

WM-FS493/FS495

SERVICE MANUAL

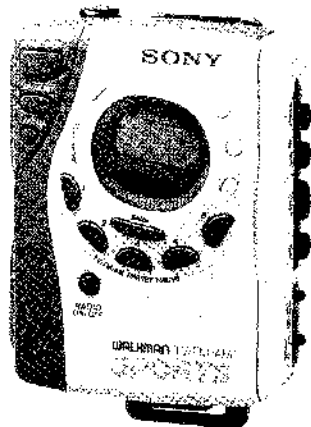


Photo : WM-FS495

US Model
WM-FS493/FS495

Canadian Model

AEP Model

UK Model

E Model

WM-FS493

Model Name Using Similar Mechanism	WM-FX433/FX435
Tape Transport Mechanism Type	MF-WMFX433-114

SPECIFICATIONS

Radio Frequency

FM: 87.5 – 108 MHz (0.1 MHz step)
(US, Canadian model)
87.5 – 108 MHz (0.05 MHz step)
(AEP, UK, Italian, E, Saudi Arabia model)
65 – 74 MHz, 87.5 – 108 MHz (0.05 MHz step)
(East European model)
AM: 530 – 1,710 kHz (10 kHz step)
(US, Canadian model)
531 – 1,602 kHz (9 kHz step)
(EXCEPT US, Canadian model)
TV: 2 – 13 channel
(FS495 model)

Power Requirements

3 V DC Batteries AA (R6) × 2

Battery Life

(approximate hours when using the batteries specified below)

	Sony Alkaline AM3 (N)		Sony SUM-3 (NS)	
	FS493	FS495	FS493	FS495
Playback	18	18	8.5	8.5
Radio	30	25	15	12

Dimensions

98.3 x 117.4 x 40.9 mm (3 $\frac{7}{8}$ x 4 $\frac{5}{8}$ x 1 $\frac{5}{8}$ in.) (w/h/d)
incl. projecting parts

Mass 265 g (9.4 oz) incl. batteries

Supplied Accessories

- Stereo headphones (1)
- Belt clip (1)
- Hand strap (1) (FS493 : Canadian model/FS495)
- Strap loop (1) (FS493 : Canadian model/FS495)

Design and specifications are subject to change without notice.

RADIO CASSETTE PLAYER
SONY®



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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 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.

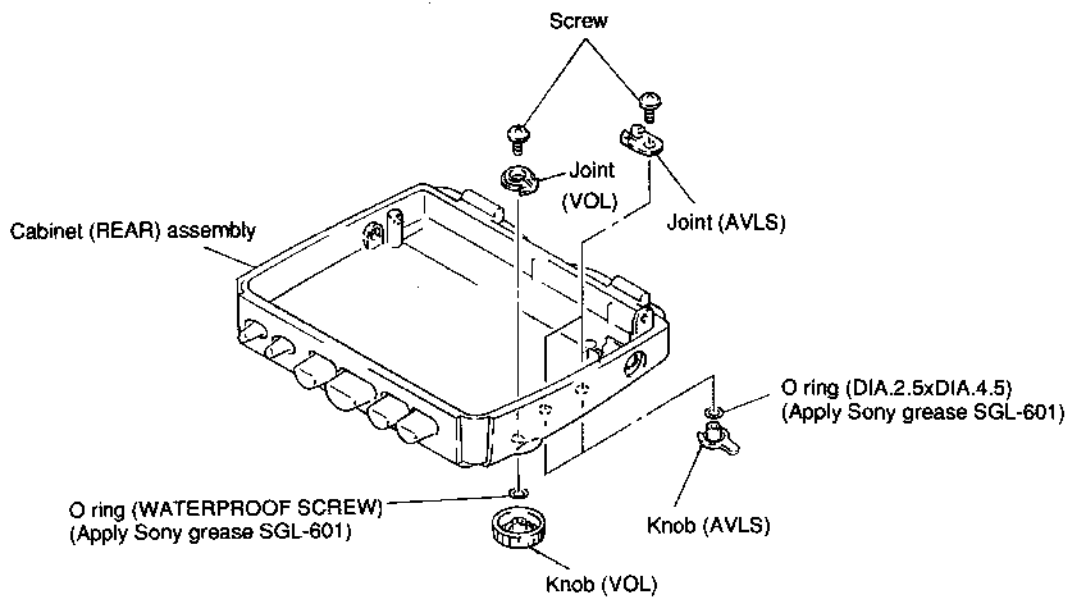
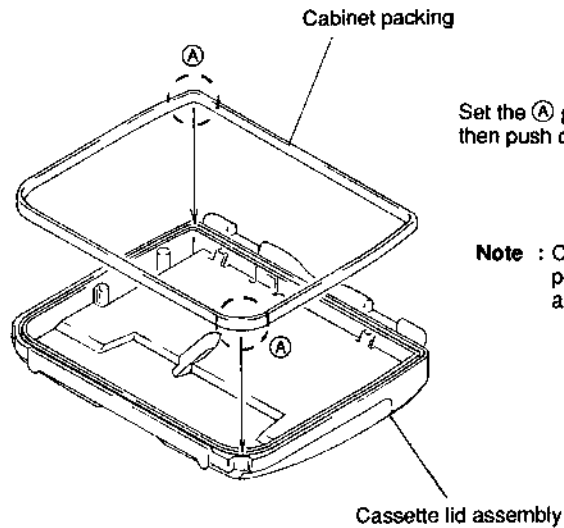
SECTION 1

SERVICE NOTE

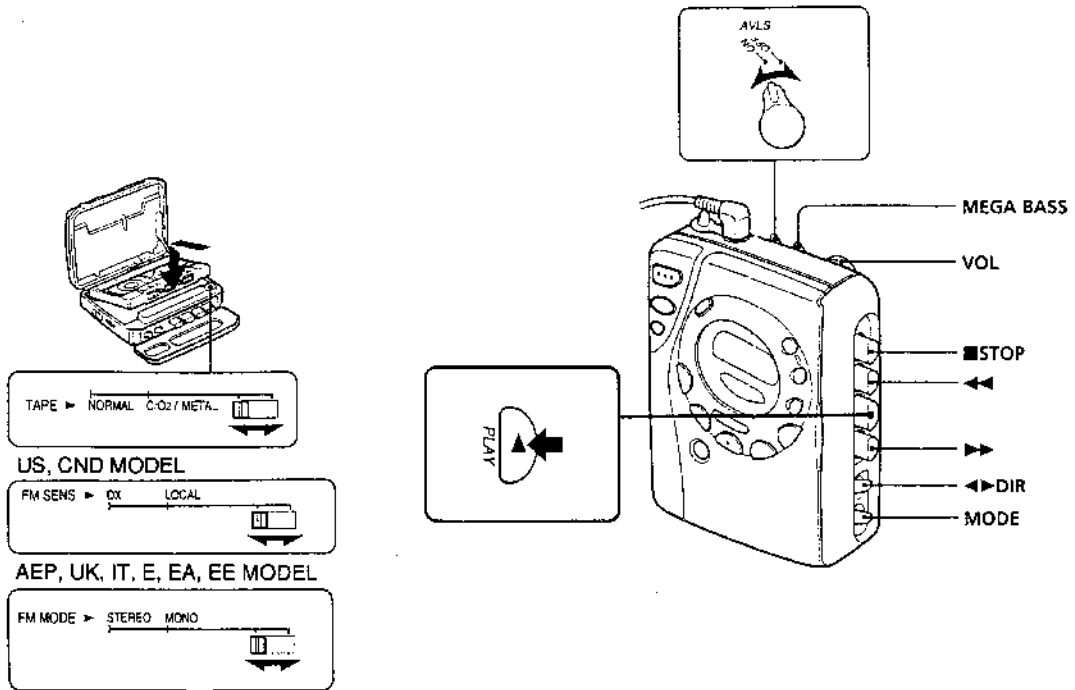
WATERPROOFED SECTION

NOTE : In case the parts in the figure are removed for repair, treat them to protect from water drop following the instructions in the figure (spread grease, bond etc.).

• Sony grease SGL-601 : 7-651-000-10



SECTION 2 GENERAL

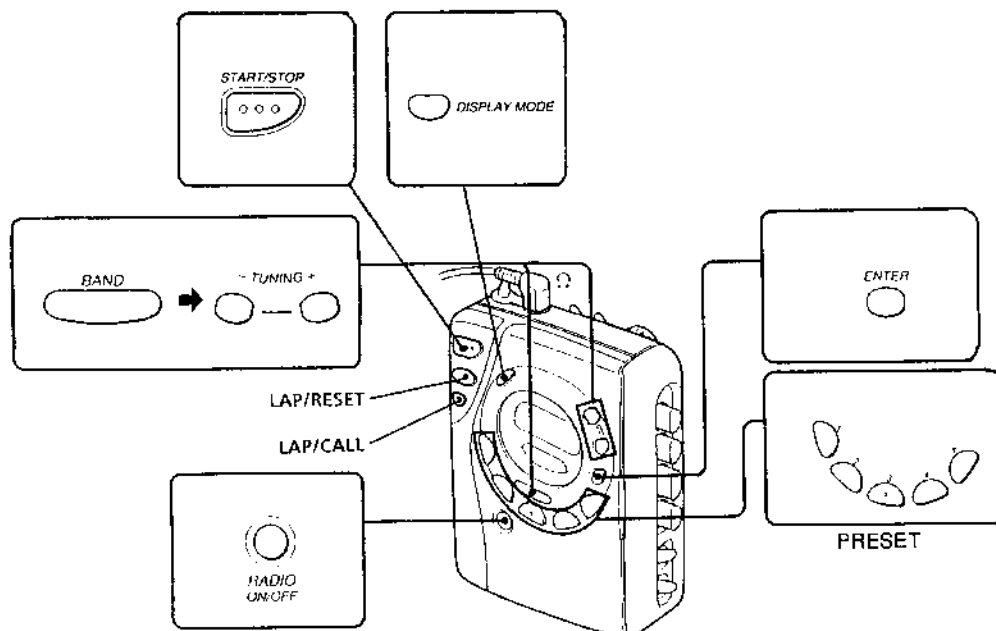
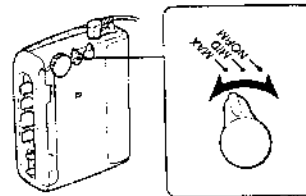


• Abbreviation

- CND : Canadian model.
- IT : Italian model.
- EA : Saudi Arabia model.
- EE : East European model.

MEGA BASS

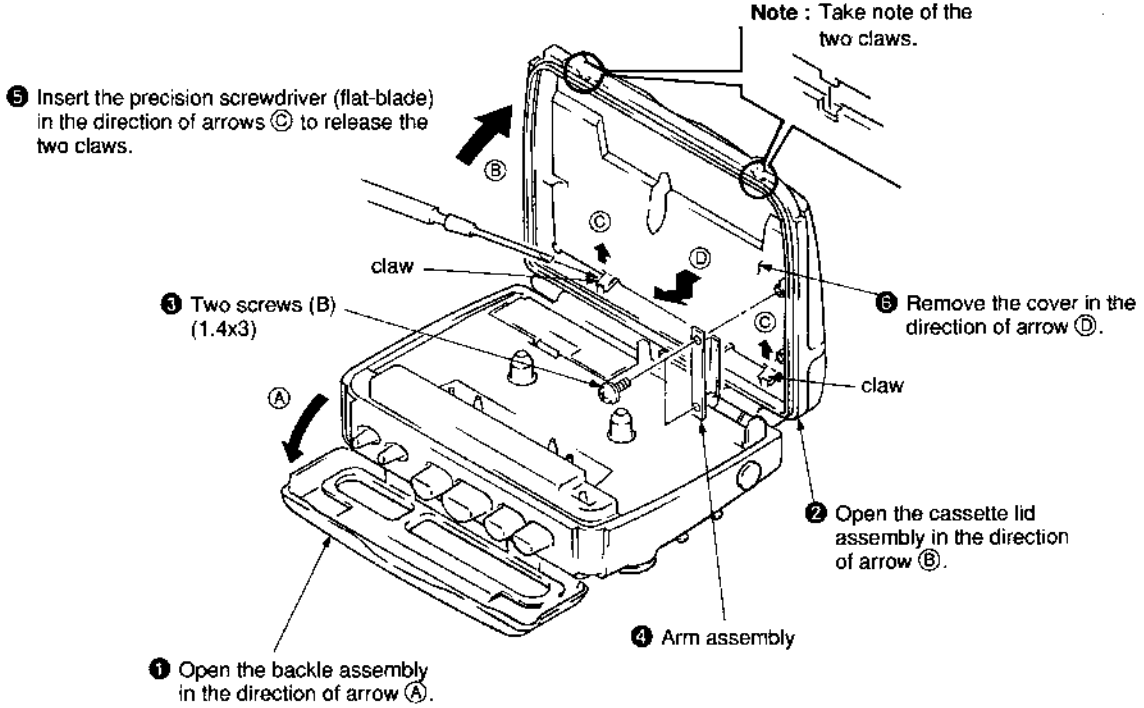
For deep and powerful sound.
Pour un son puissant et retentissant.



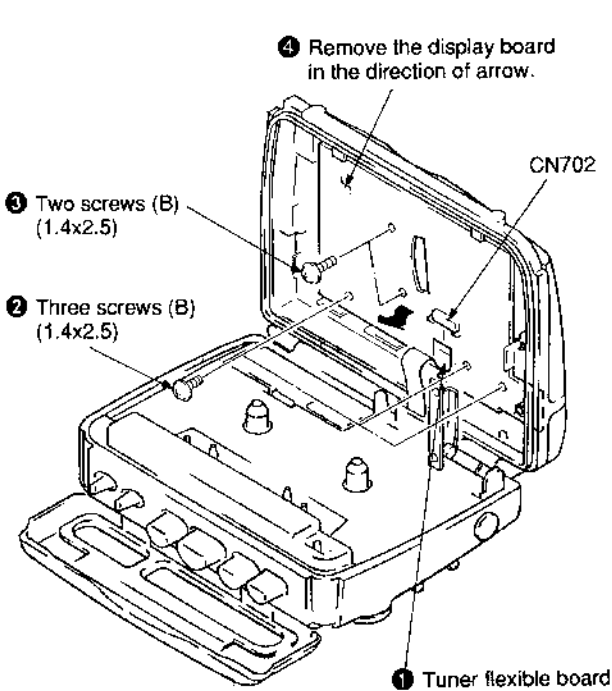
SECTION 3 DISASSEMBLY

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

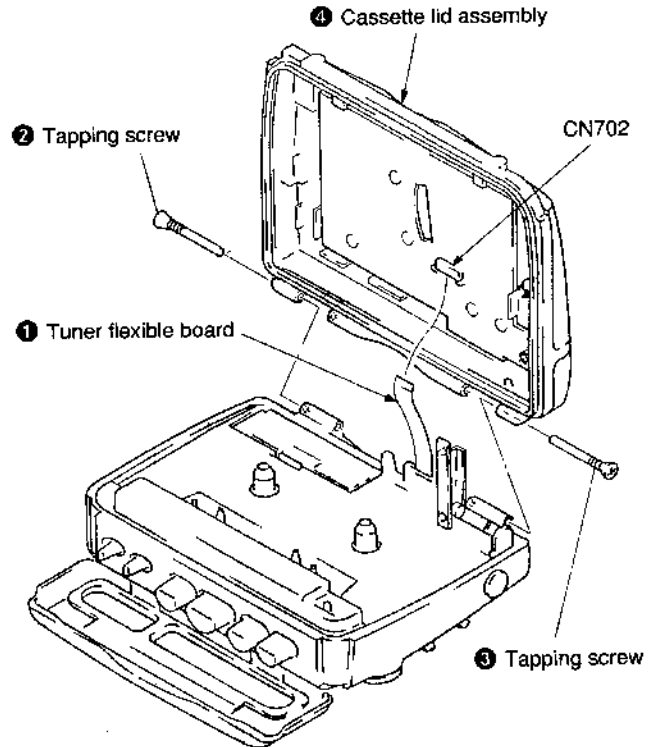
3-1. COVER



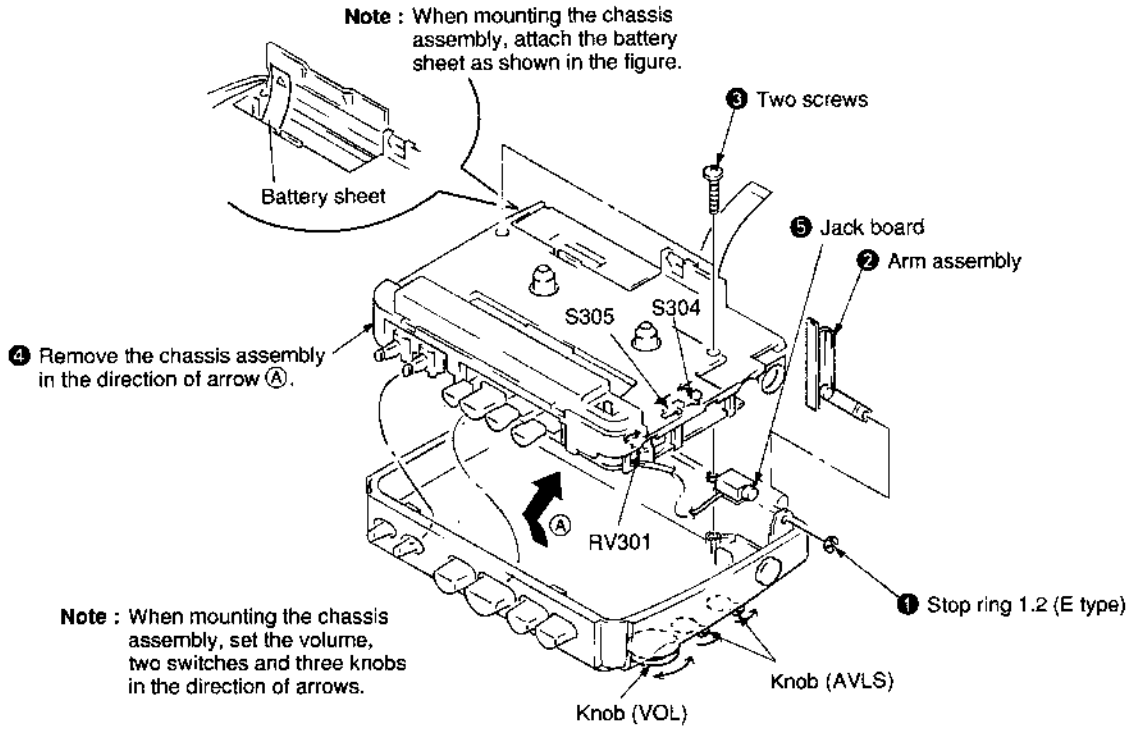
3-2. DISPLAY BOARD



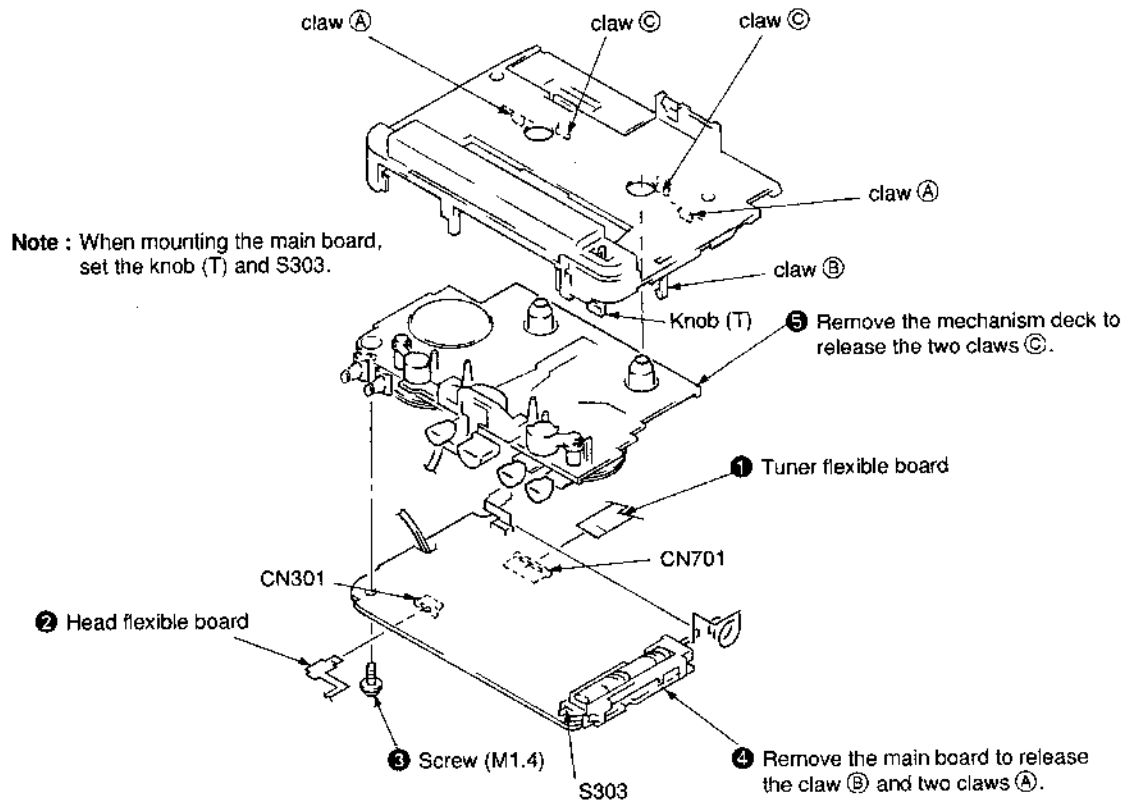
3-3. CASSETTE LID ASSEMBLY



3-4. CHASSIS ASSEMBLY



3-5. MAIN BOARD AND MECHANISM DECK



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 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 performed with the rated power supply voltage (2.5V) 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)
REV	CQ-102RC	20 — 42 g • cm (0.28 — 0.58 oz • inch)
REV 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)

4-2. ELECTRICAL ADJUSTMENTS

TAPE SECTION

PRECAUTION

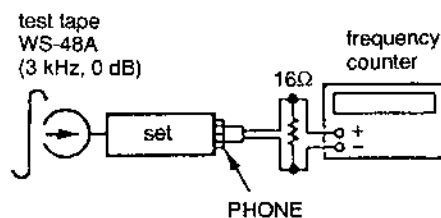
- Supplied voltage : 2.5V
- Switch and control position
 TAPE switch : NORMAL
 MEGA BASS switch : NORM
 VOLUME control : maximum
 AVLS switch : OFF

Test Tape

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

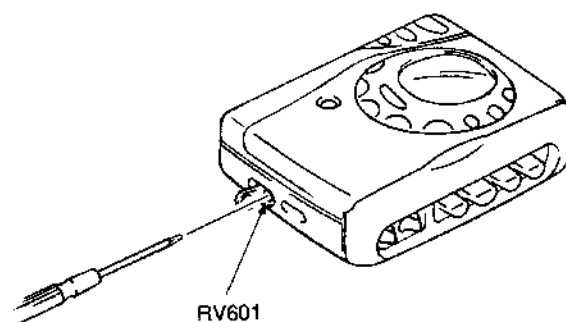
Tape speed adjustment

Procedure :



1. Play back WS-48A (tape center portion) in reverse mode. Adjust the RV601 so that the frequency counter reads $3,000\text{Hz} \pm 10\text{Hz}$.

Adjustment Location :



TUNER SECTION

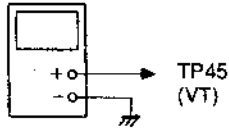
FM SECTION

setting :

FUNCTION switch : RADIO
BAND switch : FM

FM TUNING VOLTAGE ADJUSTMENT

Digital voltmeter

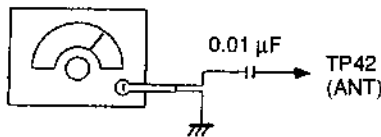


FM TUNING VOLTAGE ADJUSTMENT	
Adjust for a 5.6 ± 0.03 (1.4 ± 0.03) Vdc reading on Digital voltmeter	
L6	
87.5 (65.0) MHz	

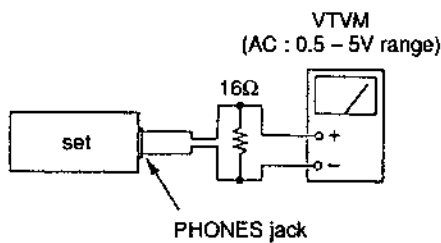
() : East European model

FM TRACKING ADJUSTMENT

FM RF signal generator



Modulation : 400Hz, 30%
Output level : as low as possible.



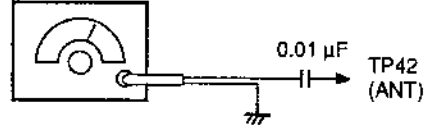
- Repeat the procedures in each adjustment several times, and the tracking adjustment should be finally done by the trimmer capacitors.

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L5	CT2
87.5 (65.0) MHz	108 MHz

() : East European model

VCO ADJUSTMENT

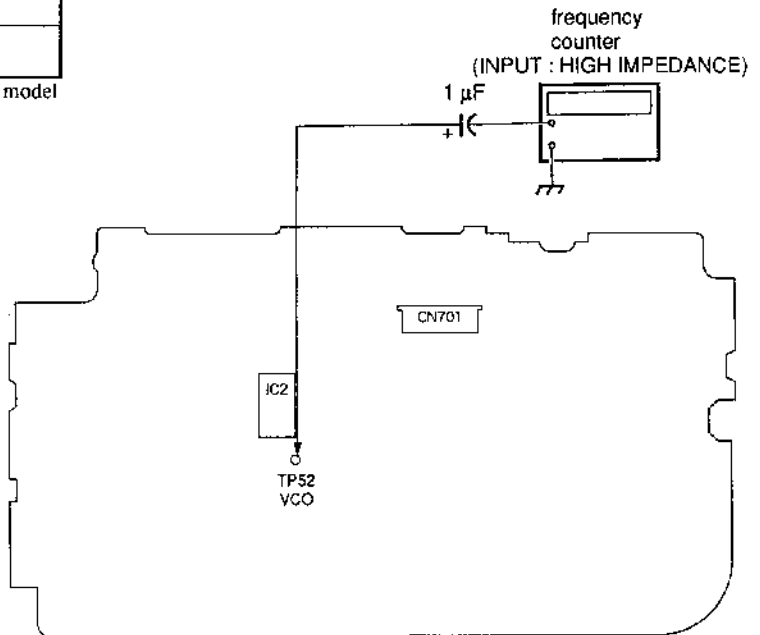
FM RF signal generator



Carrier frequency : 98 MHz
Modulation : no modulation
Output level : 55 dB (562 μV)

- Connect the frequency counter to TP52 and GND as shown the figure below.
- Turn the set to 98 MHz.
- Adjust RV1 for $76 \text{ kHz} \pm 50 \text{ Hz}$ reading on frequency counter.

[MAIN BOARD] (SIDE B)

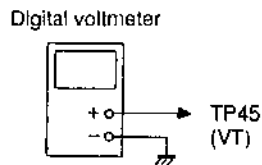


TV SECTION (FS495 model only)

setting :

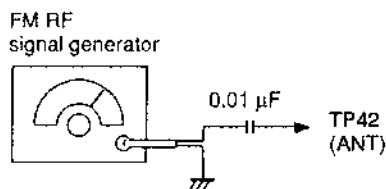
FUNCTION switch : RADIO
BAND switch : TV

TV TUNING VOLTAGE ADJUSTMENT

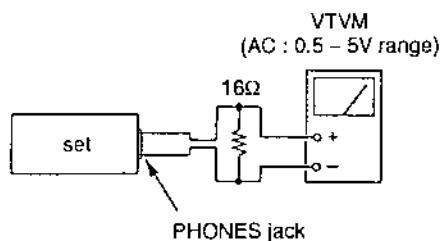


TV TUNING VOLTAGE ADJUSTMENT	
Adjust for a 2.8 ± 0.03 Vdc reading on Digital voltmeter	
L2	
179.75 MHz (7ch)	

TV TRACKING ADJUSTMENT



Modulation : 400Hz, 30%
Output level : as low as possible.



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

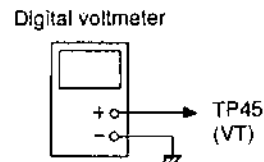
TV TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L1	CT1
179.75 MHz	215.75 MHz (13ch)

AM SECTION

setting :

FUNCTION switch : RADIO
BAND switch : AM

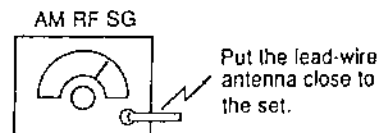
AM TUNING VOLTAGE ADJUSTMENT



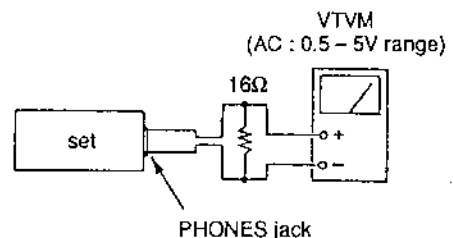
AM TUNING VOLTAGE ADJUSTMENT	
Adjust for a 1.10 ± 0.03 Vdc reading on Digital voltmeter	
L8	
530 (531) kHz	

() : EXCEPT US, Canadian model

AM IF ADJUSTMENT, AM TRACKING ADJUSTMENT



Modulation : 400Hz 30%
Output level : as low as possible.



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

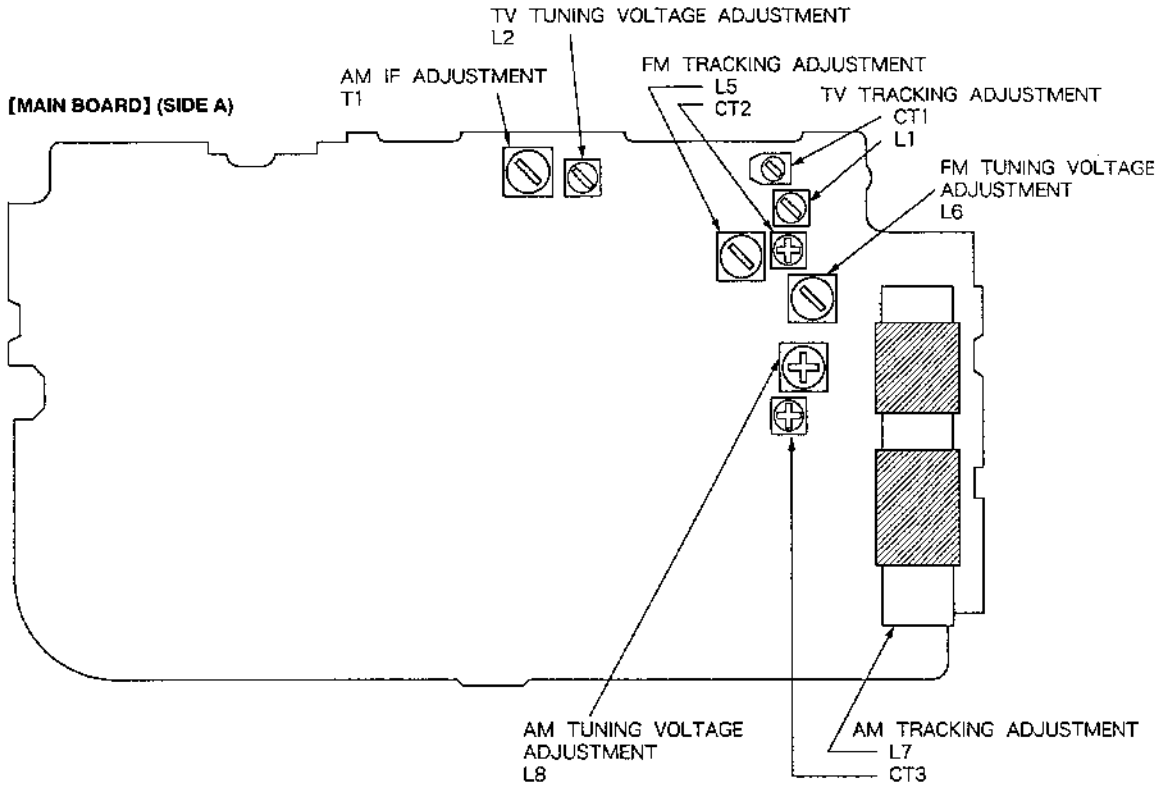
AM IF ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
T1	
1000 (999) kHz	

() : EXCEPT US, Canadian model

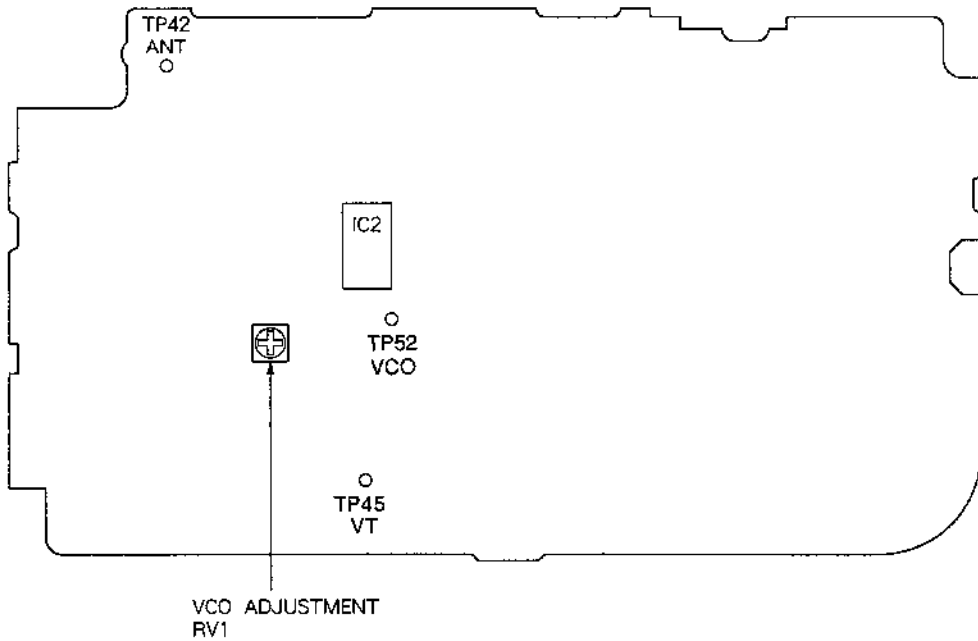
AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L7	CT3
620 (621) kHz	1400 (1395) kHz

() : EXCEPT US, Canadian model

Adjustment Part Location Diagram :

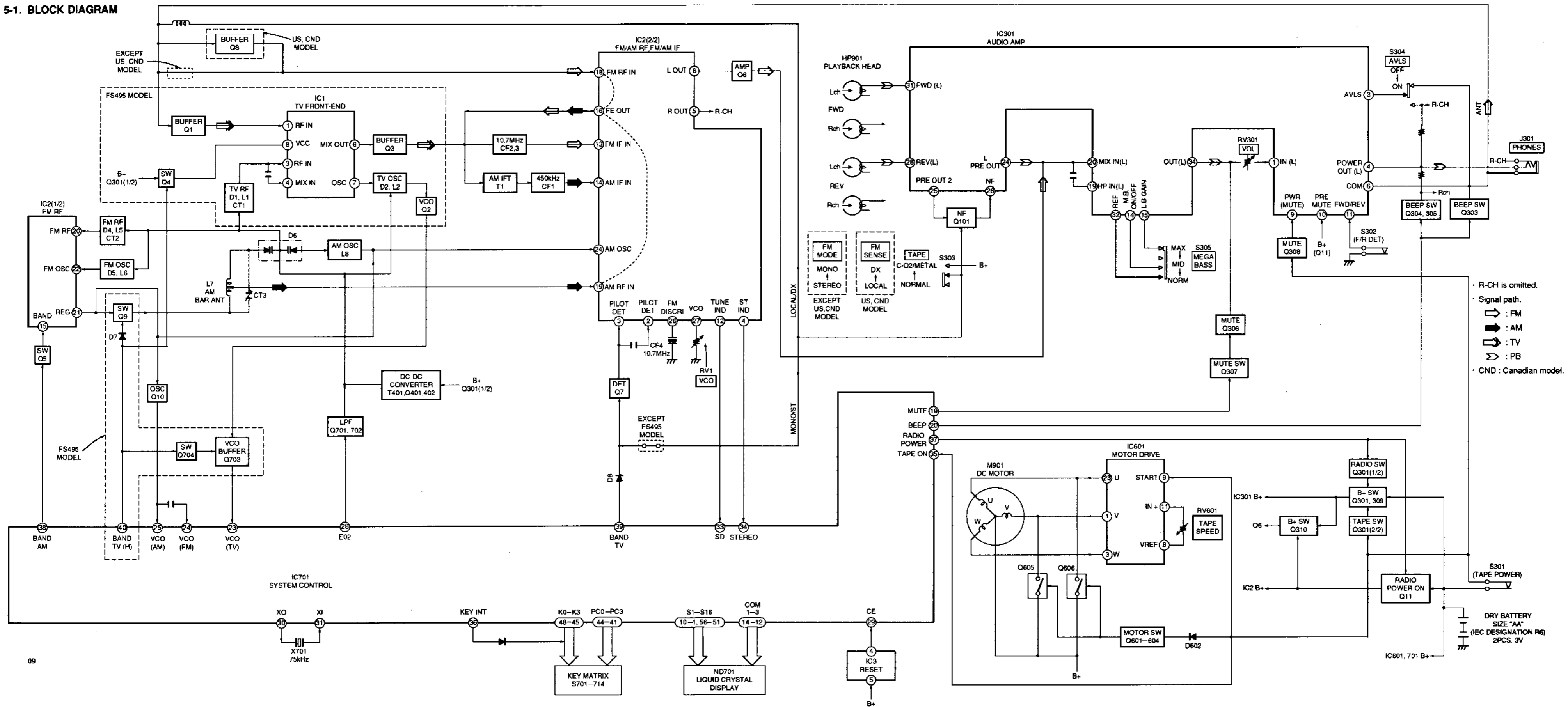


[MAIN BOARD] (SIDE B)

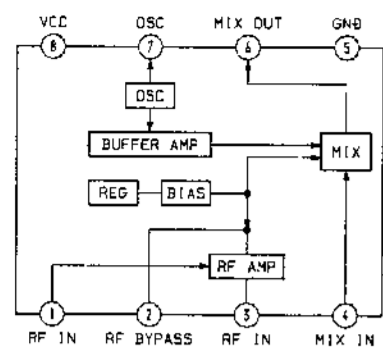


SECTION 5
DIAGRAMS

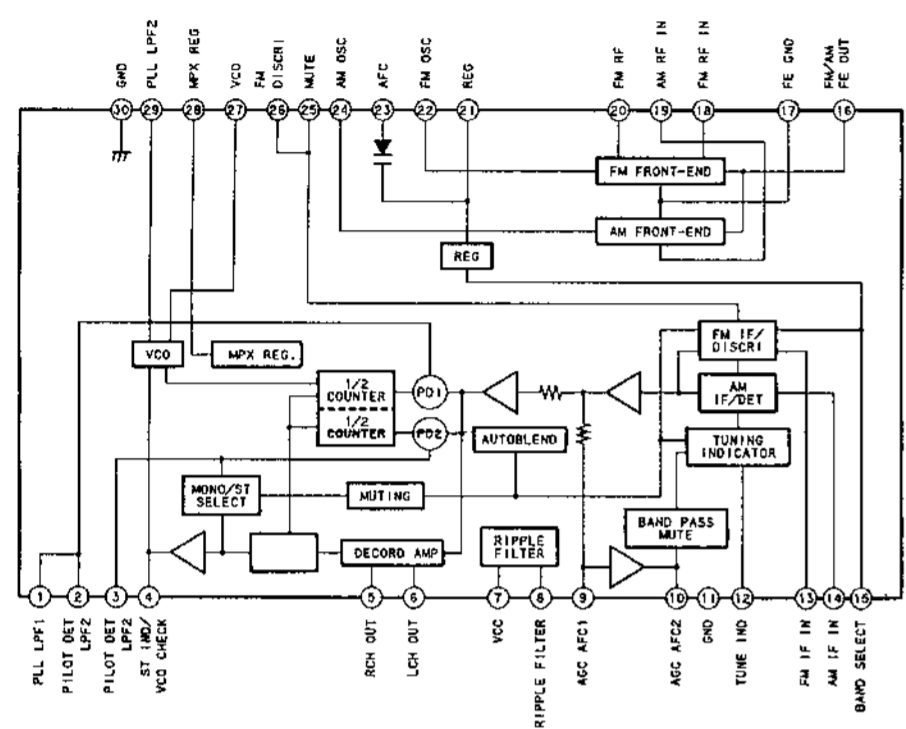
5-1. BLOCK DIAGRAM



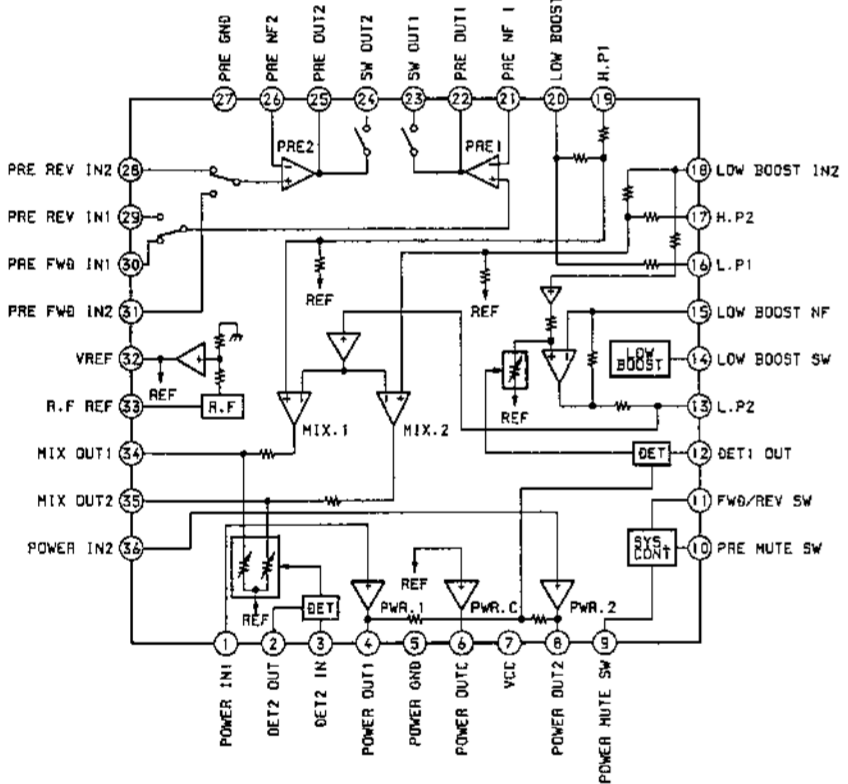
IC1 TA7358F



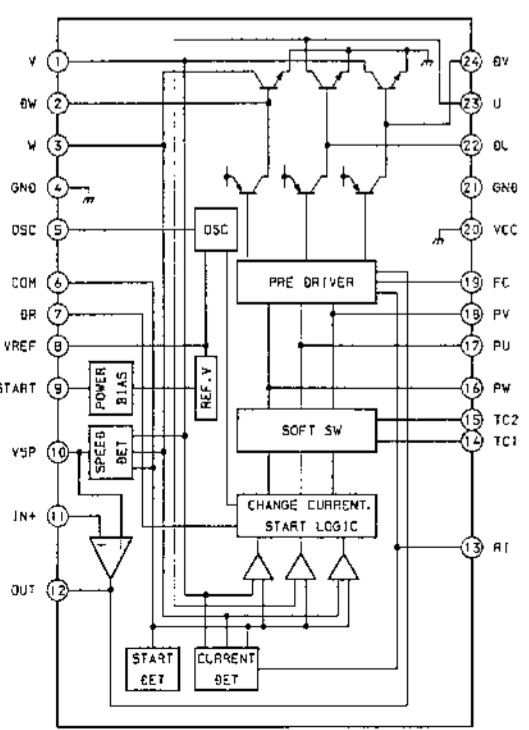
IC2 CX1538N



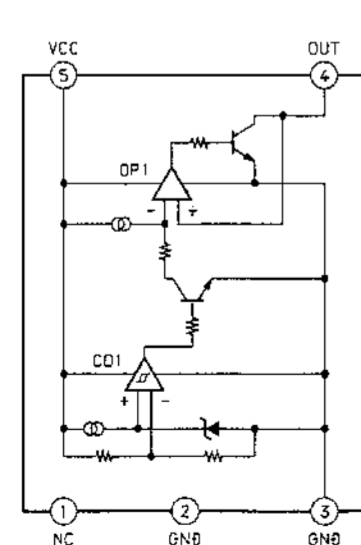
IC301 LA4585M



IC601 LB1674V

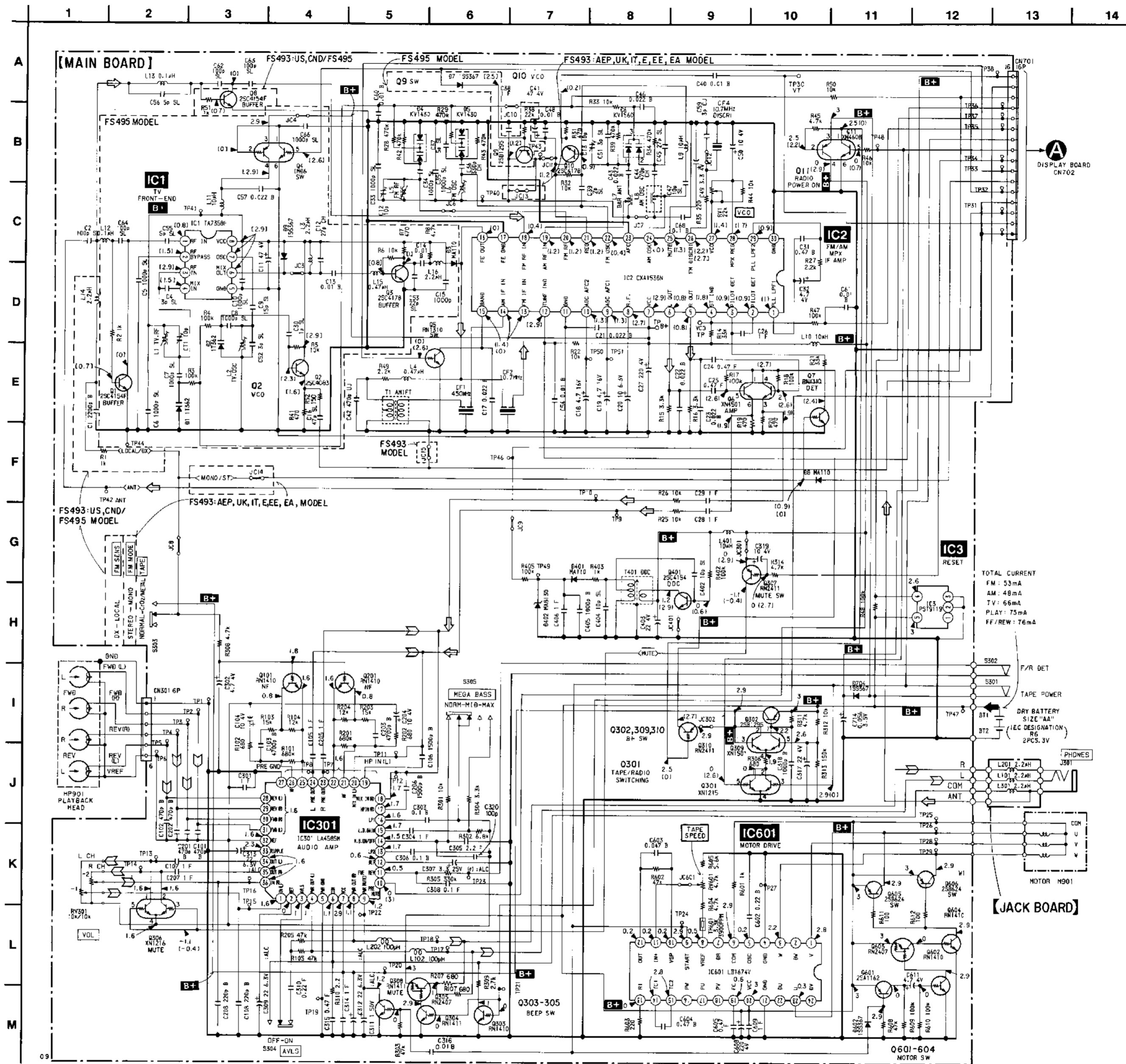


IC702 PST9119



SEE ADDITIONAL INFORMATION

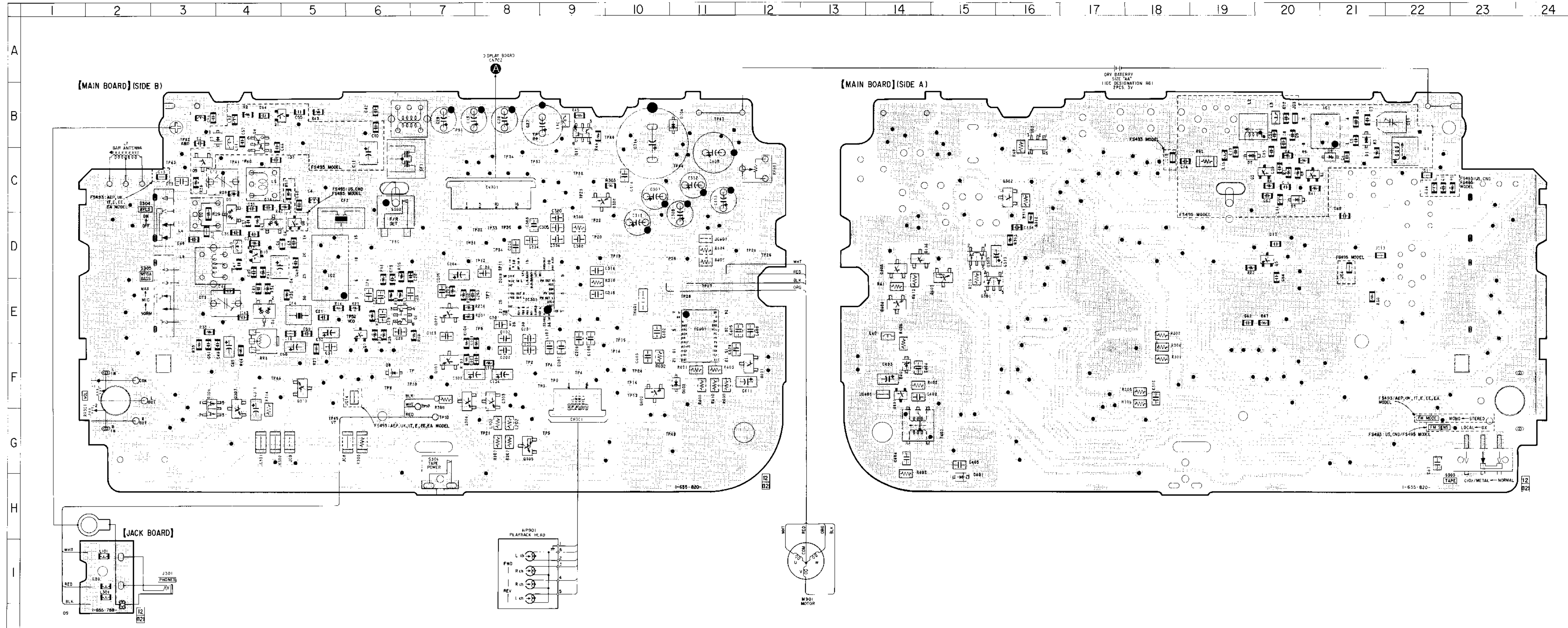
5-2. SCHEMATIC DIAGRAM — MAIN SECTION —



- Note:**
- All capacitors are in μF unless otherwise noted. pF , mF and tantalums.
 - All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.
 - Panel designation.
 - B+ : B- Line
 - adjustment for repair.
 - Voltage and waveforms are dc with respect to ground under no-signal conditions.
 - no mark : TAPE PLAY
 - () : FM
 - < > : AM
 - [] : TV (13ch)
 - Voltages are taken with a VOM (input impedance $10\text{M}\Omega$). Voltage variations may be noted due to normal production tolerances.
 - Power voltage is dc 3.0V and fed with regulated dc power supply from BATTERY TERMINAL.
 - Total current is measured with no cassette installed.
 - Signal path.
 - FM
 - PB
 - Abbreviation
 - CND : Canadian model.
 - IT : Italian model.
 - EE : East European model.
 - EA : Saudi Arabia model.

5-3. PRINTED WIRING BOARD — MAIN SECTION —

SEE ADDITIONAL INFORMATION



• Semiconductor Location

Ref. No.	Location
D1	C-21
D2	C-19
D3	C-20
D4	D-5
D5	C-4
D6	E-4
D7	B-3
D8	F-6
D9	C-21
D401	H-15
D402	F-14
D602	F-11
D704	B-11
IC1	B-21
IC2	E-5
IC3	B-16
IC301	E-8
IC601	E-11
Q1	B-4
Q2	C-21
Q3	C-20
Q4	B-4
Q5	D-20
Q6	E-7
Q7	F-6
Q8	D-5
Q9	C-3
Q10	D-4
Q11	C-9
Q101	F-7
Q201	E-7
Q301	E-15
Q302	C-16
Q303	F-8
Q304	G-7
Q305	G-8
Q306	F-3
Q307	F-4
Q308	C-10
Q309	D-15
Q310	F-5
Q401	F-14
Q601	F-12
Q602	F-10
Q603	E-15
Q604	E-14
Q605	D-14
Q606	D-14

Note:
 • : parts extracted from the component side.
 • : Through hole.
 • : 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.
 EA : Saudi Arabia model.

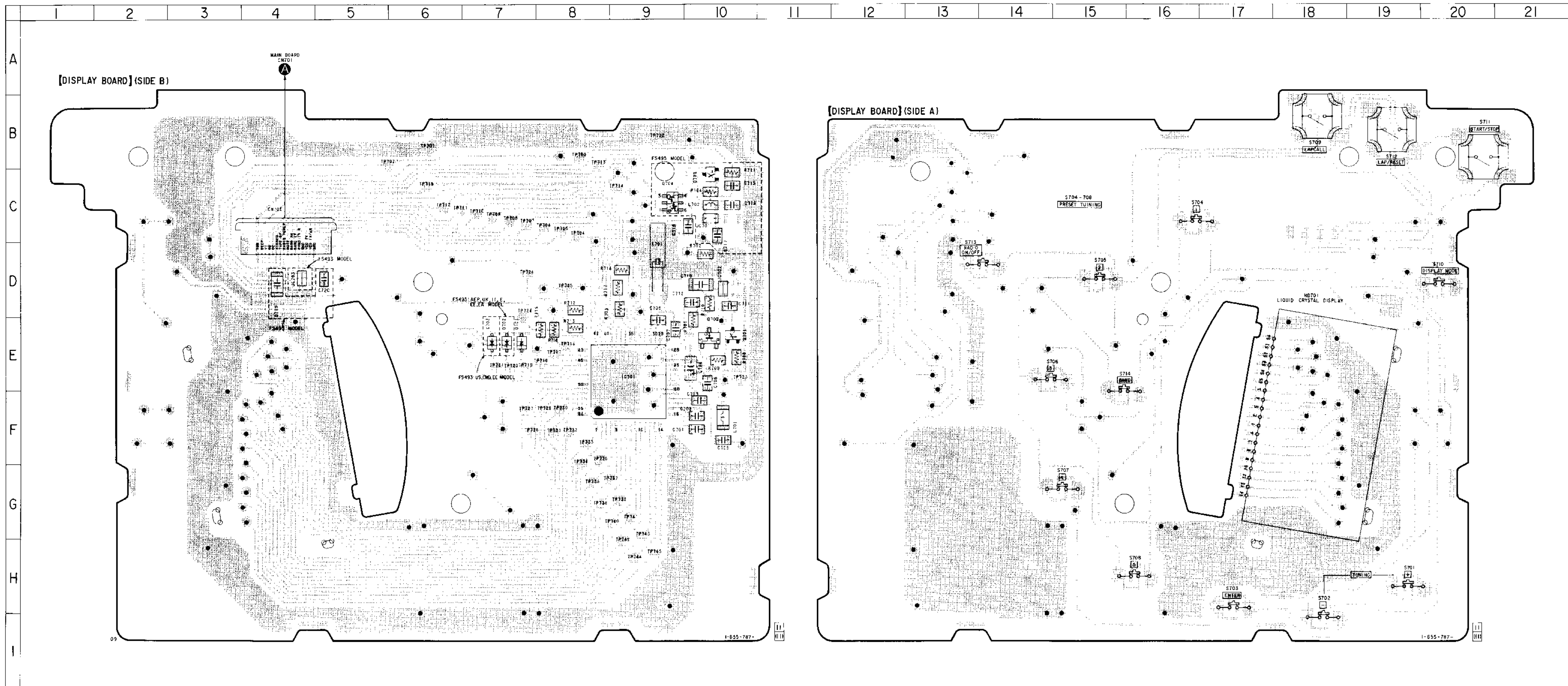
5-4. PRINTED WIRING BOARD — DISPLAY SECTION —

• Semiconductor Location

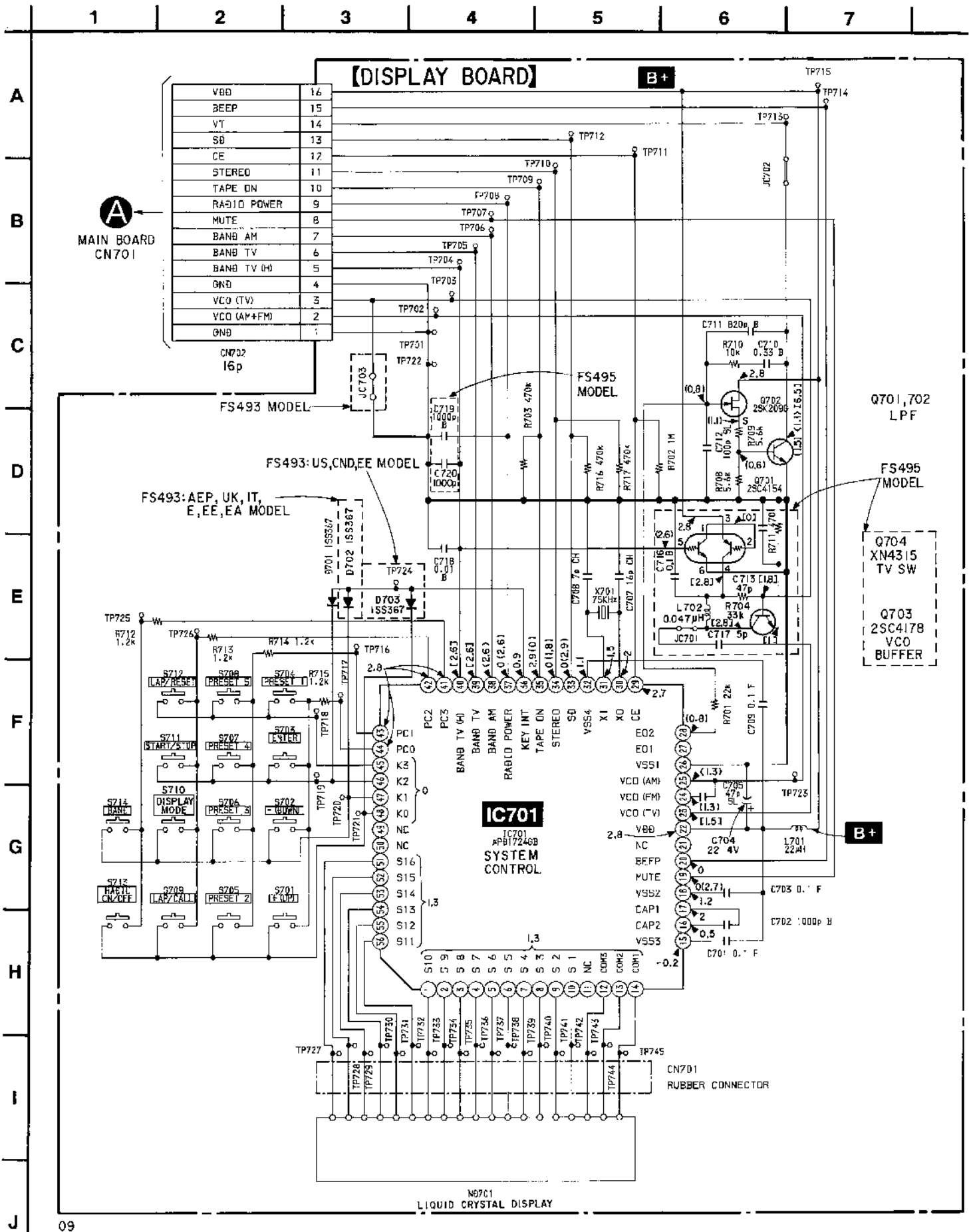
Ref. No.	Location
D701	E-7
D702	E-7
D703	E-7
IC701	E-9
Q701	E-10
Q702	E-10
Q703	C-10
Q704	C-9

Note:

- : Through hole.
- : 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.
 EA : Saudi Arabia model.



5-5. SCHEMATIC DIAGRAM — DISPLAY SECTION —



Note:

- All capacitors are in μF unless otherwise noted. $\text{pF}; \mu\mu\text{F}$ 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- : panel designation.
- B+ : B+ Line
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
no mark : TAPE PLAY
() : FM
< > : AM
[] : TV (13ch)
- Voltages are taken with a VOM (Input impedance $10\text{M}\Omega$). Voltage variations may be noted due to normal production tolerances.
- Power voltage is dc 3.0V and fed with regulated dc power supply from BATTERY TERMINAL.
- Abbreviation
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● IC PIN FUNCTION
 ● IC701 TUNER CONTROLLER/LCD DRIVE (μ PD1724GB)

Pin No.	Pin Name	I/O	Function
1 to 10	S10 to S1	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
20	BEEP	O	BEEP signal output terminal
21	NC	—	Not used
22	VDD	—	The internal reset circuit functions when supplied with 0V to 1.5V
23	VCO (TV)	I	Partial oscillation frequency input pin (direct dividing method) (HIGH IMP when CE is low)
24	VCO (FM)	I	Partial oscillation frequency input pin (pulse swallow method)
25	VCO (AM)	I	(PULL DOWN when CE is low)
26	VSS1	—	GND
27	E01	O	Not used
28	E02	O	When the frequency 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	KEY INIT	O	Initialize
37	RADIO POWER	O	Radio power on
38	BAND AM	O	Outputs HIGH potential only during AM reception
39	BAND TV	O	Become LOW potential when TV channels 1 to 3 are received
40	BAND TV (H)	O	Become HIGH potential when TV channels 4 to 12 are received
41 to 44	PC3 to PC0	O	Timing signal output for key matrix
45 to 48	K0 to K3	I	Key input
49, 50	NC	—	Not used
51 to 56	S16 to S11	O	LCD segment signal output pin

SECTION 6 EXPLODED VIEWS

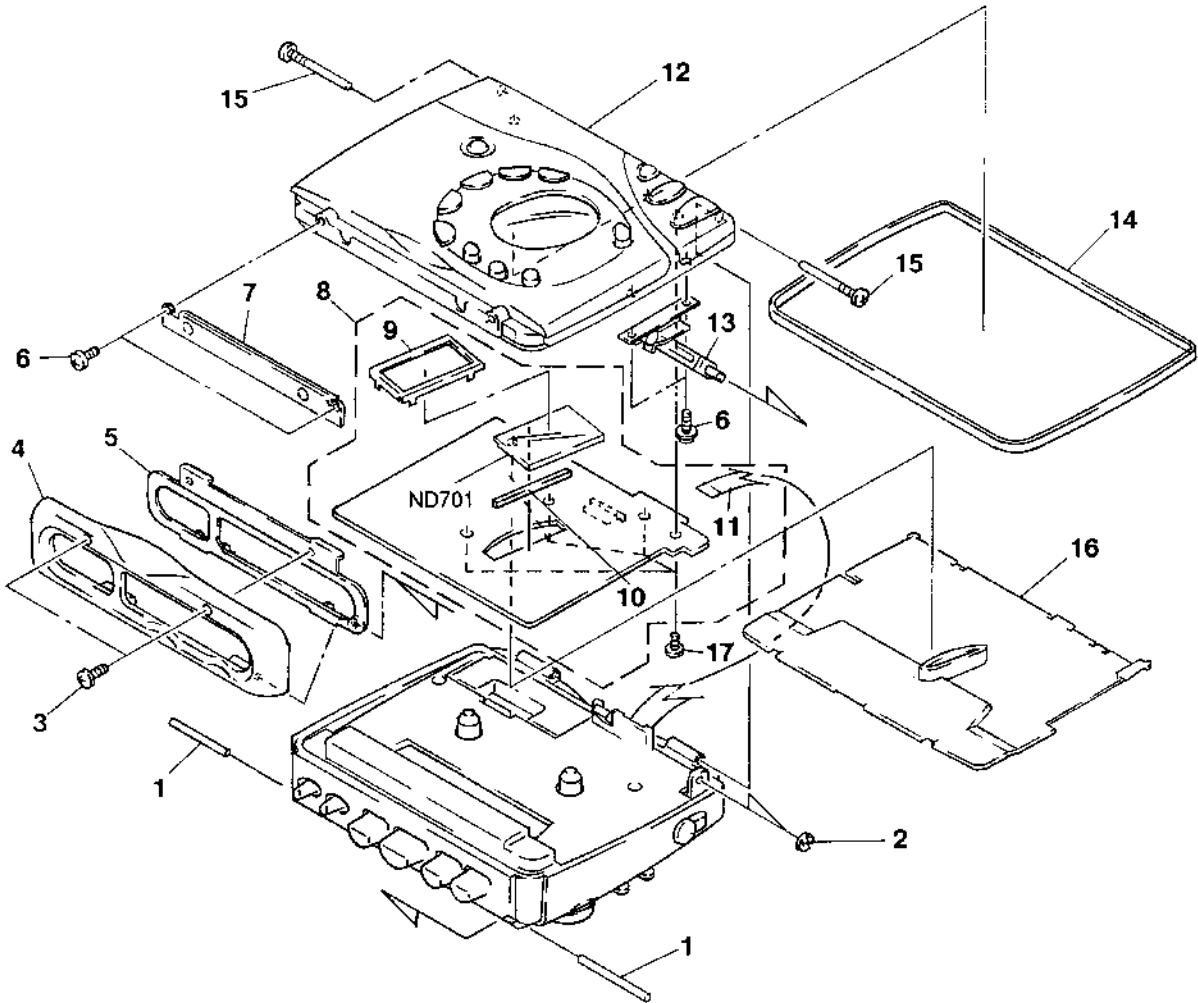
NOTE:

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- 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
- EA : Saudi Arabia model

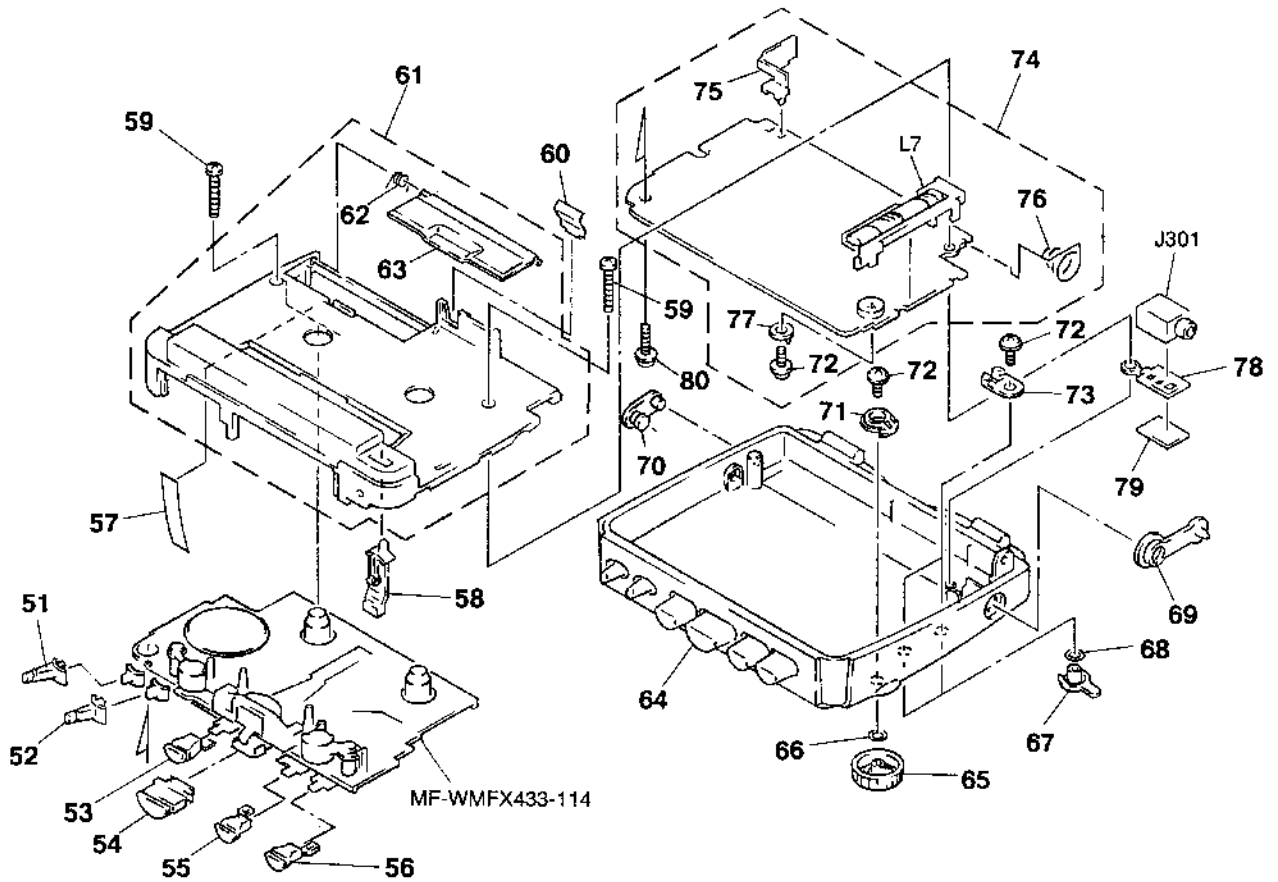
6-1. CASSETTE LID AND DISPLAY BOARD SECTION



Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
1	3-383-668-01	SHAFT		* 9	3-921-964-01	CASE (LCD)	
2	7-624-101-04	STOP RING 1.2 (E TYPE)		10	1-537-863-11	CONDUCTIVE BOARD, CONNECTION	
3	3-704-243-51	SCREW (Pl. 7X3.5)		11	1-655-819-11	TUNER FLEXIBLE BOARD	
4	3-921-872-01	BUCKLE		12	X-3369-997-1	LID ASSY, CASSETTE (FS493)	
5	3-921-873-01	BRACKET (BUCKLE)		12	X-3369-998-1	LID ASSY, CASSETTE (FS495)	
6	3-318-201-01	SCREW (B) (1.4X3), TAPPING		13	X-3369-989-1	ARM ASSY	
7	3-921-857-01	REINFORCEMENT		14	3-922-849-01	PACKING, CABINET	
8	A-3016-692-A	DISPLAY BOARD, COMPLETE (FS493:US, CND)		15	3-386-373-01	SCREW, TAPPING	
8	A-3016-696-A	DISPLAY BOARD, COMPLETE (AEP, UK, E, IT, EA)		16	3-921-858-01	COVER	
8	A-3016-699-A	DISPLAY BOARD, COMPLETE (EE)		17	3-925-165-01	SCREW (1.4X2.5)	
8	A-3016-701-A	DISPLAY BOARD, COMPLETE (FS495)		ND701	1-810-797-11	DISPLAY BOARD, LIQUID CRYSTAL	

SEE ADDITIONAL INFORMATION

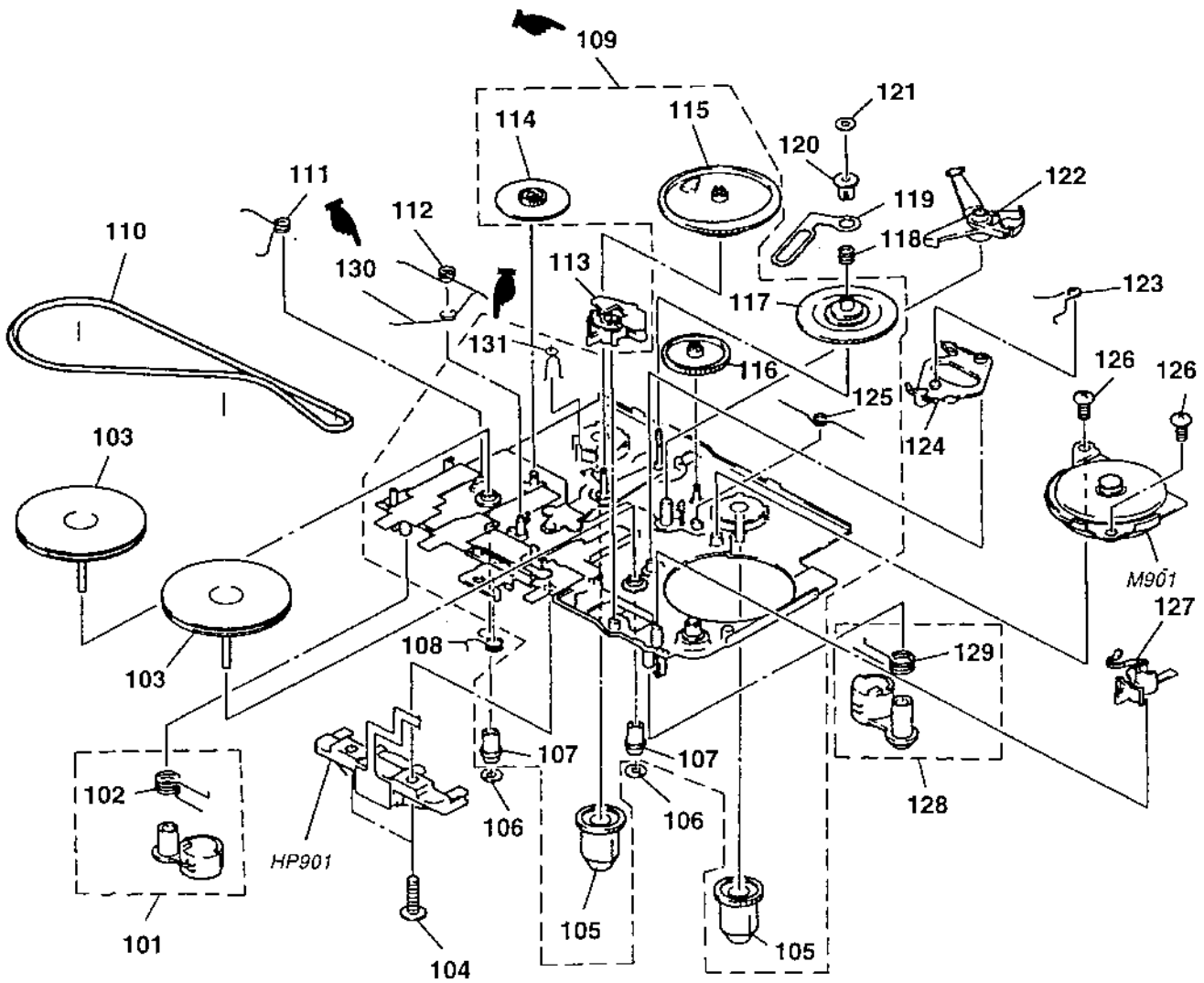
6-2. REAR CABINET AND MAIN BOARD SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	3-921-863-01	KNOB (DIR)		67	3-921-867-01	KNOB (AVLS)	
52	3-921-864-01	KNOB (MODE)		68	3-326-560-02	RING (DIA. 2.5XDIA. 4.5), 0	
53	3-921-862-01	BUTTON (REW)		69	3-386-371-01	PACKING, HP JACK	
54	3-921-859-01	BUTTON (PLAY)		70	3-922-447-01	PACKING, DC JACK	
55	3-921-861-01	BUTTON (FF)		71	3-921-868-01	JOINT (VOL)	
56	3-921-860-01	BUTTON (STOP)		72	3-318-201-01	SCREW (B) (1.4X3), TAPPING	
57	3-922-445-01	SHEET, BATTERY		73	3-921-869-01	JOINT (AVLS)	
58	3-921-879-01	KNOB (T)		74	A-3016-691-A	MAIN BOARD, COMPLETE (FS493:US, CND)	
59	4-958-597-01	SCREW		74	A-3016-695-A	MAIN BOARD, COMPLETE (AEP, UK, E, IT, EA, EE)	
60	3-904-803-01	DETENT, CASSETTE		74	A-3016-700-A	MAIN BOARD, COMPLETE (FS495)	
61	X-3369-990-1	CHASSIS SUB ASSY (US, CND)		75	3-921-878-01	TERMINAL BOARD, BATTERY	
61	X-3369-991-1	CHASSIS SUB ASSY (AEP, UK, E, IT, EA, EE)		76	3-921-877-01	SPRING, BATTERY COIL	
62	3-926-267-01	SPRING, TORSION		77	3-921-876-01	JOINT (B)	
63	3-921-875-01	LID, BATTERY CASE		* 78	3-922-444-01	TERMINAL BOARD, ANTENNA	
64	X-3369-993-1	CABINET (REAR) ASSY (E, EA)		* 79	1-655-788-11	JACK BOARD	
64	X-3369-994-1	CABINET (REAR) ASSY (AEP, UK, IT, EE)		80	3-921-955-01	SCREW (M1.4), TOOTH (WH)	
64	X-3369-995-1	CABINET (REAR) ASSY (FS495)		J301	1-563-298-21	JACK (SMALL TYPE) (DIA. 3.5) (PHONES)	
64	X-3369-996-1	CABINET (REAR) ASSY (FS493:US, CND)		L7	1-501-760-11	ANTENNA, FERRITE-ROD	
65	3-921-866-01	KNOB (VOL)					
66	3-913-607-01	RING (WATERPROOF SCREW), 0					

REVISED

6-3. MECHANISM SECTION (MF-WMFX433-114)



REF. No.	Part No.	Description	Remark	REF. No.	Part No.	Description	Remark
101	X-3369-749-1	PINCH LEVER (N) ASSY		116	3-920-999-01	GEAR (A)	
102	3-920-996-01	SPRING (PINCH N)		117	3-921-050-01	GEAR (B)	
103	X-3369-747-1	WHEEL ASSY. CAPSTAN		118	3-920-990-01	SPRING (UD), COMPRESSION	
104	3-704-197-71	SCREW (M1.4X4.5), LOCKING		119	3-921-335-01	WASHER, LEVER	
105	3-921-042-01	GEAR (REEL)		120	3-923-530-01	SLEEVE (M)	
106	3-921-797-01	WASHER		121	3-728-091-01	WASHER, STOPPER	
107	3-921-003-01	BEARING		122	3-921-052-01	LEVER (A), DETECTION	
108	3-920-993-01	SPRING (NR)		123	3-920-994-11	SPRING (D SELECTION)	
109	X-3371-589-1	CHASSIS (COPM) ASSY		124	3-921-022-01	LEVER (B), DETECTION	
110	3-354-868-11	BELT		125	3-920-995-11	SPRING (PLAY)	
111	3-920-992-01	SPRING (STOP)		126	3-703-816-31	SCREW (M1.4X1.6), SPECIAL HEAD	
112	3-920-991-01	SPRING (FR)		127	3-921-023-01	LEVER, M SELECTION	
113	3-921-053-01	LEVER, D SELECTION		128	X-3369-748-1	PINCH LEVER (R) ASSY	
114	3-921-043-01	GEAR (D)		129	3-920-997-01	SPRING (PINCH R)	
115	X-3369-752-1	CLUTCH ASSY		130	3-931-387-01	SPRING (SW)	
				131	3-933-324-01	SPRING (FR LEVER)	
				HP901	1-500-205-11	PLAYBACK HEAD	
				M901	1-698-457-11	MOTOR	

SEE ADDITIONAL INFORMATION

SECTION 7 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.
- -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.
- 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
EA : Saudi Arabia model

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
	A-3016-692-A	DISPLAY BOARD, COMPLETE (FS493:US, CND) *****				< IC >	
	A-3016-696-A	DISPLAY BOARD, COMPLETE (FS493:AEP, UK, E, IT, EA) *****		IC701	8-759-329-93	IC uPD1724GB-688-1A7	
	A-3016-699-A	DISPLAY BOARD, COMPLETE (FS493:EE) *****				< JUMPER RESISTOR >	
	A-3016-701-A	DISPLAY BOARD, COMPLETE (FS495) *****		JC701	1-216-295-11	CONDUCTOR, CHIP (2012) (FS495)	
	1-537-863-11	CONDUCTIVE BOARD, CONNECTION		JC702	1-216-295-11	CONDUCTOR, CHIP (2012)	
	1-655-819-11	TUNER FLEXIBLE BOARD		JC703	1-216-295-11	CONDUCTOR, CHIP (2012) (FS493)	
*	3-921-964-01	CASE (LCD)				< COIL >	
		< CAPACITOR >		L701	1-410-946-31	INDUCTOR CHIP 22uH	
C701	1-165-319-11	CERAMIC CHIP 0.1uF	50V	L702	1-412-999-11	INDUCTOR CHIP 0.047uH (FS495)	
C702	1-163-009-11	CERAMIC CHIP 0.001uF 10%	50V			< LIQUID CRYSTAL DISPLAY >	
C703	1-165-319-11	CERAMIC CHIP 0.1uF	50V	ND701	1-810-797-11	DISPLAY PANEL, LIQUID CRYSTAL	
C704	1-104-847-11	TANTAL. CHIP 22uF 20%	4V			< TRANSISTOR >	
C705	1-163-109-00	CERAMIC CHIP 47PF 5%	50V	Q701	8-729-602-21	TRANSISTOR 2SC4154-F	
C707	1-163-098-00	CERAMIC CHIP 16PF 5%	50V	Q702	8-729-220-93	TRANSISTOR 2SK209-G	
C708	1-163-224-11	CERAMIC CHIP 7PF 0.25PF	50V	Q703	8-729-117-73	TRANSISTOR 2SC4178-F14 (FS495)	
C709	1-165-319-11	CERAMIC CHIP 0.1uF	50V	Q704	8-729-422-18	TRANSISTOR XN4315 (FS495)	
C710	1-162-568-11	CERAMIC CHIP 0.33uF 10%	16V			< RESISTOR >	
C711	1-163-139-00	CERAMIC CHIP 820PF 5%	50V	R701	1-216-081-00	METAL CHIP 22K 5% 1/10W	
C712	1-163-117-00	CERAMIC CHIP 100PF 5%	50V	R702	1-216-121-00	METAL CHIP 1M 5% 1/10W	
C713	1-163-109-00	CERAMIC CHIP 47PF 5%	50V (FS495)	R703	1-216-113-00	METAL CHIP 470K 5% 1/10W	
C716	1-164-004-11	CERAMIC CHIP 0.1uF 10%	50V (FS495)	R704	1-216-085-00	METAL CHIP 33K 5% 1/10W (FS495)	
C717	1-163-088-00	CERAMIC CHIP 5PF 5%	50V (FS495)	R708	1-216-067-00	METAL CHIP 5.6K 5% 1/10W	
C718	1-164-232-11	CERAMIC CHIP 0.01uF 10%	50V	R709	1-216-067-00	METAL CHIP 5.6K 5% 1/10W	
C719	1-163-205-00	CERAMIC CHIP 0.001uF 5%	50V (FS495)	R710	1-216-073-00	METAL CHIP 10K 5% 1/10W	
C720	1-163-009-11	CERAMIC CHIP 0.001uF 10%	50V (FS495)	R711	1-216-041-00	METAL CHIP 470 5% 1/10W (FS495)	
		< CONNECTOR >		R712	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
CN702	1-766-584-11	CONNECTOR, FPC (ZIF) 16P		R713	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
		< DIODE >		R714	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
D701	8-719-049-09	DIODE 1SS367		R715	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
D702	8-719-049-09	DIODE 1SS367 (FS493:AEP, UK, IT, E, EE, EA)		R716	1-216-113-00	METAL CHIP 470K 5% 1/10W	
D703	8-719-049-09	DIODE 1SS367 (FS493:US, CND, EE)		R717	1-216-113-00	METAL CHIP 470K 5% 1/10W	
		< SWITCH >		S709	1-692-453-11	SWITCH, KEY BOARD (LAP/CALL)	
				S711	1-692-453-11	SWITCH, KEY BOARD (START/STOP)	
				S712	1-692-453-11	SWITCH, KEY BOARD (LAP/RESET)	

DISPLAY

JACK

MAIN

SEE ADDITIONAL INFORMATION

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
		< VIBRATOR >					
X701	1-760-666-11	VIBRATOR, CRYSTAL (75kHz)		C18	1-126-163-11	ELECT 4.7uF 20% 50V	
		*****		C19	1-126-163-11	ELECT 4.7uF 20% 50V	
*	1-655-788-11	JACK BOARD		C20	1-126-157-11	ELECT 10uF 20% 16V	
		*****		C21	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
*	3-922-444-01	TERMINAL BOARD, ANTENNA		C22	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
		< JACK >		C23	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
J301	1-563-298-11	JACK (SMALL TYPE) (DIA. 3.5) (PHONES)		C24	1-164-005-11	CERAMIC CHIP 0.47uF 16V	
		< COIL >		C25	1-164-005-11	CERAMIC CHIP 0.47uF 16V	
L101	1-412-983-11	INDUCTOR 2.2uH		C26	1-164-346-11	CERAMIC CHIP 1uF 16V	
L201	1-412-983-11	INDUCTOR 2.2uH		C27	1-126-246-11	ELECT CHIP 220uF 20% 4V	
L301	1-412-983-11	INDUCTOR 2.2uH		C28	1-164-346-11	CERAMIC CHIP 1uF 16V	
		*****		C29	1-164-346-11	CERAMIC CHIP 1uF 16V	
A-3016-691-A	MAIN BOARD, COMPLETE (FS493:US,CND)			C30	1-162-930-11	CERAMIC CHIP 1PF 0.25PF 50V (FS495)	
		*****		C31	1-107-823-11	CERAMIC CHIP 0.47uF 10% 16V	
A-3016-695-A	MAIN BOARD, COMPLETE			C32	1-135-151-21	TANTALUM CHIP 4.7uF 20% 4V	
		(FS493:AEP, UK, E, IT, EA, EE)		C33	1-164-357-11	CERAMIC CHIP 1000PF 5% 50V	
		*****		C34	1-164-357-11	CERAMIC CHIP 1000PF 5% 50V	
A-3016-700-A	MAIN BOARD, COMPLETE (FS495)			C35	1-164-357-11	CERAMIC CHIP 1000PF 5% 50V	
		*****		C36	1-162-959-11	CERAMIC CHIP 330PF 5% 50V	
	3-318-201-01	SCREW (B) (1.4X3), TAPPING		C37	1-162-936-11	CERAMIC CHIP 5PF 0.25PF 50V	
*	3-921-876-01	JOINT (B)		C38	1-164-346-11	CERAMIC CHIP 1uF 16V	
	3-921-877-01	SPRING, BATTERY COIL		C39	1-162-932-11	CERAMIC CHIP 2PF 0.25PF 50V	
	3-921-878-01	TERMINAL BOARD, BATTERY		C40	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
		< CAPACITOR >		C41	1-104-908-11	TANTAL. CHIP 47uF 20% 4V	
C1	1-162-966-11	CERAMIC CHIP 0.0022uF 10% 50V		C42	1-164-362-11	CERAMIC CHIP 470PF 5% 50V	
		(FS493:US,CND/FS495)		C43	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
C2	1-162-953-11	CERAMIC CHIP 100PF 5% 50V		C44	1-164-315-11	CERAMIC CHIP 470PF 5% 50V	
C4	1-162-934-11	CERAMIC CHIP 3PF 0.25PF 50V (FS495)		C45	1-162-946-11	CERAMIC CHIP 27PF 5% 50V	
C5	1-164-357-11	CERAMIC CHIP 1000PF 5% 50V (FS495)		C46	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
C6	1-164-357-11	CERAMIC CHIP 1000PF 5% 50V (FS495)		C47	1-162-941-11	CERAMIC CHIP 10PF 0.5PF 50V	
C7	1-164-357-11	CERAMIC CHIP 1000PF 5% 50V (FS495)		C48	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C8	1-164-357-11	CERAMIC CHIP 1000PF 5% 50V (FS495)		C49	1-135-180-21	TANTALUM CHIP 3.3uF 20% 6.3V	
C9	1-162-943-11	CERAMIC CHIP 15PF 5% 50V (FS495)		C50	1-135-201-11	TANTALUM CHIP 10uF 20% 4V	
C10	1-164-357-11	CERAMIC CHIP 1000PF 5% 50V (FS495)		C51	1-162-934-11	CERAMIC CHIP 3PF 0.25PF 50V	
C11	1-104-908-11	TANTAL. CHIP 47uF 20% 4V (FS495)		C52	1-162-934-11	CERAMIC CHIP 3PF 0.25PF 50V (FS495)	
C12	1-162-920-11	CERAMIC CHIP 27PF 5% 50V (FS495)		C53	1-162-945-11	CERAMIC CHIP 22PF 5% 50V (FS495)	
C13	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V (FS495)		C54	1-162-970-11	CERAMIC CHIP 0.01uF 10% 50V	
C14	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V (FS495)		C55	1-162-936-11	CERAMIC CHIP 5PF 0.25PF 50V (FS495)	
C15	1-164-357-11	CERAMIC CHIP 1000PF 5% 50V (FS495)		C56	1-162-936-11	CERAMIC CHIP 5PF 0.25PF 50V	
C16	1-162-949-11	CERAMIC CHIP 47PF 5% 50V (FS495)		C57	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V (FS495)	
C17	1-162-995-11	CERAMIC CHIP 0.022uF 10% 50V		C58	1-162-908-11	CERAMIC CHIP 3PF 5% 50V	
				C59	1-162-970-11	CERAMIC CHIP 0.01uF 10% 50V	
				C60	1-162-970-11	CERAMIC CHIP 0.01uF 10% 50V	
				C61	1-162-970-11	CERAMIC CHIP 0.01uF 10% 50V	
				C62	1-162-953-11	CERAMIC CHIP 100PF 5% 50V	
				C63	1-162-953-11	CERAMIC CHIP 100PF 5% 50V	
				C64	1-162-953-11	CERAMIC CHIP 100PF 5% 50V (FS495)	
				C66	1-164-357-11	CERAMIC CHIP 1000PF 5% 50V (FS495)	
				C68	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
				C101	1-163-005-11	CERAMIC CHIP 470PF 10% 50V	
				C102	1-163-005-11	CERAMIC CHIP 470PF 10% 50V	

SEE ADDITIONAL
INFORMATION

MAIN

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C103	1-162-968-11	CERAMIC CHIP	0.0047uF 10% 50V			< FILTER >	
C104	1-135-201-11	TANTALUM CHIP	10uF 20% 4V				
C105	1-164-346-11	CERAMIC CHIP	1uF 16V				
C106	1-163-011-11	CERAMIC CHIP	0.0015uF 10% 50V	CF1	1-579-823-21	FILTER, CERAMIC (450kHz)	
				CF2	1-760-648-11	FILTER, CERAMIC (10.7MHz)	
				CF4	1-577-065-21	FILTER, CERAMIC (10.7MHz)	
C107	1-164-346-11	CERAMIC CHIP	1uF 16V			< CONNECTOR >	
C108	1-163-001-11	CERAMIC CHIP	220PF 10% 50V				
C201	1-163-005-11	CERAMIC CHIP	470PF 10% 50V				
C202	1-163-005-11	CERAMIC CHIP	470PF 10% 50V	CN301	1-766-819-11	CONNECTOR, FPC (ZIF) 6P	
C203	1-162-968-11	CERAMIC CHIP	0.0047uF 10% 50V	CN701	1-766-584-11	CONNECTOR, FPC (ZIF) 16P	
C204	1-135-201-11	TANTALUM CHIP	10uF 20% 4V			< TRIMMER >	
C205	1-164-346-11	CERAMIC CHIP	1uF 16V				
C206	1-163-011-11	CERAMIC CHIP	0.0015uF 10% 50V	CT1	1-141-327-11	CAP, VAR, TRIMMER (CHIP TYPE) (FS495)	
C207	1-164-346-11	CERAMIC CHIP	1uF 16V	CT2	1-141-463-11	CAP, ADJ	
C208	1-163-001-11	CERAMIC CHIP	220PF 10% 50V	CT3	1-141-463-11	CAP, ADJ	
C301	1-164-346-11	CERAMIC CHIP	1uF 16V			< DIODE >	
C302	1-135-151-21	TANTALUM CHIP	4.7uF 20% 4V	D1	8-713-100-11	DIODE IT362 (FS495)	
C303	1-164-004-11	CERAMIC CHIP	0.1uF 10% 16V	D2	8-713-100-11	DIODE IT362 (FS495)	
C304	1-164-346-11	CERAMIC CHIP	1uF 16V	D3	8-719-404-46	DIODE MA110 (FS495)	
C305	1-164-505-11	CERAMIC CHIP	2.2uF 16V	D4	8-719-032-80	DIODE KV1430	
C306	1-164-004-11	CERAMIC CHIP	0.1uF 10% 16V	D5	8-719-032-80	DIODE KV1430	
C307	1-126-162-11	ELECT	3.3uF 20% 50V	D6	8-719-951-05	DIODE KV1560	
C308	1-163-038-91	CERAMIC CHIP	0.1uF 25V	D7	8-719-049-09	DIODE 1SS367 (FS495)	
C309	1-126-153-11	ELECT	22uF 20% 6.3V	D8	8-719-404-46	DIODE MA110 (FS495)	
C310	1-164-222-11	CERAMIC CHIP	0.22uF 25V	D9	8-719-049-09	DIODE 1SS367 (FS495)	
C311	1-126-160-11	ELECT	1uF 20% 50V	D401	8-719-404-46	DIODE MA110	
C312	1-126-153-11	ELECT	22uF 20% 6.3V	D402	8-719-977-52	DIODE DTZ16A	
C313	1-126-153-11	ELECT	22uF 20% 6.3V	D602	8-719-049-09	DIODE 1SS367	
C314	1-164-346-11	CERAMIC CHIP	1uF 16V	D704	8-719-049-09	DIODE 1SS367	
C315	1-164-005-11	CERAMIC CHIP	0.47uF 16V			< IC >	
C316	1-164-232-11	CERAMIC CHIP	0.01uF 50V	IC1	8-759-339-49	IC TA7358F-N (FS495)	
C317	1-104-847-11	TANTAL. CHIP	22uF 20% 4V	IC2	8-752-072-12	IC CXA1538N	
C318	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V	IC3	8-759-339-16	IC PST9119NL	
C319	1-135-201-11	TANTAL. CHIP	10uF 20% 4V	IC301	8-759-332-69	IC LA4585M	
C320	1-162-953-11	CERAMIC CHIP	100PF 5% 50V	IC601	8-759-275-47	IC LB1674V	
C402	1-163-093-00	CERAMIC CHIP	10PF 5% 50V			< JUMPER RESISTOR >	
C403	1-104-847-11	TANTAL. CHIP	22uF 20% 4V	JC3	1-216-864-11	METAL CHIP 0 5% 1/16W (FS495)	
C404	1-163-093-00	CERAMIC CHIP	10PF 5% 50V	JC4	1-216-864-11	METAL CHIP 0 5% 1/16W (FS495)	
C405	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V	JC6	1-216-864-11	METAL CHIP 0 5% 1/16W	
C406	1-164-346-11	CERAMIC CHIP	1uF 16V	JC7	1-216-864-11	METAL CHIP 0 5% 1/16W	
C602	1-164-489-11	CERAMIC CHIP	0.22uF 10% 16V	JC8	1-216-296-00	METAL CHIP 0 5% 1/8W	
C603	1-163-809-11	CERAMIC CHIP	0.047uF 10% 25V	JC9	1-216-296-00	METAL CHIP 0 5% 1/8W	
C604	1-107-823-11	CERAMIC CHIP	0.47uF 10% 16V	JC10	1-216-864-11	METAL CHIP 0 5% 1/16W	
C605	1-164-005-11	CERAMIC CHIP	0.47uF 25V	JC11	1-216-864-11	METAL CHIP 0 5% 1/16W	
C608	1-124-434-11	ELECT CHIP	220uF 20% 4V	JC12	1-216-864-11	METAL CHIP 0 5% 1/16W	
C609	1-164-346-11	CERAMIC CHIP	1uF 16V	JC13	1-216-864-11	METAL CHIP 0 5% 1/16W	(FS493: AEP, UK, IT, E, EE, EA)
C611	1-135-151-21	TANTALUM CHIP	4.7uF 20% 4V	JC14	1-216-295-00	METAL CHIP 0 5% 1/10W	(FS493: AEP, UK, IT, E, EE, EA)
C714	1-125-639-11	DOUBLE LAYERS	56000uF 3.5V				

MAIN**SEE ADDITIONAL
INFORMATION**

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
JC15	1-216-864-11	METAL CHIP	0 5% 1/16W (FS493)	Q308	8-729-027-44	TRANSISTOR	DTC114TKA
JC301	1-216-296-00	METAL CHIP	0 5% 1/8W	Q309	8-729-402-13	TRANSISTOR	XN1501
JC302	1-216-296-00	METAL CHIP	0 5% 1/8W	Q310	8-729-027-24	TRANSISTOR	DTA114TKA
JC401	1-216-296-00	METAL CHIP	0 5% 1/10W	Q401	8-729-602-21	TRANSISTOR	ZSC4154-F
JC601	1-216-864-11	METAL CHIP	0 5% 1/16W	Q601	8-729-026-50	TRANSISTOR	2SA1037AK-QR
< COIL >				Q602	8-729-027-56	TRANSISTOR	DTC143TKA
L1	1-411-305-11	COIL, TV RF (FS495)		Q603	8-729-027-26	TRANSISTOR	DTA114YKA
L2	1-411-306-21	COIL, TV OSC (FS495)		Q604	8-729-027-56	TRANSISTOR	DTC143TKA
L3	1-410-997-31	INDUCTOR CHIP 2.2uH (FS495)		Q605	8-729-141-48	TRANSISTOR	ZSB624-BV345
L4	1-412-975-31	INDUCTOR CHIP 0.47uH		Q606	8-729-141-48	TRANSISTOR	ZSB624-BV345
L5	1-411-289-11	COIL (WITH CORE) (RF)		< RESISTOR >			
L6	1-411-288-11	COIL (WITH CORE) (OSC)		R1	1-216-821-11	METAL CHIP	1K 5% 1/16W (FS493:US, CND/FS495)
L7	1-501-760-11	ANTENNA, FERRITE-ROD		R2	1-216-821-11	METAL CHIP	1K 5% 1/16W (FS493:US, CND/FS495)
L8	1-411-205-11	COIL, AM OSC		R3	1-216-845-11	METAL CHIP	100K 5% 1/16W (FS495)
L9	1-410-006-31	INDUCTOR CHIP 10uH		R4	1-216-845-11	METAL CHIP	100K 5% 1/16W (FS495)
L10	1-410-006-31	INDUCTOR CHIP 10uH		R5	1-216-833-11	METAL CHIP	10K 5% 1/16W (FS495)
L11	1-410-204-31	INDUCTOR CHIP 10uH (FS495)		R6	1-216-833-11	METAL CHIP	10K 5% 1/16W (FS495)
L12	1-412-967-31	INDUCTOR 0.1uH (FS495)		R7	1-216-817-11	METAL CHIP	470 5% 1/16W (FS495)
L13	1-412-967-31	INDUCTOR 0.1uH		R8	1-216-829-11	METAL CHIP	4.7K 5% 1/16W (FS495)
L14	1-412-983-31	INDUCTOR CHIP 2.2uH (FS493:US, CND/FS495)		R14	1-216-839-11	METAL CHIP	33K 5% 1/16W
L15	1-412-975-31	INDUCTOR CHIP 0.47uH (FS495)		R15	1-216-827-11	METAL CHIP	3.3K 5% 1/16W
L16	1-412-983-31	INDUCTOR CHIP 2.2uH (FS495)		R16	1-216-827-11	METAL CHIP	3.3K 5% 1/16W
L103	1-414-170-11	INDUCTOR CHIP 100uH		R17	1-216-845-11	METAL CHIP	100K 5% 1/16W
L202	1-414-170-11	INDUCTOR CHIP 100uH		R18	1-216-845-11	METAL CHIP	100K 5% 1/16W
L401	1-412-006-31	INDUCTOR CHIP 10uH		R19	1-216-817-11	METAL CHIP	470 5% 1/16W
< TRANSISTOR >				R20	1-216-817-11	METAL CHIP	470 5% 1/16W
Q1	8-729-117-73	TRANSISTOR	ZSC4178-F14 (FS493:US, CND/FS495)	R21	1-216-839-11	METAL CHIP	33K 5% 1/16W
Q2	8-729-923-32	TRANSISTOR	ZSC4083 (FS495)	R22	1-216-833-11	METAL CHIP	10K 5% 1/16W
Q3	8-729-117-73	TRANSISTOR	ZSC4178-F14 (FS495)	R25	1-216-833-11	METAL CHIP	10K 5% 1/16W
Q4	8-729-925-52	TRANSISTOR	IMD6 (FS495)	R26	1-216-833-11	METAL CHIP	10K 5% 1/16W
Q5	8-729-029-10	TRANSISTOR	DTC143TUA	R27	1-216-825-11	METAL CHIP	2.2K 5% 1/16W
Q6	8-729-402-81	TRANSISTOR	XN4501	R28	1-216-853-11	METAL CHIP	470K 5% 1/16W
Q7	8-729-029-10	TRANSISTOR	DTC143TUA	R29	1-216-853-11	METAL CHIP	470K 5% 1/16W
Q8	8-729-602-21	TRANSISTOR	ZSC4154-F (FS493:US, CND/FS495)	R31	1-216-817-11	METAL CHIP	470 5% 1/16W
Q9	8-729-807-86	TRANSISTOR	ZSB1295-UL5 (FS495)	R32	1-216-833-11	METAL CHIP	10K 5% 1/16W
Q10	8-729-117-73	TRANSISTOR	ZSC4178-F14	R33	1-216-833-11	METAL CHIP	10K 5% 1/16W
Q11	8-729-402-16	TRANSISTOR	XN4608	R34	1-216-853-11	METAL CHIP	470K 5% 1/16W
Q101	8-729-027-56	TRANSISTOR	DTC143TKA	R35	1-216-813-11	METAL CHIP	220 5% 1/16W
Q201	8-729-027-56	TRANSISTOR	DTC143TKA	R38	1-216-837-11	METAL CHIP	22K 5% 1/16W (FS495)
Q301	8-729-403-17	TRANSISTOR	XN1215	R39	1-216-853-11	METAL CHIP	470K 5% 1/16W
Q302	8-729-807-87	TRANSISTOR	ZSB1295-UL6	R41	1-216-817-11	METAL CHIP	470 5% 1/16W (FS495)
Q303	8-729-027-56	TRANSISTOR	DTC143TKA	R42	1-216-853-11	METAL CHIP	470K 5% 1/16W
Q304	8-729-027-44	TRANSISTOR	DTC114TKA	R43	1-216-853-11	METAL CHIP	470K 5% 1/16W
Q305	8-729-027-26	TRANSISTOR	DTA114YKA	R44	1-216-833-11	METAL CHIP	10K 5% 1/16W
Q306	8-729-421-23	TRANSISTOR	XN1216	R45	1-216-829-11	METAL CHIP	4.7K 5% 1/16W
Q307	8-729-027-24	TRANSISTOR	DTA114TKA	R46	1-216-833-11	METAL CHIP	10K 5% 1/16W
				R47	1-216-845-11	METAL CHIP	100K 5% 1/16W
				R48	1-216-097-00	METAL CHIP	100K 5% 1/10W

SEE ADDITIONAL INFORMATION

MAIN

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R49	1-216-825-11	METAL CHIP	2.2K 5% 1/16W			< SWITCH >	
R50	1-216-833-11	METAL CHIP	10K 5% 1/16W				
R51	1-216-821-11	METAL CHIP	1K 5% 1/16W (FS493:US,CND/FS495)	S301	1-762-302-11	SWITCH, PUSH (1 KEY)(TAPE POWER)	
R52	1-216-178-00	METAL CHIP	150 5% 1/8W (FS495)	S302	1-572-288-11	SWITCH, PUSH (F/R DET)	
R101	1-216-855-11	METAL CHIP	680K 5% 1/16W	S303	1-572-272-11	SWITCH, SLIDE (TAPE, FM SENS, FM MODE)	
R102	1-216-819-11	METAL CHIP	680 5% 1/16W	S304	1-570-397-11	SWITCH, SLIDE (AVLS)	
R103	1-216-835-11	METAL CHIP	15K 5% 1/16W	S305	1-570-113-11	SWITCH, SLIDE (MEGA BASS)	
R104	1-216-834-11	METAL CHIP	12K 5% 1/16W			< TRANSFORMER >	
R105	1-216-089-00	METAL CHIP	47K 5% 1/10W	T1	1-411-210-11	TRANSFORMER, IF	
R107	1-216-045-00	METAL CHIP	680 5% 1/10W	T401	1-450-306-11	TRANSFORMER, DC-DC CONVERTER	
R201	1-216-855-11	METAL CHIP	680K 5% 1/16W			< THERMISTOR >	
R202	1-216-819-11	METAL CHIP	680 5% 1/16W	TH601	1-810-794-11	THERMISTOR, POSITIVE	
R203	1-216-835-11	METAL CHIP	15K 5% 1/16W			*****	
R204	1-216-834-11	METAL CHIP	12K 5% 1/16W			MISCELLANEOUS	
R205	1-216-089-00	METAL CHIP	47K 5% 1/10W			*****	
R207	1-216-045-00	METAL CHIP	680 5% 1/10W	10	1-537-863-11	CONDUCTIVE BOARD, CONNECTION	
R301	1-216-073-00	METAL CHIP	10K 5% 1/10W	11	1-655-819-11	TUNER FLEXIBLE BOARD	
R302	1-216-069-00	METAL CHIP	6.8K 5% 1/10W	HP901	1-500-205-11	PLAYBACK HEAD	
R303	1-216-841-11	METAL CHIP	47K 5% 1/16W	J301	1-563-298-11	JACK (SMALL TYPE)(DIA. 3.5)(PHONES)	
R304	1-216-061-00	METAL CHIP	3.3K 5% 1/10W	L7	1-501-760-11	ANTENNA, FERRITE-ROD	
R305	1-216-109-00	METAL CHIP	330K 5% 1/10W	M901	1-698-457-11	MOTOR	
R306	1-216-045-00	METAL CHIP	680 5% 1/10W	MD701	1-810-797-11	DISPLAY BOARD, LIQUID CRYSTAL	
R308	1-216-214-00	METAL GLAZE	4.7K 5% 1/8W			*****	
R309	1-216-059-00	METAL CHIP	2.7K 5% 1/10W			ACCESSORIES & PACKING MATERIALS	
R310	1-216-298-00	METAL CHIP	2.2 5% 1/10W			*****	
R311	1-216-065-00	METAL CHIP	4.7K 5% 1/10W	3-798-437-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH) (AEP, UK, IT, EA, EE)		
R312	1-216-833-11	METAL CHIP	10K 5% 1/16W	3-798-437-21	MANUAL, INSTRUCTION (ENGLISH) (US)		
R313	1-216-847-11	METAL CHIP	150K 5% 1/10W	3-798-437-31	MANUAL, INSTRUCTION (ENGLISH, FRENCH) (CND)		
R314	1-216-065-00	METAL CHIP	4.7K 5% 1/10W	3-798-437-41	MANUAL, INSTRUCTION (GERMAN, SPANISH) (AEP, UK, IT)		
R402	1-216-097-00	METAL CHIP	100K 5% 1/10W	3-798-437-51	MANUAL, INSTRUCTION (DUTCH, SWEDISH) (AEP, UK, IT)		
R403	1-216-049-91	METAL GLAZE	1K 5% 1/10W	3-798-437-61	MANUAL, INSTRUCTION (ITALIAN, PORTUGUESE) (AEP, UK, IT)		
R405	1-216-097-00	METAL CHIP	100K 5% 1/10W	3-798-437-71	MANUAL, INSTRUCTION (ENGLISH, FRENCH) (E)		
R601	1-216-049-91	METAL GLAZE	1K 5% 1/10W	3-798-437-81	MANUAL, INSTRUCTION (SPANISH, CHINESE) (E)		
R602	1-216-089-00	METAL CHIP	47K 5% 1/10W	3-798-437-91	MANUAL, INSTRUCTION (POLISH, RUSSIAN) (EE)		
R603	1-216-033-00	METAL CHIP	220 5% 1/10W	3-798-438-11	MANUAL, INSTRUCTION (HUNGALIAN, CZECH) (EE)		
R604	1-216-065-00	METAL CHIP	4.7K 5% 1/10W	3-913-600-11	BELT (US, CND)		
R605	1-216-067-00	METAL CHIP	5.6K 5% 1/10W	3-919-802-01	CUSHION (CND, AEP, UK, E, IT, EA, EE)		
R608	1-216-089-00	METAL CHIP	47K 5% 1/10W	3-921-164-01	INDIVIDUAL CARTON (CND)		
R609	1-216-097-00	METAL CHIP	100K 5% 1/10W	3-921-166-01	INDIVIDUAL CARTON (AEP, UK, IT, EE)		
R610	1-216-097-00	METAL CHIP	100K 5% 1/10W				
R611	1-216-025-91	METAL GLAZE	100 5% 1/10W				
R612	1-216-025-91	METAL GLAZE	100 5% 1/10W				
		< VARIABLE RESISTOR >					
RV1	1-223-873-11	RES, ADJ					
RV301	1-230-593-11	RES, VAR, CARBON 10K/10K (VOL)					
RV601	1-241-916-11	RES, ADJ, CARBON 4.7K					

WM-FS493/FS495

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
*	3-921-168-01	INDIVIDUAL CARTON (E, EA)	
	8-952-216-94	HEADPHONE MDR-E215/Y SET (AEP, UK, E, IT, EA, BE)	
	8-953-580-90	HEADPHONE MDR-W07G SET (US, CND)	
	X-3369-992-1	CLIP ASSY, BELT	

9-960-098-11
(Including 9-960-098-81)

Sony Corporation
Consumer A&V Products Company
Personal A&V Products Div.

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WM-FS493/FS495

SONY **SERVICE MANUAL**

US Model
WM-FS493/FS495

Canadian Model

AEP Model

UK Model

E Model
WM-FS493

SUPPLEMENT-2

File this supplement with the service manual.

**Subject : 1. PARTS CHANGE
2. CIRCUIT CHANGE (DISPLAY BOARD)
3. CHANGE OF MAIN BOARD**

(ECN-WM500632)

1. PARTS CHANGE


- The following parts have been changed as shown below.
- : Changed portion

Page	FORMER				NEW				
29	Ref.No	Part No	Description	Remark	Ref.No	Part No	Description	Remark	
					81	3-925-165-01	SCREW (1, 4X2.5)		

2. CIRCUIT CHANGE (DISPLAY BOARD)

DISPLAY

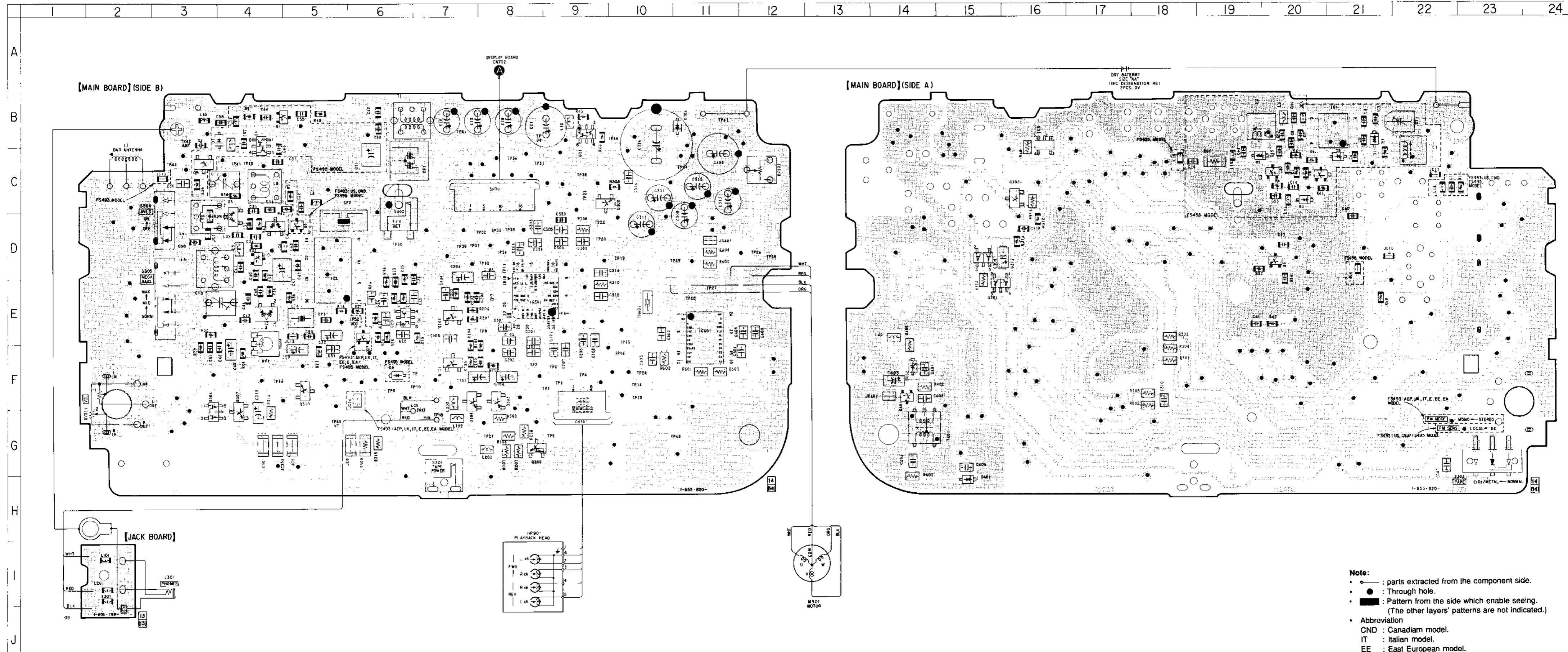
- As for DISPLAY board, the board has changed to suffix No. **13**, but the mounting position is almost the same.
- The difference points are as below.

 : Changed portion

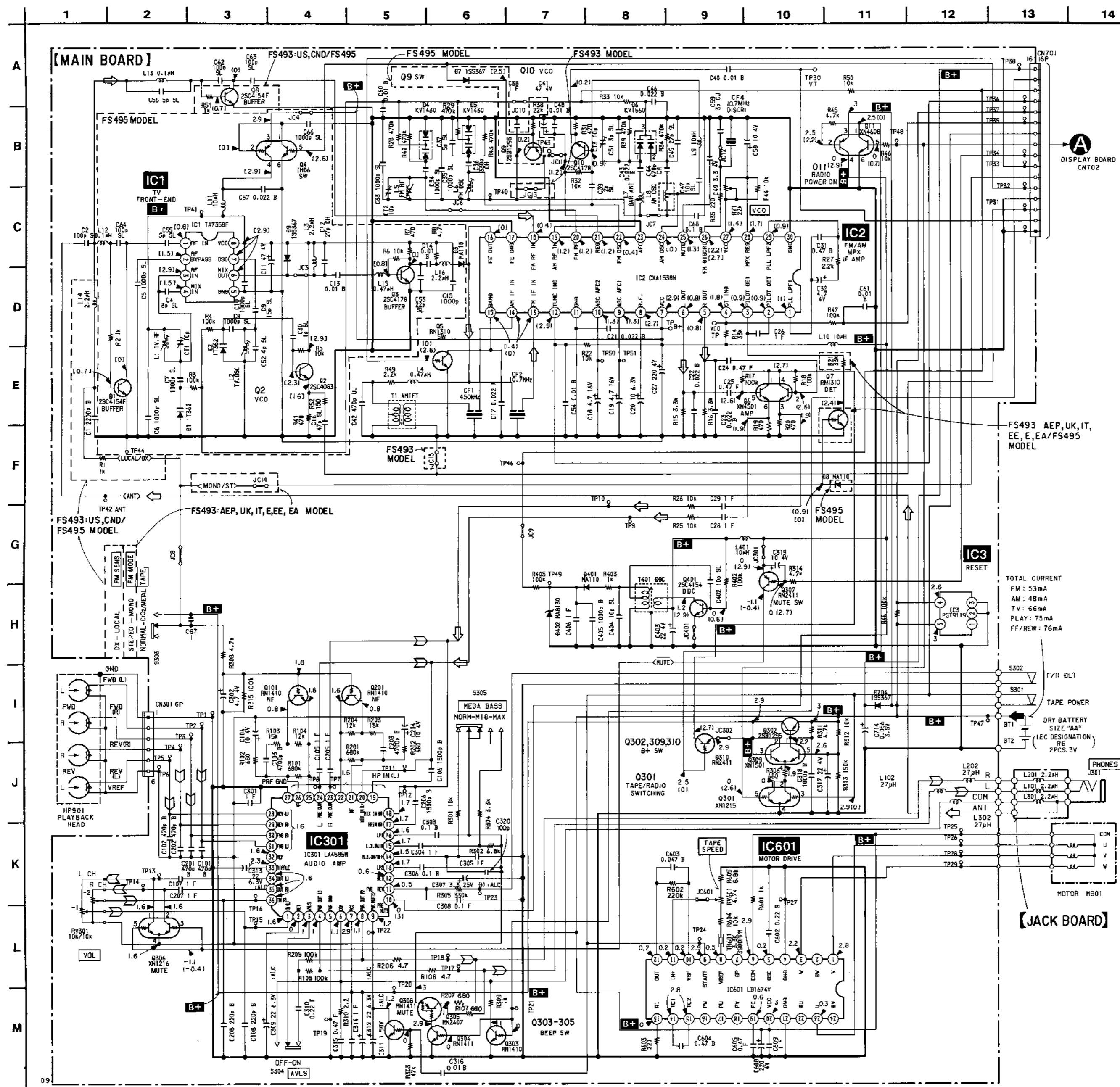
Page	FORMER				NEW			
	Ref. No	Part No	Description	Remark	Ref. No	Part No	Description	Remark
31.	*** ELECTRICAL PARTS LIST ***				*** ELECTRICAL PARTS LIST ***			
	*** DISPLAY BOARD ***				*** DISPLAY BOARD ***			
	C713	1-163-109-00	CERAMIC CHIP 47PF	5% 50V (FS495)	C713	1-163- 141 -00	CERAMIC CHIP <u>0.001</u> μF	5% 50V (FS495)
	C716	1-164-004-11	CERAMIC CHIP 0.1μF	10% 25V (FS495)	C716	1-164- 232 -11	CERAMIC CHIP <u>0.01</u> μF	50V (FS495)
	C717	1-163-088-00	CERAMIC CHIP 5PF	5% 50V (FS495)	C717	1-163- 093 -00	CERAMIC CHIP <u>10</u> PF	5% 50V (FS495)
	IC701	8-759-329-93	IC uPD1724GB-688-1A7		IC701	8-759- 336 -40	IC uPD1724GB- <u>693</u> -1A7	
	Q703	8-729-117-73	TRANSISTOR 2SC4178-F14	(FS495)	Q703	8-729- 923 -31	TRANSISTOR <u>2SC4083</u> -P	(FS495)
	R704	1-216-085-00	METAL CHIP 33K	5% 1/10W (FS495)	R704	1-216- 081 -00	METAL CHIP <u>22K</u>	5% 1/10W (FS495)
	R717	1-216-113-00	METAL CHIP 470K	5% 1/10W	R717	1-216- 121 -91	METAL GLAZE <u>1M</u>	5% 1/10W

3. CHANGE OF MAIN BOARD

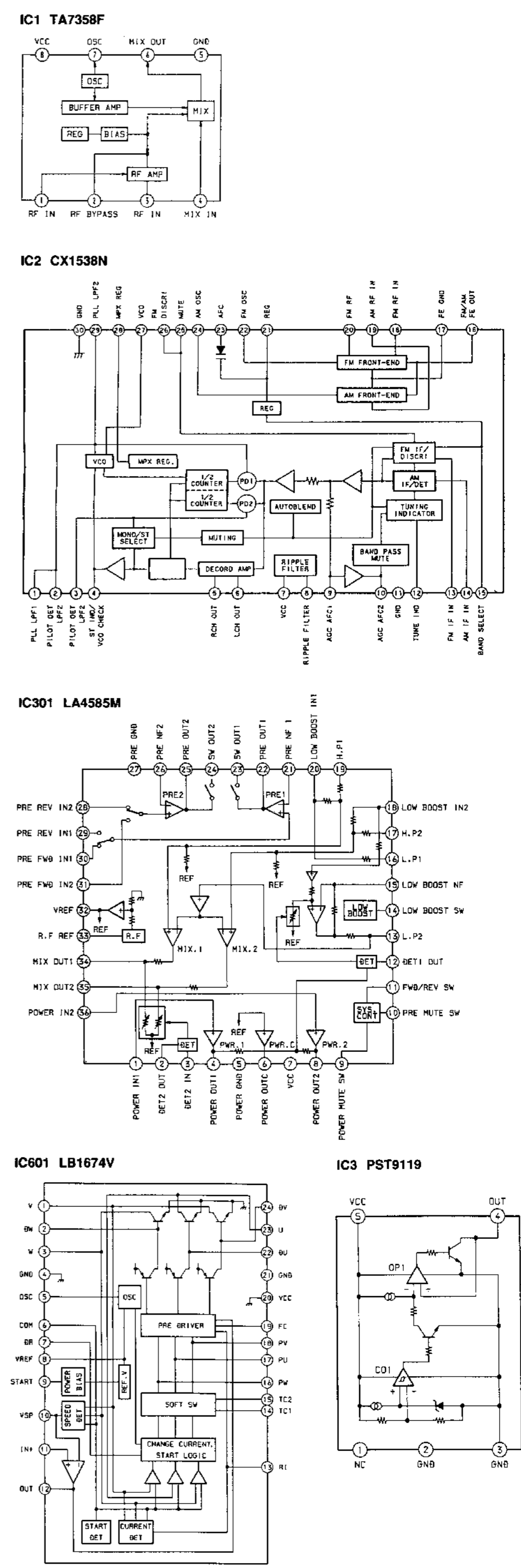
• PRINTED WIRING BOARD — MAIN SECTION —



SCHEMATIC DIAGRAM — MAIN SECTION —



IC BLOCK DIAGRAMS



Semiconductor Location

Ref. No.	Location
D1	C-21
D2	C-19
D3	C-20
D4	D-5
D5	C-4
D6	E-4
D7	B-3
D8	F-6
D9	C-21
D401	H-15
D402	F-14
D704	B-11
IC1	B-21
IC2	E-5
IC3	E-16
IC301	E-8
IC601	E-11
Q1	B-4
Q2	C-21
Q3	C-20
Q4	B-4
Q5	D-20
Q6	E-7
Q7	F-6
Q8	D-5
Q9	C-3
Q10	D-4
Q11	C-9
Q101	F-7
Q201	E-7
Q301	E-15
Q302	C-16
Q303	F-8
Q304	G-7
Q305	G-8
Q306	F-3
Q307	F-4
Q308	C-10
Q309	D-15
Q310	F-5
Q401	F-14

Note:

- : parts extracted from the component side.
- : Through hole.
- △ : internal component.
- ▨ : Pattern from the side which enable seeing. (The other layers' patterns are not indicated.)
- Abbreviation: CND : Canadian model, IT : Italian model, EE : East European model, EA : Saudi Arabia model.

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 $1/4\text{W}$ or less unless otherwise specified.
- Panel designation: [] : panel designation, B+ : B+ Line, [] : adjustment for repair.

Voltage and waveforms are dc with respect to ground under no-signal conditions. no mark : TAPE PLAY () : FM () : AM () : TV (13ch) Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.

Power voltage is dc 3.0V and fed with regulated dc power supply from BATTERY TERMINAL. Total current is measured with no cassette installed. Signal path: [] : FM [] : PB Abbreviation: CND : Canadian model, IT : Italian model, EE : East European model, EA : Saudi Arabia model.

ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- 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, μ , for example:
 $\mu A...$: $\mu A...$, $\mu PA...$: $\mu PA...$, $\mu PB...$: $\mu PB...$,
 $\mu PC...$: $\mu PC...$, $\mu PD...$: $\mu PD...$
- CAPACITORS
 μF : μF
- COILS
 μH : μH
- Abbreviation
CND : Canadian model
IT : Italian model
EE : East European model
EA : Saudi Arabia model

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
	A-3016-691-A	MAIN BOARD, COMPLETE (FS493:US, CND) *****		C30	1-162-930-11	CERAMIC CHIP 1PF 0.25PF 50V (FS495)	
	A-3016-695-A	MAIN BOARD, COMPLETE (FS493:AEP, UK, IT, BE, E, EA) *****		C31	1-107-823-11	CERAMIC CHIP 0.47 μ F 10% 16V	
	A-3016-700-A	MAIN BOARD, COMPLETE (FS495) *****		C32	1-135-151-21	TANTALUM CHIP 4.7 μ F 20% 4V	
	3-318-201-01	SCREW (B) (1.4X3), TAPPING		C33	1-164-357-11	CERAMIC CHIP 1000PF 5% 50V	
*	3-921-876-01	JOINT (B)		C34	1-164-357-11	CERAMIC CHIP 1000PF 5% 50V	
	3-921-877-01	SPRING, BATTERY COIL		C35	1-164-357-11	CERAMIC CHIP 1000PF 5% 50V	
	3-921-878-01	TERMINAL BOARD, BATTERY		C36	1-162-959-11	CERAMIC CHIP 330PF 5% 50V	
		< CAPACITOR >		C37	1-162-936-11	CERAMIC CHIP 5PF 0.25PF 50V	
C1	1-162-966-11	CERAMIC CHIP 0.0022 μ F 10% 50V (FS493:US, CND/FS495)		C38	1-164-346-11	CERAMIC CHIP 1 μ F 16V	
C2	1-162-953-11	CERAMIC CHIP 100PF 5% 50V		C39	1-162-932-11	CERAMIC CHIP 2PF 0.25PF 50V	
C4	1-162-934-11	CERAMIC CHIP 3PF 0.25PF 50V (FS495)		C40	1-162-970-11	CERAMIC CHIP 0.01 μ F 10% 25V	
C5	1-164-357-11	CERAMIC CHIP 1000PF 5% 50V (FS495)		C41	1-104-908-11	TANTAL. CHIP 47 μ F 20% 4V	
C6	1-164-357-11	CERAMIC CHIP 1000PF 5% 50V (FS495)		C42	1-164-362-11	CERAMIC CHIP 470PF 5% 50V	
C7	1-164-357-11	CERAMIC CHIP 1000PF 5% 50V (FS495)		C43	1-164-227-11	CERAMIC CHIP 0.022 μ F 10% 25V	
C8	1-164-357-11	CERAMIC CHIP 1000PF 5% 50V (FS495)		C44	1-164-315-11	CERAMIC CHIP 470PF 5% 50V	
C9	1-162-943-11	CERAMIC CHIP 15PF 5% 50V (FS495)		C45	1-162-946-11	CERAMIC CHIP 27PF 5% 50V	
C10	1-164-357-11	CERAMIC CHIP 1000PF 5% 50V (FS495)		C46	1-164-227-11	CERAMIC CHIP 0.022 μ F 10% 25V	
C11	1-104-908-11	TANTAL. CHIP 47 μ F 20% 4V (FS495)		C47	1-162-941-11	CERAMIC CHIP 10PF 0.5PF 50V	
C12	1-162-920-11	CERAMIC CHIP 27PF 5% 50V (FS495)		C48	1-162-970-11	CERAMIC CHIP 0.01 μ F 10% 25V	
C13	1-162-970-11	CERAMIC CHIP 0.01 μ F 10% 25V (FS495)		C49	1-135-180-21	TANTALUM CHIP 3.3 μ F 20% 6.3V	
C14	1-162-970-11	CERAMIC CHIP 0.01 μ F 10% 25V (FS495)		C50	1-135-201-11	TANTALUM CHIP 10 μ F 20% 4V	
C15	1-164-357-11	CERAMIC CHIP 1000PF 5% 50V (FS495)		C51	1-162-934-11	CERAMIC CHIP 3PF 0.25PF 50V	
C16	1-162-949-11	CERAMIC CHIP 47PF 5% 50V (FS495)		C52	1-162-935-11	CERAMIC CHIP 4PF 0.25PF 50V (FS495)	
C17	1-162-995-11	CERAMIC CHIP 0.022 μ F 50V		C53	1-162-945-11	CERAMIC CHIP 22PF 5% 50V (FS495)	
C18	1-126-163-11	ELECT 4.7 μ F 20% 50V		C54	1-162-970-11	CERAMIC CHIP 0.01 μ F 10% 25V	
C19	1-126-163-11	ELECT 4.7 μ F 20% 50V		C55	1-162-936-11	CERAMIC CHIP 5PF 0.25PF 50V (FS495)	
C20	1-126-157-11	ELECT 10 μ F 20% 16V		C56	1-162-936-11	CERAMIC CHIP 5PF 0.25PF 50V	
C21	1-164-227-11	CERAMIC CHIP 0.022 μ F 10% 25V		C57	1-164-227-11	CERAMIC CHIP 0.022 μ F 10% 25V (FS495)	
C22	1-164-227-11	CERAMIC CHIP 0.022 μ F 10% 25V		C59	1-162-908-11	CERAMIC CHIP 3PF 0.25PF 50V	
C23	1-164-227-11	CERAMIC CHIP 0.022 μ F 10% 25V		C60	1-162-970-11	CERAMIC CHIP 0.01 μ F 10% 25V	
C24	1-164-005-11	CERAMIC CHIP 0.47 μ F 25V		C61	1-162-970-11	CERAMIC CHIP 0.01 μ F 10% 25V	
C25	1-164-005-11	CERAMIC CHIP 0.47 μ F 25V		C62	1-162-953-11	CERAMIC CHIP 100PF 5% 50V	
C26	1-164-346-11	CERAMIC CHIP 1 μ F 16V		C63	1-162-953-11	CERAMIC CHIP 100PF 5% 50V	
C27	1-124-434-00	ELECT 220 μ F 20% 4V		C64	1-162-953-11	CERAMIC CHIP 100PF 5% 50V (FS495)	
C28	1-164-346-11	CERAMIC CHIP 1 μ F 16V		C66	1-164-357-11	CERAMIC CHIP 1000PF 5% 50V (FS495)	
C29	1-164-346-11	CERAMIC CHIP 1 μ F 16V		C67	1-164-346-11	CERAMIC CHIP 1 μ F 16V	
				C68	1-107-826-11	CERAMIC CHIP 0.1 μ F 10% 16V	
				C101	1-163-005-11	CERAMIC CHIP 470PF 10% 50V	
				C102	1-163-005-11	CERAMIC CHIP 470PF 10% 50V	
				C103	1-162-968-11	CERAMIC CHIP 0.0047 μ F 10% 50V	
				C104	1-135-201-11	TANTALUM CHIP 10 μ F 20% 4V	
				C105	1-164-346-11	CERAMIC CHIP 1 μ F 16V	

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C106	1-163-011-11	CERAMIC CHIP	0.0015uF 10%	50V		< CONNECTOR >	
C107	1-164-346-11	CERAMIC CHIP	1uF	16V			
C108	1-163-001-11	CERAMIC CHIP	220PF 10%	50V	CN301	1-766-819-11	CONNECTOR, FPC (ZIF) 6P
C201	1-163-005-11	CERAMIC CHIP	470PF 10%	50V	CN701	1-766-584-11	CONNECTOR, FPC (ZIF) 16P
C202	1-163-005-11	CERAMIC CHIP	470PF 10%	50V		< TRIMMER >	
C203	1-162-968-11	CERAMIC CHIP	0.0047uF 10%	50V			
C204	1-135-201-11	TANTALUM CHIP	10uF 20%	4V	CT1	1-141-327-11	CAP, VAR, TRIMMER (CHIP TYPE) (FS495)
C205	1-164-346-11	CERAMIC CHIP	1uF	16V	CT2	1-141-463-11	CAP, ADJ
C206	1-163-011-11	CERAMIC CHIP	0.0015uF 10%	50V	CT3	1-141-463-11	CAP, ADJ
C207	1-164-346-11	CERAMIC CHIP	1uF	16V		< DIODE >	
C208	1-163-001-11	CERAMIC CHIP	220PF 10%	50V	D1	8-713-100-11	DIODE 1T362 (FS495)
C301	1-164-346-11	CERAMIC CHIP	1uF	16V	D2	8-713-100-11	DIODE 1T362 (FS495)
C302	1-135-151-21	TANTALUM CHIP	4.7uF 20%	4V	D3	8-719-404-46	DIODE MA110 (FS495)
C303	1-164-004-11	CERAMIC CHIP	0.1uF 10%	25V	D4	8-719-032-80	DIODE KV1430-TL
C304	1-164-346-11	CERAMIC CHIP	1uF	16V	D5	8-719-032-80	DIODE KV1430-TL
C305	1-164-346-11	CERAMIC CHIP	1uF	16V	D6	8-719-951-05	DIODE KV1560
C306	1-164-004-11	CERAMIC CHIP	0.1uF 10%	25V	D7	8-719-049-09	DIODE 1SS367-T3SONY (FS495)
C307	1-126-162-11	ELECT	3.3uF 20%	50V	D8	8-719-404-46	DIODE MA110 (FS495)
C308	1-163-038-91	CERAMIC CHIP	0.1uF	25V	D9	8-719-049-09	DIODE 1SS367-T3SONY (FS495)
C309	1-126-153-11	ELECT	22uF 20%	6.3V	D401	8-719-404-46	DIODE MA110
C310	1-164-222-11	CERAMIC CHIP	0.22uF	25V	D402	8-719-977-52	DIODE DTZ16A
C311	1-126-160-11	ELECT	1uF 20%	50V	D704	8-719-049-09	DIODE 1SS367-T3SONY
C312	1-126-153-11	ELECT	22uF 20%	6.3V		< IC >	
C313	1-126-153-11	ELECT	22uF 20%	6.3V	IC1	8-759-339-49	IC TA7358F-N.SONY.EL (FS495)
C314	1-164-346-11	CERAMIC CHIP	1uF	16V	IC2	8-752-072-12	IC CXA1538N
C315	1-164-005-11	CERAMIC CHIP	0.47uF	25V	IC3	8-759-339-16	IC PST9119NL
C316	1-164-232-11	CERAMIC CHIP	0.01uF	50V	IC301	8-759-332-69	IC LA4585M-TLM
C317	1-104-847-11	TANTAL. CHIP	22uF 20%	4V	IC601	8-759-275-47	IC LB1674V-TLM
C318	1-162-964-11	CERAMIC CHIP	0.001uF 10%	50V		< JUMPER RESISTOR >	
C319	1-135-201-11	TANTALUM CHIP	10uF 20%	4V	JC3	1-216-864-11	METAL CHIP 0 5% 1/16W (FS495)
C320	1-162-953-11	CERAMIC CHIP	100PF 5%	50V	JC4	1-216-864-11	METAL CHIP 0 5% 1/16W (FS495)
C402	1-163-093-00	CERAMIC CHIP	10PF 5%	50V	JC6	1-216-864-11	METAL CHIP 0 5% 1/16W
C403	1-104-847-11	TANTAL. CHIP	22uF 20%	4V	JC7	1-216-864-11	METAL CHIP 0 5% 1/16W
C404	1-163-093-00	CERAMIC CHIP	10PF 5%	50V	JC8	1-216-296-91	CONDUCTOR, CHIP (3216)
C405	1-163-009-11	CERAMIC CHIP	0.001uF 10%	50V	JC9	1-216-296-91	CONDUCTOR, CHIP (3216)
C406	1-164-346-11	CERAMIC CHIP	1uF	16V	JC10	1-216-864-11	METAL CHIP 0 5% 1/16W
C602	1-164-489-11	CERAMIC CHIP	0.22uF 10%	16V	JC11	1-216-864-11	METAL CHIP 0 5% 1/16W
C603	1-163-809-11	CERAMIC CHIP	0.047uF 10%	25V	JC12	1-216-864-11	METAL CHIP 0 5% 1/16W
C604	1-107-823-11	CERAMIC CHIP	0.47uF 10%	16V	JC13	1-216-864-11	METAL CHIP 0 5% 1/16W (FS493)
C605	1-164-005-11	CERAMIC CHIP	0.47uF	25V	JC14	1-216-295-91	CONDUCTOR, CHIP (2012) (FS493:AEP, UK, IT, EE, E, EA)
C608	1-124-434-00	ELECT	220uF 20%	4V	JC15	1-216-864-11	METAL CHIP 0 5% 1/16W (FS493)
C609	1-164-346-11	CERAMIC CHIP	1uF	16V	JC301	1-216-296-91	CONDUCTOR, CHIP (3216)
C714	1-125-639-11	CAPACITOR	56000uF	3.5V	JC302	1-216-296-91	CONDUCTOR, CHIP (3216)
		< FILTER >			JC401	1-216-295-91	CONDUCTOR, CHIP (2012)
CF1	1-579-823-21	FILTER, CERAMIC (450kHz)			JC601	1-216-295-91	CONDUCTOR, CHIP (2012)
CF2	1-760-648-11	FILTER, CERAMIC (10.7MHz)					
CF4	1-577-065-21	FILTER, CERAMIC (10.7MHz)					

MAIN

Ref. No.	Part No.	Description	Remark
< COIL >			
L1	1-411-305-11	COIL (WITH CORE) (TV RF) (FS495)	
L2	1-411-306-21	COIL (WITH CORE) (TV OSC) (FS495)	
L3	1-410-997-31	INDUCTOR CHIP 2.2uH (FS495)	
L4	1-412-975-31	INDUCTOR 0.47uH	
L5	1-411-289-11	COIL (WITH CORE) (FM-RF)	
L6	1-411-288-11	COIL (WITH CORE) (FM-OSC)	
L7	1-501-760-11	ANTENNA, FERRITE-ROD (MW)	
L8	1-411-205-11	COIL (WITH CORE) (AM-OSC)	
L9	1-412-006-31	INDUCTOR CHIP 10uH	
L10	1-412-006-31	INDUCTOR CHIP 10uH	
L11	1-412-006-31	INDUCTOR CHIP 10uH (FS495)	
L12	1-412-967-31	INDUCTOR 0.1uH (FS495)	
L13	1-412-967-31	INDUCTOR 0.1uH	
L14	1-412-983-31	INDUCTOR 2.2uH (FS493:US, CND/FS495)	
L15	1-412-975-31	INDUCTOR 0.47uH (FS495)	
L16	1-412-983-31	INDUCTOR 2.2uH (FS495)	
L102	1-412-011-31	INDUCTOR CHIP 27uH	
L202	1-412-011-31	INDUCTOR CHIP 27uH	
L302	1-412-011-31	INDUCTOR CHIP 27uH	
L401	1-412-006-31	INDUCTOR CHIP 10uH	
< TRANSISTOR >			
Q1	8-729-602-21	TRANSISTOR 2SC4154-F (FS495)	
Q2	8-729-923-31	TRANSISTOR 2SC4083-P (FS495)	
Q3	8-729-117-73	TRANSISTOR 2SC4178-F14 (FS495)	
Q4	8-729-925-52	TRANSISTOR 1MD6 (FS495)	
Q5	8-729-029-10	TRANSISTOR DTC143TUA-T106	
Q6	8-729-402-81	TRANSISTOR XN4501	
Q7	8-729-029-10	TRANSISTOR DTC143TUA-T106 (FS493:AEP, UK, IT, EE, E, EA/FS495)	
Q8	8-729-602-21	TRANSISTOR 2SC4154-F (FS493:US, CND/FS495)	
Q9	8-729-807-87	TRANSISTOR 2SB1295-UL6 (FS495)	
Q10	8-729-117-73	TRANSISTOR 2SC4178-F14	
Q11	8-729-402-16	TRANSISTOR XN4608	
Q101	8-729-027-56	TRANSISTOR DTC143TKA-T146	
Q201	8-729-027-56	TRANSISTOR DTC143TKA-T146	
Q301	8-729-403-17	TRANSISTOR XN1215	
Q302	8-729-807-86	TRANSISTOR 2SB1295-UL5	
Q303	8-729-027-56	TRANSISTOR DTC143TKA-T146	
Q304	8-729-027-60	TRANSISTOR DTC144TKA-T146	
Q305	8-729-027-26	TRANSISTOR DTA114YKA-T146	
Q306	8-729-421-23	TRANSISTOR XN1216	
Q307	8-729-027-24	TRANSISTOR DTA114TKA-T146	
Q308	8-729-027-60	TRANSISTOR DTC144TKA-T146	
Q309	8-729-402-13	TRANSISTOR XN1501	
Q310	8-729-027-24	TRANSISTOR DTA114TKA-T146	
Q401	8-729-602-21	TRANSISTOR 2SC4154-F	

Ref. No.	Part No.	Description	Remark
< RESISTOR >			
R1	1-216-821-11	METAL CHIP 1K 5% 1/16W (FS493:US, CND/FS495)	
R2	1-216-821-11	METAL CHIP 1K 5% 1/16W (FS495)	
R3	1-216-845-11	METAL CHIP 100K 5% 1/16W (FS495)	
R4	1-216-845-11	METAL CHIP 100K 5% 1/16W (FS495)	
R5	1-216-833-11	METAL CHIP 10K 5% 1/16W (FS495)	
R6	1-216-833-11	METAL CHIP 10K 5% 1/16W (FS495)	
R7	1-216-817-11	METAL CHIP 470 5% 1/16W (FS495)	
R8	1-216-829-11	METAL CHIP 4.7K 5% 1/16W (FS495)	
R14	1-216-839-11	METAL CHIP 33K 5% 1/16W	
R15	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R16	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R17	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R18	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R19	1-216-817-11	METAL CHIP 470 5% 1/16W	
R20	1-216-817-11	METAL CHIP 470 5% 1/16W	
R21	1-216-839-11	METAL CHIP 33K 5% 1/16W (FS493:AEP, UK, IT, EE, EA/FS495)	
R22	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R25	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R26	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R27	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R28	1-216-853-11	METAL CHIP 470K 5% 1/16W	
R29	1-216-853-11	METAL CHIP 470K 5% 1/16W	
R31	1-216-817-11	METAL CHIP 470 5% 1/16W	
R32	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R33	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R34	1-216-853-11	METAL CHIP 470K 5% 1/16W	
R35	1-216-813-11	METAL CHIP 220 5% 1/16W	
R38	1-216-837-11	METAL CHIP 22K 5% 1/16W (FS495)	
R39	1-216-853-11	METAL CHIP 470K 5% 1/16W	
R41	1-216-817-11	METAL CHIP 470 5% 1/16W (FS495)	
R42	1-216-853-11	METAL CHIP 470K 5% 1/16W	
R43	1-216-853-11	METAL CHIP 470K 5% 1/16W	
R44	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R45	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R46	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R47	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R48	1-216-097-91	METAL GLAZE 100K 5% 1/10W	
R49	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R50	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R51	1-216-821-11	METAL CHIP 1K 5% 1/16W (FS493:US, CND/FS495)	
R52	1-216-178-00	METAL GLAZE 150 5% 1/8W (FS495)	
R101	1-216-855-11	METAL CHIP 680K 5% 1/16W	
R102	1-216-819-11	METAL CHIP 680 5% 1/16W	
R103	1-216-835-11	METAL CHIP 15K 5% 1/16W	
R104	1-216-834-11	METAL CHIP 12K 5% 1/16W	
R105	1-216-097-91	METAL GLAZE 100K 5% 1/10W	

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
R106	1-216-308-00	METAL CHIP	4.7 5% 1/10W				
R107	1-216-045-00	METAL CHIP	680 5% 1/10W				
R201	1-216-855-11	METAL CHIP	680K 5% 1/16W				
R202	1-216-819-11	METAL CHIP	680 5% 1/16W				
R203	1-216-835-11	METAL CHIP	15K 5% 1/16W				
R204	1-216-834-11	METAL CHIP	12K 5% 1/16W				
R205	1-216-097-91	METAL GLAZE	100K 5% 1/10W				
R206	1-216-308-00	METAL CHIP	4.7 5% 1/10W				
R207	1-216-045-00	METAL CHIP	680 5% 1/10W				
R301	1-216-073-00	METAL CHIP	10K 5% 1/10W				
R302	1-216-069-00	METAL CHIP	6.8K 5% 1/10W				
R303	1-216-841-11	METAL CHIP	47K 5% 1/16W				
R304	1-216-061-00	METAL CHIP	3.3K 5% 1/10W				
R305	1-216-109-00	METAL CHIP	330K 5% 1/10W				
R306	1-216-045-00	METAL CHIP	680 5% 1/10W				
R308	1-216-214-00	METAL GLAZE	4.7K 5% 1/8W				
R309	1-216-049-91	METAL GLAZE	1K 5% 1/10W				
R310	1-216-298-00	METAL CHIP	2.2 5% 1/10W				
R311	1-216-065-00	METAL CHIP	4.7K 5% 1/10W				
R312	1-216-833-11	METAL CHIP	10K 5% 1/16W				
R313	1-216-847-11	METAL CHIP	150K 5% 1/16W				
R314	1-216-065-00	METAL CHIP	4.7K 5% 1/10W				
R315	1-216-097-91	METAL GLAZE	100K 5% 1/10W				
R402	1-216-097-91	METAL GLAZE	100K 5% 1/10W				
R403	1-216-049-91	METAL GLAZE	1K 5% 1/10W				
R405	1-216-097-91	METAL GLAZE	100K 5% 1/10W				
R601	1-216-049-91	METAL GLAZE	1K 5% 1/10W				
R602	1-216-105-91	METAL GLAZE	220K 5% 1/10W				
R603	1-216-033-00	METAL CHIP	220 5% 1/10W				
R604	1-216-073-00	METAL CHIP	10K 5% 1/10W				
R605	1-216-069-00	METAL CHIP	6.8K 5% 1/10W				
< VARIABLE RESISTOR >							
RY1	1-223-873-11	RES, ADJ, METAL GLAZE22K					
RY301	1-230-593-11	RES, VAR, CARBON 10K/10K (VOL)					
RY601	1-241-916-11	RES, ADJ, CARBON 4.7K					
< SWITCH >							
S301	1-762-302-11	SWITCH, PUSH (1 KEY) (TAPE POWER)					
S302	1-572-288-11	SWITCH, PUSH (F/R DET)					
S303	1-572-272-11	SWITCH, SLIDE (TAPE, FM SENS, FM MODE)					
S304	1-570-397-11	SWITCH, SLIDE (AVLS)					
S305	1-570-113-11	SWITCH, SLIDE (MEGA BASS)					
< TRANSFORMER >							
T1	1-411-210-11	COIL (WITH CORE) (AM-IFT)					
T401	1-450-306-11	TRANSFORMER, DC-DC CONVERTER					
< THERMISTOR >							
TH601	1-810-794-11	THERMISTOR, POSITIVE					

