

D-E660/EJ610/EJ611/EJ613/EJ615/EJ616CK

SERVICE MANUAL

Ver 1.3 2000.09

With SUPPLEMENT 1
(9-927-632-81)

With SUPPLEMENT 2
(9-927-632-82)



Photo : D-EJ611

US Model
Canadian Model

D-EJ611/EJ615/EJ616CK

AEP Model

D-EJ610/EJ611/EJ613/EJ615/EJ616CK

UK Model

D-EJ611/EJ615

E Model

Australian Model

D-EJ611/EJ615/EJ616CK

Chinese Model

D-EJ611/EJ615

Tourist Model

D-E660

Model Name Using Similar Mechanism	NEW
CD Mechanism Type	CDM-3223EBA
Optical Pick-up Type	DAX-23E

SPECIFICATIONS

System

Compact disc digital audio system

Laser diode properties

Material: GaAlAs
Wavelength : $\lambda = 780$ nm
Emission duration: Continuous
Laser output : Less than $44.6 \mu\text{W}$
(This output is the value measured at a distance of 200 mm from the objective lens surface on the optical pick-up block with 7 mm aperture.)

D-A conversion

1-bit quartz time-axis control

Frequency response

20 - 20,000 Hz ± 1 dB (measured by EIAJ CP-307)

Output (at 4.5 V input level)

Line output (stereo minijack)
Output level 0.7 V rms at 47 kilohms
Recommended load impedance over 10 kilohms

Power requirements

For the area code of the model you purchased, check the upper left side of the bar code on the package.

- Two Sony NC-WMAA rechargeable batteries: 2.4 V DC,
- Sony NH-WM2AA rechargeable batteries: 2.4 V DC,

- Two LR6 (size AA) batteries: 3 V DC
- AC power adaptor (DC IN 4.5 V jack):
US, Canadian, C&SA model: 120 V, 60 Hz
AEP, FR, G, EE, E13 model:
220 - 230 V, 50/60 Hz
UK model: 230 - 240 V, 50 Hz
EA model: 110 - 240 V, 50/60 Hz
AUS model: 240 V, 50 Hz
JE, E33 model: 100 - 240 V, 50/60 Hz
HK model: 220 V, 50/60 Hz
AR, CH model: 220 V, 50 Hz
- Sony DCC-E245 car battery cord for use on car battery : 4.5V DC

Operating temperature

5°C - 35°C (41°F - 95°F)

Dimensions (w/h/d) (excluding projecting parts and controls)

Approx. 131 x 29 x 136 mm
(5¹/₄ x 1³/₁₆ x 5³/₈ in.)

Mass (excluding accessories)

Approx. 190 g (6.7 oz)

— Continued on page 2 —

Battery life* (approx. hours)

(When you use the CD player on a flat and stable surface.)

Playing time varies depending on how the CD player is used.

When using	G-PROTECTION function	
	on	off
Tow NC-WMAA (charged for about 3 hours**)	8	7
NH-WM2AA (charged for about 4 hours**)	18	15
Tow alkaline batteries LR6	32	28

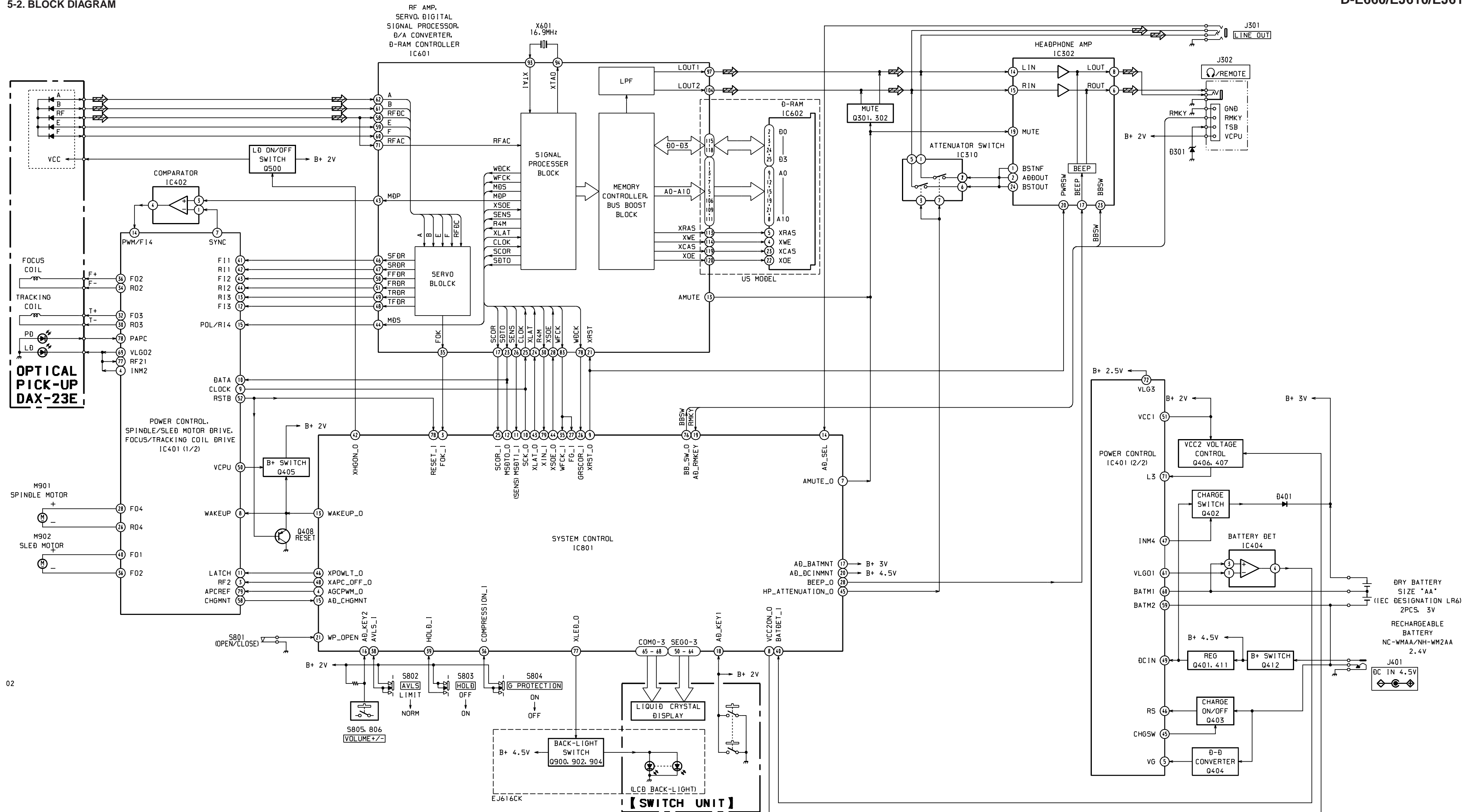
* Measured value by the standard of EIAL (Electronic Industries Association of Japan).

** Charging time varies depending on how the rechargeable battery is used.

PORTABLE CD PLAYER

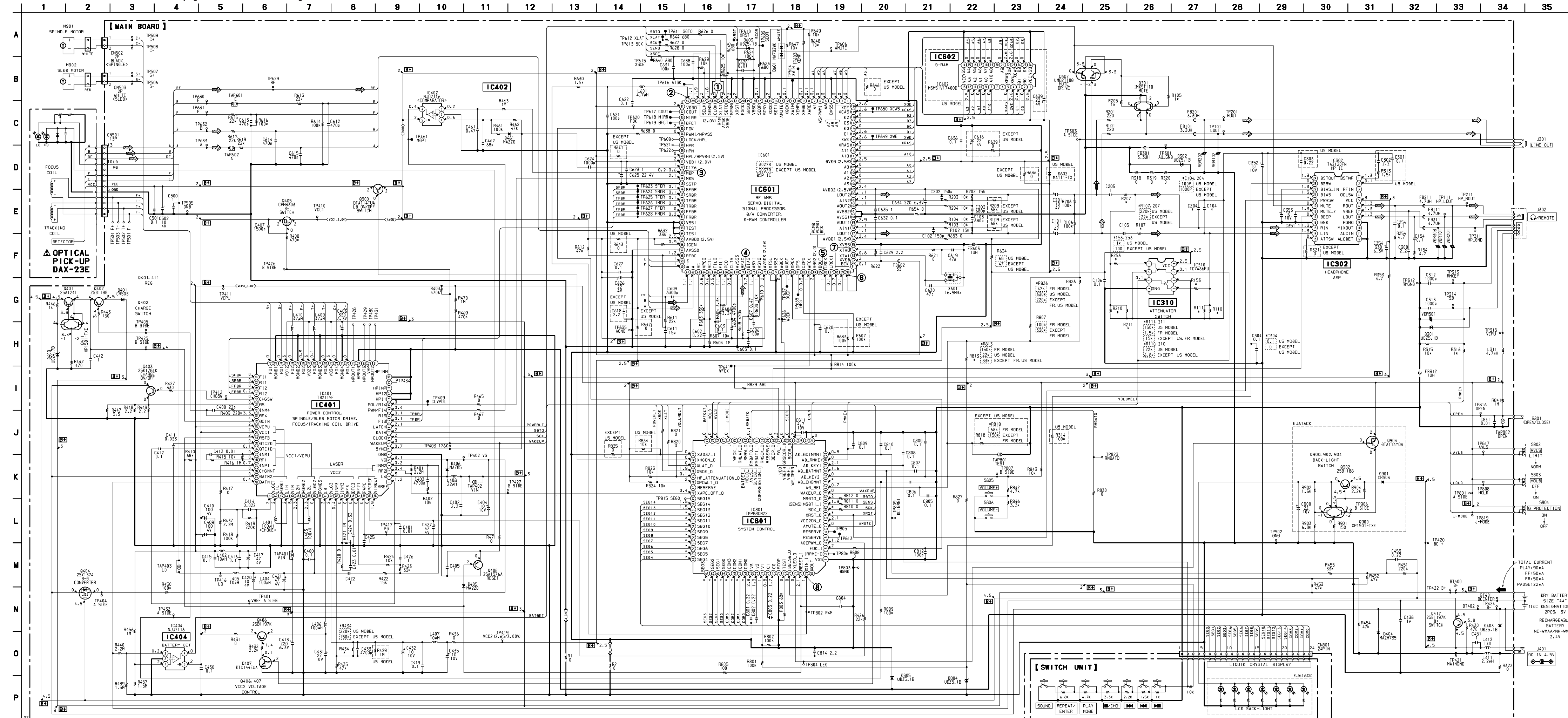


SONY®

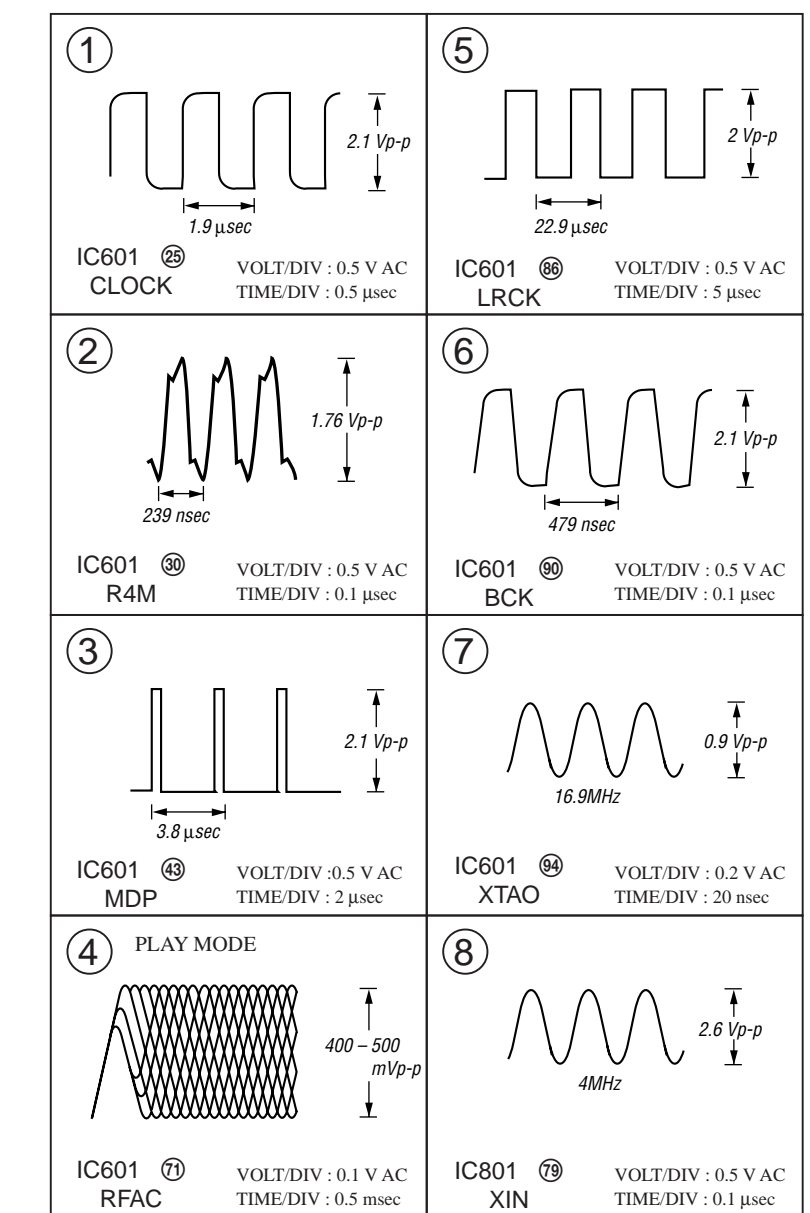


02

• Signal path.
- - - - - : CD



Waveforms



Note:
 • All capacitors are in μF unless otherwise noted. pF : μF 50 WV or less are not indicated except for electrolytics and tantalums.
 • All resistors are in Ω and $\frac{1}{4}$ W or less unless otherwise specified.

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

Note:
 Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- **[B+]** : B+ Line.
- Power voltage is dc 4.5V and fed with regulated dc power supply from external power voltage jack (J401).
- Voltages and waveforms are dc with respect to ground under no-signal conditions. no mark : PLAY
- * : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 M 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.
- ⇒ : CD

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SONY

SERVICE MANUAL

2000.05

US Model

Canadian Model

D-EJ611/EJ615/EJ616CK

AEP Model

D-EJ610/EJ611/EJ613/EJ615/EJ616CK

UK Model

D-EJ611/EJ615

E Model

Australian Model

D-EJ611/EJ615/EJ616CK

Chinese Model

D-EJ611/EJ615

Tourist Model

D-E660

SUPPLEMENT - 1

File this Supplement with the Service Manual.

Subject :

- MODEL ADDETION
D-EJ610 (EAST EUROPEAN MODEL)
D-EJ611 (C&SA MODEL)
D-EJ611 (MEXICAN MODEL)
- CHANGE OF MAIN BOARD
- EXPLODED VIEWS
- ELECTRICAL PARTS LIST

(ECN-CDA00801)

- Abbreviation
C&SA : Central and South America

● CHANGE OF MAIN BOARD

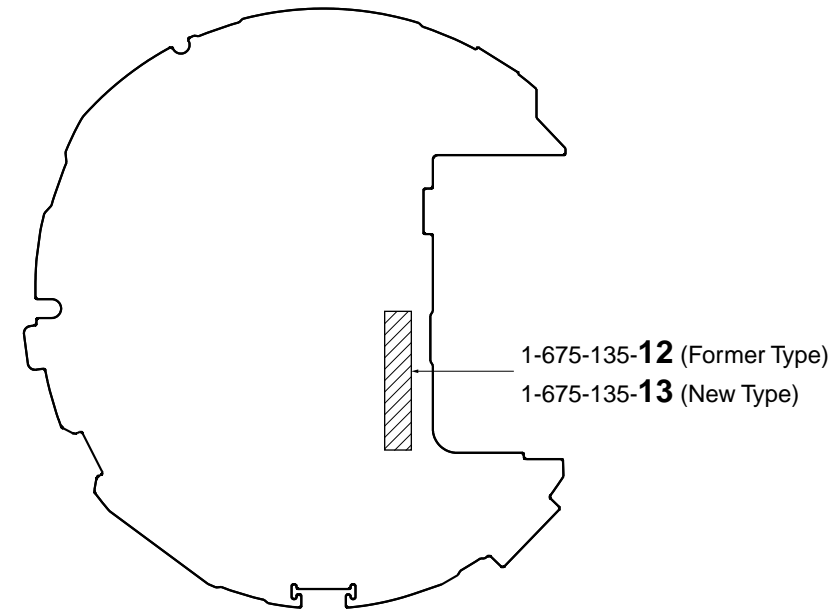
The main board have been changed.

Printed wiring board and schematic diagram of new type, and changed parts list are described in this Supplement-1.

Refer to original service manual (9-927-632-11) previously issued for the other information.

NEW TYPE IDENTIFICATION

[MAIN BOARD] (SIDE A)



● CHANGED PARTS LIST

EXPLODED VIEWS

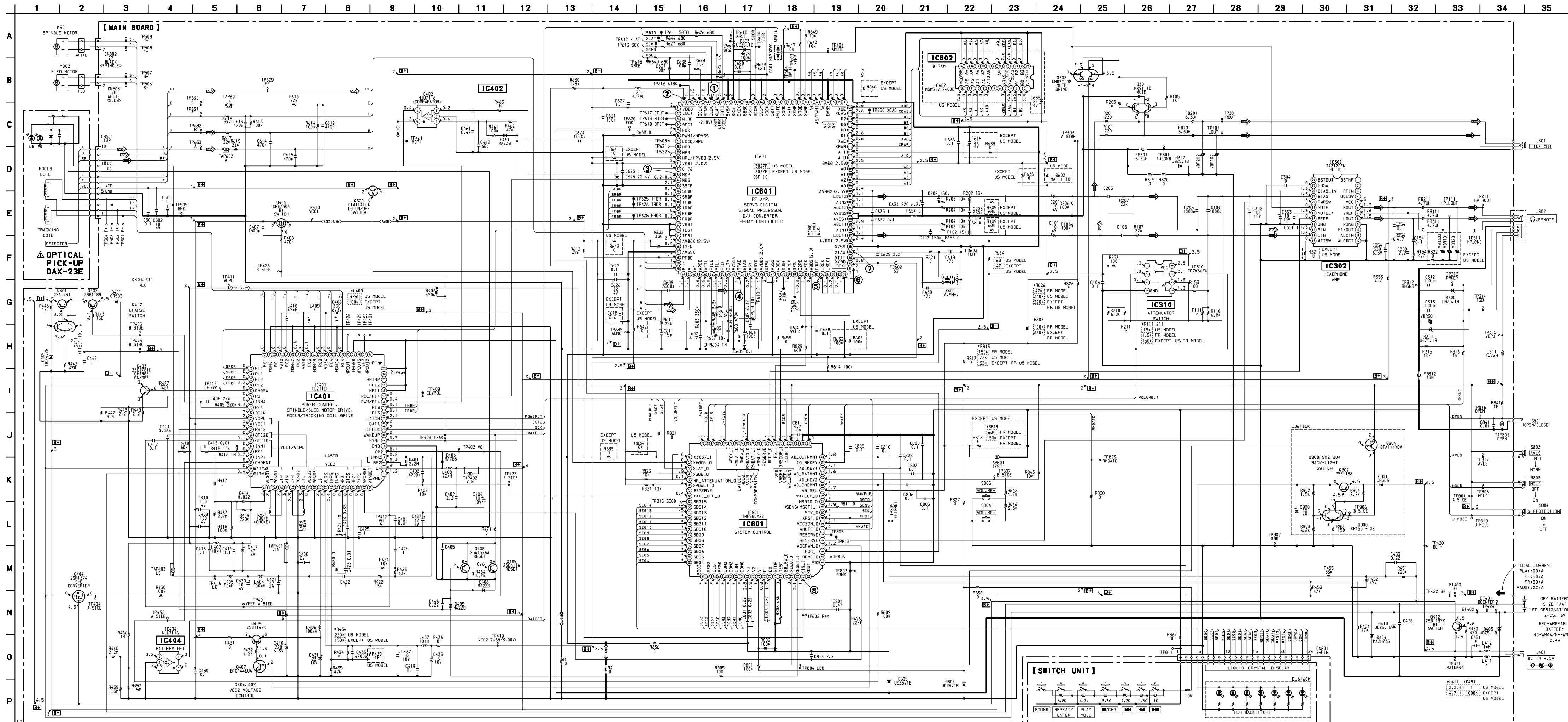
CABINET SECTION (Service Manual See page 24)

Ref. No.	Before Change		Afrer Change	
	Part No.	Description	Part No.	Description
4	4-993-131-01	KNOB(HOLD)		
	4-993-131-21	KNOB(HOLD) (FOR BLUE) (E660,EJ661,EJ613,EJ615)	4-993-131-21	KNOB(HOLD) (BLUE) (E660/EJ611:US,CND,AEP,UK,FR,G,AUS,E13,E33,CH/EJ613/EJ615:AEP,UK,G,AUS,E13,E33,CH,HK)
			4-993-131-31	KNOB(HOLD) (YELLOW) (EJ611:AEP,G,AUS,E13/EJ615:AEP,FR,G)
			4-993-131-41	KNOB(HOLD) (SILVER,BLACK)
5	A-3323-399-A	MAIN BOARD, COMPLETE (EXCEPT FR/EJ616CK)	A-3323-399-A	MAIN BOARD, COMPLETE (EXCEPT US,FR/EJ616CK)
	A-3323-401-A	MAIN BOARD, COMPLETE (EJ616CK)	A-3323-401-A	MAIN BOARD, COMPLETE (EJ616CK: EXCEPT US)
8	4-222-793-11	KNOB(OPEN)	4-222-793-11	KNOB(OPEN) (SILVER,BLACK)
	4-222-793-21	KNOB(OPEN) (FOR BLUE) (E660,EJ661,EJ613,EJ615)	4-222-793-21	KNOB(OPEN) (BLUE) (E660/EJ611:US,CND,AEP,UK,FR,G,AUS,E13,E33,CH/EJ613/EJ615:US,AEP,UK,G,AUS,E13,E33,CH,HK)
			4-222-793-31	KNOB(OPEN) (YELLOW) (EJ611:AEP,G,AUS,E13/EJ615:AEP)
9	4-223-607-01	BUTTON (VOLUME)	4-223-607-01	BUTTON (VOLUME) (SILVER,BLACK)
	4-223-607-11	BUTTON (VOLUME) (FOR BLUE) (E660,EJ661,EJ613,EJ615)	4-223-607-11	BUTTON (VOLUME) (BLUE) (E660/EJ611:US,CND,AEP,UK,FR,G,AUS,E13,E33,CH/EJ613/EJ615:US,AEP,UK,G,AUS,E13,E33,CH,HK)
			4-223-607-21	BUTTON (VOLUME) (YELLOW) (EJ611:AEP,G,AUS,E13/EJ615:AEP,FR,G)

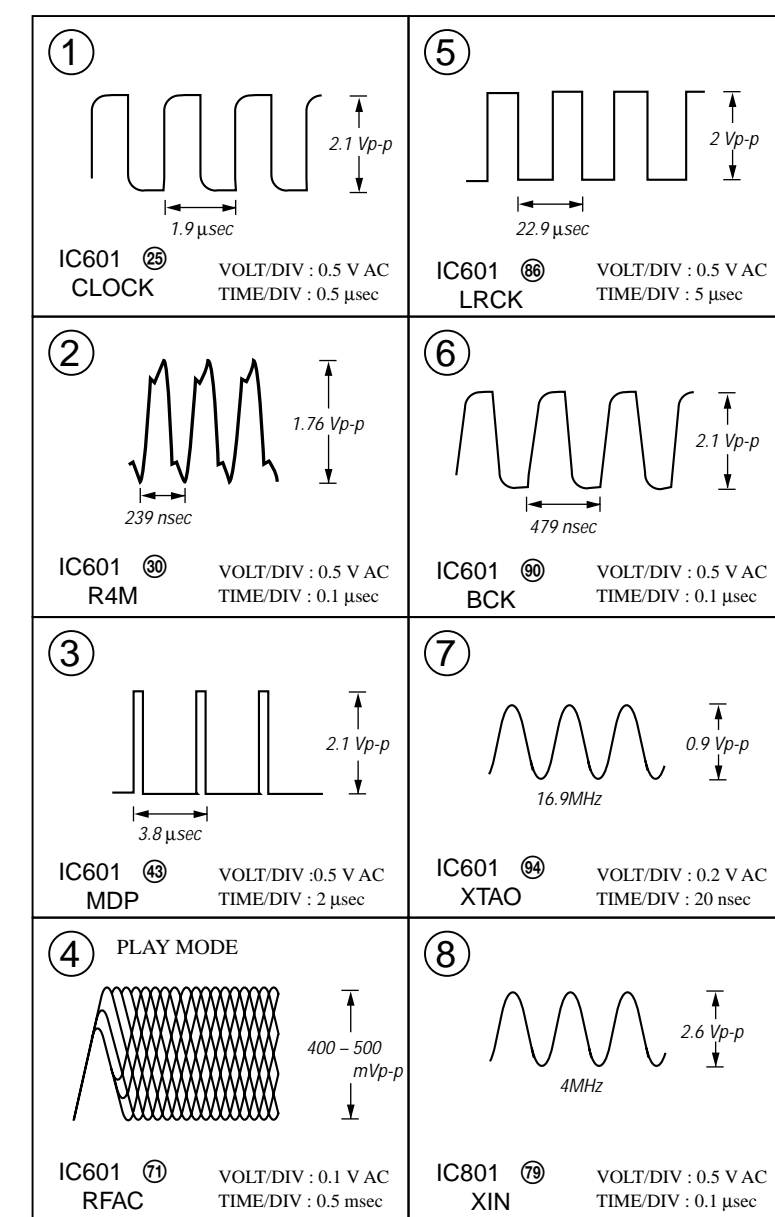
Ref. No.	Before Change		Afrer Change	
	Part No.	Description	Part No.	Description
12	X-3378-320-1	COVER ASSY, LID (EJ611:AUS,E13)		
	X-3378-321-1	COVER ASSY, LID (EJ611:AUS,E13)		
	X-4952-143-1	COVER ASSY, LID (SILVER)	4-223-582-01	COVER, LID (SILVER)
	X-4952-401-1	COVER ASSY, LID (BLUE) (E660,EJ611:EXCEPT C&SA, EE,EA, AR, EJ613, EJ615:EXCEPT CND,FR,EE)	4-223-582-11	COVER, LID (BLUE) (E660/EJ611:US,CND,AEP,UK,FR,G,AUS,E13,E33,CH/EJ613/EJ615:AEP,UK,G,AUS,E13,E33,CH,HK)
	X-4952-403-1	COVER ASSY, LID (BLACK) (EJ611:AEP,UK,FR,G,AUS,E13/EJ615:AEP,UK)	4-223-582-21	COVER, LID (BLACK) (EJ611:CND,AEP,UK,FR,G,AUS,E13/EJ615:AEP,G)
X-4952-404-1	COVER ASSY, LID (YELLOW) (EJ611:AEP,G,AUS,E13,EJ615:AEP,FR)	4-223-582-31	COVER, LID (YELLOW) (EJ611:AEP,G,AUS,E13/EJ615:AEP)	
17	4-223-605-01	LID,UPPER (SILVER) (EJ615:US,CND,AUS,E13,E33,HK,CH)	4-223-605-01	LID,UPPER (SILVER) (EJ615:US,CND,AUS,E13,E33,HK,CH)
	4-223-605-11	LID,UPPER (BLUE) (EJ615:US,CND,AUS,E13,E33,C&SA,HK,CH)	4-223-605-11	LID,UPPER (BLUE) (EJ615:AUS,E13,E33,HK,CH)
	4-223-605-21	LID,UPPER (BLACK) (EJ615:AEP,UK)	4-223-605-21	LID,UPPER (SILVER) (EJ615:AEP,UK,FR,G,EE)
	4-223-605-31	LID,UPPER (YELLOW) (EJ615:AEP,FR)	4-223-605-31	LID,UPPER (BLUE) (EJ615:AEP,G)
	4-223-605-81	LID,UPPER (BLACK) (EJ610/EJ613)	4-223-605-81	LID,UPPER (SILVER) (EJ610/EJ613)
	4-223-605-91	LID,UPPER (SILVER) (EJ613)	4-223-605-91	LID,UPPER (BLUE) (EJ613)
	4-225-281-01	LID,UPPER (SILVER) (EJ611:EXCEPT AEP,G,UK,FR,EE)	4-225-281-01	LID,UPPER (SILVER) (EJ611:US,CND,C&SA,AUS,AR,E13,E33,EA,CH,MX)
	4-225-281-11	LID,UPPER (BLUE) (EJ611:EXCEPT AEP,G,UK,FR,EE)	4-225-281-11	LID,UPPER (BLUE) (EJ611:US,CND,AUS,E13,E33,CH)
	4-225-281-21	LID,UPPER (BLACK) (EJ611:EXCEPT AEP,G,UK,FR,EE)	4-225-281-21	LID,UPPER (BLACK) (EJ611:CND,AUS,E13)
	4-225-281-31	LID,UPPER (YELLOW) (EJ611:EXCEPT AEP,G,UK,FR,EE)	4-225-281-31	LID,UPPER (YELLOW) (EJ611:AUS,E13)
	4-225-281-41	LID,UPPER (EJ611:EXCEPT AEP,G,UK,FR,EE)		
	4-225-281-51	LID,UPPER (EJ611:EXCEPT AEP,G,UK,FR,EE)		
20	4-223-603-01	CABINET (FRONT) (DARK GRAY)	4-223-603-01	CABINET (FRONT) (SILVER,BLACK)
	4-223-603-11	CABINET (FRONT) (BLUE) (E660,EJ611:EXCEPT C&SA, EE,EA, AR, EJ613, EJ615:EXCEPT US,CND,C&SA,FR,EE)	4-223-603-11	CABINET (FRONT) (BLUE) (E660/EJ611:US,CND,AEP,UK,FR,G,AUS,E13,E33,CH/EJ613/EJ615:AEP,UK,G,AUS,E13,E33,CH,HK)
			4-223-603-21	CABINET (FRONT) (YELLOW) (EJ611:AEP,G,AUS,E13/EJ615:AEP)
22	4-223-606-01	LID,BATTERY (SILVER,BLACK)	4-223-606-01	LID,BATTERY (SILVER,BLACK)
	4-223-606-11	LID, BATTERY (BLUE) (E660,EJ611:EXCEPT C&SA, EE,EA, AR, EJ613, EJ615:EXCEPT US,CND,C&SA,FR,EE)	4-223-606-11	LID, BATTERY (BLUE) (E660/EJ611:US,CND,AEP,UK,FR,G,AUS,E13,E33,CH/EJ613/EJ615:AEP,UK,G,AUS,E13,E33,CH,HK)
	4-223-606-21	LID, BATTERY (YELLOW) (EJ611:AEP,G,AUS,E13,EJ615:AEP,FR)	4-223-606-21	LID, BATTERY (YELLOW) (EJ611:AEP,G,AUS,E13/EJ615:AEP)
24	4-223-609-11	KNOB (JOGGABLE) (BLUE) (E660,EJ611:EXCEPT C&SA, EE,EA, AR, EJ613, EJ615:EXCEPT US,CND,C&SA,FR,EE)	4-223-609-11	KNOB (JOGGABLE) (BLUE) (E660/EJ611:US,CND,AEP,UK,FR,G,AUS,E13,E33,CH/EJ613/EJ615:AEP,UK,G,AUS,E13,E33,CH,HK)
	4-223-609-21	KNOB (JOGGABLE) (YELLOW) (EJ611:AEP,G,AUS,E13,EJ615:AEP,FR)	4-223-609-21	KNOB (JOGGABLE) (YELLOW) (EJ611:AEP,G,AUS,E13/EJ615:AEP)

- Abbreviation
CND : Canadian AUS : Australian
FR : French HK : Hong Kong
AR : Argentina JE : Tourist
G : German EA : Saudi Arabia
CH : Chinese EE : East European
MX : Mexican
C&SA : Central and South America
E13 : AC220-230V area model
E33 : AC100-240V area model

SCHEMATIC DIAGRAM



Waveforms



Note:

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- Signal path.
- ⇨ : CD

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