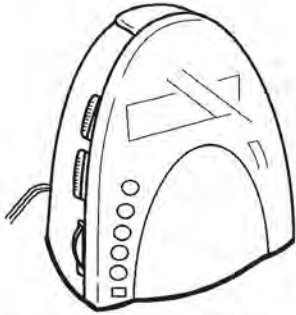


aiwa



FR-A305



RADIO RECEIVER

• TYPE: U

REVISION PUBLISHING

- This Service Manual is the "Revision Publishing" and replaces "Simple Manual" (S/M Code No. 09-982-240-70T).

S/M Code No. 09-983-260-3FP

SERVICE MANUAL

SPECIFICATIONS

Power source : AC 120V, 60 Hz
Output : 280 mW (EIAJ)/Max : 400mW
Power consumption : 4W
Speaker : 57 mm
Frequency range : FM: 87.5 — 108 MHz
AM: 530 —1,710 KHz
Antennas : FM wire antenna
Ferrite bar antenna for AM
Dimensions : 137 x 160 x128 mm
(W x H x D) (5 1/2 x 6 3/8 x 5 1/8 in.)
Weight : 672 g (1.48 lbs)

• Design and specifications are subject to change without notice.

ACCESSORIES / PACKAGE LIST

If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	S8-RU5-910-100		INSTRUCTION BOOK(EX-ESF)

ELECTRICAL MAIN PARTS LIST

If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF NO	PART NO.	KANRI NO	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC				L15	87-005-686-010		COIL, 15UH
	S2-085-620-000	IC, LM8562		LD1	S0-060-550-010		DISPLAY LED
	S3-108-301-010	IC, TDA1083A		PVC1	S3-222-000-000		PVC, AM/FM
				SW1	S2-410-611-000		SW, SLIDE 2P4T SK24D01G6A
				SW2	S2-200-711-000		SW, SLIDE SK22F03G7
TRANSISTOR				SW3	S4-300-611-000		SW, SLIDE M4-3KRG-6MM
	S5-901-300-060	TR, 9013G		T1	S1-001-300-100		IFT, F-810013 10MM
	S2-901-8G1-000	TR, 9018G		T2	S1-001-400-100		IFT, F-810014 10MM
				T3	S1-001-700-100		IFT, A-810017 10MM
				T4	S0-446-800-100		IFT, A4468 10MM
DIODE				T5	S1-001-500-100		IFT, F-810015 10MM
	82-596-799-010	DI, 1N4001B		T6	S0-968-300-100		IFT, OA-709683 10MM
	82-135-799-010	DIODE, 1N4148		VR1	SB-165-033-020		RES, VARIABLE A50K 16MM
	87-017-080-080	ZENER, 3.9V 1/2W		SW1 C.B			
	83-NEG-678-080	ZENER, MTZJ6.2V1/2W		SW2 C.B			
MAIN C.B				LED C.B			
C2	87-010-380-010	CAP, E 47-16V		LED1	87-070-106-010		LED, SE3001 RED
C5	87-010-037-010	CAP, E 10-50V					
C7	87-010-037-010	CAP, E 10-50V					
C11	87-010-249-010	CAP, E 470-16V					
C12	87-010-053-810	CAP, E 1-50V					
C15	87-010-101-080	CAP, E 220-16V					
C21	87-010-380-010	CAP, E 47-16V					
C22	87-010-380-010	CAP, E 47-16V					
C36	87-010-248-080	ELECT CAP 220-10V					
C41	87-010-248-080	ELECT CAP 220-10V					
C44	87-010-248-080	ELECT CAP 220-10V					
L2	S1-122-531-000	COIL, MW 0.07/3-100-4					
L6	S0-300-140-000	COIL, CHOKE 100UH					
L8	S0-118-160-000	COIL, INDUCTANCE CB-250-5-0.35					
L9	87-005-686-010	COIL, 15UH					

TRANSISTOR ILLUSTRATION



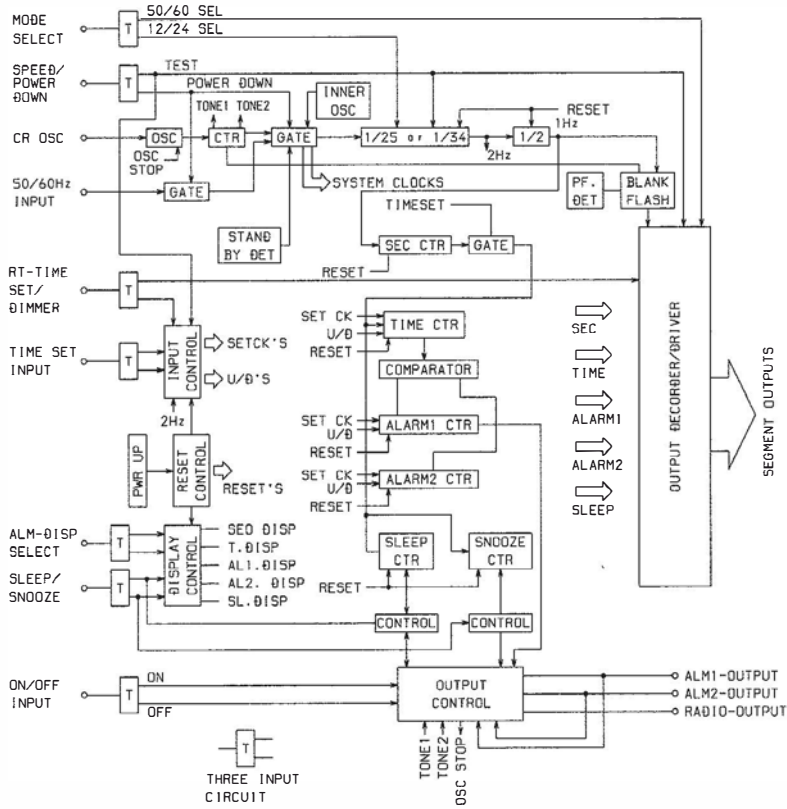
E C B

9013

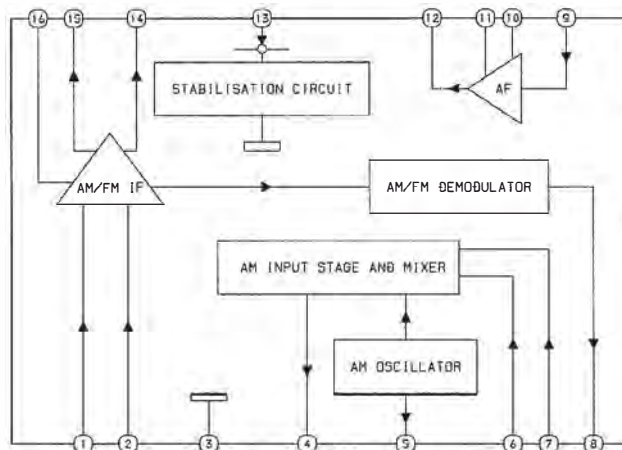
9018

IC BLOCK DIAGRAM

IC, LM8562



IC, TDA1083



VOLTAGE CHART

IC1 (TDA1083)

PIN No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
AM	1.25	1.23	0.00	5.28	5.28	1.14	1.25	1.52	0.00	1.23	0.00	2.34	5.28	5.28	5.28	1.55
FM	1.64	1.62	0.00	5.26	5.26	0.00	0.00	1.84	0.00	1.24	0.00	2.35	5.27	5.27	5.27	2.14

IC2 (LM8562)

PIN No.	1 ~ 14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
RADIO ON	—	10.03	10.12	1.53	9.55	-1.76	-1.76	3.79	1.90	4.39	4.38	3.31	-1.78	4.35	-1.79
SLEEP	—	11.56	11.12	2.51	-0.75	-0.64	-0.77	4.89	4.10	5.52	5.56	4.45	-0.68	5.39	-0.70
ALARM	—	9.89	7.82	4.14	8.85	5.35	-1.73	-1.74	2.12	4.27	4.28	3.36	-1.81	4.31	-1.73

Q3 (9013)

	E	C	B
RADIO ON	5.27	6.41	6.03
SLEEP	0.51	11.12	0
ALARM	5.15	9.82	5.76

Q1, Q2

	Q1 (9018)			Q2 (9018)		
	E	C	B	E	C	B
FM	0.78	4.04	1.52	0.62	4.52	1.21

PRACTICAL SERVICE FIGURE

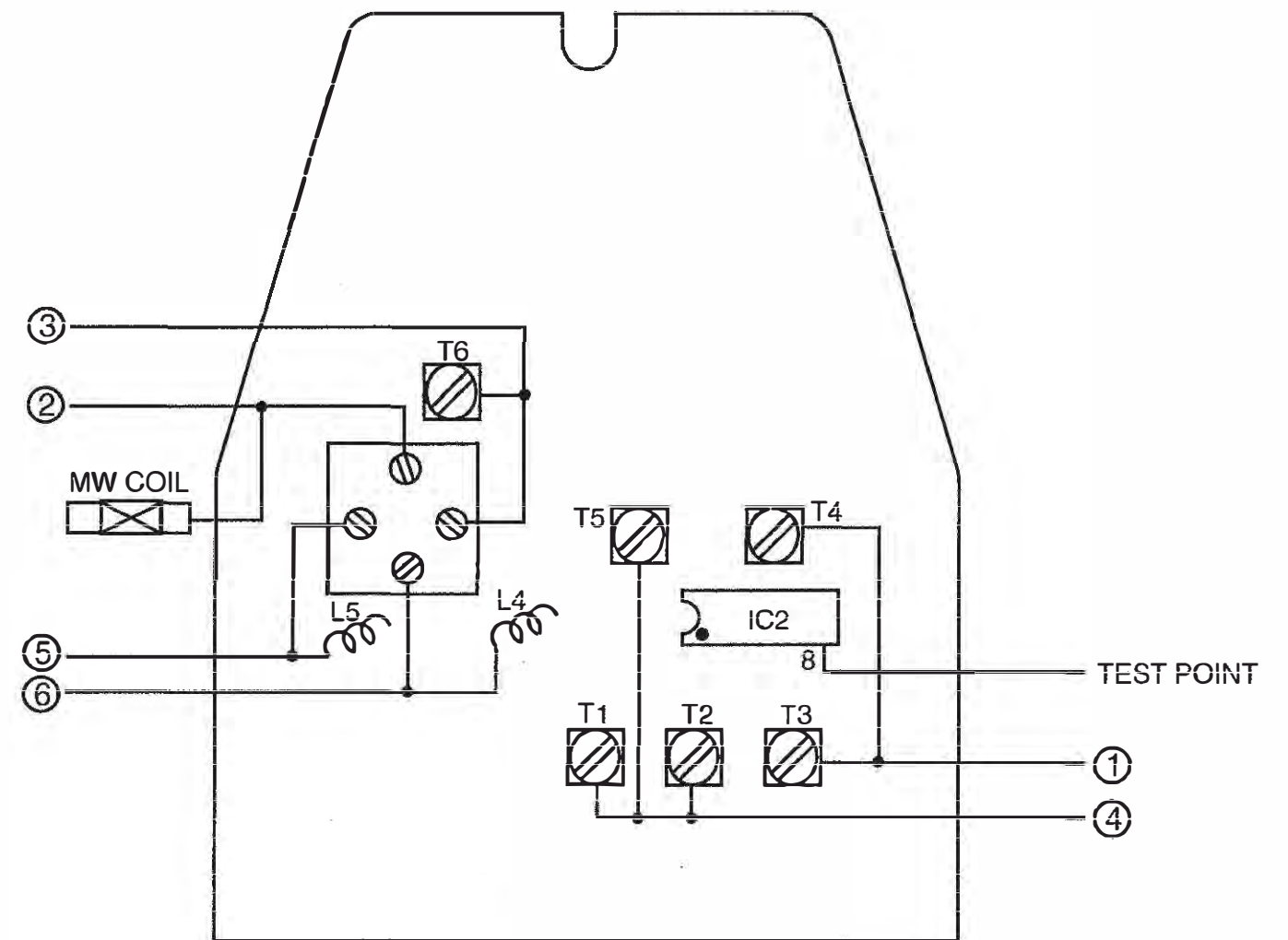
<AM SECTION>

Sensitivity : (S/N 10dB)	Less than 50dB (at 600kHz) Less than 49dB (at 1000kHz) Less than 46dB (at 1400kHz)
Signal to noise ratio : (at 74dB)	Less than 31dB (at 600kHz) Less than 30dB (at 1000kHz) Less than 30dB (at 1400kHz)
Distortion : (at 100dB Input)	Less than 3% (at 1000kHz)
Intermediate frequency :	455 ± 3kHz

<FM SECTION>

Sensitivity : (THD 3%)	Less than 20dB [at 88/98/108MHz]
Distortion : (at 60dB Input)	Less than 3% [at 98MHz]
Intermediate frequency :	10.7MHz ± 0.2MHz

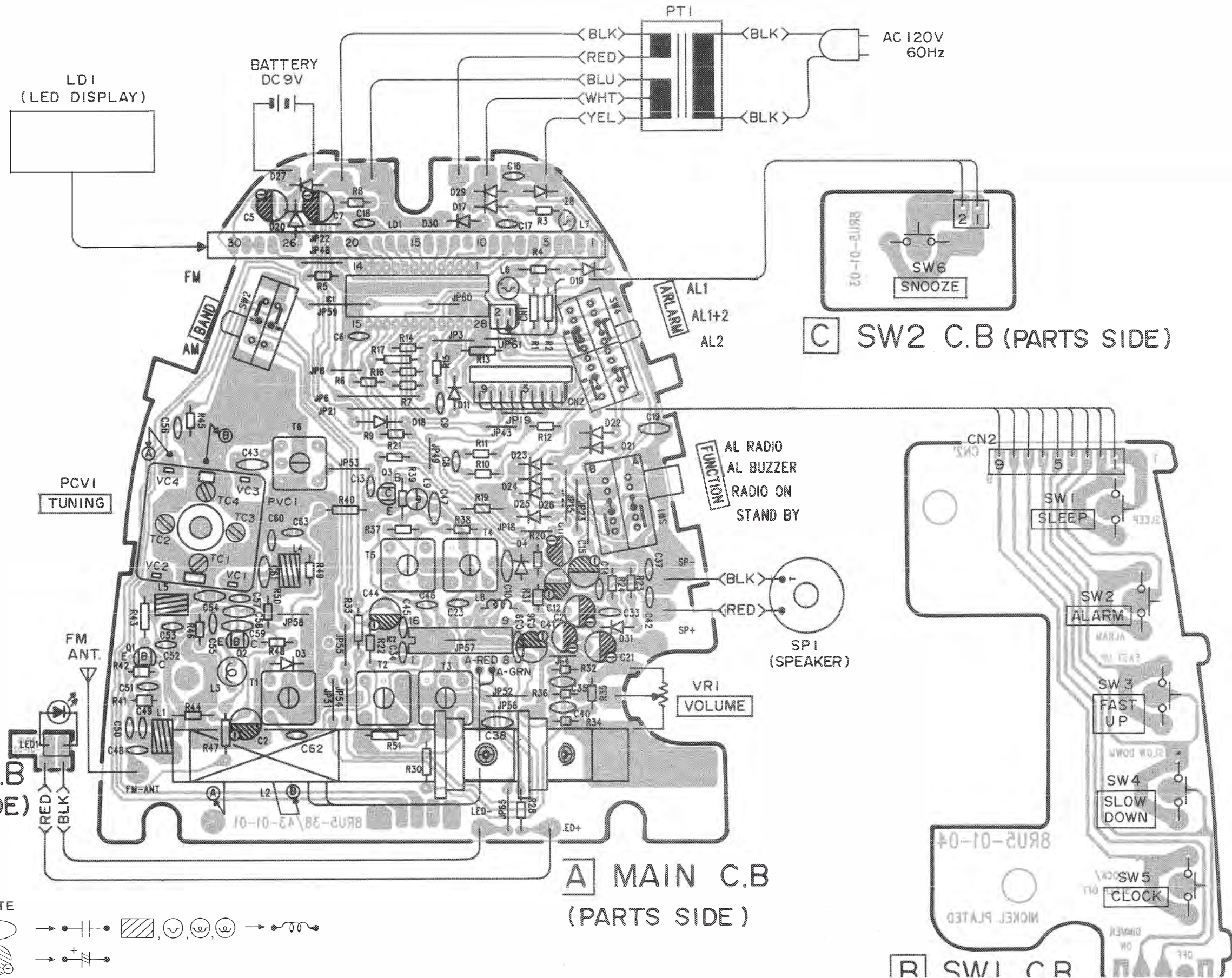
ADJUSTMENT



- AM IF Adjustment**
 Settings : • Test point : IC2 (TDA1083) 8 pin
 • Adjustment location : T3, T4
 T3, T4 455kHz
- AM Tracking Adjustment**
 Settings : • Test point : IC2 (TDA1083) 8 pin
 • Adjustment location : AM COIL, C4
 MW COIL 600kHz
 C4 1400kHz
- AM Frequency Range Adjustment**
 Settings : • Test point : IC2 (TDA1083) 8 pin
 • Adjustment location : T6, C3
 T6 517kHz
 C3 1750kHz

- FM IF Adjustment**
 Settings : • Test point : IC2 (TDA1083) 8 pin
 • Adjustment location : T1, T2, T5
 T1, T2, T5 10.7MHz
- FM Tracking Adjustment**
 Settings : • Test point : IC2 (TDA1083) 8 pin
 • Adjustment : L5, C2
 L5 88MHz
 C2 108MHz
- FM Frequency Range Adjustment**
 Settings : • Test point : IC2 (TDA1083) 8 pin
 • Adjustment : L4, C1
 L4 87MHz
 C1 109MHz

A
B
C
D
E
F
G
H
I
J

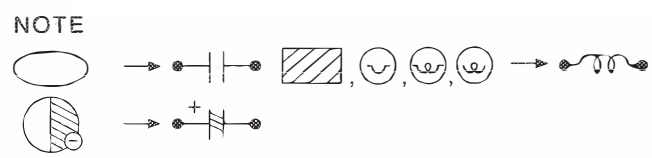


D LED C.B (PARTS SIDE)

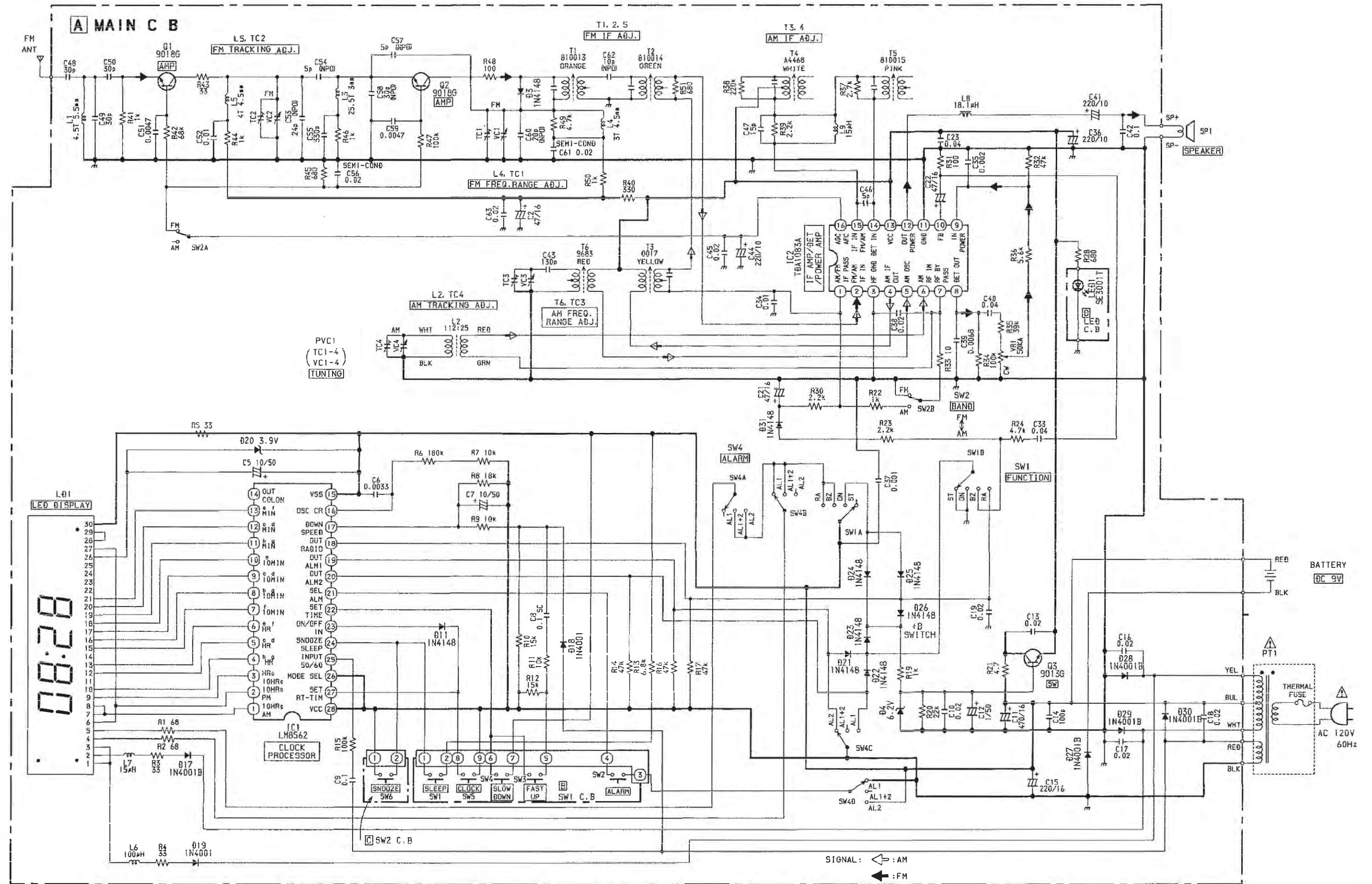
A MAIN C.B (PARTS SIDE)

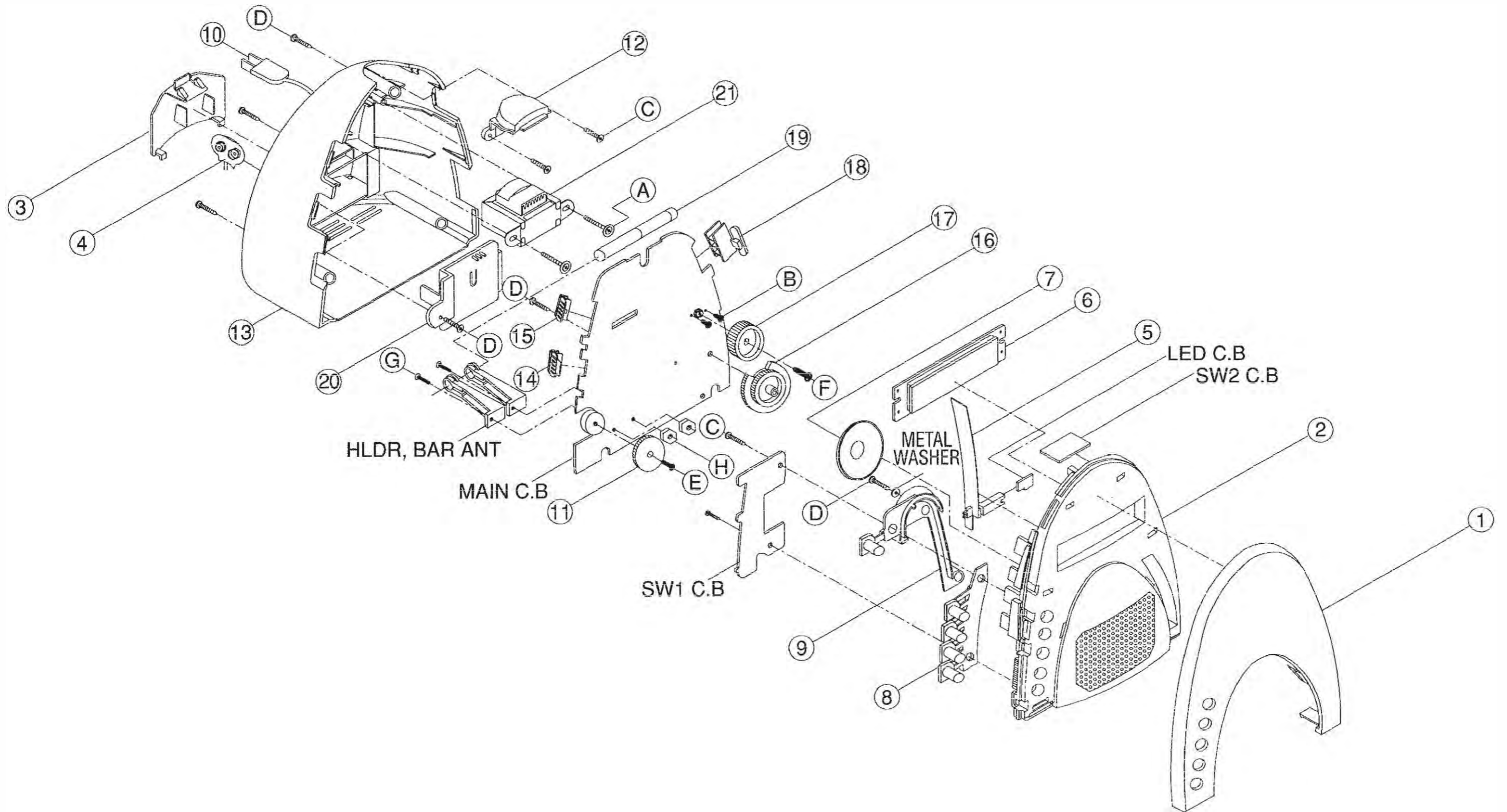
C SW2 C.B (PARTS SIDE)

R SW1 C.B



SCHEMATIC DIAGRAM





MECHANICAL PARTS LIST 1 / 1

If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF NO	PART NO.	KANRI NO.	DESCRIPTION
1	S8-RU5-200-100		LENS, DISPLAY
2	S8-RU5-010-100		CAB, FRONT
3	S8-RU5-030-000		DOOR, BAT
4	S7-RU5-000-000		BATT, SNAP 'T' TYPE
5	S8-RU5-120-000		POINTER
6	S0-060-550-010		DISPLAY LED
7	S2-280-005-210		SPKR, 2.25" 8 OHM 0.5W
8	S8-RU5-060-000		KNOB, CLOCK
9	S8-RU5-050-000		KNOB, SLEEP
△	10	S1-171-201-000	CORD, POWER 6.5
11	S8-RU5-100-000		KNOB, VOLUME
12	S8-RU5-110-100		BTN, SNOOZE
13	S8-RU5-220-100		CAB, REAR
14	S8-RU5-070-000		KNOB, POWER SL
15	S8-RU5-160-000		KNOB, ALARM SL
16	S8-RU5-090-000		KNOB, TUNING
17	S8-RU5-130-000		DRUM, DIAL
18	S8-RU5-080-000		KNOB, BAND SL
19	S0-100-700-000		FERRI, BAR 10-70MM
20	S8-RU5-140-000		COVER DOOR BAT
△	21	S1-115-020-200	PT, 0.2W EI35 120V
A	87-641-098-410		SCREW, 3-14
B	87-741-073-410		SCREW, ST2.6-6
C	87-741-096-410		SCREW, ST3-10MM HEAD V5.9-6.3
D	87-653-099-410		SCREW, ST3-14 BB HEAD
E	87-067-297-010		SCREW, 1.7-4 PM
F	87-743-073-410		SCREW, 2.6-6
G	87-741-097-410		SCREW, ST3-12 PM
H	S0-000-305-000		NUT, M3.5-0.5

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

サービス技術ニュース	
番号	連絡内容
G-	-
G-	-
G-	-

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