL CHIP 6.8K 5% 1/16W	(FX425:US)
R14	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	(FX425:AEP,UK,IT,E)
R15	1-216-837-11	METAL CHIP 22K 5% 1/16W	(FX421,FX423)
R15	1-216-831-11	METAL CHIP 6.8K 5% 1/16W	(FX425:US)
R15	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	(FX425:AEP,UK,IT,E)
R16	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R17	1-216-847-11	METAL CHIP 150K 5% 1/16W	
R18	1-216-001-00	METAL CHIP 10 5% 1/10W	
R19	1-216-830-11	METAL CHIP 5.6K 5% 1/16W	(EXCEPT EE)
R19	1-216-845-11	METAL CHIP 100K 5% 1/16W	(EE)
R20	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R21	1-216-815-11	METAL CHIP 330 5% 1/16W	(EXCEPT US,CND)
R22	1-216-821-11	METAL CHIP 1K 5% 1/16W	(US,CND)
R101	1-216-083-00	METAL CHIP 27K 5% 1/10W	
R102	1-216-083-00	METAL CHIP 27K 5% 1/10W	
R103	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R104	1-216-835-11	METAL CHIP 15K 5% 1/16W	
R105	1-216-855-11	METAL CHIP 680K 5% 1/16W	
R106	1-216-817-11	METAL CHIP 470 5% 1/16W	(FX421,FX423)
R106	1-220-373-11	METAL GLAZE 620 1/16W(FX425)	
R107	1-216-864-11	METAL CHIP 0 5% 1/16W	(FX421,FX423:US,CND)
R107	1-216-796-11	METAL GLAZE 8.2 5% 1/16W	(FX423:AEP,UK,IT,E,EE,FX425:US)
R107	1-216-793-11	METAL GLAZE 4.7 5% 1/16W	(FX425:AEP,UK,IT,E)
R108	1-216-849-11	METAL CHIP 220K 5% 1/16W	(FX421,FX423:US,CND)
R108	1-216-839-11	METAL CHIP 33K 5% 1/16W	(FX423:AEP,UK,IT,E,EE,FX425:AEP,UK,IT,E)
R108	1-216-846-11	METAL CHIP 120K 5% 1/16W	(FX425:US)
R151	1-218-448-11	METAL GLAZE 430K 5% 1/16W	(FX425)
R152	1-216-841-11	METAL CHIP 47K 5% 1/16W	(FX425)

MAIN

Ref.No.	Part No.	Description				Remark
R153	1-216-827-11	METAL	CHIP	3.3K	5%	1/16W (FX425)
R154	1-216-830-11	METAL	CHIP	5.6K	5%	1/16W (FX425)
R201	1-216-838-11	METAL	CHIP	27K	5%	1/16W
R202	1-216-838-11	METAL	CHIP	27K	5%	1/16W
R203	1-216-835-11	METAL	CHIP	15K	5%	1/16W
R204	1-216-077-00	METAL	CHIP	15K	5%	1/10W
R205	1-216-117-00	METAL	CHIP	680K	5%	1/10W
R206	1-216-817-11	METAL	CHIP	470	5%	1/16W (FX421,FX423)
R206	1-220-373-11	METAL	GLAZE	620		1/16W(FX425)
R207	1-216-295-91	CONDUCTOR, CHIP(2012)				(FX421,FX423:US,CND)
R207	1-216-313-00	METAL	CHIP	8.2	5%	1/10W (FX423:AEP,UK,IT,E,EE,FX425:US)
R207	1-216-308-00	METAL	CHIP	4.7	5%	1/10W (FX425:AEP,UK,IT,E)
R208	1-216-849-11	METAL	CHIP	220K	5%	1/16W (FX421,FX423:US,CND)
R208	1-216-839-11	METAL	CHIP	33K	5%	1/16W (FX423:AEP,UK,IT,E,EE,FX425:AEP,UK,IT,E)
R208	1-216-846-11	METAL	CHIP	120K	5%	1/16W (FX425:US)
R251	1-218-448-11	METAL	GLAZE	430K	5%	1/16W (FX425)
R252	1-216-089-91	METAL	GLAZE	47K	5%	1/10W (FX425)
R253	1-216-827-11	METAL	CHIP	3.3K	5%	1/16W (FX425)
R254	1-216-830-11	METAL	CHIP	5.6K	5%	1/16W (FX425)
R301	1-216-837-11	METAL	CHIP	22K	5%	1/16W
R302	1-216-821-11	METAL	CHIP	1K	5%	1/16W
R303	1-216-837-11	METAL	CHIP	22K	5%	1/16W
R304	1-216-823-11	METAL	CHIP	1.5K	5%	1/16W
R305	1-216-833-11	METAL	CHIP	10K	5%	1/16W
R306	1-216-821-11	METAL	CHIP	1K	5%	1/16W
R308	1-216-097-91	METAL	GLAZE	100K	5%	1/10W
R309	1-216-029-00	METAL	CHIP	150	5%	1/10W (EXCEPT EE)
R309	1-216-015-00	METAL	CHIP	39	5%	1/10W (EE)
R310	1-216-821-11	METAL	CHIP	1K	5%	1/16W
R311	1-216-077-00	METAL	CHIP	15K	5%	1/10W
R312	1-216-845-11	METAL	CHIP	100K	5%	1/16W
R313	1-218-448-11	METAL	GLAZE	430K	5%	1/16W
R314	1-216-837-11	METAL	CHIP	22K	5%	1/16W
R315	1-216-821-11	METAL	CHIP	1K	5%	1/16W
R330	1-216-801-11	METAL	CHIP	22	5%	1/16W (FX421,FX423:US,CND)
R330	1-216-811-11	METAL	CHIP	150	5%	1/16W (FX423:AEP,UK,IT,E,EE,FX425:US)
R330	1-216-809-11	METAL	CHIP	100	5%	1/16W (FX425:AEP,UK,IT,E)

Ref. No.	Part No.	Description				Remark
R351	1-216-864-11	METAL	CHIP	0	5%	1/16W (FX425)
R352	1-216-073-00	METAL	CHIP	10K	5%	1/10W (FX425)
R601	1-217-905-11	METAL	GLAZE	1.5	5%	1/10W
R602	1-217-907-11	METAL	GLAZE	1.8	5%	1/10W
R603	1-216-818-11	METAL	CHIP	560	5%	1/16W
		< VARIABLE RESISTOR >				
RV301	1-223-609-21	RES, VAR, CARBON 10K/10K (◢VOL)				
RV601	1-223-582-11	RES, ADJ, CARBON 470				
		< SWITCH >				
S301	1-571-986-11	SWITCH, LEAF (TAPE POWER SWITCH)				
S302	1-571-986-31	SWITCH, LEAF (FWD/REV SWITCH)				
S303	1-692-298-11	SWITCH, SLIDE (FM SENS)(FX421,FX423:US,CND) (FM MODE)(FX423:AEP,UK,IT,E,EE) (DOLBY NR)(FX425)				
S304	1-692-298-11	SWITCH, SLIDE (TAPE)				
S305	1-692-298-11	SWITCH, SLIDE (AVLS)				
		< TRANSFORMER >				
T1	1-406-694-11	COIL, AM IFT				
T301	1-426-851-11	TRANSFORMER, DC-DC CONVERTER (EXCEPT EE)				
T301	1-426-917-11	TRANSFORMER, DC-DC CONVERTER (EE)				
		< THERMISTOR >				
TH601	1-809-279-11	THERMISTOR, POSITIVE				
TH602	1-810-773-11	THERMISTOR, POSITIVE				
		< VIBRATOR >				
X1	1-577-091-21	OSCILLATOR, CERAMIC (19KHz)				
X2	1-567-097-61	FILTER, CERAMIC (10.7 MHz)				

****

Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS	
		**********	
HP901	1-543-705-11	HEAD, MAGNETIC (PLAYBACK)	
LCD401	1-801-176-11	DISPLAY PANEL, LIQUID CRYSTAL	
M601	1-698-353-11	MOTOR, DC (REEL/CAPSTAN)	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-504-228-11	HEADPHONE (MDR-013) (FX421:US,CND,AEP/FX423:US,CND)	
	1-504-521-11	HEADPHONE (MDR-015)(FX425:US)	
	8-953-130-90	HEADPHONE MDR-E801//K SET (FX423:AEP,UK,E,IT,EE/FX425:AEP,UK,E,IT,EE)	
	3-346-518-01	CLIP, BELT	
	3-810-567-11	MANUAL, INSTRUCTION(ENGLISH)(US)	
	3-810-567-21	MANUAL, INSTRUCTION(ENGLISH,FRENCH)(CND)	
	3-810-567-31	MANUAL, INSTRUCTION (ENGLISH,FRENCH,GERMAN,SPANISH)(AEP,UK,IT)	
	3-810-567-41	MANUAL, INSTRUCTION (DUTCH,SWEDISH,ITALIAN,PORTUGUESE) (AEP,UK,IT)	
	3-810-567-51	MANUAL, INSTRUCTION (ENGLISH,POLISH, HUNGARIAN,RUSSIAN) (FX423:EE)	
	3-810-567-61	MANUAL, INSTRUCTION (ENGLISH,SPANISH,CHINESE,KOREAN)(E)	
	3-810-567-71	MANUAL, INSTRUCTION (ENGLISH,SPANISH,CHINESE,KOREAN)(E)	
	3-810-567-81	MANUAL,INSTRUCTION (ENGLISH,FRENCH, GERMAN,SPANISH) (FX421:AEP)	
	3-810-567-91	MANUAL,INSTRUCTION (ENGLISH,SWEDISH,ITALIAN,PORTUGUESE) (FX421:AEP)	
*	3-910-312-01	CUSHION (AEP,E,IT,EE)	
*	3-932-256-01	INDIVIDUAL CARTON (FX423:AEP,UK,IT,EE,E)	
*	3-932-257-01	INDIVIDUAL CARTON (FX423:E)	
*	3-932-260-01	INDIVIDUAL CARTON (FX425:AEP,UK,IT,E)	
*	3-932-261-01	INDIVIDUAL CARTON (FX425:E)	

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WM-FX421/FX423/FX425

SONY

SERVICE MANUAL

US Model
WM-FX421/FX423/FX425

Canadian Model
WM-FX421/FX423

AEP Model
WM-FX421/FX423/FX425

UK Model
WM-FX423/FX425

E Model
WM-FX421/FX423/FX425

Chinese Model
WM-FX421

SUPPLEMENT-1

File this supplement with the service manual.

Subject : Addition of WM-FX421 E model and Chinese model

(ENG-98003)

E model and Chinese model are added to the WM-FX421.
This supplement-1 describes only differences from the WM-FX421.
Refer to the service manual for WM-FX421/FX423/FX425 (9-960-576-12) for other information.

• EXPLODED VIEWS

Page	WM-FX421 (US, Canadian)				WM-FX421 (E, Chinese)		
	Ref. No.	Part No.	Description	Remark	Part No.	Description	Remark
23	10	A-3016-767-A	MAIN BOARD, COMPLETE		A-3016-993-A	MAIN BOARD, COMPLETE	
	12	3-933-077-01	CABINET (FRONT) (51)		3-933-077-71	CABINET (FRONT) (51)	
	14	A-3016-768-A	DISPLAY BOARD, COMPLETE		A-3016-769-A	DISPLAY BOARD, COMPLETE	

• ELECTRICAL PARTS LIST

Page	WM-FX421 (US, Canadian)						WM-FX421 (E, Chinese)				
	Ref. No.	Part No.	Description			Remark	Part No.	Description			Remark
25		A-3016-768-A	DISPLAY BOARD, COMPLETE **********				A-3016-769-A	DISPLAY BOARD, COMPLETE **********			
26		A-3016-767-A	MAIN BOARD, COMPLETE **********				A-3016-993-A	MAIN BOARD, COMPLETE **********			
	C12	1-162-953-11	CERAMIC CHIP	100PF	5%	50V	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
	C32	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
	C33	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
	C40	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
28	Q307	8-729-403-17	TRANSISTOR	XN1215			8-729-022-66	TRANSISTOR	XN1210-TX		
	R107	1-216-864-11	METAL CHIP	0	5%	1/16W	1-216-796-11	METAL GLAZE	8.2	5%	1/16W
	R108	1-216-849-11	METAL CHIP	220K	5%	1/16W	1-216-839-11	METAL CHIP	33K	5%	1/16W
29	R207	1-216-295-91	CONDUCTOR, CHIP	(2012)			1-216-313-00	METAL CHIP	8.2	5%	1/10W
	R208	1-216-849-11	METAL CHIP	220K	5%	1/16W	1-216-839-11	METAL CHIP	33K	5%	1/16W
	R330	1-216-801-11	METAL CHIP	22	5%	1/16W	1-216-811-11	METAL CHIP	150	5%	1/16W

• **ACCESSORIES & PACKING METERIALS**

Page	WM-FX421 (US, Canadian)			WM-FX421 (E, Chinese)		
	Ref. No.	Part No.	Description / Remark	Part No.	Description	Remark
30		1-504-228-11	HEADPHONE (MDR-013)	8-953-130-90	HEADPHONE MDR-E801//K SET	
		3-810-567-11	MANUAL, INSTRUCTION (ENGLISH) (US)	3-810-567-61	MANUAL, INSTRUCTION (ENGLISH,SPANISH, CHINESE,KOREAN) (E)	
		3-810-567-21	MANUAL, INSTRUCTION (ENGLISH, FRENCH) (CND)	3-810-953-31	MANUAL, INSTRUCTION (ENGLISH,CHINESE)	(Chinese)

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