

SERVICE MANUAL

RADIO RECEIVER

This Service Manual is the "Revision Publishing" and replaces "Simple Manual"
FR-A200<UB>(S/M Code No.09-991-323-3T1).

SPECIFICATIONS

Power source	AC 120 V, 60 Hz
Output	280 mW (EIAJ)
Power consumption	4 W
Speaker	57 mm, 8 ohms
Frequency range	FM : 87.5 - 108 MHz AM : 530 - 1,710 kHz
Antennas	FM line antenna Ferrite bar antenna for AM
Dimensions (W x H x D)	205 x 160 x 68 mm (8 ¹ / ₈ x 6 ³ / ₈ x 2 ³ / ₄ in.)
Weight`	Approx. 680 g (1.5 lbs.)

- Design and specifications are subject to change without notice

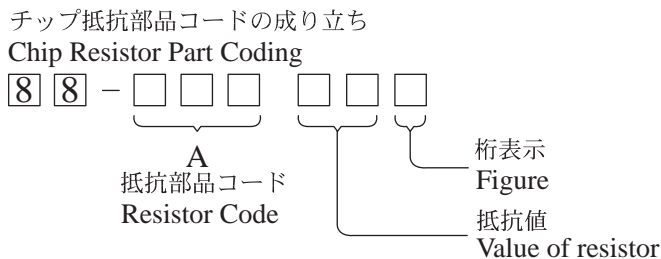
ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
 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				CF2	S3-32A-012-A00		FM C/FILTER SFE10.7
	S1-86A-012-A00	IC,CXA1619AS(RF+1F+AUDIO)		L1	S2-10A-062-A00		AM ANT COIL 60-10 560UH
	87-A21-201-010	IC,LM8560(CLOCK)		L4	S2-24A-032-A00		AM OSC COIL 7-7-2 A106
				L5	S2-14A-034-A00		CHOKE COIL 47UH
				L53	S2-15A-030-A00		LOADING COIL 4.5P
TRANSISTOR				L54	S2-15A-030-A00		LOADING COIL 4.5P
	S1-71H-003-E00	TR,A1267-Y		LD51	S2-00A-008-A00		LED DISPLAY(FRA200)
				PVC1	S2-61A-030-A00		PVC ST-505 60P/82P 20PX2
				SW1	S2-81A-055-A00		SLIDE SW 2C-2P RG 4MM(BAND)
				SW1	S3-23A-025-A00		SPEAKER 8 OHM 0.5W(FRA200)
DIODE				SW51	S2-81A-056-A00		SLIDE SW 2C-4P RG 4MM(POWER)
	82-135-799-080	DIODE,1N4148		SW53	S6-42A-065-A00		TACT SW TS114-16
	S1-722-400-100	DIODE,1N4001		SW54	S6-42A-065-A00		TACT SW TS114-16
				SW55	S6-42A-065-A00		TACT SW TS114-16
				SW56	S6-42A-065-A00		TACT SW TS114-16
MAIN C.B				SW57	S6-42A-065-A00		TACT SW TS114-16
B51	S6-45A-010-A00	BATT,SNAP TERMINAL AWG26 RED/B		SW58	S6-42A-065-A00		TACT SW TS114-16
C9	SC-E10-614-280	CAP,E 10UF-10V		T1	S2-20A-025-A00		FM IFT 7-7-2 D30045
C11	S1-41T-101-0M0	CAP,E 1.0UF-10V		T2	S2-22A-028-A00		AM IFT 7-7-2 2B467
C12	87-010-374-040	CAP,E 47UF-10V		TF51	S4-10A-022-A00		POWER TRANS EI-35.120V
C13	87-010-236-080	CAP,E 1000UF-10V					
				VR1	S2-56A-015-A00		VR,50K-B POINT CONTACT
C16	87-010-264-080	CAP,E 100UF-10V					
C17	87-010-236-080	CAP,E 1000UF-10V					
C53	87-010-480-080	CAP,E 220UF-16V					
C54	87-010-264-080	CAP,E 100UF-10V					
CF1	S3-33A-008-A00	AM C/FILTER SFU450B					

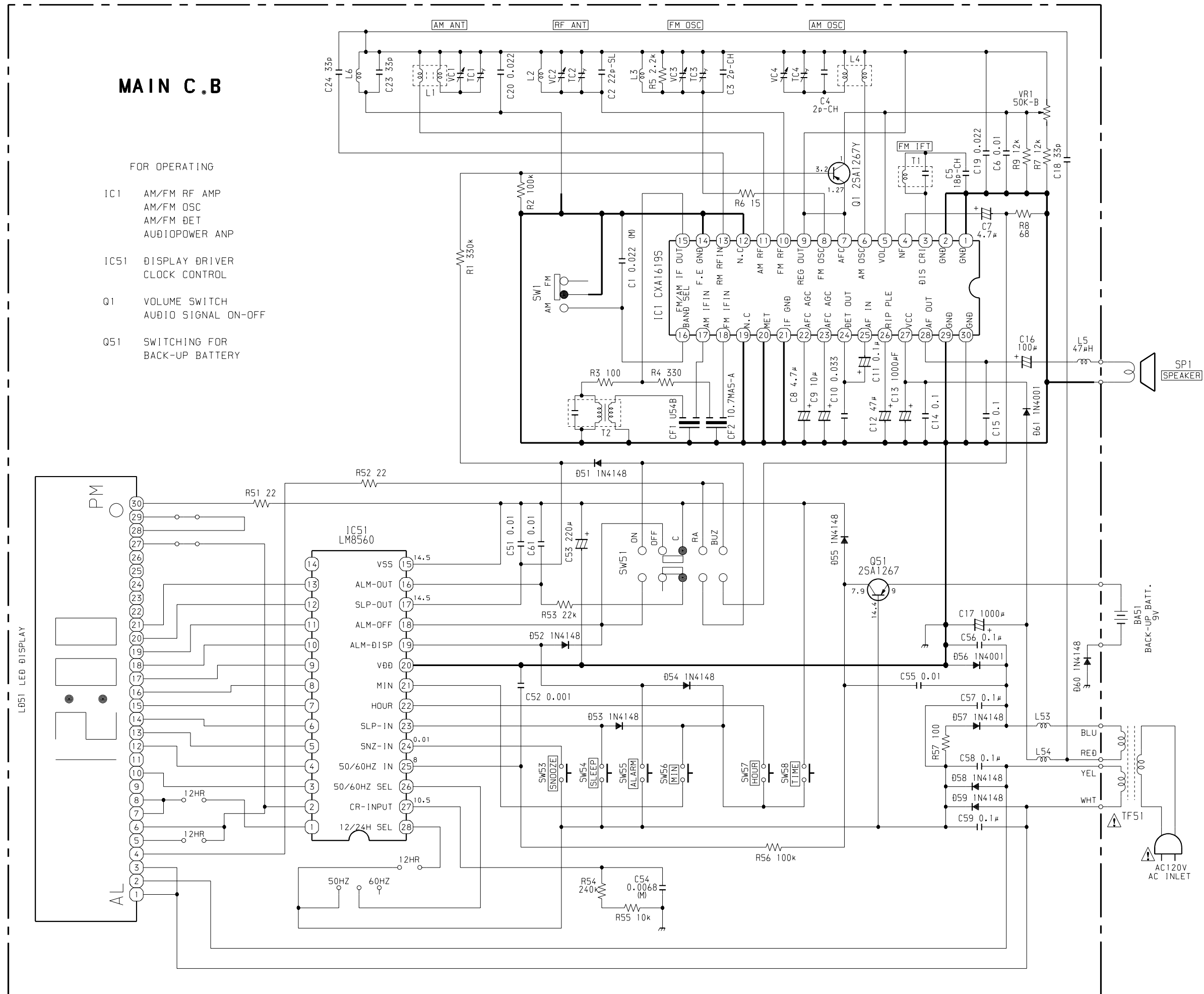
- コネクタについては、初回発注の扱いとはせず、受注後に業者へ発注し、供給致します。
- Regarding connectors, they are not stocked as they are not the initial order items.
 The connectors are available after they are supplied from connector manufacturers upon the order is received.

チップ抵抗部品コード/CHIP RESISTOR PART CODE

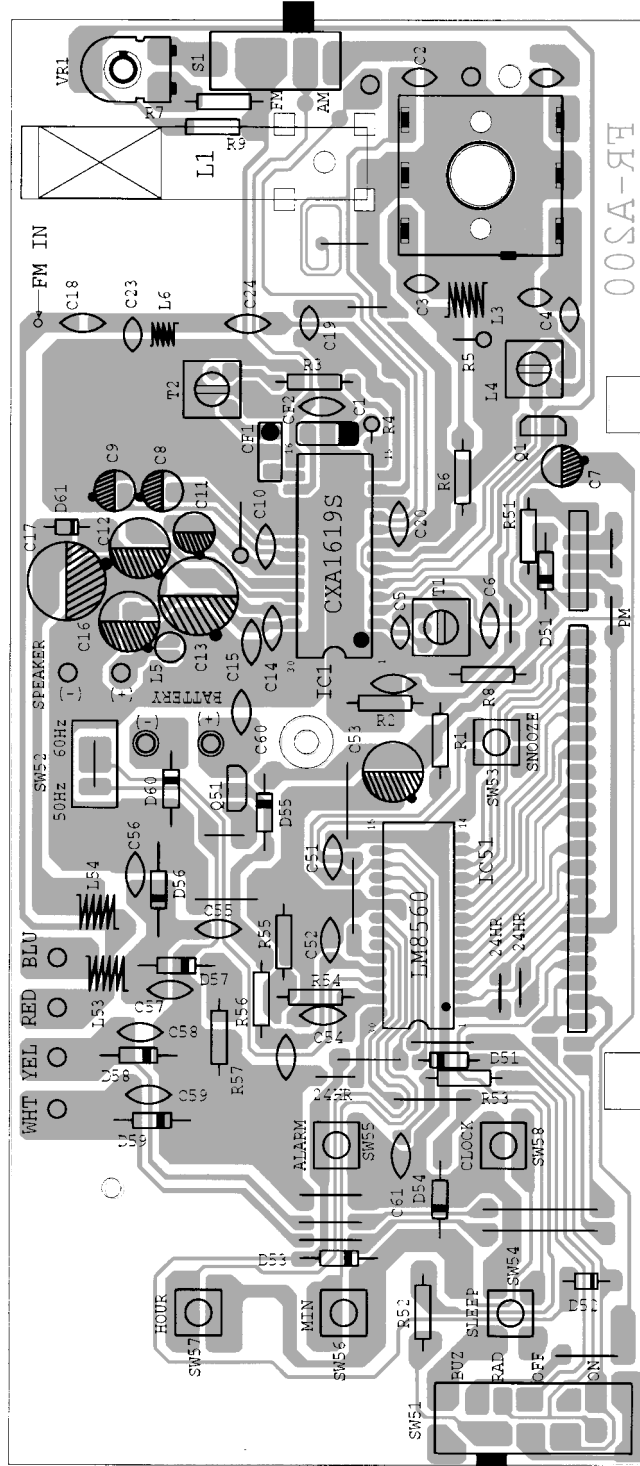


チップ抵抗 Chip resistor

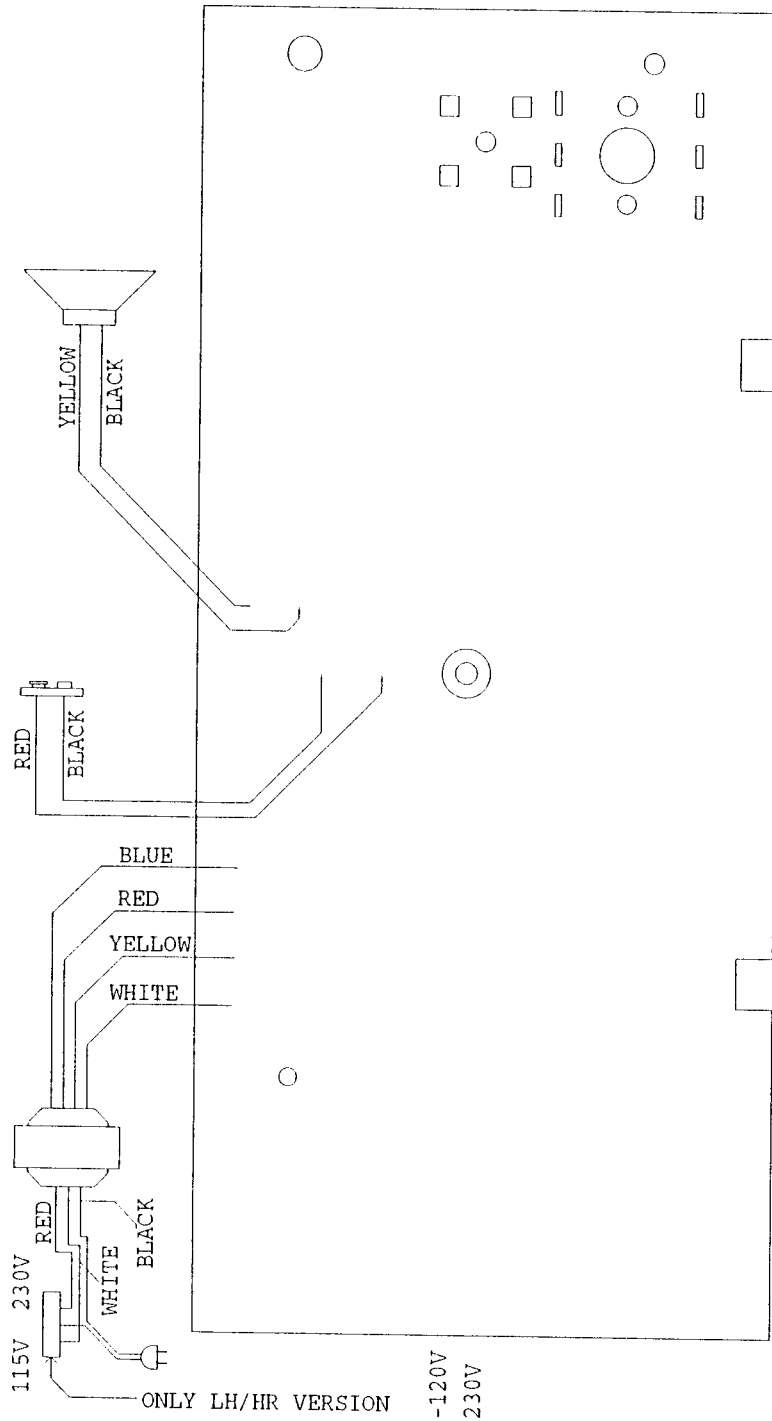
容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法/Dimensions (mm)			抵抗コード : A Resistor Code : A	
				外形/Form	L	W		t
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45	108
1/10W	2125	± 5%	CJ		2	1.25	0.45	118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55	128



MAIN C.B



MAIN C.B



USA-120V
EZ-230V

TRANSISTOR ILLUSTRATION

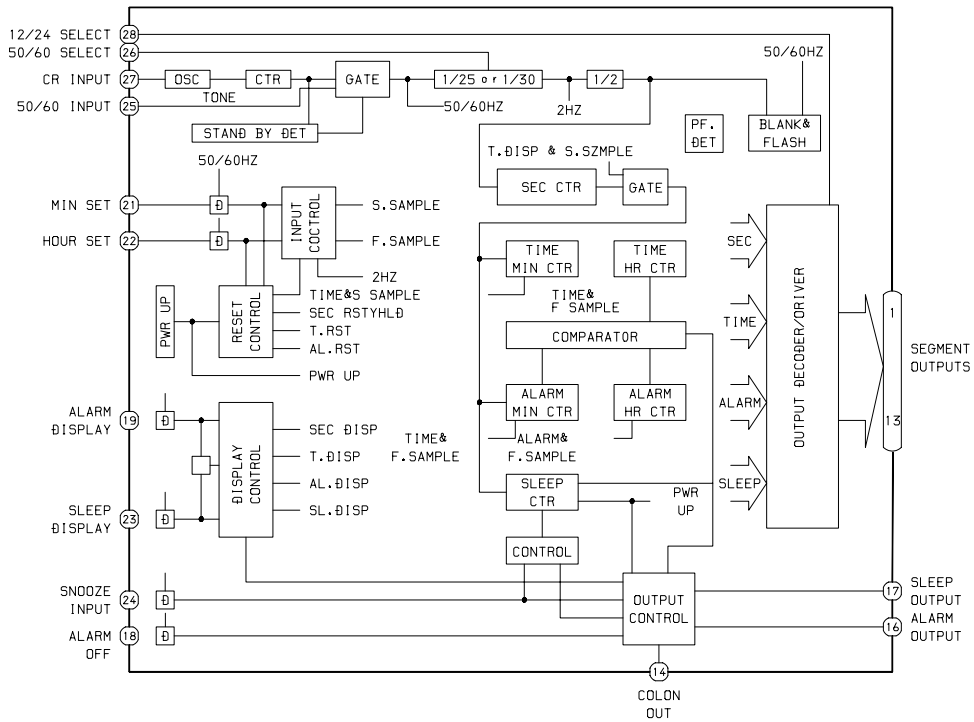


B C E

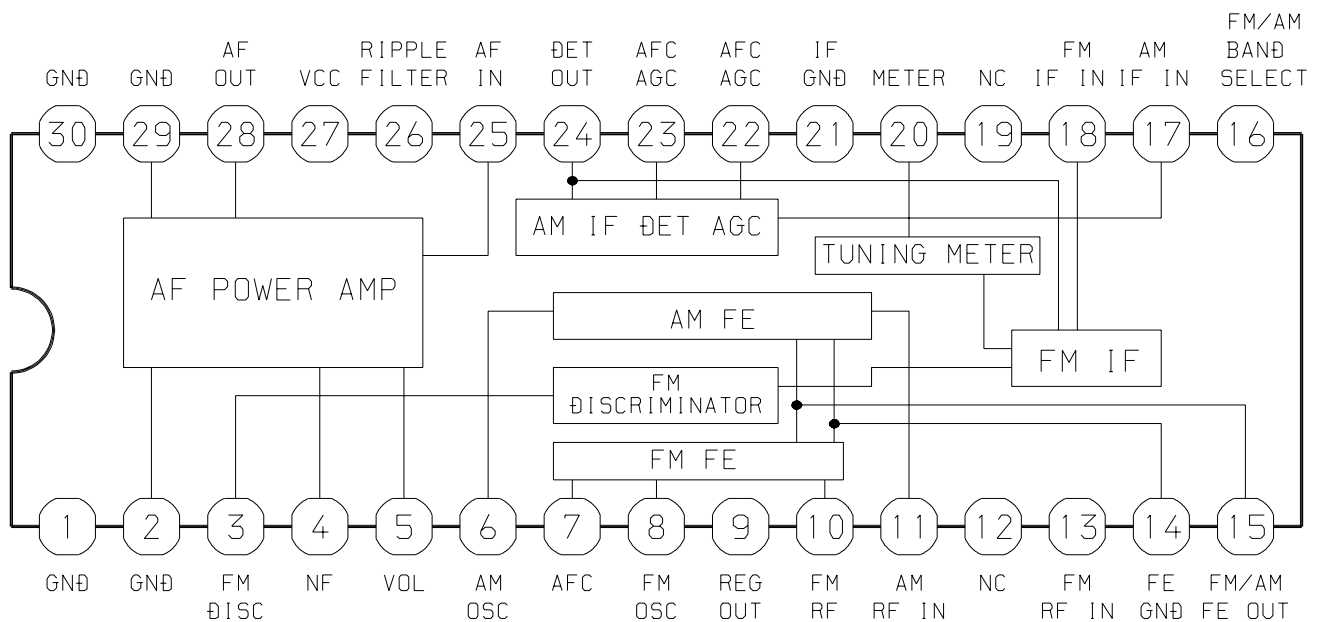
A1267Y

IC BLOCK DIAGRAM

IC, LM8560



IC, CXA1619S



PRACTICAL SERVICE FIGURE

<AM SECTION>

Sensitivity	Less than 50 dB (600 kHz)
(S/N 10dB)	Less than 46 dB (1000/1400 kHz)
S/N (Input 60dB)	Less than 21 dB (600 kHz)
	Less than 24 dB (1000/1400kHz)
Distortion	Less than 3 % (1000 kHz)
Intermediate frequency	450kHz

<FM SECTION>

Sensitivity (3% dist.)	Less than 20 dB (88/98/108 MHz)
S/N (at 60dB)	Less than 45 dB (98 MHz)
Distortion (at 60dB)	Less than 3% (98MHz)
Intermediate frequency	10.7MHz

1. AM IF Adjustment

Setting : • Test point : TP1, 2(IN), TP8, 9(OUT)
T2 450 kHz

2. FM IF Adjustment

Setting : • Test point : TP2, 3(IN), TP8, 9(OUT)
IT1 10.7 MHz

3. AM FREQ. RANGE Adjustment

Setting : • Test point : L1(IN), TP6, 7, 8, 9(OUT)
L4 515 kHz
TC4 1750 kHz

4. AM Tracking Adjustment

Setting : • Test point : L1(IN), TP6, 7(OUT)
L1 600 kHz
TC1 1500 kHz

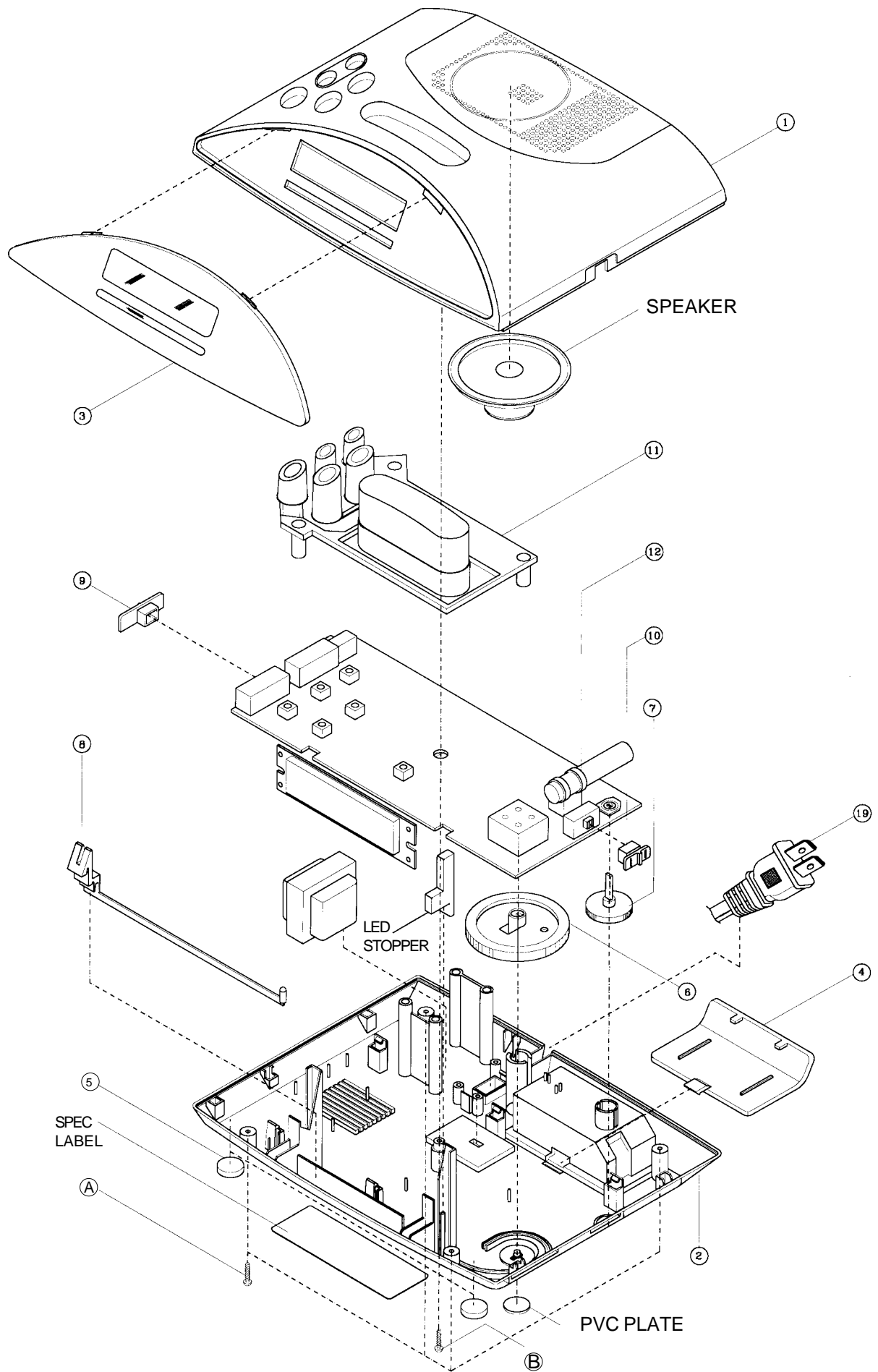
5. FM FREQ. RANGE Adjustment

Setting : • Test point : TP4, 5(IN), TP6, 7, 8, 9(OUT)
L3 87.0 MHz
TC3 109 MHz

6. FM Tracking Adjustment

Setting : • Test point : TP4, 5(IN), TP6, 7(OUT)
TC2 106 MHz

MECHANICAL EXPLODED VIEW - 1/1



MECHANICAL PARTS LIST 1/1

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REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	S6-73A-030-A00		CAB, TOP (FRA200 D-GRY)
2	S6-74A-040-A00		CAB, BOTTOM (FRA200D-GRY)
3	S6-87A-070-A00		DIAL LENS (FRA200)
4	S6-97A-010-A00		BATT, COVER (FRA200D-GRY)
6	S7-08A-045-A00		KNOB, TUNING (FRA200D-GRY)
7	S7-08A-055-A00		KNOB, VOLUME (FRA200)
8	S7-01A-020-A00		DIAL POINTER (FRA200WHT)
9	S7-08A-065-A00		KNOB, POWER (FRA200)
10	S7-08A-075-A00		KNOB, BAND (FRA200)
11	S7-08A-050-A00		BUTTON CLOCK (FRA200D-GRY)
12	S6-12A-040-A00		ANT HOLDER (FRA200)
13	S6-35A-010-A00		RUBBER FOOT (FRA200B)
A	87-741-097-410		SCREW, +3-12
B	87-741-102-410		SCREW, +3-20

COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
N	Gold	P	Pink	R	Red
S	Silver	ST	Titan Silver	T	Brown
V	Violet	W	White	Y	Yellow

ACCESSORIES LIST

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REF. NO	PART NO.	KANRI NO.	DESCRIPTION
	S8-00A-250-A00		INSTRUCTION BOOK(FRA200U)



サービス技術ニュース	
番号	連絡内容
G- -	
G- -	
G- -	

アイワ株式会社 〒110 東京都台東区池之端1-2-11 ☎03 (3827) 3111 (代表)
AIWA CO.,LTD. 2-11, IKENOHATA 1-CHOME, TAITO-KU, TOKYO 110, JAPAN TEL:03 (3827) 3111