

WM-FX822

SERVICE MANUAL

Tourist Model

Ver 1.1 2002. 01



Model Name Using Similar Mechanism	WM-EX510
Tape Transport Mechanism Type	MT-WMEX510-112

SPECIFICATIONS

Radio section

Frequency range FM (stereo) : 76.0 - 90 MHz
AM (mono) : 531 - 1,710 kHz
TV (mono): 1 -12 ch

Tape player section and general

Frequency response (NR off)
20 - 18,000 Hz (EIAJ*)
Output Headphones (REMOTE jack)
load impedance 8 - 300 Ω
Power output 4 mW + 4 mW (EIAJ, 16 Ω)
DC1.5V
Power requirements Rechargeable battery (NC-6WM)
One R6 (size AA) battery

Battery life (Approx. hours)

Rechargeable NC-6WM fully charged	
Playback	5
Radio/TV reception	7.5
Sony alkaline LR6 (WM)	
Playback	16
Radio/TV reception	24
Sony R6P (SR)	
Playback	3.5
Radio/TV reception	7

Dimensions

Approx. 108.5 x 78.6 x 23.0 mm (w/h/d)
incl. projecting parts and controls (EIAJ)
Mass Main unit Approx. 145 g
For use Approx. 240 g (incl. Stereo
earphone with remote controller,
rechargeable battery NC-6WM, tape C-
60HF)

Design and specifications subject to change without notice.

Using AC power

Remove the rechargeable battery if inserted and attach the battery case and connect the AC power adaptor (AC-E15L or AC-E15HG) not supplied) to the DC IN 1.5V of the battery case and to the wall outlet. Do not use any other AC power adaptor.



Polarity of
the plug

Dolby noise reduction manufactured under licence from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol \mathbb{D} are trademarks of Dolby Laboratories Licensing Corporation.

*(EIAJ) Electric Industries Association of Japan

— Continued on next page —

RADIO CASSETTE PLAYER
SONY[®]

Receiving Stations Outside Japan

- 1 Press BAND•RADIO ON to turn on the radio.
- 2 Press ENTER. The frequency digits, “PRESET” and a preset number flash in the display.
- 3 Press BAND•RADIO ON for more than 2 seconds. “AREA 1” flashes in the display.
- 4 While “AREA 1” is flashing, press PRESET+/- repeatedly to select either area “USA” (USA and Canada) or “Eur” (Europe and other countries) and then press ENTER.
- 5 Press ASP to store the radio stations (both AM and FM) automatically.
The Walkman starts searching and storing stations.
- 6 Press BAND•RADIO ON to select the desired band and press PRESET+/- to select a station.

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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.

SAFETY-RELATED COMPONENT WARNING !!

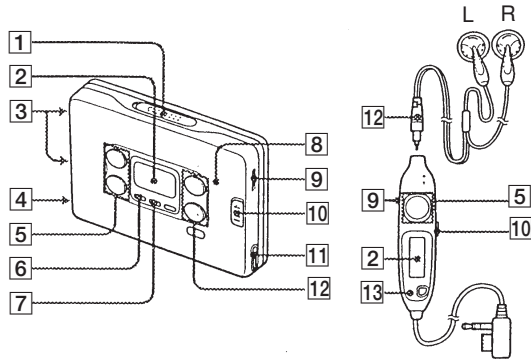
COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1 GENERAL

This section is extracted
from instruction manual.

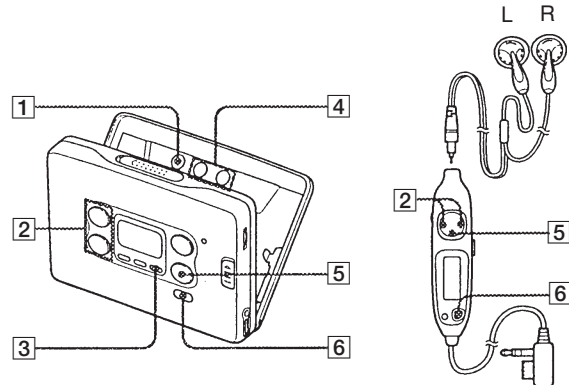
PARTS IDENTIFICATION

Tape Player and General section



- 1** OPEN knob
- 2** Display window
- 3** Terminal for a dry battery case
- 4** Battery compartment lid (for the rechargeable battery)
- 5** Tape operation buttons
- 6** MENU (function select) button
- 7** SET (function change) button
- 8** BATT (battery) indicator
- 9** Main unit : VOLUME knob
Remote controller : VOL knob
- 10** Main unit : Hold cover
Remote controller : HOLD switch
- 11** REMOTE (Headphone with remote control unit) jack
- 12** Micro plug
- 13** DBB (dynamic bass boost)/ALARM button

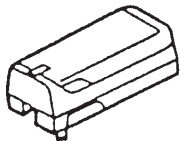
Radio section



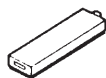
- 1** ENTER (input) button
- 2** PRESET +, - button
- 3** ASP (Automatic Station Preset) button
- 4** TUNE (tuning) +/- switch
- 5** ■ • RADIO OFF (stop/radio off) button
- 6** BAND (FM/AM/TV band select) • RADIO ON button

Accessories supplied

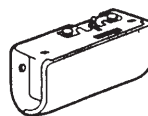
- Battery charger



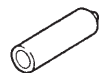
- Rechargeable battery NC-6WM



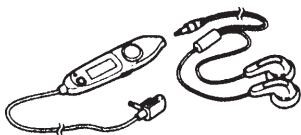
- Battery case



- Sony alkaline battery AM3 (SR)



- Stereo earphone (with Remote Controller)



- Ear adaptors(2)
(If the earphones do not fit your ears, attach the ear adaptors.)



- Carrying case



- Clip



- Plug adaptor
- Instruction manual
- Leaf lets
- Warranty card

SECTION 2

SERVICE NOTE

[Service Mode]

Mode which enables the mechanism to be operated with the MAIN board opened.

1. Setting
 - 1) Refer to “Disassembly” and remove the cabinet and open the MAIN board.
 - 2) Connect the MAIN board to the motor and plunger using a jumper wire. Use “Extension tool (1-769-143-11) (one set 10 tools)” to make connection simple.
 - 3) Short-circuit the TP52 and GND by soldering.
 - 4) Turn OFF the BL SKIP switch.
 - 5) Apply a square wave signal or a sine wave signal to TP52. (see the right figure)
 - 6) Supply 1.3V to the battery terminals (+) and (-) using a stabilized power supply.

2. Preset State

This state must be set to set the PLAY, FF, and REW modes.

- 1) Check that the lever (NR SW) is at the center and F/R switch (S701) is at the center. If not, set the preset state as follows.
- 2) Move the N/R switch (S701) according to the side faced by the lever (NR SW).
- 3) Turn OFF the stabilized power supply switch once and then turn it ON again so that the lever (NR SW) can be moved. Move the N/R switch (S701) according to this timing and set to the center.

3. FF REW Mode

- 1) Check the “2. Preset State” and press the FF switch and REW switch.

4. PLAY Mode

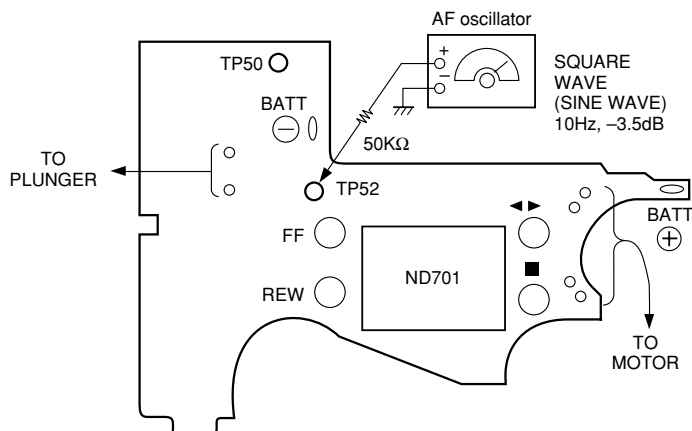
- 1) Check the “2. Preset State”.
- 2) Press the ◀▶ switch. The lever (NR SW) will move to the F side once and then to the R side. Move the N/R switch (S701) according to this timing to set the PLAY (R side) mode. Press the ◀▶ switch another time and move the N/R switch (S701) according to the movement of the lever (NR SW) to set the PLAY (N side) mode.

Note 1: If the above cannot be performed, start again from preset.

Note 2: Use the remote control ◀▶, ■, FF, and REW switches as much as possible. If the remote control is not available, do not touch switch with the hand and use something with a round tip to press them.

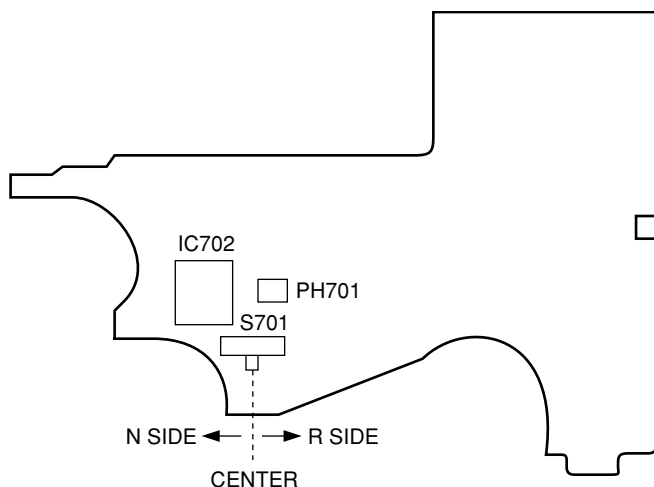
Note 3: By using a headphone, the timing for moving S701 can be known by the beep.

[MAIN Board]

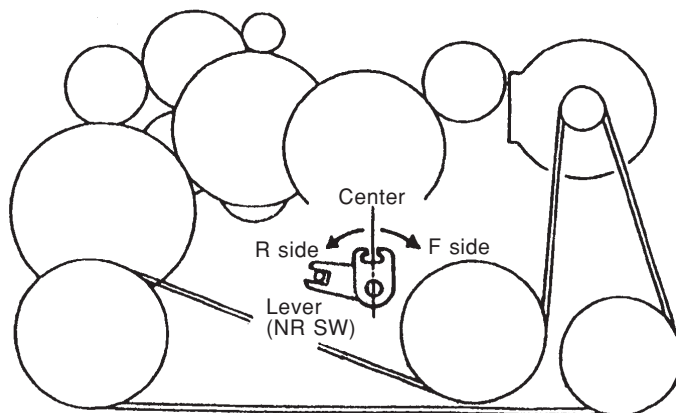


— Side A —

— Side B —

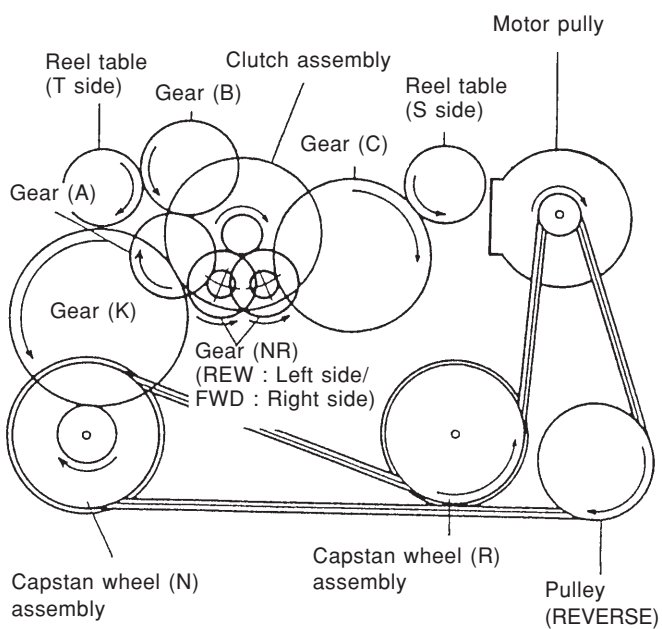


[Lever (NR SW)]

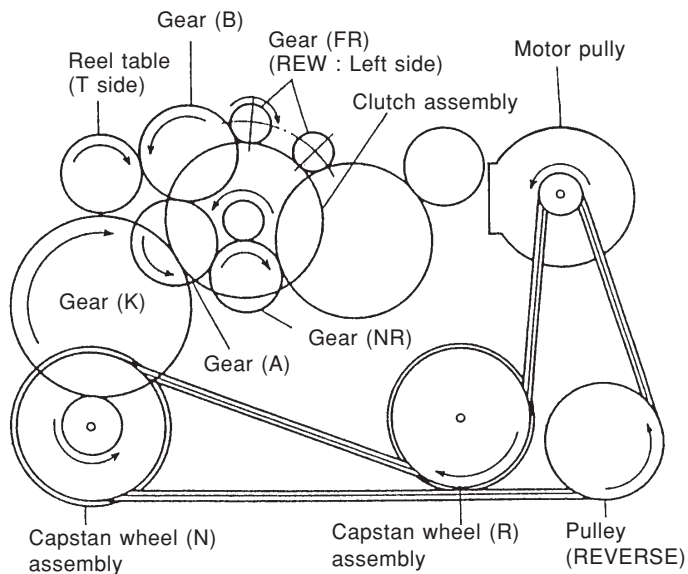


[Rotation system]

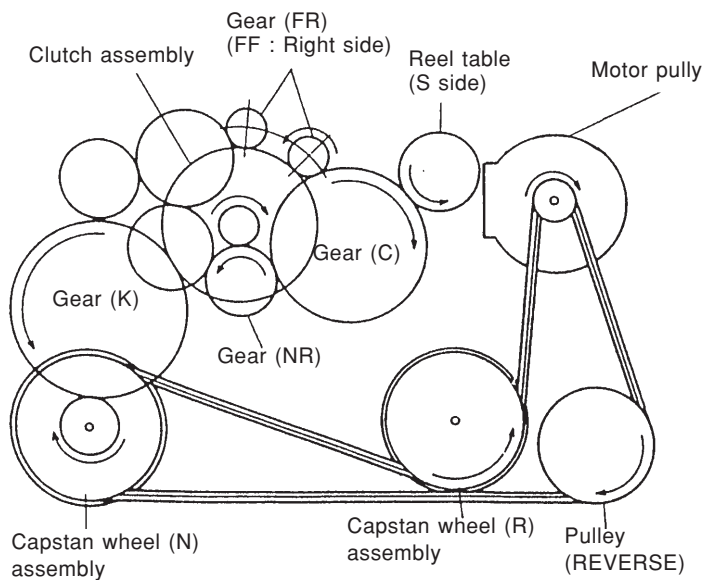
Rotation system during PLAY.



Rotation system during REW.



Rotation system during FF.

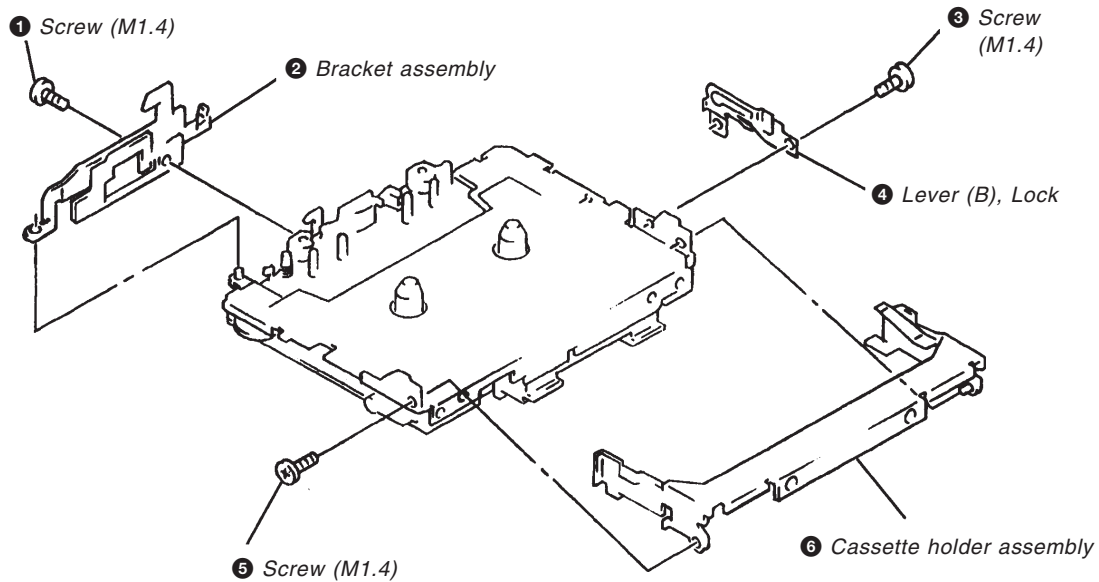


SECTION 3

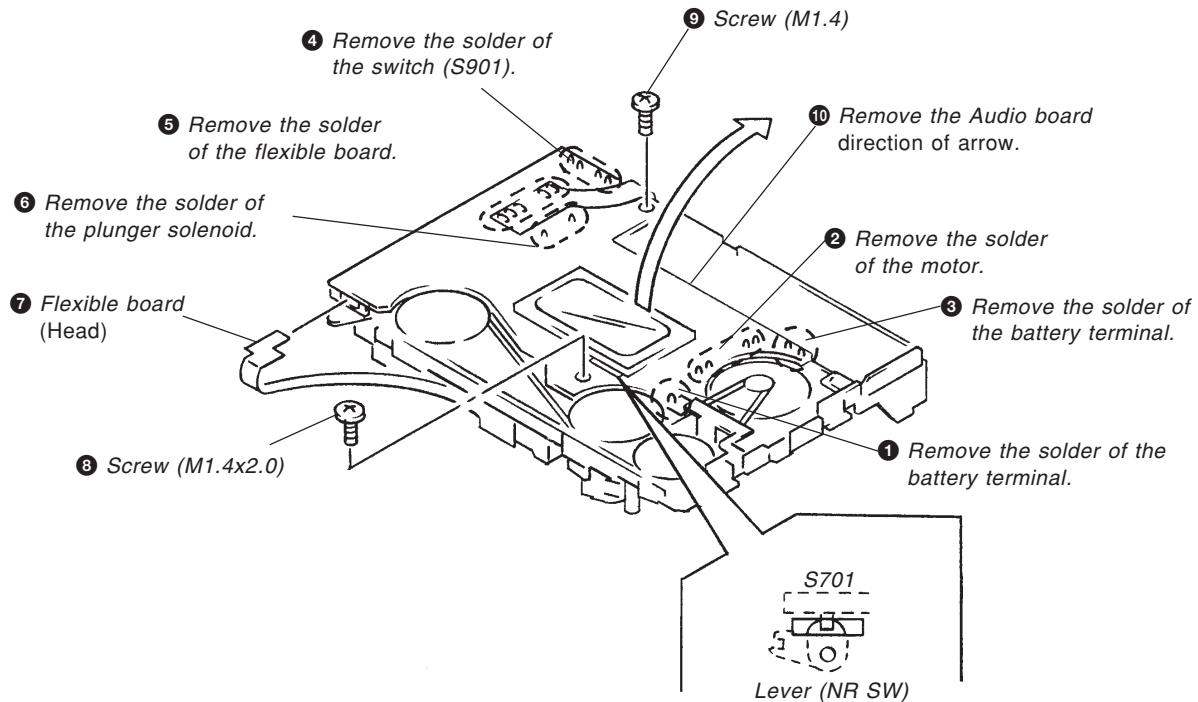
DISASSEMBLY

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

3-1. BRACKET ASSEMBLY AND CASSETTE HOLDER ASSEMBLY

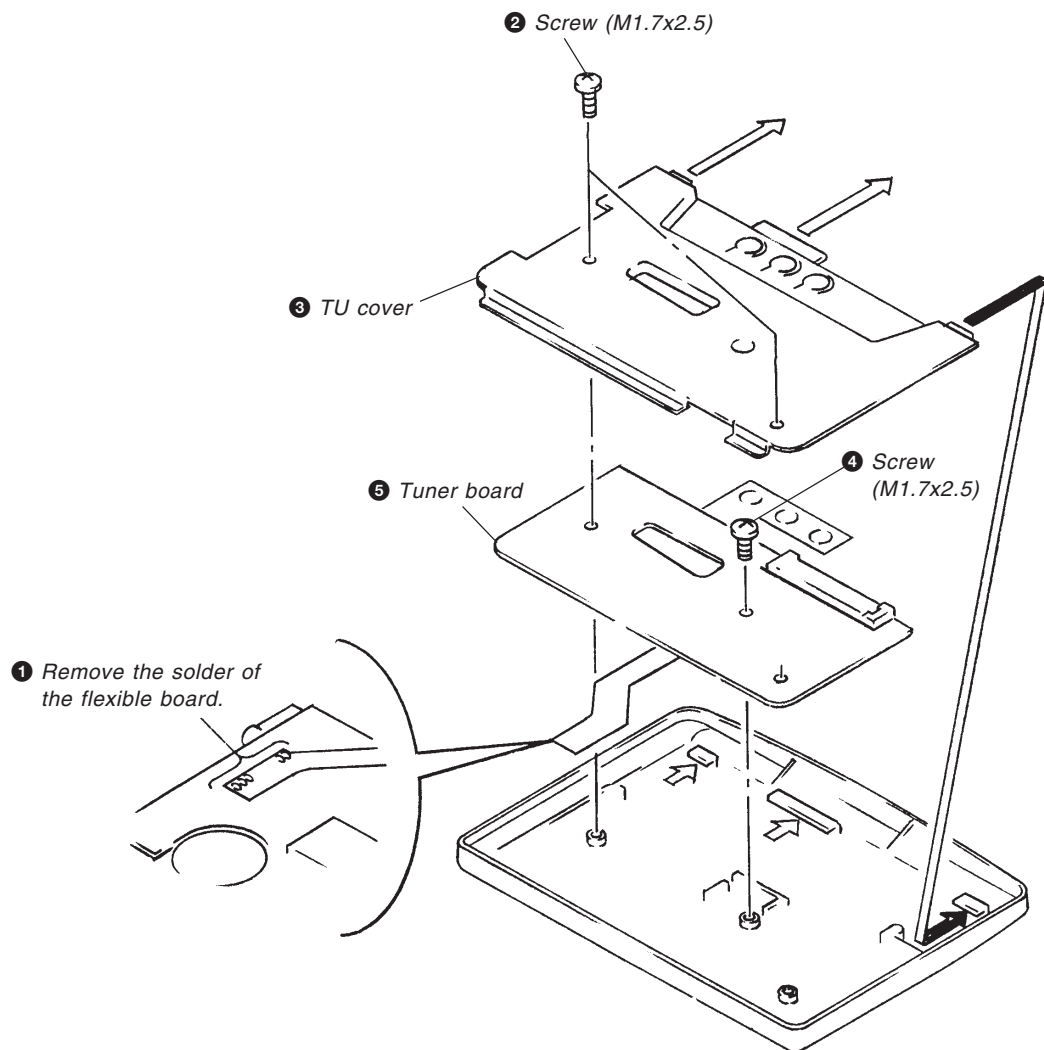


3-2. AUDIO BOARD



Note: Confirm if the switch lever installs itself in the groove of a lever (NR SW) for assembling.

3-3. TUNER BOARD



SECTION 4 ADJUSTMENTS

4-1. MECHANICAL ADJUSTMENTS

PRECAUTION

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

playback head	rubber belts
capstan	pinch roller
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 (1.3V) unless otherwise noted.

Torque Measurement

Mode	Torque Meter	Meter Reading
FWD	CQ-102C	18 — 33 g • cm
FWD Back Tension		0.5 — 3 g • cm
REV	CQ-102RC	18 — 33 g • cm
REV Back Tension		0.5 — 3 g • cm
FF	CQ-201B	more than 60 g • cm
REW		

4-2. ELECTRICAL ADJUSTMENTS

TAPE SECTION

PRECAUTION

1. Power supply voltage : 1.3V.
2. Switch position
 - DOLBY NR switch : OFF
 - EX DBB switch : NORM

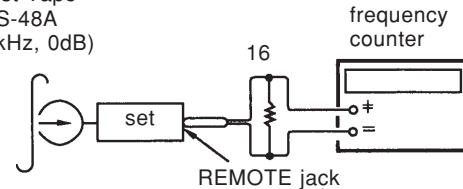
Test Tape

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

TAPE SPEED ADJUSTMENT

Procedure :

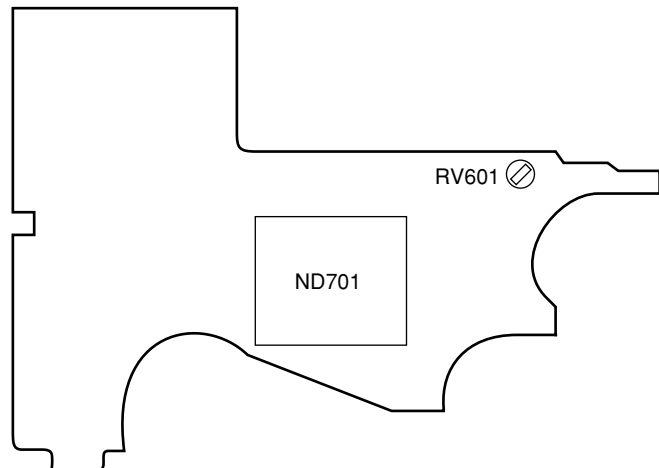
Test Tape
WS-48A
(3kHz, 0dB)



1. Play back WS-48A (tape center portion) in FWD mode. Adjust the RV601 so that the frequency counter reads $3,000 \pm 30$ Hz.
2. Play back WS-48A (tape center portion) in REV mode. Confirm that the reading of frequency counter is within 2.5% from the reading in step 1.

Adjustment Part Location Diagram :

[MAIN BOARD] (SIDE A)



TUNER SECTION

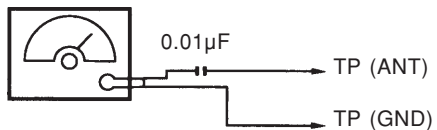
FM SECTION

Setting:

FUNCTION switch : RADIO

BAND switch : FM

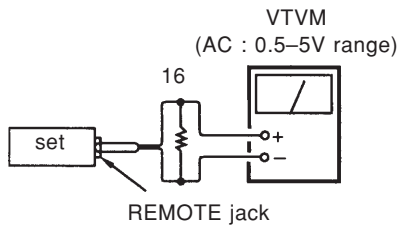
FM RF SSG



Modulation : 400 Hz, 22.5 kHz dev. (30%)

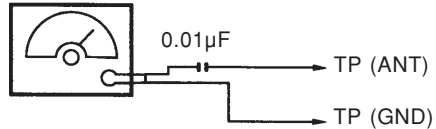
Output level : as low as possible.

FM IF ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L5	76.00 MHz



VCO ADJUSTMENT

FM RF SSG



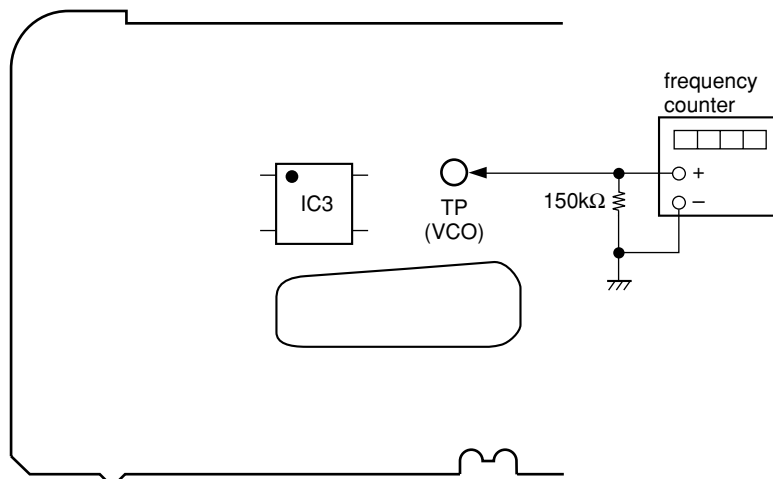
Carrier frequency : 78.00 MHz

Modulation : no-modulation

Output level : 55 dB (562 µV)

[TUNER BOARD]

Adjustment Element	Frequency Display	Frequency counter Reading
RV1	78.00 MHz	19.00 kHz \pm 0.05 kHz



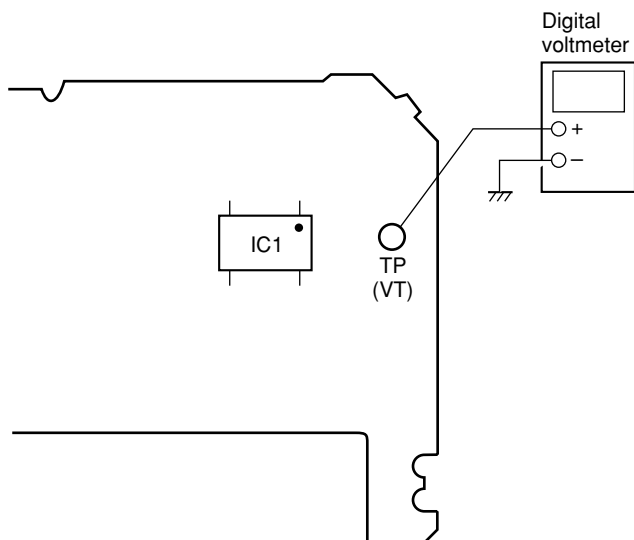
AM SECTION

Setting :

FUNCTION switch: RADIO

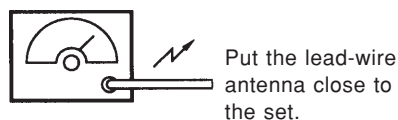
BAND switch : AM

AM TUNING VOLTAGE ADJUSTMENT



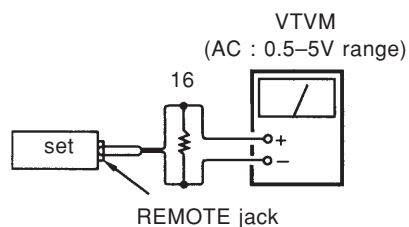
AM IF ADJUSTMENT, AM TRACKING ADJUSTMENT

AM RF SSG



Modulation : 400 Hz, 22.5 kHz dev. (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.

T2	1395 kHz
----	----------

AM TUNING VOLTAGE ADJUSTMENT

Adjust for a 1.20 ± 0.03 Vdc reading on Digital voltmeter.

T1	531 kHz
----	---------

AM TRACKING ADJUSTMENT

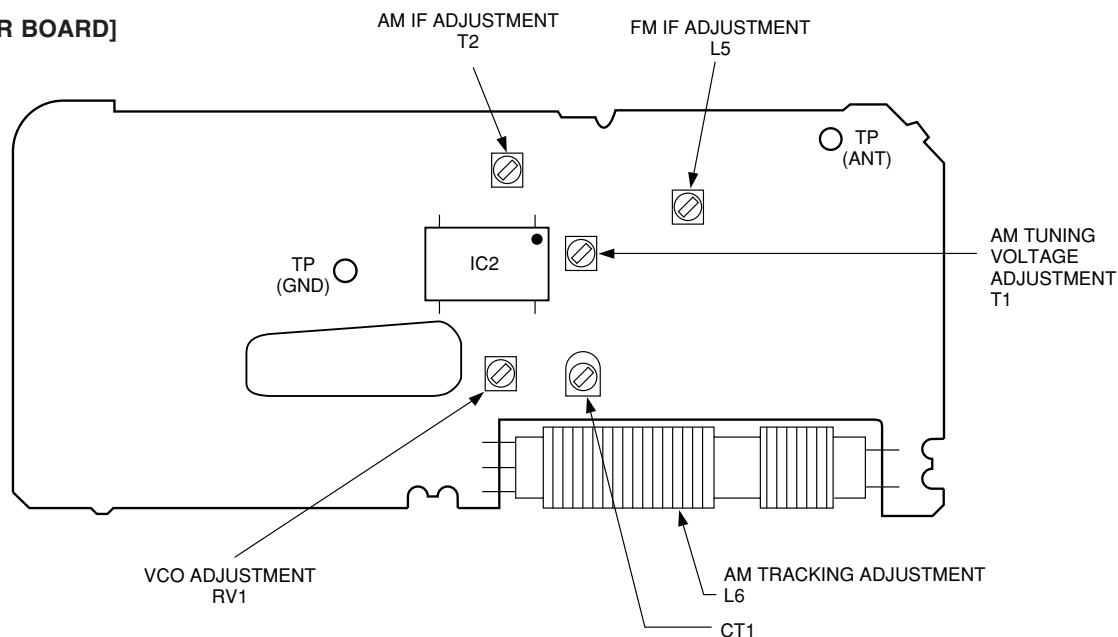
Adjust for a maximum reading on VTVM.

L6	621 kHz
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CT1	1395 kHz
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Adjustment Part Location Diagram :

[TUNER BOARD]

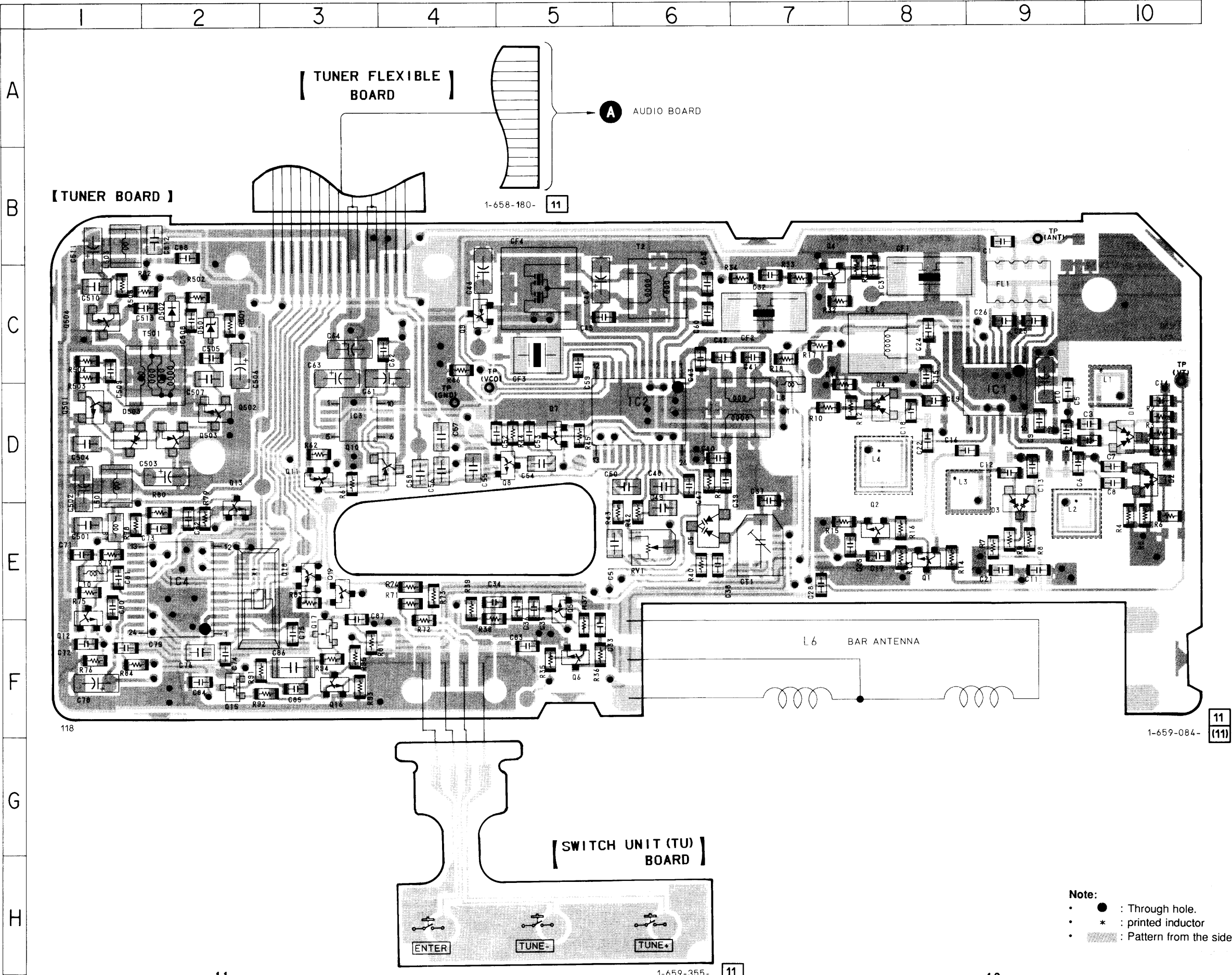


SECTION 5
DIAGRAMS

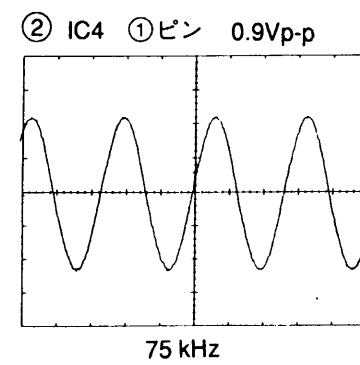
• Semiconductor
Location

Ref. No.	Location
D1	D-10
D2	D-10
D3	E-9
D4	D-8
D5	E-6
D501	C-2
D502	C-2
D503	D-1
IC1	D-9
IC2	D-6
IC3	D-3
IC4	E-2
Q1	E-8
Q2	E-8
Q4	C-7
Q5	E-5
Q6	F-5
Q7	D-5
Q8	D-5
Q9	C-4
Q10	D-4
Q11	D-3
Q12	F-1
Q13	E-2
Q15	F-2
Q16	F-3
Q17	F-3
Q18	E-3
Q19	E-3
Q501	D-1
Q502	D-2
Q503	D-2
Q504	C-1

5-1. PRINTED WIRING BOARD — TUNER SECTION —

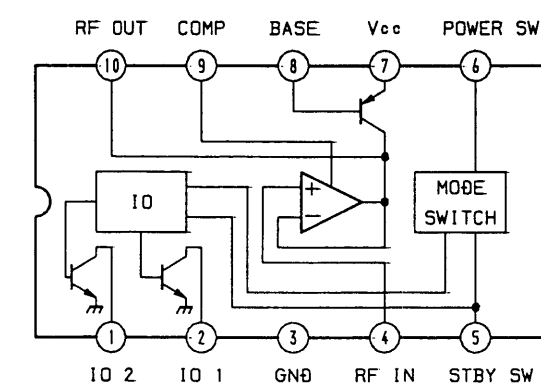


Waveform

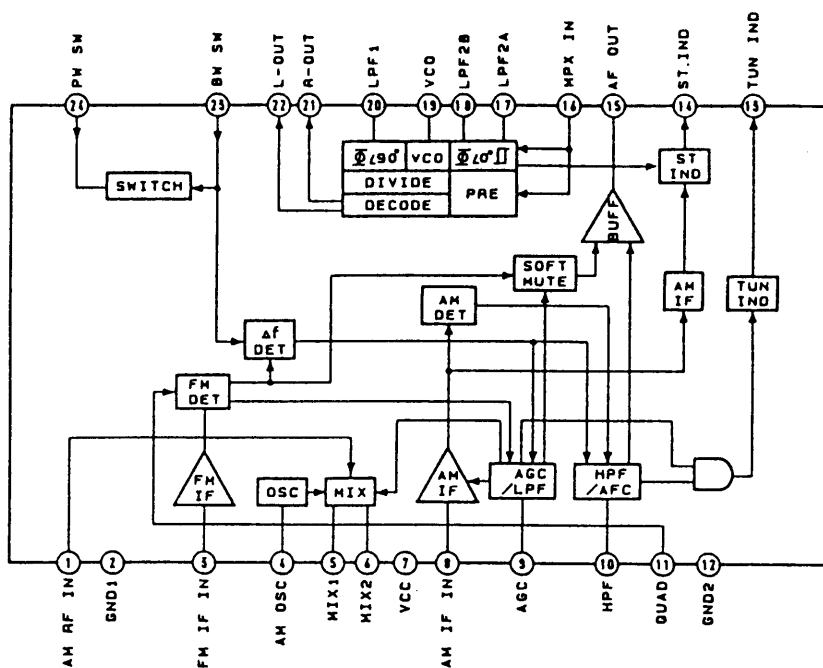


IC Block Diagrams

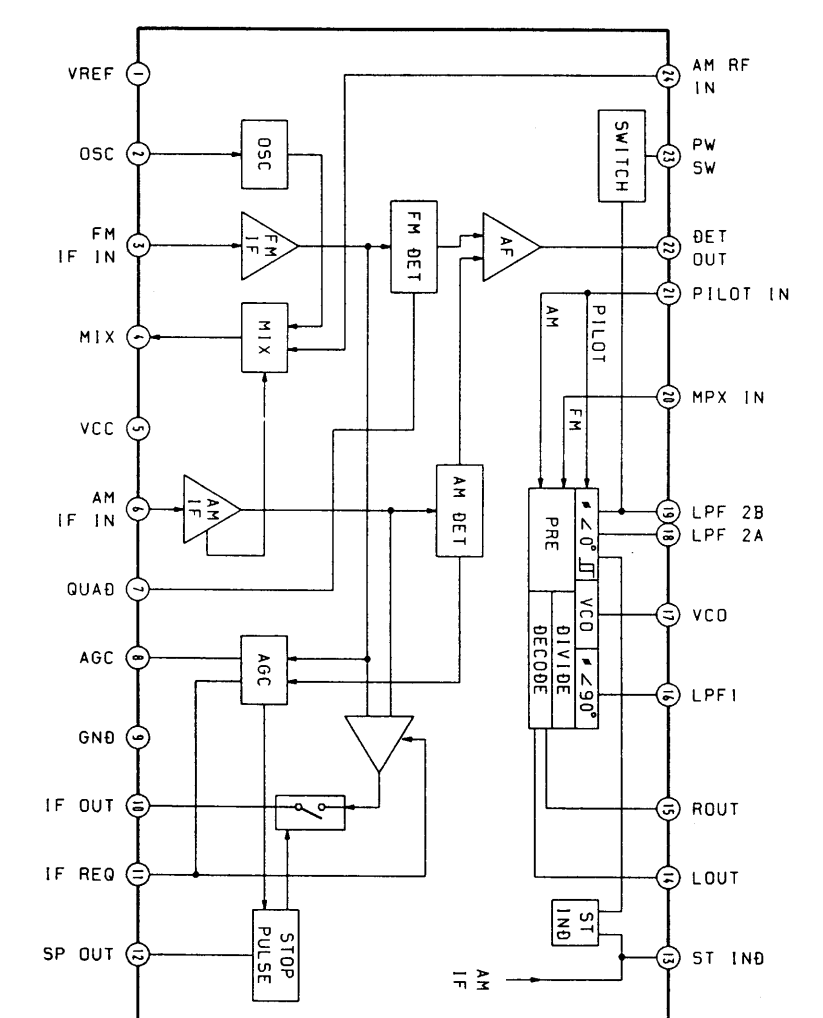
IC3 TA2015FN



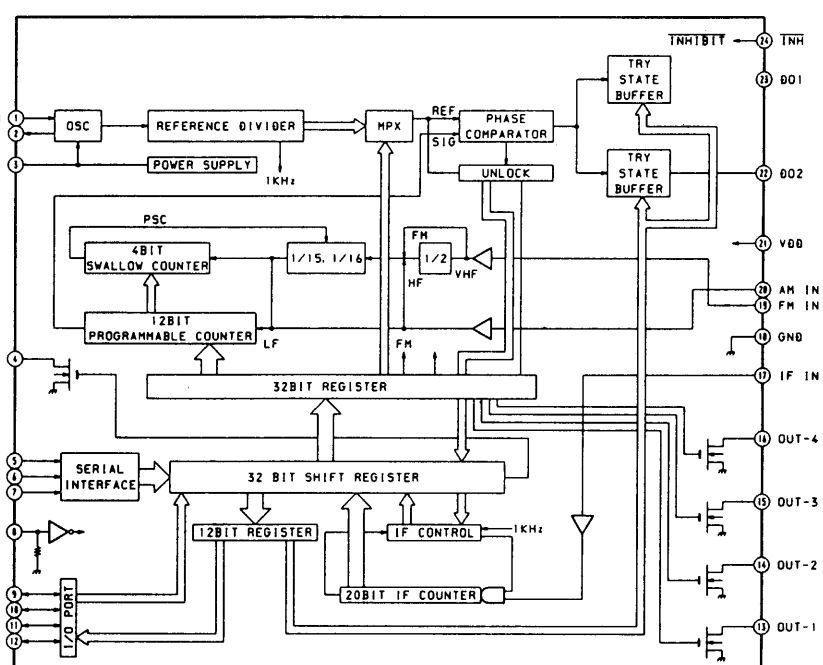
IC1 TA8182FN



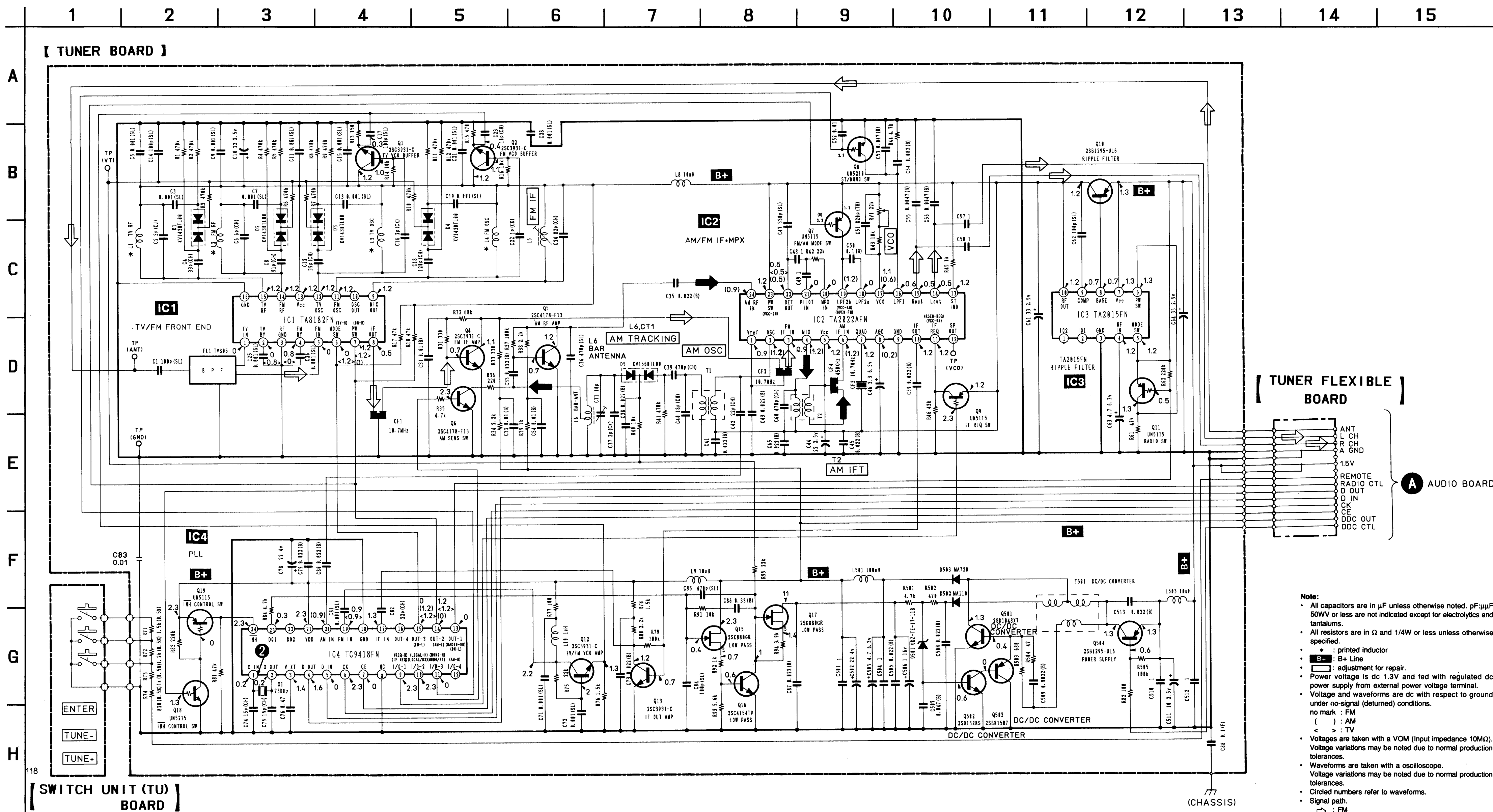
IC2 TA2022AFN



IC4 TC9418FN



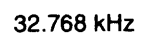
5-2. SCHEMATIC DIAGRAM — TUNER SECTION —




- 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.
 - * : printed inductor
 - B+ : B+ Line
 - () : adjustment for repair.
 - Power voltage is dc 1.3V and fed with regulated dc power supply from external power voltage terminal.
 - Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
 - no mark : FM
 - () : AM
 - < > : TV
 - Voltages are taken with a VOM (input impedance $10\text{M}\Omega$). Voltage variations may be noted due to normal production tolerances.
 - Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
 - Circled numbers refer to waveforms.
 - Signal path
 - ① : FM
 - ② : AM

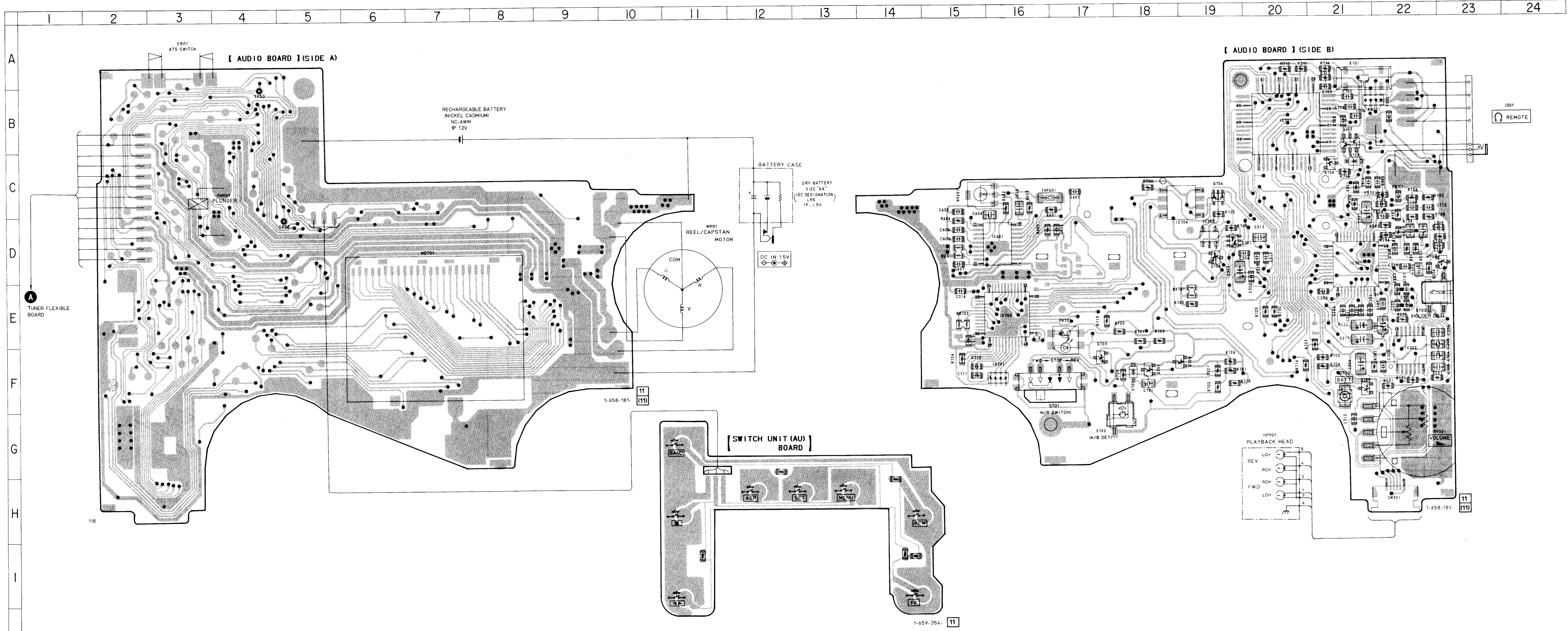
IC601 MM1297

① IC701 ②③ピン 1.4Vp-p



- **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.
 - % : indicates tolerance.
 - B+ : B+ Line
 -  : adjustment for repair.
 - Power voltage is dc 1.3V and fed with regulated dc power supply from external power voltage terminal.
 - Voltage and waveforms are dc with respect to ground under no-signal conditions.
 - no mark : PLAY
 - Voltages are taken with a VOM (input impedance 10M Ω).
 - Voltage variations may be noted due to normal production tolerances.
 - Waveforms are taken with an oscilloscope.
 - Voltage variations may be noted due to normal production tolerances.
 - Circled numbers refer to waveforms.
 - Signal path.
 - ⇒ : FM

5-4. PRINTED WIRING BOARD — AUDIO SECTION —



5-5. IC PIN FUNCTIONS

• IC701 MSM63120B SYSTEM CONTROL

Pin No.	Pin Name	I/O	Function
1	BEEP	O	Beep signal output (TC system=1.6 kHz, CF system=3.0 kHz)
2	DDC CTL	O	ON/OFF control output of DC-DC converter and amplifier (when DDC on=L)
3	MUTE	O	Audio muting control output (when MUTE ON=L)
4	F/R CTL	O	Head select output (when FWD=H, when REV=L)
5	DOLBY CTL	O	DOLBY ON/OFF control output (when DOLBY ON=L)
6	DBB ON/OFF	O	Tone control output (when DBB ON=H)
7	DBB MID/MAX	O	Tone control output (when DBB ON=L)
8	AVLS CTL	O	AVLS ON/OFF control output (when AVLS ON=L)
9	PRE AMP CTL	O	TC/RADIO select output of preamplifier (when TC=L, when RADIO=H)
10	AMP CTL	O	Audio amplifier control (when AMP ON=H)
11	REC CTL	O	REC control output (when REC=H)
12	PHOTO CTL	O	Output for rotation detect intermittent
13	LED CTL	O	LED control output (when LED ON=H)
14	PL CTL	O	Plunger control output
15	M-CTL	O	Motor control output
16	M-DIR	O	Motor rotating direction control output
17	M-BRK	O	Motor brake control (open)
18	TEST	—	Test pin (connect to GND)
19	OSC2	—	Resistor connect pin for CR oscillator (800 kHz). (open)
20	OSC1	—	Resistor connect pin for CR oscillator (800 kHz). (open)
21	VDD	—	Power supply connect terminal
22	XTB	—	Crystal oscillator connect terminal } 32.768 kHz
23	XT	—	
24	VSS1	—	Power supply connect terminal
25	VSS2	—	Internal power supply step-up terminal
26	VCM	—	Internal power supply step-up terminal
27	VCP	—	Internal power supply step-up terminal
28	VSSL	—	Internal power supply step-up terminal
29	HALL1	I	Rotation detect input
30	HALL2	I	Rotation detect input
31	KEY1	I	Key input
32	KEY2	I	Key input
33	FOREIGN/JAPAN	I	Mode select input (connect to VDD)
34	A/B	I	Tape A/B side detection switch input
35	HOLDER	I	Holder keying switch (close=L)
36	FWD SW	I	MD mode switch (when FWD PLAY=on)
37	REV SW	I	MD mode switch (when REV PLAY=on)
38	RMUM	I	With No remote commander (with=H)
39	RQT	I	Data request of LCD driver
40	DRQT	I/O	Communication request output to the remote commander.

Pin No.	Pin Name	I/O	Function
41	TIN	I	Communication to PLL/EEPROM
42	TCLK	O	Communication to PLL/EEPROM
43	TOUT	O	Communication to PLL/EEPROM
44	ROUT	O	Communication to the remote commander
45	—	I	(open)
46	RCLK	O	Communication to the remote commander
47	PERIOD	O	Communication to PLL
48	CS	O	Communication to EEPROM
49	VDD	—	Power supply connection terminal
50	RADIO CTL	O	Radio control output (when RADIO=H)
51	AMS IN	I	Recording sound detection input (with music=H)
52	RADIO PW	I	Mode select input (open)
53	N-TUME	I	Erasing error detect (FWD) (open)
54	R-TUME	I	Erasing error detect (REV) (open)
55	SET STOP	I	For power failure stop
56	RESET	I	Reset terminal

• IC702 SMC62L3A LCD DRIVE

Pin No.	Pin Name	I/O	Function
1	COM2	O	LCD common signal output
2	COM3	O	LCD common signal output
3	SEG1	O	LCD segment signal output (not used) (open)
4	SEG2	O	} LCD segment signal output
5	SEG3	O	
6	SEG4	O	
7	SEG5	O	
8	SEG6	O	
9	SEG8	O	
10	SEG9	O	
11	SEG10	O	
12	SEG11	O	
13	SEG12	O	
14	SEG13	O	
15	SEG14	O	
16	SEG15	O	
17	SEG16	O	
18	SEG17	O	
19	SEG18	O	
20	SEG19	O	

Pin No.	Pin Name	I/O	Function
21	TEST	I	Test signal input (connect to GND)
22	—	I	Not used (open)
23	RCLK	I	Clock input for receiver
24	—	O	Not used (open)
25	RDATA	I	Data input for receiver
26	NC	—	Not used (open)
27	RESET	I	Reset signal input
28	INT	I	Interrupt signal input for receiver
29	HOLD SW	I	Hold switch signal input
30	HOLD KEY	I	Input terminal at key pressing in HOLD condition
31	—	I	Not used (open)
32	RQT	O	Retransmission Request output
33	—	O	Not used (open)
34	—	O	Not used (open)
35	—	O	Not used (open)
36	VSS	(I)	Power supply minus terminal (GND)
37	VDD	(I)	Power supply plus terminal
38	OSC1	I	CR oscillator input
39	OSC2	O	CR oscillator output
40	VS1	O	Regulator output
41	CA	—	} Step-up capacitor connection terminal
42	CB	—	
43	CC	—	
44	VL1	O	Regulator output of LCD system
45	VL2	O	Step-up output of LCD system
46	VL3	O	Step-up output of LCD system
47	COM0	O	Common output of LCD system
48	COM1	O	Common output of LCD system

SECTION 6

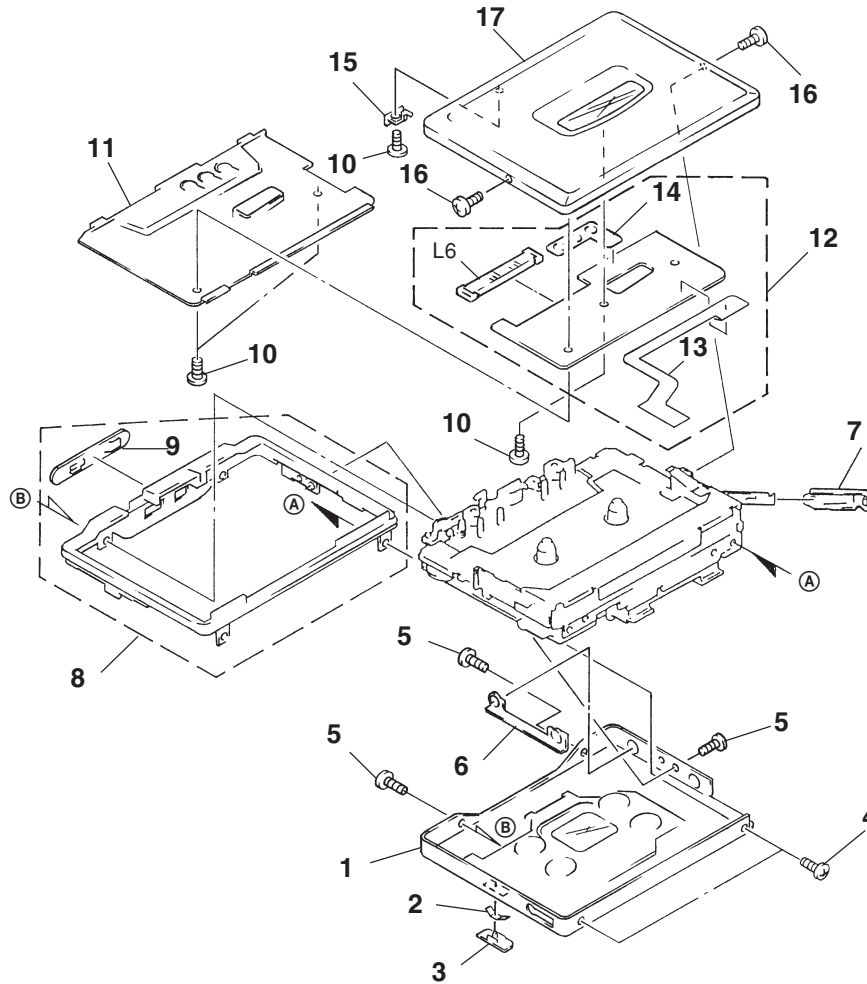
EXPLODED VIEWS

NOTE:

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Color Indication of Appearance Parts Example:
KNOB, BALANCE (WHITE). . . (RED)
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

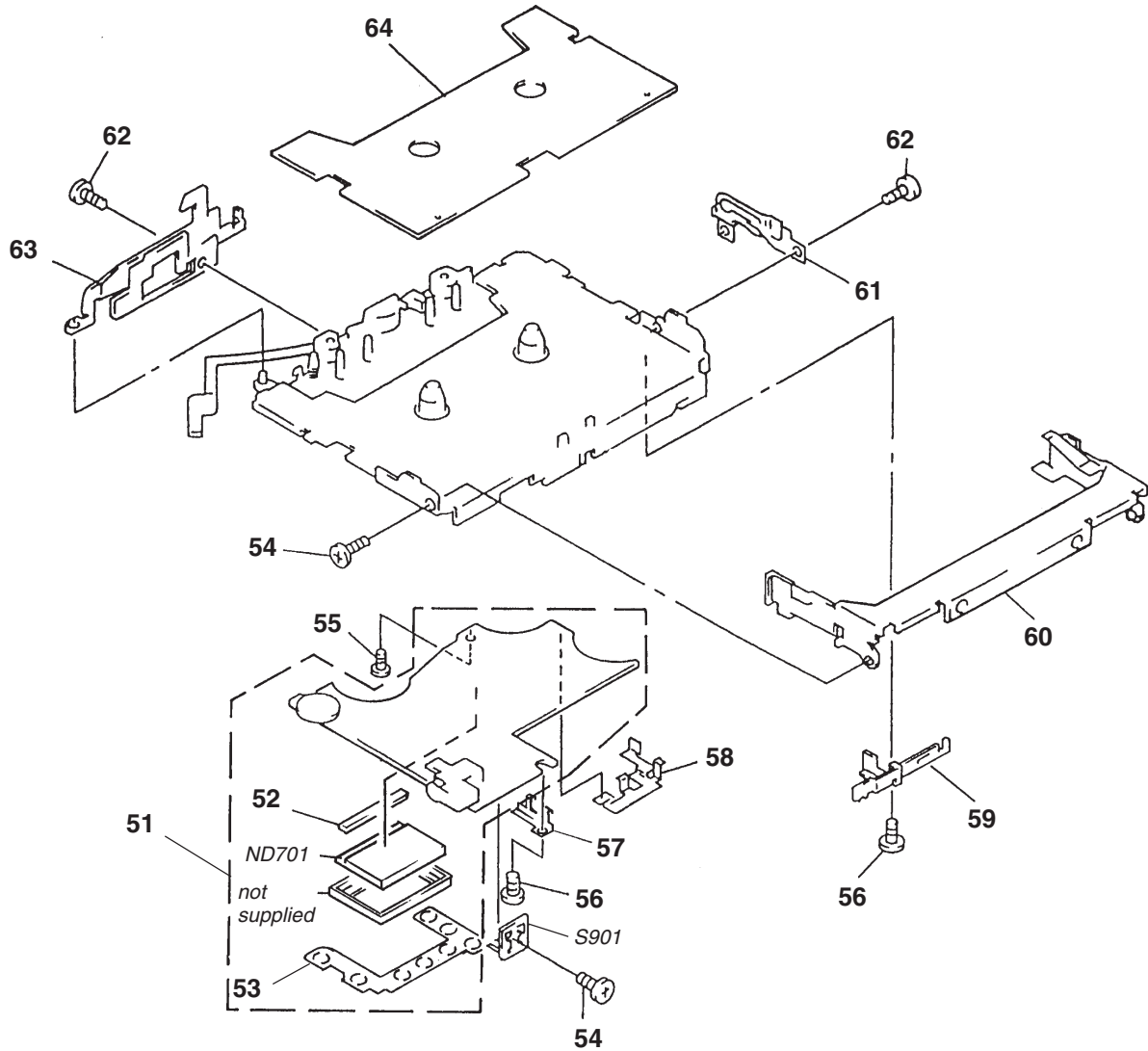
↑ ↑
 Parts color Cabinet's color

6-1. CASE AND TUNER BOARD SECTION



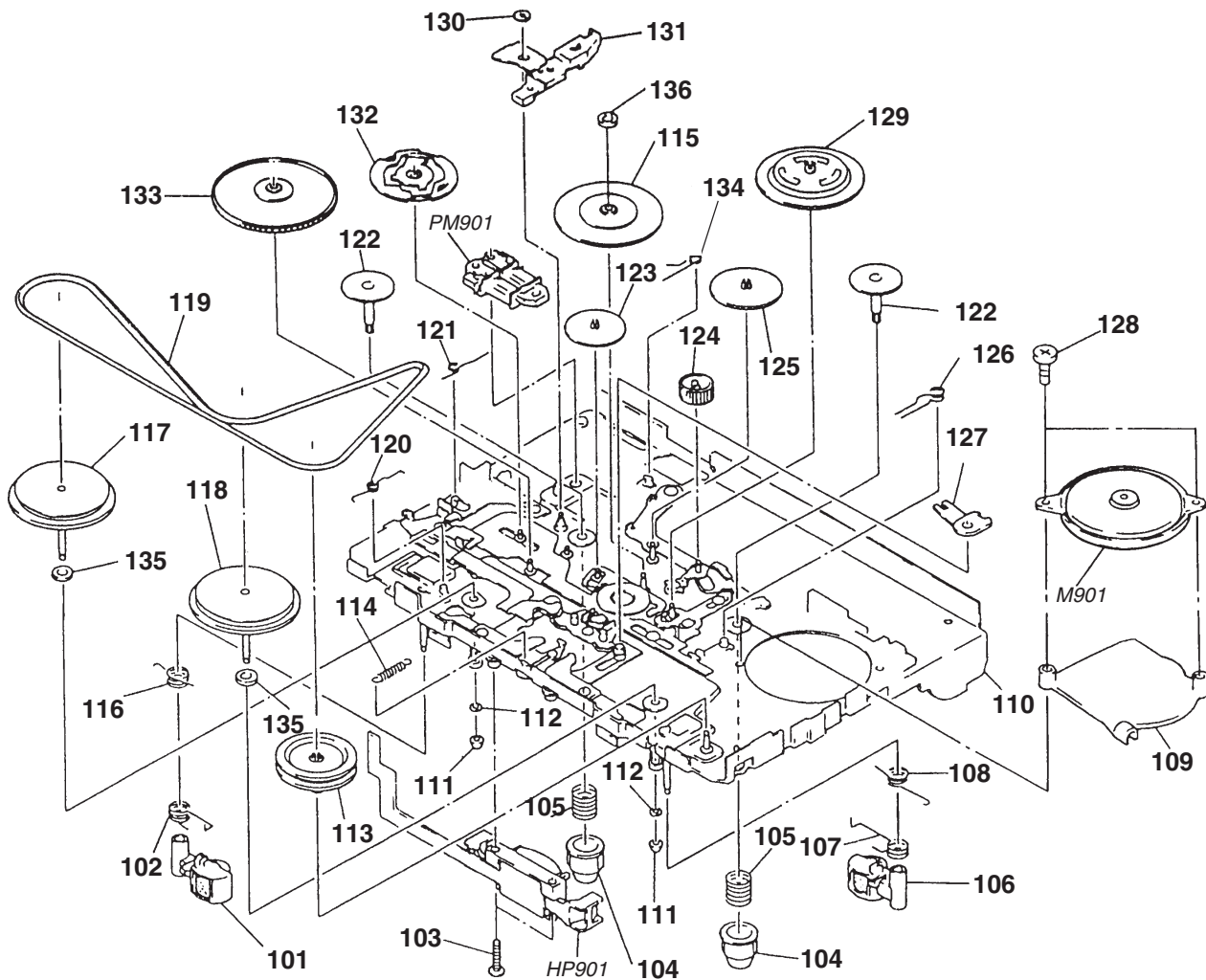
REF.No.	Part No.	Description	Remark	REF.No.	Part No.	Description	Remark
1	X-3371-137-1	CASE ASSY (S)...(SILVER)		8	X-3371-140-1	ORNAMENT ASSY (SL), REEL...(SILVER,BLUE)	
1	X-3371-138-1	CASE ASSY (L)...(BLUE)		8	X-3371-141-1	ORNAMENT ASSY (B), REEL...(BLACK)	
1	X-3371-139-1	CASE ASSY (B)...(BLACK)		9	3-929-211-01	KNOB (OPEN)	
2	3-928-077-01	SPRING (HOLD)		10	3-375-114-21	SCREW (M1.7X2.5)	
3	3-929-216-01	KNOB (HOLD)...(SILVER)		11	3-929-213-01	COVER, TU	
3	3-929-216-11	KNOB (HOLD)...(BLUE)		12	A-3016-757-A	TUNER BOARD, COMPLETE	
3	3-929-216-21	KNOB (HOLD)...(BLACK)		13	1-658-180-11	TUNER FLEXIBLE BOARD	
4	3-704-197-21	SCREW(M1.4X2.5), LOCKING...(SILVER,BLUE)		14	1-659-355-11	SWITCH UNIT (TU) BOARD	
4	3-704-197-23	SCREW(M1.4X2.5), LOCKING...(BLACK)		15	3-930-798-01	LOCKER, OPEN	
5	3-704-197-31	SCREW(M1.4X3.0), LOCKING...(SILVER,BLUE)		16	3-704-197-13	SCREW(M1.4X2.0), LOCKING...(BLACK)	
5	3-704-197-33	SCREW(M1.4X3.0), LOCKING...(BLACK)		16	3-704-197-11	SCREW(M1.4X2.0), LOCKING...(SILVER,BLUE)	
6	3-929-222-01	PLATE, ORNAMENTAL		17	X-3371-069-1	LID ASSY (S), CASSETTE...(SILVER)	
7	3-929-218-01	LID, BATTERY CASE...(SILVER)		17	X-3371-070-1	LID ASSY (L), CASSETTE...(BLUE)	
7	3-929-218-11	LID, BATTERY CASE...(BLUE)		17	X-3371-071-1	LID ASSY (B), CASSETTE...(BLACK)	
7	3-929-218-21	LID, BATTERY CASE...(BLACK)		L6	1-501-815-11	ANTENNA, FERRITE-ROD	

6-2. AUDIO BOARD SECTION



REF.No.	Part No.	Description	Remark	REF.No.	Part No.	Description	Remark
51	A-3016-758-A	AUDIO BOARD, COMPLETE		60	X-3371-068-1	HOLDER ASSY, CASSETTE	
* 52	1-694-030-11	CONDUCTIVE BOARD, CONNECTION		61	3-928-464-01	LEVER (B), LOCK	
53	1-659-354-11	SWITCH UNIT (AU) BOARD		62	3-366-892-01	SCREW (M1.4)	
54	3-704-413-11	SCREW (M1.4)		63	X-3370-961-1	BRACKET ASSY	
55	3-704-197-11	SCREW(M1.4X2.0), LOCKING		64	3-933-095-01	COVER, MD	
56	3-375-114-71	SCREW		ND701	1-801-100-11	DISPLAY PANEL, LIQUID CRYSTAL	
57	3-928-934-01	TERMINAL BOARD (MINUS),BATTERY		S901	1-762-582-11	SWITCH, LEAF (ATS)	
58	3-929-575-01	TERMINAL BOARD, BATTERY					
59	X-3371-118-1	TERMINAL BOARD ASSY, BATTERY					

6-3. MECHANISM SECTION (WM-EX510-112)



REF.No.	Part No.	Description	Remark	REF.No.	Part No.	Description	Remark
101	X-3368-776-1	PINCH LEVER (N) ASSY		121	3-928-443-01	SPRING (R), TORSION	
102	3-916-341-01	SPRING (PINCH N)		122	3-365-801-01	TABLE, REEL	
103	3-704-413-31	SCREW (M1.4X7.2)		123	3-916-353-01	GEAR (A)	
104	3-916-357-01	GEAR (REEL)		124	3-916-352-01	GEAR (FR)	
105	3-366-058-01	SPRING, COMPRESSION		125	3-916-354-01	GEAR (B)	
106	X-3368-777-1	PINCH LEVER (R) ASSY		126	3-916-347-01	SPRING (NR), TORSION	
107	3-916-342-01	SPRING (PINCH R)		127	3-916-339-01	LEVER (NRSW)	
108	3-916-344-01	SPRING (RETURN R)		128	3-358-455-11	SCREW, PRECISION WASHER HEAD	
109	3-928-445-01	DECK, FIXED, TERMINAL		129	A-3042-517-A	GEAR (C) BLOCK ASSY	
110	X-3370-948-1	CHASSIS ASSY		130	3-348-953-31	WASHER	
111	3-366-017-11	BUSHING (CAPSTAN)		131	3-916-338-01	LEVER (TRIGGER)	
112	3-918-943-01	WASHER, STOPPER		132	3-928-440-01	GEAR (CAM)	
113	3-916-350-01	PULLEY (REVERSE)		133	3-928-439-01	GEAR (K)	
114	3-916-346-01	SPRING, TENSION		134	3-916-348-01	SPRING (TRIGGER), TORSION	
115	X-3370-951-1	CLUTCH ASSY		135	3-386-694-01	WASHER	
116	3-928-441-01	SPRING (RETURN N)		136	3-338-645-31	WASHER (0.8-2.5)	
117	X-3368-779-1	WHEEL (N) ASSY, CAPSTAN		HP901	1-500-280-11	HEAD, MAGNETIC (PLAYBACK)	
118	X-3368-778-1	WHEEL (R) ASSY, CAPSTAN		M901	1-698-633-11	MOTOR (REEL/CAPSTAN)	
119	3-928-444-01	BELT		PM901	1-454-674-31	SOLENOID, PLUNGER	
120	3-928-442-01	SPRING (LOCK LEVER)					

SECTION 7

ELECTRICAL PARTS LIST

AUDIO

NOTE:

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

When indicating parts by reference number, please include the board 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

REF.No.	Part No.	Description	Remark		REF.No.	Part No.	Description	Remark	
	A-3016-758-A	AUDIO BOARD, COMPLETE *****			C320	1-107-811-11	TANTAL. CHIP	47uF	20% 4V
					C601	1-107-826-11	CERAMIC CHIP	0.1uF	10% 16V
					C602	1-164-346-11	CERAMIC CHIP	1uF	16V
	1-659-354-11	SWITCH UNIT (AU) BOARD			C603	1-164-360-11	CERAMIC CHIP	0.1uF	16V
*	1-694-030-11	CONDUCTIVE BOARD, CONNECTION			C604	1-164-489-11	CERAMIC CHIP	0.22uF	10% 16V
		< CAPACITOR >			C605	1-164-360-11	CERAMIC CHIP	0.1uF	16V
C101	1-162-964-11	CERAMIC CHIP	0.001uF	10% 50V	C606	1-162-970-11	CERAMIC CHIP	0.01uF	10% 25V
C102	1-162-964-11	CERAMIC CHIP	0.001uF	10% 50V	C607	1-162-970-11	CERAMIC CHIP	0.01uF	10% 25V
C103	1-162-970-11	CERAMIC CHIP	0.01uF	10% 25V	C608	1-162-970-11	CERAMIC CHIP	0.01uF	10% 25V
C104	1-107-823-11	CERAMIC CHIP	0.47uF	10% 16V	C701	1-107-815-11	TANTAL. CHIP	2.2uF	20% 4V
C105	1-164-489-11	CERAMIC CHIP	0.22uF	10% 16V	C702	1-109-996-11	CERAMIC CHIP	1uF	6.3V
C106	1-164-360-11	CERAMIC CHIP	0.1uF	16V	C703	1-162-915-11	CERAMIC CHIP	10PF	0.5PF 50V
C107	1-109-996-11	CERAMIC CHIP	1uF	6.3V	C704	1-113-619-11	CERAMIC CHIP	0.47uF	10V
C108	1-107-826-11	CERAMIC CHIP	0.1uF	10% 16V	C705	1-113-619-11	CERAMIC CHIP	0.47uF	10V
C109	1-162-966-11	CERAMIC CHIP	0.0022uF	10% 50V	C706	1-113-619-11	CERAMIC CHIP	0.47uF	10V
C110	1-107-823-11	CERAMIC CHIP	0.47uF	10% 16V	C710	1-164-360-11	CERAMIC CHIP	0.1uF	16V
C111	1-104-847-11	TANTAL. CHIP	22uF	20% 4V	C711	1-164-360-11	CERAMIC CHIP	0.1uF	16V
C112	1-107-826-11	CERAMIC CHIP	0.1uF	10% 16V	C713	1-109-996-11	CERAMIC CHIP	1uF	6.3V
C201	1-162-964-11	CERAMIC CHIP	0.001uF	10% 50V	CB701	1-113-945-11	CAPACITOR	0.1uF	
C202	1-162-964-11	CERAMIC CHIP	0.001uF	10% 50V			< CONNECTOR >		
C203	1-162-970-11	CERAMIC CHIP	0.01uF	10% 25V	CN301	1-766-642-21	CONNECTOR, FFC/FPC 6P		
C204	1-107-823-11	CERAMIC CHIP	0.47uF	10% 16V			< DIODE >		
C205	1-164-489-11	CERAMIC CHIP	0.22uF	10% 16V	D701	8-719-049-09	DIODE 1SS367-T3SONY		
C206	1-164-360-11	CERAMIC CHIP	0.1uF	16V	D702	8-719-051-00	DIODE CL-230HR-CD-T (BATT)		
C207	1-109-996-11	CERAMIC CHIP	1uF	6.3V	D703	8-719-988-62	DIODE 1SS355		
C208	1-107-826-11	CERAMIC CHIP	0.1uF	10% 16V			< FERRITE BEAD >		
C209	1-162-966-11	CERAMIC CHIP	0.0022uF	10% 50V	FB101	1-500-113-11	BEAD, FERRITE (CHIP)		
C210	1-107-823-11	CERAMIC CHIP	0.47uF	10% 16V	FB201	1-500-113-11	BEAD, FERRITE (CHIP)		
C211	1-104-847-11	TANTAL. CHIP	22uF	20% 4V	FB301	1-500-113-11	BEAD, FERRITE (CHIP)		
C212	1-107-826-11	CERAMIC CHIP	0.1uF	10% 16V	FB701	1-233-311-21	INPEDANCE ARRAY, CHIP (4 GANG)		
C302	1-109-996-11	CERAMIC CHIP	1uF	6.3V			< IC >		
C303	1-135-201-11	TANTALUM CHIP	10uF	20% 4V	IC301	8-759-368-55	IC BA3612AKV		
C304	1-109-996-11	CERAMIC CHIP	1uF	6.3V	IC302	8-759-275-48	IC NJM2185V-TE2		
C305	1-162-964-11	CERAMIC CHIP	0.001uF	10% 50V	IC601	8-759-356-46	IC MM1279XVBE		
C306	1-135-201-11	TANTALUM CHIP	10uF	20% 4V	IC701	8-759-366-26	IC MSM63120B-05GSK		
C307	1-104-847-11	TANTAL. CHIP	22uF	20% 4V	IC702	8-759-360-58	IC SMC62L3A-T10		
C308	1-109-996-11	CERAMIC CHIP	1uF	6.3V	IC703	8-759-280-85	IC PST9010NL		
C309	1-109-936-11	TANTAL. CHIP	3.3uF	20% 2.5V	IC704	8-759-524-72	IC S-29L294-S822		
C310	1-109-996-11	CERAMIC CHIP	1uF	6.3V			< JACK >		
C311	1-164-360-11	CERAMIC CHIP	0.1uF	16V	J301	1-766-512-21	JACK 7P (⊖ REMOTE)		
C312	1-162-960-11	CERAMIC CHIP	220PF	10% 50V					
C313	1-107-823-11	CERAMIC CHIP	0.47uF	10% 16V					
C314	1-109-996-11	CERAMIC CHIP	1uF	6.3V					
C315	1-164-360-11	CERAMIC CHIP	0.1uF	16V					
C316	1-109-996-11	CERAMIC CHIP	1uF	6.3V					
C319	1-162-974-11	CERAMIC CHIP	0.01uF	50V					

AUDIO

TUNER

REF.No.	Part No.	Description	Remark	REF.No.	Part No.	Description	Remark
		< LIQUID CRYSTAL >					
ND701	1-801-100-11	DISPLAY PANEL, LIQUID CRYSTAL		R707	1-216-845-11	METAL CHIP 100K 5%	1/16W
		< PHOTO REFLECTOR >		R709	1-216-845-11	METAL CHIP 100K 5%	1/16W
PH701	8-749-925-05	REFLECTOR NJL5183KA-F20-TE1		R711	1-218-836-11	METAL CHIP 360 0.50%	1/16W
		< TRANSISTOR >		R712	1-218-836-11	METAL CHIP 360 0.50%	1/16W
Q302	8-729-030-53	TRANSISTOR MSD1819A-RT1		R713	1-218-870-11	METAL CHIP 9.1K 0.50%	1/16W
Q701	8-729-030-54	TRANSISTOR MSB1218A-RT1		R714	1-218-870-11	METAL CHIP 9.1K 0.50%	1/16W
Q702	8-729-402-16	TRANSISTOR XN4608		R715	1-216-849-11	METAL CHIP 220K 5%	1/16W
Q703	8-729-421-26	TRANSISTOR UN5216		R716	1-216-849-11	METAL CHIP 220K 5%	1/16W
Q704	8-729-420-50	TRANSISTOR UN5215		R718	1-216-829-11	METAL CHIP 4.7K 5%	1/16W
Q705	8-729-030-53	TRANSISTOR MSD1819A-RT1		R719	1-216-821-11	METAL CHIP 1K 5%	1/16W
Q706	8-729-426-36	TRANSISTOR XP1215-TXE		R720	1-216-845-11	METAL CHIP 100K 5%	1/16W
Q707	8-729-425-46	TRANSISTOR XP4315-TXE		R721	1-216-845-11	METAL CHIP 100K 5%	1/16W
Q708	8-729-402-42	TRANSISTOR UN5213		R722	1-216-845-11	METAL CHIP 100K 5%	1/16W
Q709	8-729-030-54	TRANSISTOR MSB1218A-RT1		R724	1-216-853-11	METAL CHIP 470K 5%	1/16W
		< RESISTOR >		R725	1-216-841-11	METAL CHIP 47K 5%	1/16W
R101	1-216-833-11	METAL CHIP 10K 5%	1/16W				
R102	1-216-789-11	METAL CHIP 2.2 5%	1/16W			< COMPOSITION CIRCUIT BLOCK >	
R103	1-216-827-11	METAL CHIP 3.3K 5%	1/16W	RB601	1-236-877-11	RES, NETWORK	
R104	1-216-823-11	METAL CHIP 1.5K 5%	1/16W	RB701	1-236-875-11	RES, NETWORK	
R105	1-216-847-11	METAL CHIP 150K 5%	1/16W	RB702	1-236-871-11	RES, NETWORK	
R106	1-216-833-11	METAL CHIP 10K 5%	1/16W			< VARIABLE RESISTOR >	
R107	1-216-827-11	METAL CHIP 3.3K 5%	1/16W	RV301	1-223-989-11	RES, VAR (VOLUME)	
R108	1-216-821-11	METAL CHIP 1K 5%	1/16W	RV601	1-223-229-21	RES, ADJ, METAL GLAZE 4.7K	
R201	1-216-833-11	METAL CHIP 10K 5%	1/16W			< SWITCH >	
R202	1-216-789-11	METAL CHIP 2.2 5%	1/16W	S701	1-572-581-11	SWITCH, SLIDE (N/R SWITCH)	
R203	1-216-827-11	METAL CHIP 3.3K 5%	1/16W	S702	1-762-516-11	SWITCH, PUSH (A/B SWITCH)	
R204	1-216-823-11	METAL CHIP 1.5K 5%	1/16W	S703	1-762-498-21	SWITCH, PUSH (HOLDER SWITCH)	
R205	1-216-847-11	METAL CHIP 150K 5%	1/16W			< THERMISTOR(POSITIVE) >	
R206	1-216-833-11	METAL CHIP 10K 5%	1/16W	THP601	1-810-794-11	THERMISTOR, POSITIVE	
R207	1-216-827-11	METAL CHIP 3.3K 5%	1/16W			< VIBRATOR >	
R208	1-216-821-11	METAL CHIP 1K 5%	1/16W	X701	1-760-764-21	VIBRATOR, CRYSTAL (32.768KHz)	
R301	1-216-845-11	METAL CHIP 100K 5%	1/16W			*****	
R302	1-218-729-11	METAL CHIP 36K 0.50%	1/16W			A-3016-757-A	TUNER BOARD, COMPLETE
R304	1-216-853-11	METAL CHIP 470K 5%	1/16W			*****	
R601	1-216-823-11	METAL CHIP 1.5K 5%	1/16W			1-658-180-11	TUNER FLEXIBLE BOARD
R602	1-216-827-11	METAL CHIP 3.3K 5%	1/16W			1-659-355-11	SWITCH UNIT (TU) BOARD
R603	1-216-843-11	METAL CHIP 68K 5%	1/16W			< CAPACITOR >	
R604	1-216-813-11	METAL CHIP 220 5%	1/16W				
R605	1-216-847-11	METAL CHIP 150K 5%	1/16W				
R701	1-216-857-11	METAL CHIP 1M 5%	1/16W				
R702	1-216-849-11	METAL CHIP 220K 5%	1/16W				
R703	1-216-837-11	METAL CHIP 22K 5%	1/16W				
R704	1-216-837-11	METAL CHIP 22K 5%	1/16W				
R705	1-216-825-11	METAL CHIP 2.2K 5%	1/16W				
R706	1-216-845-11	METAL CHIP 100K 5%	1/16W				
				C1	1-162-953-11	CERAMIC CHIP 100PF 5%	50V

REF.No.	Part No.	Description	Remark			REF.No.	Part No.	Description	Remark		
C2	1-162-908-11	CERAMIC CHIP	3PF	0.25PF	50V	C56	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C3	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V	C57	1-164-346-11	CERAMIC CHIP	1uF	16V	
C4	1-162-921-11	CERAMIC CHIP	33PF	5%	50V	C58	1-164-346-11	CERAMIC CHIP	1uF	16V	
C5	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V	C59	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C6	1-162-911-11	CERAMIC CHIP	6PF	0.5PF	50V	C60	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C7	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V	C61	1-107-520-11	TANTAL. CHIP	33uF	20%	2.5V
C8	1-164-382-11	CERAMIC CHIP	91PF	5%	50V	C62	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C9	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V	C63	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C10	1-135-316-11	TANTAL. CHIP	22uF	20%	2.5V	C64	1-107-520-11	TANTAL. CHIP	33uF	20%	2.5V
C11	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V	C65	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C12	1-162-922-11	CERAMIC CHIP	39PF	5%	50V	C71	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C13	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V	C72	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C14	1-162-953-11	CERAMIC CHIP	100PF	5%	50V	C73	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C15	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V	C74	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C16	1-162-907-11	CERAMIC CHIP	2PF	0.25PF	50V	C75	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C17	1-162-953-11	CERAMIC CHIP	100PF	5%	50V	C76	1-164-005-11	CERAMIC CHIP	0.47uF	25V	
C18	1-162-928-11	CERAMIC CHIP	120PF	5%	50V	C78	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C19	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V	C79	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C21	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V	C80	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C22	1-162-905-11	CERAMIC CHIP	1PF	0.25PF	50V	C81	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C23	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V	C82	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C24	1-162-926-11	CERAMIC CHIP	82PF	5%	50V	C83	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C25	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V	C84	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C26	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V	C85	1-164-362-11	CERAMIC CHIP	470PF	5%	50V
C28	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V	C86	1-162-568-11	CERAMIC CHIP	0.33uF	10%	16V
C31	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C87	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C32	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C88	1-164-156-11	CERAMIC CHIP	0.1uF	25V	
C33	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	C501	1-164-346-11	CERAMIC CHIP	1uF	16V	
C34	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	C502	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C35	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	C503	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C36	1-164-362-11	CERAMIC CHIP	470PF	5%	50V	C504	1-164-346-11	CERAMIC CHIP	1uF	16V	
C37	1-162-907-11	CERAMIC CHIP	2PF	0.25PF	50V	C505	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C38	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	C506	1-135-333-11	TANTAL. CHIP	1uF	20%	16V
C39	1-164-315-11	CERAMIC CHIP	470PF	5%	50V	C507	1-104-760-11	CERAMIC CHIP	0.047uF	10%	50V
C40	1-162-918-11	CERAMIC CHIP	18PF	5%	50V	C508	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C41	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	C509	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C42	1-162-919-11	CERAMIC CHIP	22PF	5%	50V	C510	1-164-346-11	CERAMIC CHIP	1uF	16V	
C43	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	C511	1-107-983-11	TANTAL. CHIP	10uF	20%	2.5V
C44	1-135-316-11	TANTAL. CHIP	22uF	20%	2.5V	C512	1-164-346-11	CERAMIC CHIP	1uF	16V	
C45	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	C513	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C46	1-135-180-21	TANTALUM CHIP	3.3uF	20%	6.3V	< FILTER >					
C47	1-162-959-11	CERAMIC CHIP	330PF	5%	50V	CF1	1-579-974-11	FILTER, CERAMIC	< TRIMMER >		
C48	1-164-346-11	CERAMIC CHIP	1uF	16V	CF2	1-579-974-11	FILTER, CERAMIC				
C49	1-164-346-11	CERAMIC CHIP	1uF	16V	CF3	1-567-248-11	FILTER, CERAMIC				
C50	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	CF4	1-579-823-21	FILTER, CERAMIC			
C51	1-163-139-00	CERAMIC CHIP	820PF	5%	50V	CT1	1-141-327-11	CAP, VAR, TRIMMER (CHIP TYPE)			
C52	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V						
C53	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V						
C54	1-164-345-11	CERAMIC CHIP	0.082uF	10%	25V						
C55	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V						

TUNER

REF.No.	Part No.	Description	Remark
< DIODE >			
D1	8-719-032-80	DIODE KV1430-TL	
D2	8-719-032-80	DIODE KV1430-TL	
D3	8-719-032-80	DIODE KV1430-TL	
D4	8-719-032-80	DIODE KV1430-TL	
D5	8-719-951-05	DIODE KV1560	
D501	8-719-056-88	DIODE UDZ-TE-17-11B	
D502	8-719-404-46	DIODE MA110	
D503	8-719-023-31	DIODE MA720	
< FILTER >			
FL1	1-233-260-11	FILTER, BAND PASS	
< IC >			
IC1	8-759-245-96	IC TA8182FN	
IC2	8-759-362-25	IC TA-2022AFN-EL	
IC3	8-759-186-88	IC TA2015FN-EL	
IC4	8-759-362-24	IC TC9418FN-EL	
< COIL >			
L5	1-409-837-11	COIL (WITH CORE) (IF)	
L6	1-501-815-11	ANTENNA, FERRITE-ROD	
L8	1-412-006-31	INDUCTOR CHIP 10uH	
L9	1-412-006-31	INDUCTOR CHIP 10uH	
L10	1-410-993-11	INDUCTOR CHIP 1uH	
L501	1-414-404-11	INDUCTOR 100uH	
L503	1-414-398-11	INDUCTOR 10uH	
< TRANSISTOR >			
Q1	8-729-423-52	TRANSISTOR 2SC3931-C	
Q2	8-729-423-52	TRANSISTOR 2SC3931-C	
Q4	8-729-423-52	TRANSISTOR 2SC3931-C	
Q5	8-729-117-72	TRANSISTOR 2SC4178-F13	
Q6	8-729-117-72	TRANSISTOR 2SC4178-F13	
Q7	8-729-420-53	TRANSISTOR UN5115	
Q8	8-729-421-77	TRANSISTOR UN5210-R-TX	
Q9	8-729-420-53	TRANSISTOR UN5115	
Q10	8-729-807-87	TRANSISTOR 2SB1295-UL6	
Q11	8-729-420-53	TRANSISTOR UN5115	
Q12	8-729-423-52	TRANSISTOR 2SC3931-C	
Q13	8-729-423-52	TRANSISTOR 2SC3931-C	
Q15	8-729-231-96	TRANSISTOR 2SK880GR-TE85L	
Q16	8-729-602-21	TRANSISTOR 2SC4154-F	
Q17	8-729-231-96	TRANSISTOR 2SK880GR-TE85L	
Q18	8-729-020-99	TRANSISTOR UN5215-RS-TX	
Q19	8-729-420-53	TRANSISTOR UN5115	
Q501	8-729-800-37	TRANSISTOR 2SD1048-X7	
Q502	8-729-400-55	TRANSISTOR 2SD1328-S	
Q503	8-729-800-71	TRANSISTOR 2SB815B7-TB	

REF.No.	Part No.	Description	Remark
Q504	8-729-807-87	TRANSISTOR 2SB1295-UL6	
< RESISTOR >			
R1	1-216-853-11	METAL CHIP 470K 5%	1/16W
R2	1-216-853-11	METAL CHIP 470K 5%	1/16W
R3	1-216-853-11	METAL CHIP 470K 5%	1/16W
R4	1-216-853-11	METAL CHIP 470K 5%	1/16W
R5	1-216-853-11	METAL CHIP 470K 5%	1/16W
R6	1-216-853-11	METAL CHIP 470K 5%	1/16W
R7	1-216-853-11	METAL CHIP 470K 5%	1/16W
R8	1-216-853-11	METAL CHIP 470K 5%	1/16W
R9	1-216-853-11	METAL CHIP 470K 5%	1/16W
R10	1-216-853-11	METAL CHIP 470K 5%	1/16W
R11	1-216-853-11	METAL CHIP 470K 5%	1/16W
R12	1-216-853-11	METAL CHIP 470K 5%	1/16W
R13	1-216-811-11	METAL CHIP 150 5%	1/16W
R14	1-216-833-11	METAL CHIP 10K 5%	1/16W
R15	1-216-817-11	METAL CHIP 470 5%	1/16W
R16	1-216-833-11	METAL CHIP 10K 5%	1/16W
R17	1-216-841-11	METAL CHIP 47K 5%	1/16W
R18	1-216-841-11	METAL CHIP 47K 5%	1/16W
R31	1-216-815-11	METAL CHIP 330 5%	1/16W
R32	1-216-843-11	METAL CHIP 68K 5%	1/16W
R33	1-216-815-11	METAL CHIP 330 5%	1/16W
R34	1-216-825-11	METAL CHIP 2.2K 5%	1/16W
R35	1-216-829-11	METAL CHIP 4.7K 5%	1/16W
R36	1-216-813-11	METAL CHIP 220 5%	1/16W
R37	1-216-845-11	METAL CHIP 100K 5%	1/16W
R38	1-216-825-11	METAL CHIP 2.2K 5%	1/16W
R39	1-216-821-11	METAL CHIP 1K 5%	1/16W
R40	1-216-833-11	METAL CHIP 10K 5%	1/16W
R41	1-216-853-11	METAL CHIP 470K 5%	1/16W
R42	1-216-837-11	METAL CHIP 22K 5%	1/16W
R43	1-216-833-11	METAL CHIP 10K 5%	1/16W
R44	1-216-829-11	METAL CHIP 4.7K 5%	1/16W
R45	1-216-821-11	METAL CHIP 1K 5%	1/16W
R46	1-218-295-11	METAL GLAZE 43K 5%	1/16W
R61	1-216-841-11	METAL CHIP 47K 5%	1/16W
R62	1-216-849-11	METAL CHIP 220K 5%	1/16W
R71	1-218-851-11	METAL CHIP 1.5K 0.50%	1/16W
R72	1-218-694-11	METAL CHIP 1.2K 0.50%	1/16W
R73	1-218-692-11	METAL CHIP 1K 0.50%	1/16W
R74	1-218-845-11	METAL CHIP 820 0.50%	1/16W
R75	1-216-837-11	METAL CHIP 22K 5%	1/16W
R76	1-216-823-11	METAL CHIP 1.5K 5%	1/16W
R77	1-216-809-11	METAL CHIP 100 5%	1/16W
R78	1-216-823-11	METAL CHIP 1.5K 5%	1/16W
R79	1-216-845-11	METAL CHIP 100K 5%	1/16W
R80	1-216-825-11	METAL CHIP 2.2K 5%	1/16W
R81	1-216-841-11	METAL CHIP 47K 5%	1/16W

TUNER

REF.No.	Part No.	Description	Remark	REF.No.	Part No.	Description	Remark
R82	1-216-809-11	METAL CHIP 100 5%	1/16W			ACCESSORIES & PACKING MATERIALS	
R83	1-216-849-11	METAL CHIP 220K 5%	1/16W			*****	
R84	1-216-829-11	METAL CHIP 4.7K 5%	1/16W				
R91	1-216-833-11	METAL CHIP 10K 5%	1/16W	△	1-473-414-21	REMOTE CONTROL (RM-WM75AF)	
R92	1-216-821-11	METAL CHIP 1K 5%	1/16W	△	1-528-445-11	BATTERY CHARGER (BC-8AT)	
R93	1-216-830-11	METAL CHIP 5.6K 5%	1/16W		1-569-007-11	ADAPTER, CONVERSION 2P	
R94	1-216-828-11	METAL CHIP 3.9K 5%	1/16W	*	1-759-043-11	BATTERY CASE	
R95	1-216-837-11	METAL CHIP 22K 5%	1/16W		3-376-784-01	CUSHION	
R501	1-216-829-11	METAL CHIP 4.7K 5%	1/16W		3-800-626-01	INSTRUCTION (A7 SIZE)	
R502	1-216-817-11	METAL CHIP 470 5%	1/16W		3-810-091-11	MANUAL, INSTRUCTION (JAPANESE, ENGLISH)	
R503	1-216-819-11	METAL CHIP 680 5%	1/16W		3-810-091-21	MANUAL, INSTRUCTION (KOREAN)	
R504	1-216-805-11	METAL CHIP 47 5%	1/16W		3-918-892-01	CASE, CARRYING	
R505	1-216-845-11	METAL CHIP 100K 5%	1/16W		3-920-201-01	CLIP	
		< VARIABLE RESISTOR >		*	3-930-527-01	CASE, INDIVIDUAL	
RV1	1-241-595-11	RES, ADJ, METAL GRAZE 22K			8-953-537-90	HEADPHONE MDR-E741MP//K SET	
		< TRANSFORMER >			X-3329-657-1	ATTACHMENT	
T1	1-406-404-11	COIL (MW OSCILATION)					
T2	1-411-615-11	TRANSFORMER, IF					
T501	1-429-324-11	TRANSFORMER, DC/DC CONVERTER					
		< VIBRATOR >					
X1	1-760-423-11	VIBRATOR, CRYSTAL (75KHz)					

		MISCELLANEOUS					

13	1-658-180-11	TUNER FLEXIBLE BOARD					
14	1-659-355-11	SWITCH UNIT (TU) BOARD					
* 52	1-694-030-11	CONDUCTIVE BOARD, CONNECTION					
53	1-659-354-11	SWITCH UNIT (AU) BOARD					
HP901	1-500-280-11	HEAD, MAGNETIC (PLAYBACK)					
L6	1-501-815-11	ANTENNA, FERRITE-ROD					
M901	1-698-633-11	MOTOR (REEL/CAPSTAN)					
ND701	1-801-100-11	DISPLAY PANEL, LIQUID CRYSTAL					
PM901	1-454-674-31	SOLENOID, PLUNGER					
S901	1-762-582-11	SWITCH, LEAF (ATS)					

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

MEMO

Printing Method for Large Sized Documents Such As Circuit Diagrams

Printing the page that exceeds A4-size two pages (or letter size) is possible by specifying the print range. (Acrobat Reader Version 4.0 or later)

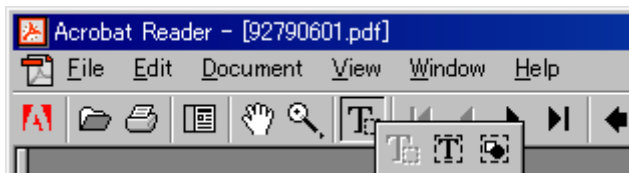
1. The enlarged print is made, if a smaller range than A4 size is specified and the A4 size is selected as a print paper.
2. Almost real sized print is made, if the range is specified, meeting the print paper size.
3. The reduced print is made, if a larger range than the print paper size is specified.

Printing by Specifying a Range

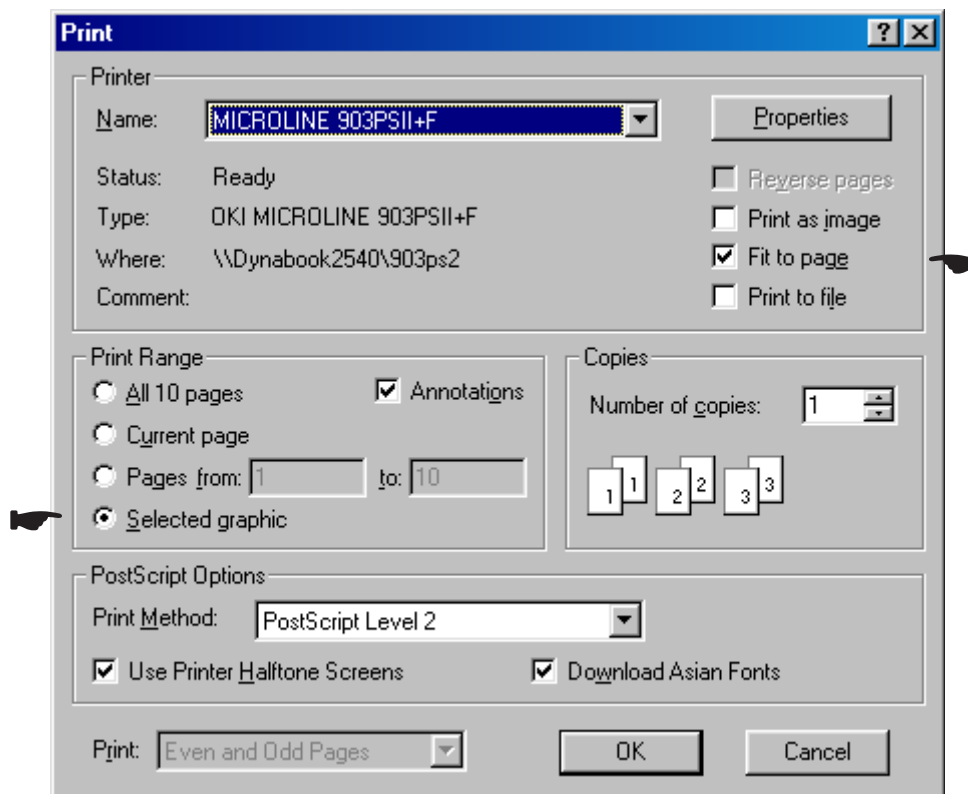
In printing out the drawings such as a schematic diagram and a printed wiring board larger than the printed paper size, they can be printed by specifying the range. (Acrobat Reader Version 4.0 or later)

1. Display the page to be printed.
2. From the File menu, select [Page Setup] and set the paper size.
3. From the Command bar, select [Graphic Select Tool].

(Keep pressing  , select )



4. Dragging the cursor, enclose the range on the page to be printed.
5. From the File menu, select [Print] and make sure that the [Selected Graphic] is already checked. Also, if [Fit to page] is checked, the selected range is enlarged or reduced (and rotated as necessary) meeting the paper size.



6. To cancel the printed range, click an arbitrary position on the screen.

REVISION HISTORY

Clicking the version allows you to jump to the revised page.

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

[illegible]