

# ICF-C218

## SERVICE MANUAL

Ver. 1.1 2007.04

*E Model  
Australian Model*



### SPECIFICATIONS

**Time display:**

Model for Australian, Central & South American  
and Mexico: 12-hour system  
Model for other countries/ regions: 24-hour system

**Frequency range:**

Band	Frequency
FM	87.5 – 108 MHz
AM	530 – 1 710 kHz

**Speaker:**

Approx. 6.6 cm (2 <sup>5</sup>/<sub>8</sub> inches) dia., 8 Ω

**Power output:**

150 mW (at 10% harmonic distortion)

**Power requirements:**

Model for Central & South American and Mexico: 120 V  
AC, 60 Hz  
Model for Australian: 230 V AC, 50 Hz  
Model for Thailand: 230 V AC, 50 Hz  
Model for other countries/ regions: 230 – 240 V  
AC, 50 Hz  
For power backup: 3 V DC, one CR2032 battery

**Dimensions:**

Approx. 155 × 64.5 × 150 mm (w/h/d)  
(6 <sup>1</sup>/<sub>8</sub> × 2 <sup>5</sup>/<sub>8</sub> × 6 inches) incl. projecting parts and controls

**Mass:**

Model for Central & South American and Mexico: approx.  
462.2g (1 lb 0.3 oz) incl. CR2032 battery  
Model for Australian: approx.  
498.2g (1 lb 2.1 oz) incl. CR2032 battery  
Model for other countries/regions: approx.  
470.2g (1 lb 0.6 oz) incl. CR2032 battery

Design and specifications are subject to change without notice.

## FM/AM CLOCK RADIO

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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.

**CAUTION**

Danger of explosion if battery is incorrectly replaced.  
 Replace only with the same or equivalent type.

**Unleaded solder**

Boards requiring use of unleaded solder are printed with the lead free mark (LF) indicating the solder contains no lead.  
 (Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size.)



: LEAD FREE MARK

Unleaded solder has the following characteristics.

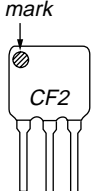
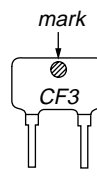
- Unleaded solder melts at a temperature about 40°C higher than ordinary solder.  
 Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.  
 Soldering irons using a temperature regulator should be set to about 350°C.  
 Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
- Strong viscosity  
 Unleaded solder is more viscous (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Usable with ordinary solder  
 It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

**SAFETY-RELATED COMPONENT WARNING!!**

**COMPONENTS IDENTIFIED BY MARK  $\triangle$  OR DOTTED LINE WITH MARK  $\triangle$  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.**

**• HOW TO CHANGE THE CERAMIC FILTER**

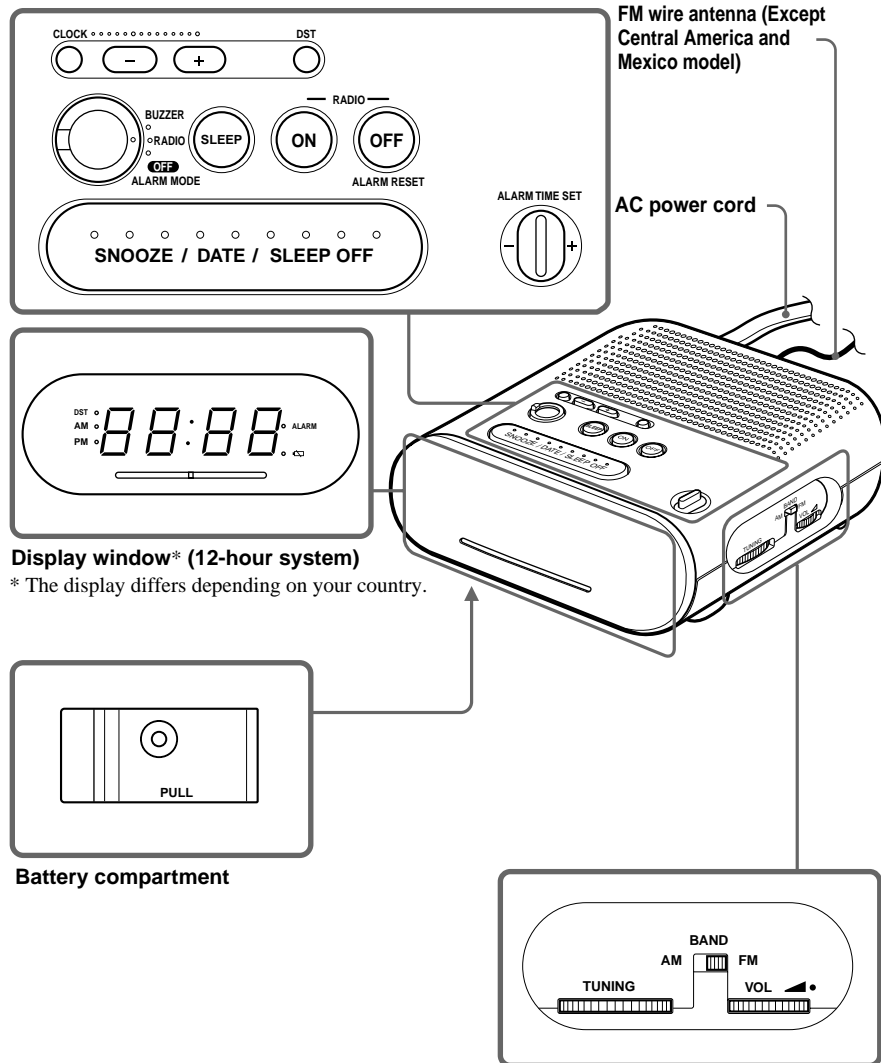
This model is used two ceramic filters of CF2 and CF3.  
 You must use same type of color marked ceramic filters in order to meet same specifications.  
 Therefore, the ceramic filter must change two pieces together since it's supply two pieces in package as a spare parts.

		Mark	Center frequency
		red	10.70MHz
		blue	10.67MHz
		orange	10.73MHz
		black	10.64MHz
		white	10.76MHz

# SECTION 1 GENERAL

This section is extracted from instruction manual.

## LOCATING THE CONTROLS



**Display window\* (12-hour system)**  
\* The display differs depending on your country.

**Battery compartment**

\* There is a tactile dot beside **VOLUME** to show the direction to turn up the volume.

## Setting the clock and date

Set the clock and date according to the following steps.

- 1 Plug in the unit.  
The display will flash "AM 12:00" or "0:00".
- 2 Press **CLOCK** for more than 2 seconds.  
You will hear a beep and the year will start to flash in the display.
- 3 Press **+** or **-** until the correct year appears in the display.
- 4 Press **CLOCK**.
- 5 Repeat steps **3** and **4** to set the month, day and time.  
After setting the time, two short beeps sound and the clock starts from 0 seconds.

- Pressing and holding **+** or **-** changes the year, month or day rapidly.  
When setting the current time, time changes rapidly by 1 minute-increments up to 10 minutes, and then by 10 minute-increments.
- The clock system varies depending on the model you own.  
12-hour system: "AM 12:00" = midnight  
24-hour system: "0:00" = midnight
- While setting the clock, you must perform each step within 65 seconds, or the clock setting mode will be cancelled.

### To display the year and date

Press **SNOOZE/DATE/SLEEP OFF** once for the date, and within about 3 seconds press it again for the year.

The display shows the date or year for about 3 seconds and then changes back to the current time. If you connect the AC plug to AC outlet while this unit is powered from the backup power source, the current date and time appears in the following order. (It is same as when the unit is powered on after the power failure.)  
"month and date" (about 1 second) → "year" (about 1 second) → "current time"

### To change the display to the daylight saving time (summer time) indication

Press **DST**.

**DST** indicator appears in the display and the time indication changes to the daylight saving time (summer time).

To deactivate the daylight saving time (summer time) adjustment, press **DST** again.

## Operating the radio

- 1 Press **RADIO ON** to turn on the radio.
- 2 Adjust volume using **VOLUME**.
- 3 Select **BAND**.
- 4 Tune in to a station using **TUNING**.

### To turn off the radio

Press **RADIO OFF/ALARM RESET**.

## Improving the reception

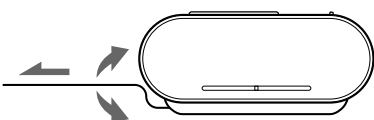
#### FM:

Model for Central America and Mexico:

The AC power cord functions as an FM antenna. Extend the AC power cord fully to increase reception sensitivity.

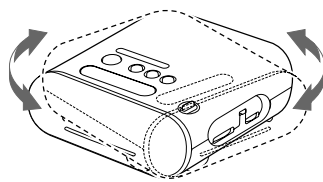
Model for other countries/ regions:

Extend the FM wire antenna fully to increase reception sensitivity.



#### AM:

Rotate the unit horizontally for optimum reception. A ferrite bar AM antenna is built-in to the unit.



Do not operate the unit over a steel desk or metal surface, as this may lead to interference of reception.

## Setting the alarm

The alarm function can be selected from two alarm sounds, **RADIO** or **BUZZER**.

#### Notes

- Before setting the alarm, make sure to set the clock (see "Setting the clock and date").
- The factory setting alarm time is "PM 12:00" or "12:00".
- To set the radio alarm, first tune in to a station and adjust the volume (see "Operating the radio").

### To set the alarm time

- 1 Set **ALARM MODE** to the desired alarm sound (**RADIO** or **BUZZER**).  
The alarm time appears for a few seconds, and then the **ALARM** indicator lights up in the display. (It does not appear when the switch is set to **OFF**.)

- 2 Slide **ALARM TIME SET +** or **-** to set the desired time.

Each slide of **ALARM TIME SET +** or **-** changes the indication by 1 minute. If you keep sliding **ALARM TIME SET +** or **-**, the alarm time goes forward (or backward) by 1 minute up to 10 minutes, and then by 10 minutes increments.

While setting the alarm time, the **ALARM** indicator flashes in the display.



When the alarm time setting operation is complete, the display returns to the clock after a few seconds and the **ALARM** indicator changes from flashing to fully lit.

- While **ALARM MODE** is set to **RADIO** or **BUZZER**, the alarm time setting can be changed by **ALARM TIME SET**.  
One slide of **ALARM TIME SET** displays the alarm time for about 4 seconds. By adjusting **ALARM TIME SET** while the alarm time appears in the display, the alarm time will be changed.
- The **ALARM** indicator flashes in the display while:
  - The alarm time appears in the display.
  - The alarm sounds.
  - Snooze function is turned on.
- The alarm time setting cannot be changed if **ALARM MODE** is set to **OFF**. If **ALARM TIME SET** is adjusted, "OFF" appears in the display for about 0.5 seconds.
- **CLOCK** and **DST** are unavailable while the alarm sounds or snooze function is turned on.

### To doze for a few more minutes

Press **SNOOZE/DATE/SLEEP OFF**.

The sound turns off but will automatically come on again after about 10 minutes. Each time you press **SNOOZE/DATE/SLEEP OFF**, the snooze time changes as follows:

10 → 20 → 30 → 40 → 50 → 60

The maximum length of the snooze time is 60 minutes.

The display shows the snooze time for about 4 seconds and returns to show the current time. When you press **SNOOZE/DATE/SLEEP OFF** after the current time appears, the snooze time starts from 10 minutes again.

### To stop the Alarm

Press **RADIO OFF/ALARM RESET** to turn off the alarm.

The alarm will come on again at the same time the next day.

If **RADIO OFF/ALARM RESET** is not pressed, the alarm sounds continuously for about 60 minutes, and then it will be stop automatically.


### To deactivate the Alarm

Turn **ALARM MODE** to **OFF**.

**ALARM** indicator disappears from the display.

#### Note on alarm in the event of a power interruption

If the alarm set time comes in the event of a power interruption or a power interruption occurs while the alarm is sounding, the display will turn off and the alarm will not sound, and the alarm status will be as follows. If power returns within 60 minutes from the alarm set time, the alarm will sound. If the power interruption occurred while the snooze function was operating, the snooze function will continue. If the snooze time had passed when the power interruption occurred, the alarm will sound after power returns.

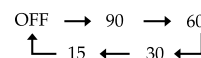
In this status, if the  indicator does not light up, **RADIO OFF/ALARM RESET**, **SNOOZE** buttons and **ALARM MODE** functions are available. **SNOOZE** time will be fixed only 10 minutes if the **SNOOZE** button has been pressed.

## Setting the sleep timer

You can fall asleep to the radio using the built-in sleep timer that turns off the radio automatically after a preset duration.

Press **SLEEP**.

The radio turns on. You can set the sleep timer to durations of 90, 60, 30, or 15 minutes. Each press changes the display as follows:



Two short beeps sound when the display returns to "90".

The radio will play for the duration you set, then shut off.

### To turn off the radio before the preset time

Press **RADIO OFF/ALARM RESET** or **SNOOZE/DATE/SLEEP OFF**.

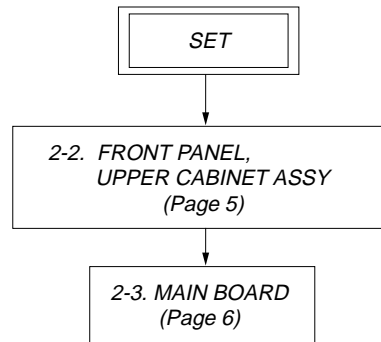
### To use both sleep timer and alarm

You can fall asleep to the radio and also be awakened by the radio or buzzer alarm at the preset time.

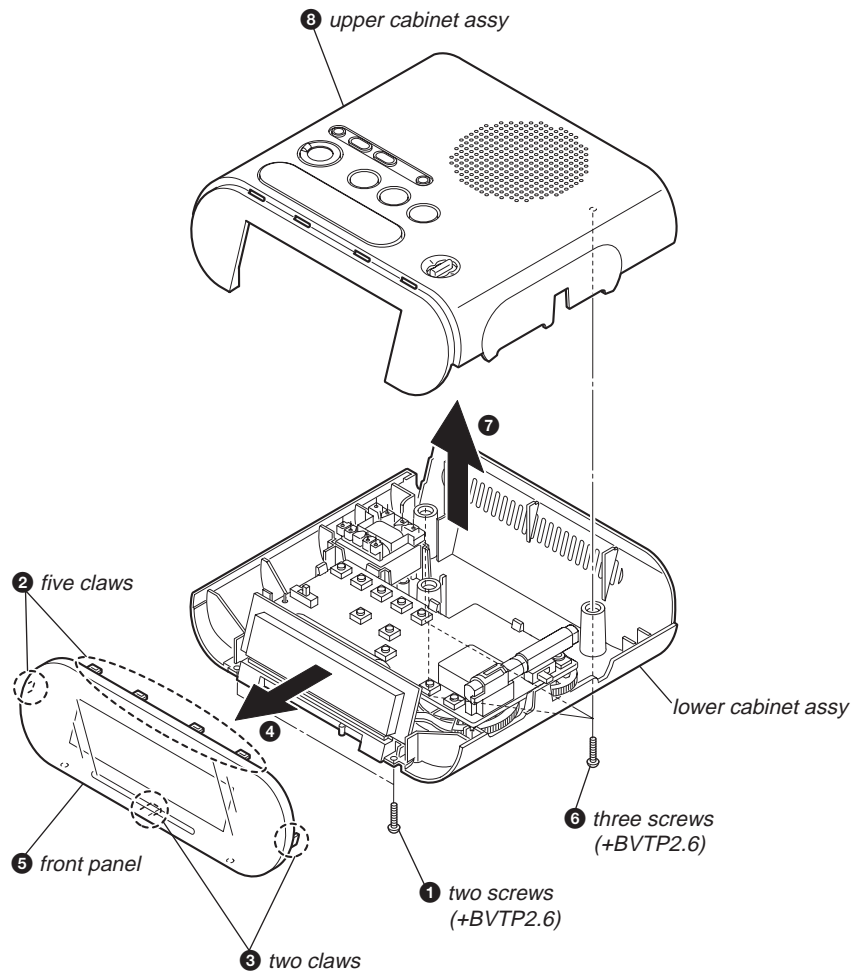
- 1 Set the alarm. (See "Setting the alarm".)
- 2 Set the sleep timer. (See "Setting the sleep timer".)

## SECTION 2 DISASSEMBLY

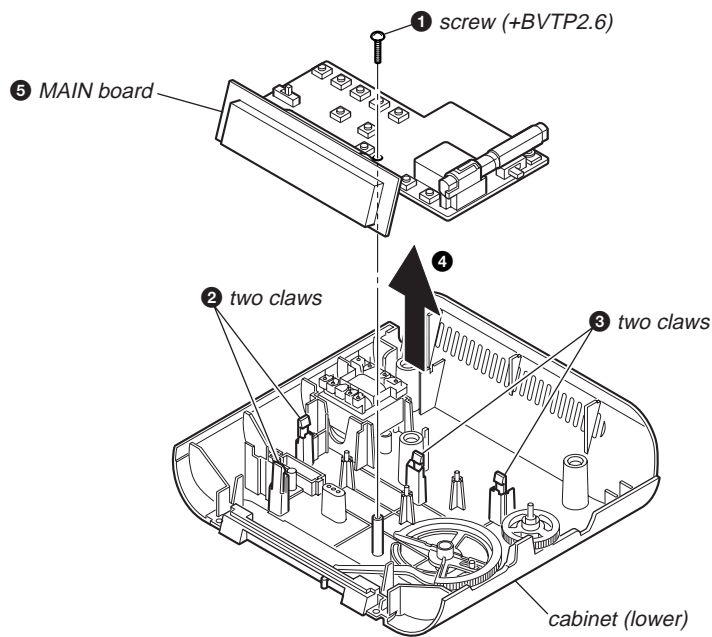
### 2-1. DISASSEMBLY FLOW



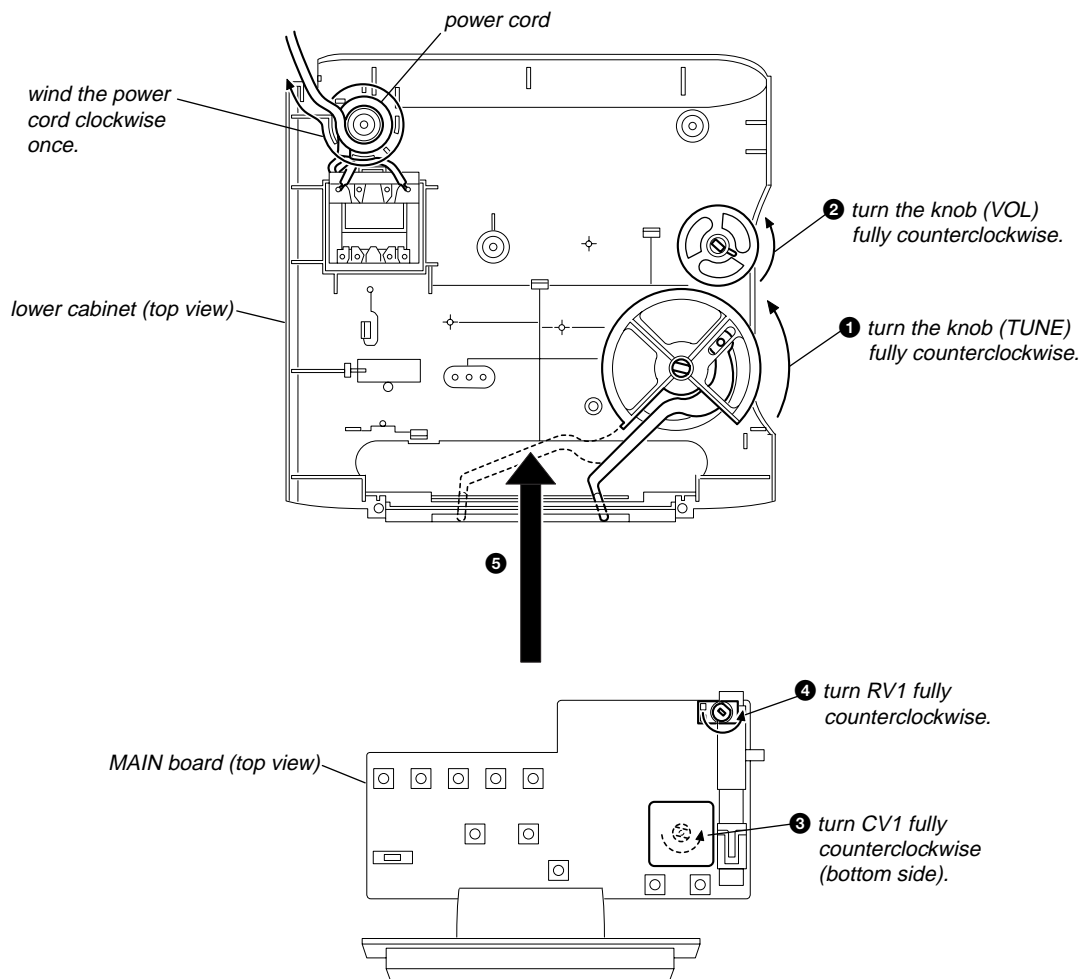
### 2-2. FRONT PANEL, UPPER CABINET ASSY



## 2-3. MAIN BOARD



## POWER CORD AND POINTER INSTALLATION



## SECTION 3 ELECTRICAL ADJUSTMENTS

### TUNER SECTION

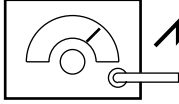
#### AM Section

0dB=1 $\mu$ V

**Procedure :**

BAND : AM  
VOLUME : 10mW

AM RF signal generator



Put the lead-wire antenna close to the set.

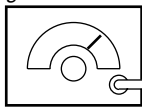
30% amplitude modulation by 400Hz signal.  
Output level : as low as possible

#### FM Section

**Procedure :**

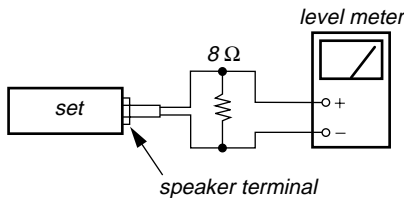
BAND : FM  
VOLUME : 10mW

FM RF signal generator



0.01 $\mu$ F antenna terminal TP1(RF IN)

22.5kHz frequency deviation by 400Hz signal.  
Output level : as low as possible



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

#### AM IF ADJUSTMENT

Adjust for a maximum reading on level meter.

T1	455kHz
----	--------

#### AM FREQUENCY COVERAGE ADJUSTMENT

Adjust for a maximum reading on level meter.

L4	520kHz
CT1-4	1,750kHz

#### AM TRACKING ADJUSTMENT

Adjust for a maximum reading on level meter.

L1	620kHz
CT1-1	1,400kHz

#### FM FREQUENCY COVERAGE ADJUSTMENT

Adjust for a maximum reading on level meter.

L3	86.5MHz
CT1-3	109.5MHz

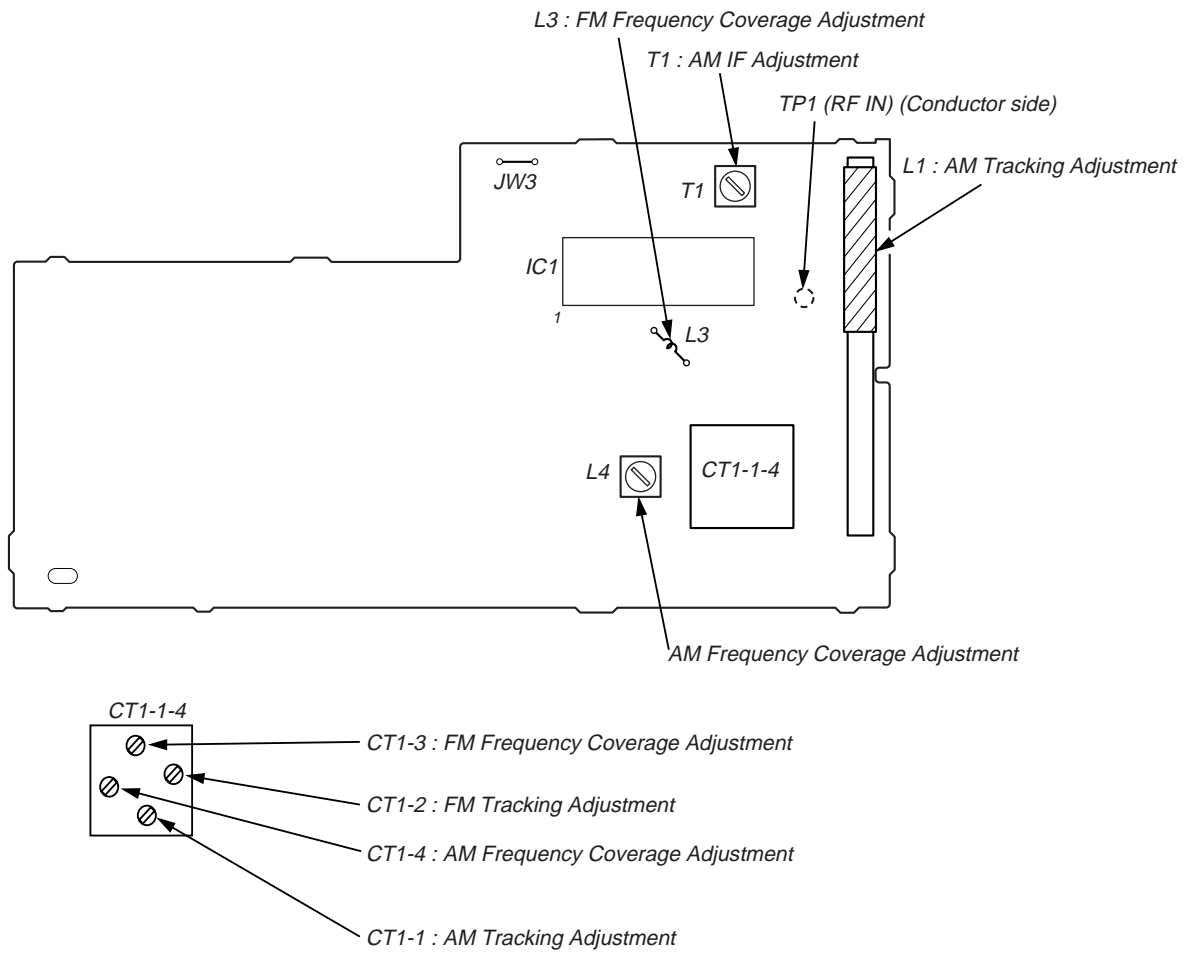
#### FM TRACKING ADJUSTMENT

Adjust for a maximum reading on level meter.

confirm	86.5MHz
CT1-2	109.5MHz

# ICF-C218

Adjustment Location: MAIN board (Component side)

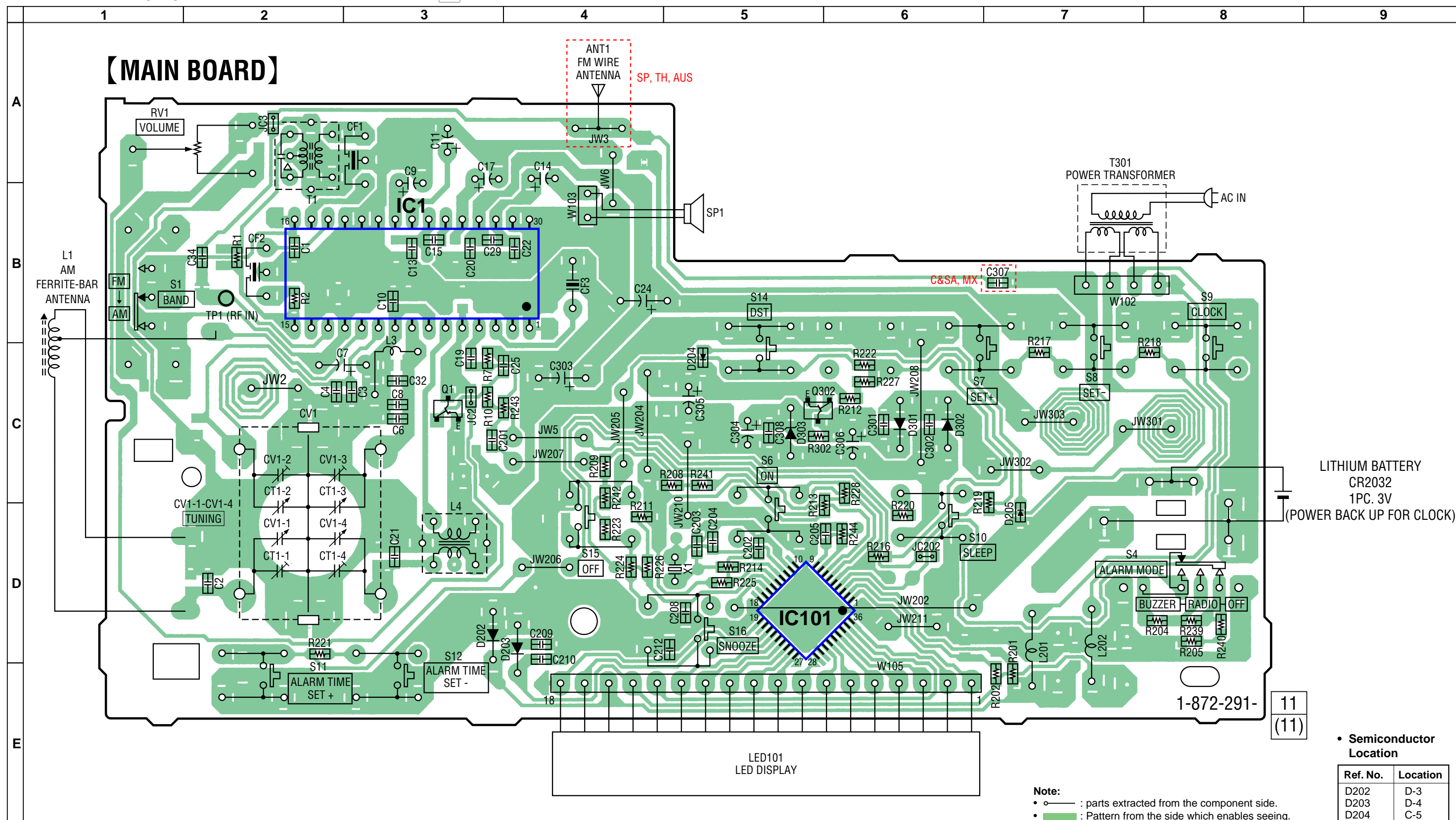




SECTION 4  
DIAGRAMS

4-1. PRINTED WIRING BOARD

:Uses unleaded solder.



**Note:**

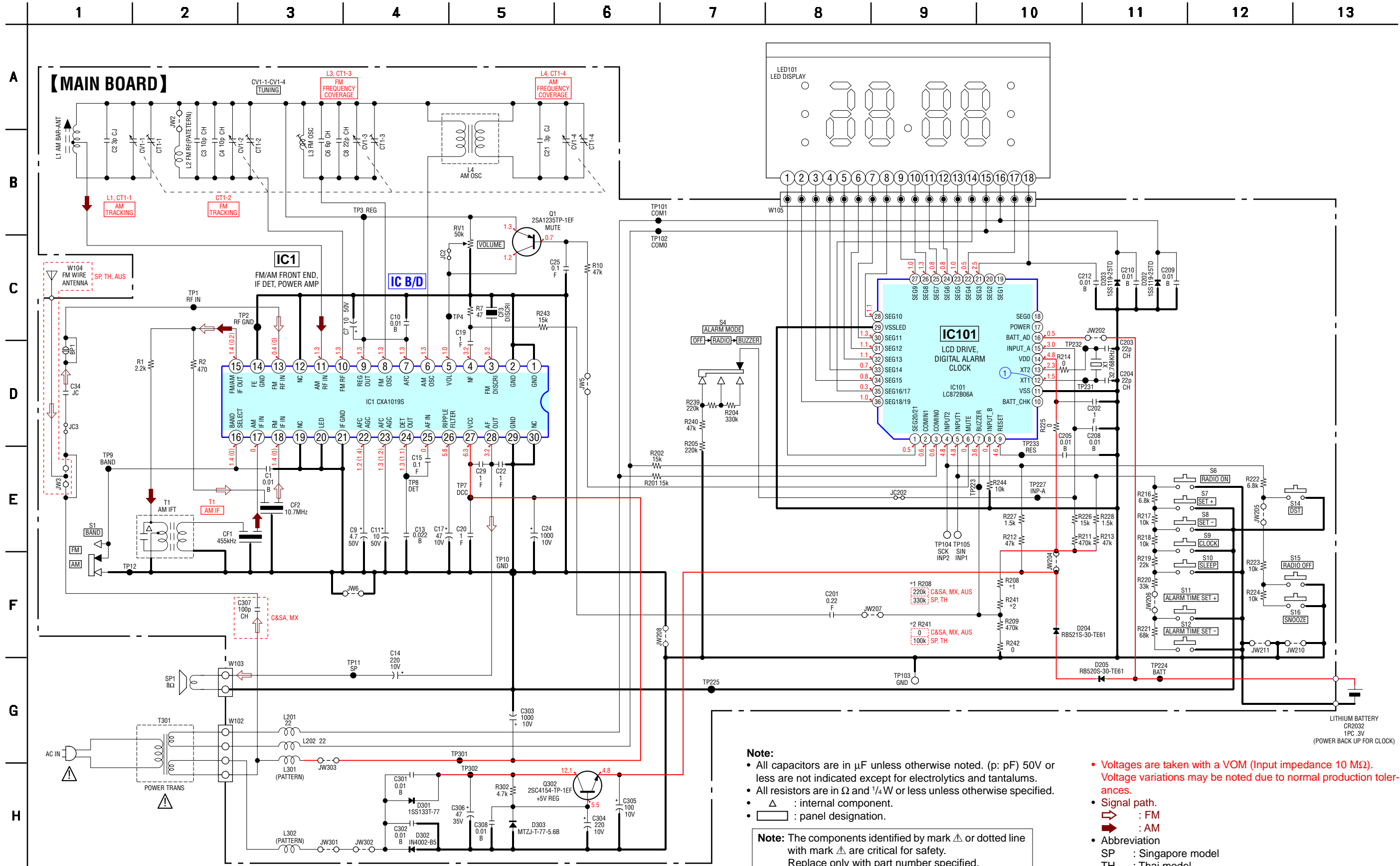
- : parts extracted from the component side.
- : Pattern from the side which enables seeing.
- Abbreviation  
 SP : Singapore model  
 TH : Thai model  
 AUS : Australian model  
 MX : mexican model  
 C&SA : Central & South American model

• Semiconductor Location

Ref. No.	Location
D202	D-3
D203	D-4
D204	C-5
D205	D-7
D301	C-6
D302	C-6
D303	C-5
IC1	B-3
IC101	D-5
LED101	E-5
Q1	C-3
Q302	C-5

4-2. SCHEMATIC DIAGRAM

• See page 11 for IC Block Diagrams. • See page 11 for Waveforms.



**Note:**

- All capacitors are in  $\mu\text{F}$  unless otherwise noted. (p: pF) 50V or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $\frac{1}{4}W$  or less unless otherwise specified.
- $\Delta$  : internal component.
- $\square$  : panel designation.

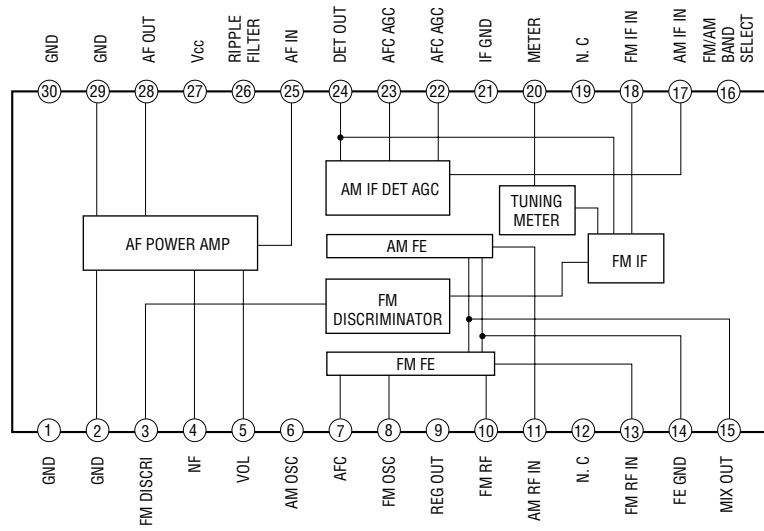
**Note:** The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Replace only with part number specified.

- Voltages are taken with a VOM (Input impedance 10 M $\Omega$ ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  - $\rightarrow$  : FM
  - $\rightarrow$  : AM
- Abbreviation
  - SP : Singapore model
  - TH : Thai model
  - AUS : Australian model
  - MX : Mexican model
  - C&SA : Central & South American model

- $\square$  : adjustment for repair.
- Voltages are dc with respect to ground under no-signal conditions.
  - no mark : FM
  - ( ) : AM

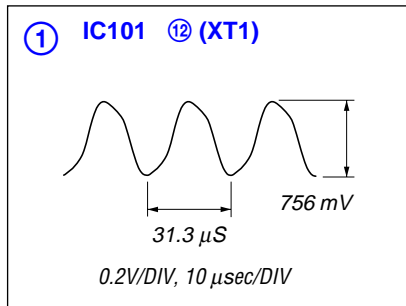
• IC Block Diagram

IC1 CXA1019S



• Waveforms

– MAIN Board –





## SECTION 6 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.
- -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.
- CAPACITORS:  
uF: μF
- RESISTORS  
All resistors are in ohms.  
METAL: metal-film resistor  
METAL OXIDE: Metal Oxide-film resistor  
F: nonflammable

- COILS  
uH: μH
- SEMICONDUCTORS  
In each case, u: μ, for example:  
uA...: μA..., uPA..., μPA...,  
uPB..., μPB..., uPC..., μPC...,  
uPD..., μPD...
- Abbreviation  
AUS: Australian model  
SP : Singapore model  
TH : Thai model  
MX : Mexican model  
C&SA : Central & South American model

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

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

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
	A-1229-333-A	MAIN BOARD, COMPLETE (C&SA, MX)		C303	1-126-926-11	ELECT	1000uF 20% 10V
	A-1229-711-A	MAIN BOARD, COMPLETE (SP, TH)		C304	1-126-934-11	ELECT	220uF 20% 16V
	A-1229-724-A	MAIN BOARD, COMPLETE (AUS)		C305	1-104-665-11	ELECT	100uF 20% 25V
		*****		C306	1-126-947-11	ELECT	47uF 20% 35V
	2-890-227-01	TERMINAL (-), BATTERY		C307	1-162-927-11	CERAMIC CHIP	100PF 5% 50V
	2-890-228-01	TERMINAL (+), BATTERY					(C&SA, MX)
	3-044-220-01	HOLDER (ANT)		C308	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V
		< CAPACITOR >				< FILTER >	
C1	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	CF1	1-781-790-11	FILTER, AM CERAMIC (455MHz)	
C2	1-162-908-11	CERAMIC CHIP	3PF 0.25PF 50V	CF2	1-577-324-11	FILTER, CERAMIC (10.7MHz)	
C3	1-162-915-11	CERAMIC CHIP	10PF 0.5PF 50V	CF3	1-577-324-11	FILTER, CERAMIC	
C4	1-162-915-11	CERAMIC CHIP	10PF 0.5PF 50V			< VARIABLE CAPACITOR >	
C6	1-162-911-11	CERAMIC CHIP	6PF 0.5PF 50V	CV1	1-141-733-11	CAP, VAR (TUNING)	
C7	1-126-964-11	ELECT	10uF 20% 50V			< DIODE >	
C8	1-162-919-11	CERAMIC CHIP	22PF 5% 50V	D202	8-719-911-19	DIODE 1SS119-25	
C9	1-126-963-11	ELECT	4.7uF 20% 50V	D203	8-719-911-19	DIODE 1SS119-25	
C10	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	D204	8-719-071-34	DIODE RB521S-30-TE61	
C11	1-126-964-11	ELECT	10uF 20% 50V	D205	8-719-069-29	DIODE RB520S-30TE61	
C13	1-164-227-11	CERAMIC CHIP	0.022uF 10% 25V	D301	8-719-991-33	DIODE 1SS133T-77	
C14	1-126-934-11	ELECT	220uF 20% 16V	D302	6-501-582-01	DIODE 1N4002-B5	
C15	1-164-156-11	CERAMIC CHIP	0.1uF 25V	D303	8-719-109-89	DIODE RD5.6ESB2	
C17	1-126-947-11	ELECT	47uF 20% 35V			< IC >	
C19	1-115-156-11	CERAMIC CHIP	1uF 10V	IC1	8-752-037-02	IC CXA1019S	
C20	1-115-156-11	CERAMIC CHIP	1uF 10V	IC101	6-807-350-01	IC LC872B06A-58J1-E	
C21	1-162-908-11	CERAMIC CHIP	3PF 0.25PF 50V			< JUMPER RESISTOR >	
C22	1-115-156-11	CERAMIC CHIP	1uF 10V	JC2	1-216-864-11	SHORT CHIP	0
C24	1-126-926-11	ELECT	1000uF 20% 10V	JC3	1-216-864-11	SHORT CHIP	0
C25	1-164-156-11	CERAMIC CHIP	0.1uF 25V	JC202	1-216-864-11	SHORT CHIP	0
C29	1-115-156-11	CERAMIC CHIP	1uF 10V			< COIL >	
C34	1-216-864-11	SHORT CHIP	0	L1	1-419-532-11	COIL, FERRITE-ROD ANTENNA (MW)	(AM TRACKING)
C201	1-165-128-11	CERAMIC CHIP	0.22uF 16V	L3	1-422-131-00	COIL, FM OSCILLATION	(FM FREQUENCY COVERAGE)
C202	1-115-156-11	CERAMIC CHIP	1uF 10V	L4	1-457-241-11	COIL, OSCILLATION (MW)	(AM FREQUENCY COVERAGE)
C203	1-162-919-11	CERAMIC CHIP	22PF 5% 50V	L201	1-410-513-11	INDUCTOR	22uH
C204	1-162-919-11	CERAMIC CHIP	22PF 5% 50V				
C205	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V				
C208	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V				
C209	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V				
C210	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V				
C212	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V				
C301	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V				
C302	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V				

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**MAIN**

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
L202	1-410-513-11	INDUCTOR 22uH		S4	1-798-042-11	SWITCH, SLIDE (ALARM MODE)	
		< LED >		S6	1-798-044-11	SWITCH, TACTILE (RADIO ON)	
LED101	1-802-373-11	ELEMENT, LED INDICATOR (SP, TH)		S7	1-798-044-11	SWITCH, TACTILE (SET +)	
LED101	1-802-374-11	ELEMENT, LED INDICATOR (C&SA, MX, AUS)		S8	1-798-044-11	SWITCH, TACTILE (SET -)	
		< TRANSISTOR >		S9	1-798-044-11	SWITCH, TACTILE (CLOCK)	
Q1	8-729-600-22	TRANSISTOR 2SA1235-F		S10	1-798-044-11	SWITCH, TACTILE (SLEEP)	
Q302	8-729-620-13	TRANSISTOR 2SC4154TP-1EF		S11	1-798-044-11	SWITCH, TACTILE (ALARM TIME SET +)	
		< RESISTOR >		S12	1-798-044-11	SWITCH, TACTILE (ALARM TIME SET -)	
R1	1-216-825-11	METAL CHIP 2.2K 5% 1/10W		S14	1-798-044-11	SWITCH, TACTILE (DST)	
R2	1-216-817-11	METAL CHIP 470 5% 1/10W		S15	1-798-044-11	SWITCH, TACTILE (RADIO OFF)	
R7	1-216-805-11	METAL CHIP 47 5% 1/10W		S16	1-798-044-11	SWITCH, TACTILE (SNOOZE)	
R10	1-216-841-11	METAL CHIP 47K 5% 1/10W				< TRANSFORMER >	
R201	1-216-835-11	METAL CHIP 15K 5% 1/10W		T1	1-443-989-11	TRANSFORMER, IF (AM IF)	
R202	1-216-835-11	METAL CHIP 15K 5% 1/10W				< FLAT CABLE >	
R204	1-216-851-11	METAL CHIP 330K 5% 1/10W		W105	1-833-767-11	CORD, CONNECTION (18 CORE)	
R205	1-216-849-11	METAL CHIP 220K 5% 1/10W				< VIBRATOR >	
R208	1-216-849-11	METAL CHIP 220K 5% 1/10W		X1	1-760-252-12	VIBRATOR, CRYSTAL (32.768 kHz)	
R208	1-216-851-11	METAL CHIP 330K 5% 1/10W	(SP, TH)			*****	
R209	1-216-855-11	METAL CHIP 680K 5% 1/10W				MISCELLANEOUS	
R211	1-216-853-11	METAL CHIP 470K 5% 1/10W				*****	
R212	1-216-841-11	METAL CHIP 47K 5% 1/10W		2	A-1229-332-A	CABINET (UPPER) ASSY (BLACK) (including SP1)	
R213	1-216-841-11	METAL CHIP 47K 5% 1/10W		2	A-1229-338-A	CABINET (UPPER) ASSY (SILVER) (including SP1)	
R214	1-216-864-11	SHORT CHIP 0		2	A-1229-717-A	CABINET (UPPER) ASSY (WHITE) (including SP1)	
R216	1-218-867-11	METAL CHIP 6.8K 0.5% 1/10W		△*5	1-769-339-82	CORD, POWER (C&SA, MX)	
R217	1-216-833-11	METAL CHIP 10K 5% 1/10W		△5	1-831-261-11	CORD, POWER (AUS)	
R218	1-216-833-11	METAL CHIP 10K 5% 1/10W		△5	1-777-921-31	POWER-SUPPLY CORD (SP, TH)	
R219	1-216-837-11	METAL CHIP 22K 5% 1/10W		△ T301	1-433-573-31	TRANSFORMER, POWER (C&SA, MX)	
R220	1-216-839-11	METAL CHIP 33K 5% 1/10W		△ T301	1-433-574-31	TRANSFORMER, POWER (SP, TH, AUS)	
R221	1-216-843-11	METAL CHIP 68K 5% 1/10W				*****	
R222	1-218-867-11	METAL CHIP 6.8K 0.5% 1/10W				ACCESSORIES	
R223	1-216-833-11	METAL CHIP 10K 5% 1/10W				*****	
R224	1-216-833-11	METAL CHIP 10K 5% 1/10W		BT1	1-528-174-51	BATTERY, LITHIUM (CR2032 TYPE)	
R225	1-216-864-11	SHORT CHIP 0			2-319-815-31	MANUAL, INSTRUCTION (ENGLISH, SPANISH, PORTUGUESE, SIMPLIFIED CHINESE) (C&SA, MX, SP, TH)	
R226	1-216-835-11	METAL CHIP 15K 5% 1/10W			2-319-815-51	MANUAL, INSTRUCTION (ENGLISH) (AUS)	
R227	1-216-823-11	METAL CHIP 1.5K 5% 1/10W					
R228	1-216-823-11	METAL CHIP 1.5K 5% 1/10W					
R239	1-216-849-11	METAL CHIP 220K 5% 1/10W					
R240	1-216-841-11	METAL CHIP 47K 5% 1/10W					
R241	1-216-845-11	METAL CHIP 100K 5% 1/10W	(SP, TH)				
R241	1-216-864-11	SHORT CHIP 0 (C&SA, MX, AUS)					
R242	1-216-864-11	SHORT CHIP 0					
R243	1-216-835-11	METAL CHIP 15K 5% 1/10W					
R244	1-216-833-11	METAL CHIP 10K 5% 1/10W					
R302	1-216-829-11	METAL CHIP 4.7K 5% 1/10W					
		< VARIABLE RESISTOR >					
RV1	1-227-623-11	RES, VAR, CARBON 50K (VOLUME)					
		< SWITCH >					
S1	1-771-905-21	SWITCH, SLIDE (BAND)					

MEMO

