

MHS-PM1

SERVICE MANUAL

Ver. 1.1 2009.06

Revision History

Internal memory
ON BOARD

Revised-1

Replacement of the previously issued
SERVICE MANUAL 9-852-668-11
with this manual.



Photo: Silver

*US Model
Canadian Model
AEP Model
UK Model
North European Model
E Model*

Link

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

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

In case of the main board or main frame assy failure, contact
your local Sony Service Headquarter for the measures.

MOBILE HD SNAP CAMERA

SONY[®]



SPECIFICATIONS

Camera

[System]

Image device: 7.13 mm (1/2.5 type) CMOS sensor

Total pixel number of camera:

Approx. 5 040 000 (2 592 × 1 944) pixels

Effective pixel number of camera:

Approx. 5 040 000 (2 592 × 1 944) pixels (still images), Approx. 2 074 000 pixels ([1080 30P] movie)

Lens: F3.6

f = 7.0 mm (9/32 inches)

When converted to a 35 mm still camera

For movies: 47 mm (1 7/8 inches) (16:9)

For still images: 42 mm (1 11/16 inches) (4:3)

Exposure control: Automatic exposure, Scene Selection (4 modes)

File format:

Still images: Exif Ver. 2.21 JPEG compliant, DCF compliant

Movies: MPEG-4 compliant (.MP4)

Video codec type: MPEG-4 AVC/H.264 Main Profile

Audio codec type: AAC LC

Recording media: Internal Memory (approx. 12 MB), "Memory Stick PRO Duo" media

[Input and Output connectors]

USB jack: mini B, Hi-Speed USB (USB 2.0 compliant)

A/V OUT jack: Minijack, Video out, audio out (mono)

[LCD screen]

LCD panel: 4.6 cm (1.8 type) TFT drive

Total number of dots: 230 400 (960 × 240) dots

[Power, general]

Power: Rechargeable battery pack NP-BK1, 3.6 V AC-LS5K AC Adaptor (sold separately), 4.2 V

Power consumption: 2.0 W (when the movie image size is [720 30P])

Operating temperature: 0 to 40°C (32 to 104°F)

Storage temperature: -20 to +60°C (-4 to +140°F)

Dimensions: Approx. 23.5 × 103.3 × 55.3 (15/16 × 4 1/8 × 2 1/4 inches) (W/H/D, excluding protrusions)

Mass: Approx. 120 g (4.2 oz) (including NP-BK1 battery pack, etc.)

Microphone: Monaural

Speaker: Monaural

Exif Print: Compatible

PRINT Image Matching III: Compatible

BC-CSK/BC-CSKA battery charger

Power requirements: AC 100 V to 240 V, 50 Hz/60 Hz, 2.2 W

Output voltage: DC 4.2 V, 0.33 A

Operating temperature: 0 to 40°C (32 to 104°F)

Storage temperature: -20 to +60°C (-4 to +140°F)

Dimensions: Approx. 62 × 24 × 91 mm (2 1/2 × 31/32 × 3 5/8 inches) (W/H/D)

Mass: Approx. 75 g (2.7 oz)

Rechargeable battery pack NP-BK1

Used battery: Lithium-ion battery

Maximum output voltage: DC 4.2 V

Mean output voltage: DC 3.6 V

Maximum charge voltage: DC 4.2 V

Maximum charge current: 1.4 A

Capacity:

typical: 3.4Wh (970mAh)

minimum: 3.3Wh (930mAh)

Design and specifications are subject to change without notice.

CAUTION

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.
Dispose of used batteries according to the instructions.

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.

**ATTENTION AU COMPOSANT AYANT RAPPORT
À LA SÉCURITÉ!**

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE \triangle SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer.

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are “pinched” or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, through functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.
6. 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.

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.

1. SERVICE NOTE

1-1. METHOD FOR COPYING OR ERASING THE DATA IN INTERNAL MEMORY

The data can be copied/erased by the operations on the Setup screen. (When erasing the data, execute formatting the internal memory.)

Note 1: When replacing the main frame assy, erase the data in internal memory of the board before replacement.

Note 2: When replacing the main frame assy, execute formatting and initialize the internal memory after replacement.

Method for Copying the Data in Internal Memory

Copy

Copies all images in the internal memory to “Memory Stick PRO Duo” media.

- ① Insert “Memory Stick PRO Duo” media.
- ② Select [Copy] with the multi-selector tilt to ▲/▼/◀/▶, then tilt to ►.
- ③ Select [OK] with ▲, then press the multi-selector.
The message “All data in internal memory will be copied” appears.
- ④ Select [OK] with ▲, then press the multi-selector.
Copying starts.

To cancel the copying

Select [Cancel] in step ④, then press the multi-selector.

- Charge the battery sufficiently. Copying image files when the remaining battery amount is low can cause data transfer failure or damage the data due to battery exhaustion.
- You cannot copy individual images.
- The original images in the internal memory are retained even after copying. To delete the contents of the internal memory, remove the “Memory Stick PRO Duo” media after copying, then execute the [Format] command in [Internal Memory Tool].
- When you copy the data in the internal memory to the “Memory Stick PRO Duo” media, a new folder is created. You cannot choose a specific folder on the “Memory Stick PRO Duo” media as the destination for the data to be copied.
- Even if you copy data, a ☺ (Sharemark) or a ☑ (Print order) mark is not copied.

Method for Formatting the Internal Memory

This item appears only when “Memory Stick PRO Duo” media is not inserted in the camera.

Format

Formats data stored in the internal memory.

- Note that formatting irrevocably erases all data in the internal memory, including even protected images.
- ① Select [Format] with the multi-selector tilt to ▲/▼/◀/▶, then tilt to ►.
 - ② Select [OK] with ▲, then press the multi-selector.
The message “All data in internal memory will be erased” appears.
 - ③ Select [OK] with ▲, then press the multi-selector.
The format is completed.

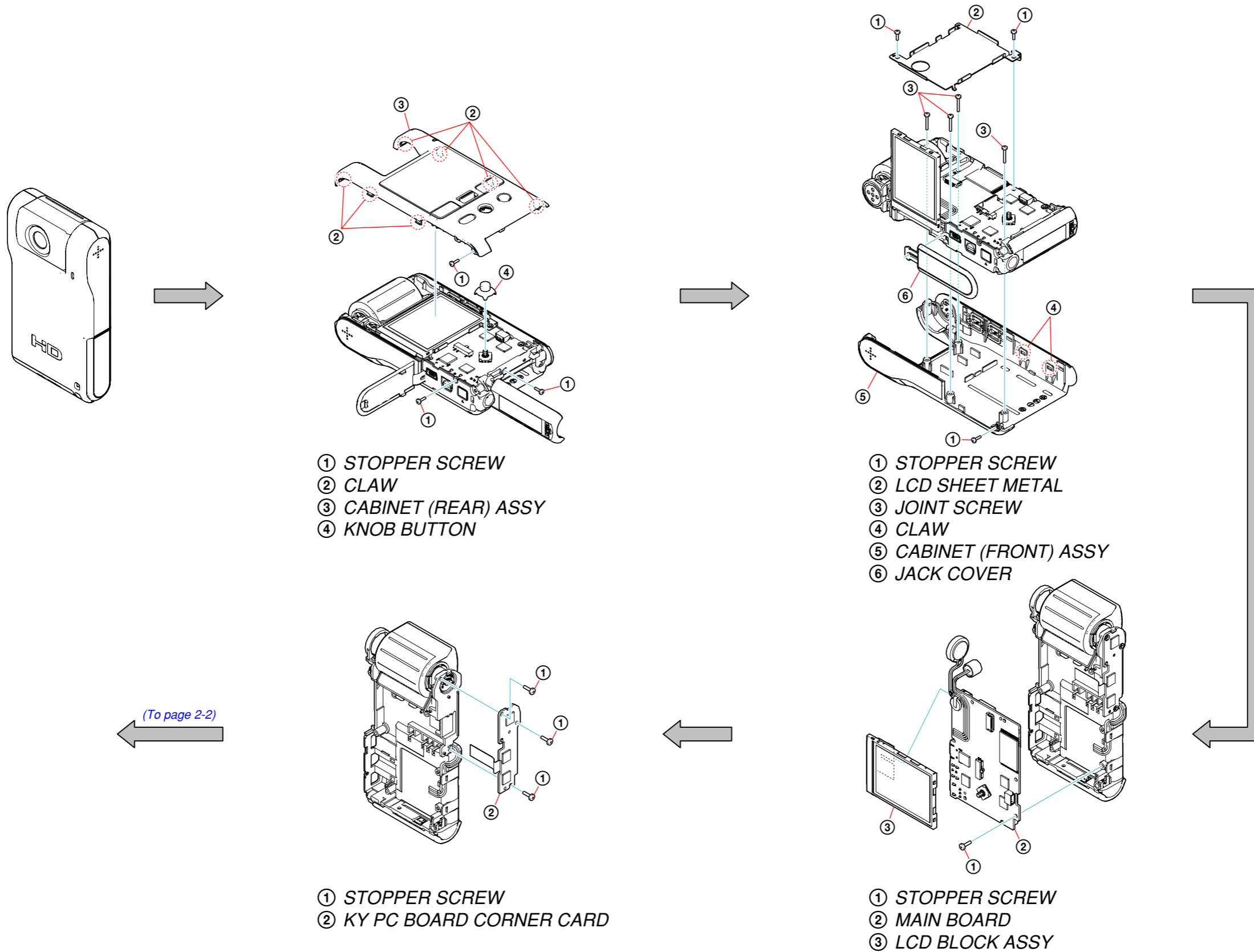
To cancel the formatting


Select [Cancel] in step ③, then press the multi-selector.

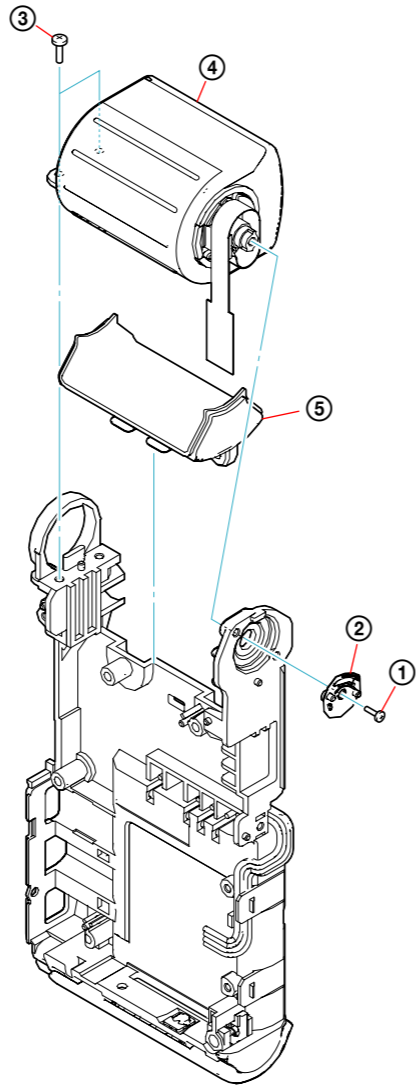
2. DISASSEMBLY

The following flow chart shows the disassembly procedure.

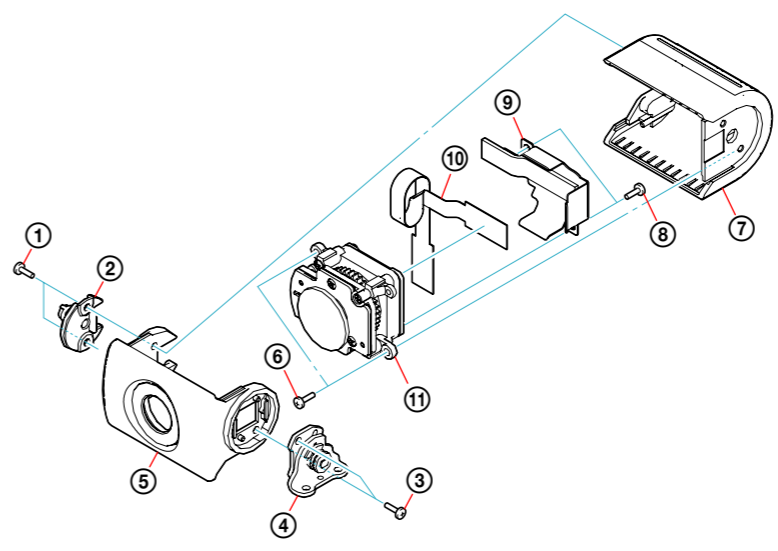
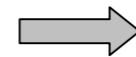
2-1. DISASSEMBLY



(From page 2-1)




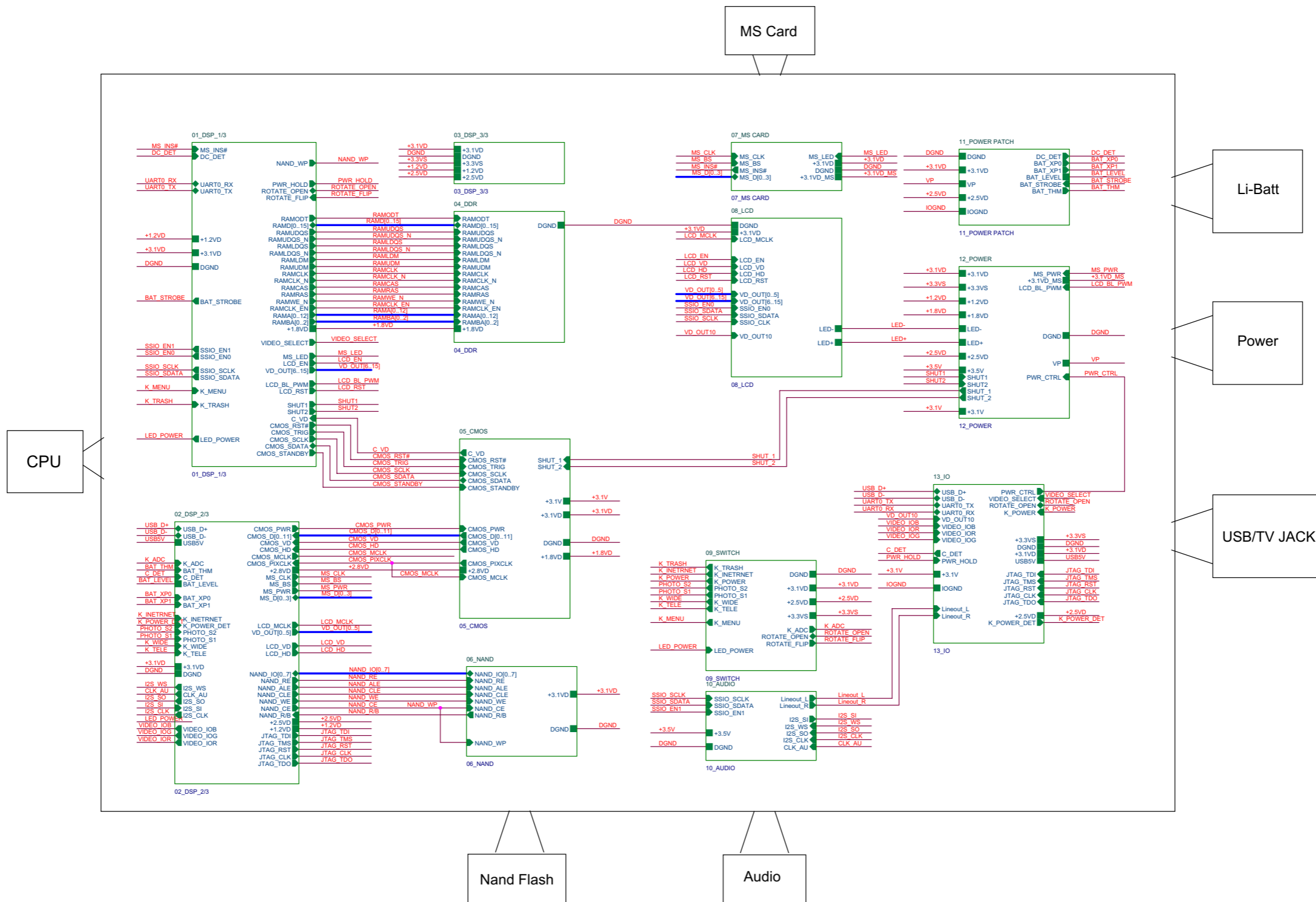
- ① BRUSH STOPPER SCREW
- ② BRUSH
- ③ STOPPER SCREW
- ④ LENS MODULE
- ⑤ LENS RETAINER



- ① STOPPER SCREW
- ② BEARING
- ③ STOPPER SCREW
- ④ HINGE
- ⑤ LENS (FRONT) ASSY
- ⑥ STOPPER SCREW
- ⑦ LENS (REAR) COVER
- ⑧ LENS STOPPER SCREW
- ⑨ SHIELD CASE CUSHION
- ⑩ LENS CONNECTION WIRE
- ⑪ LENS ASSY

3. BLOCK DIAGRAM

3-1. OVERALL BLOCK DIAGRAM



4. REPAIR PARTS LIST

(ENGLISH)

NOTE:

- -XX, -X mean standardized parts, so they may have some differences 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.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Due to standardization, replacements in the parts list may be different from the parts specified in the components used on the set.

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

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

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

- Color Indication of Appearance Parts
Example:
(SILVER) : Cabinet's Color
(Silver) : Parts Color

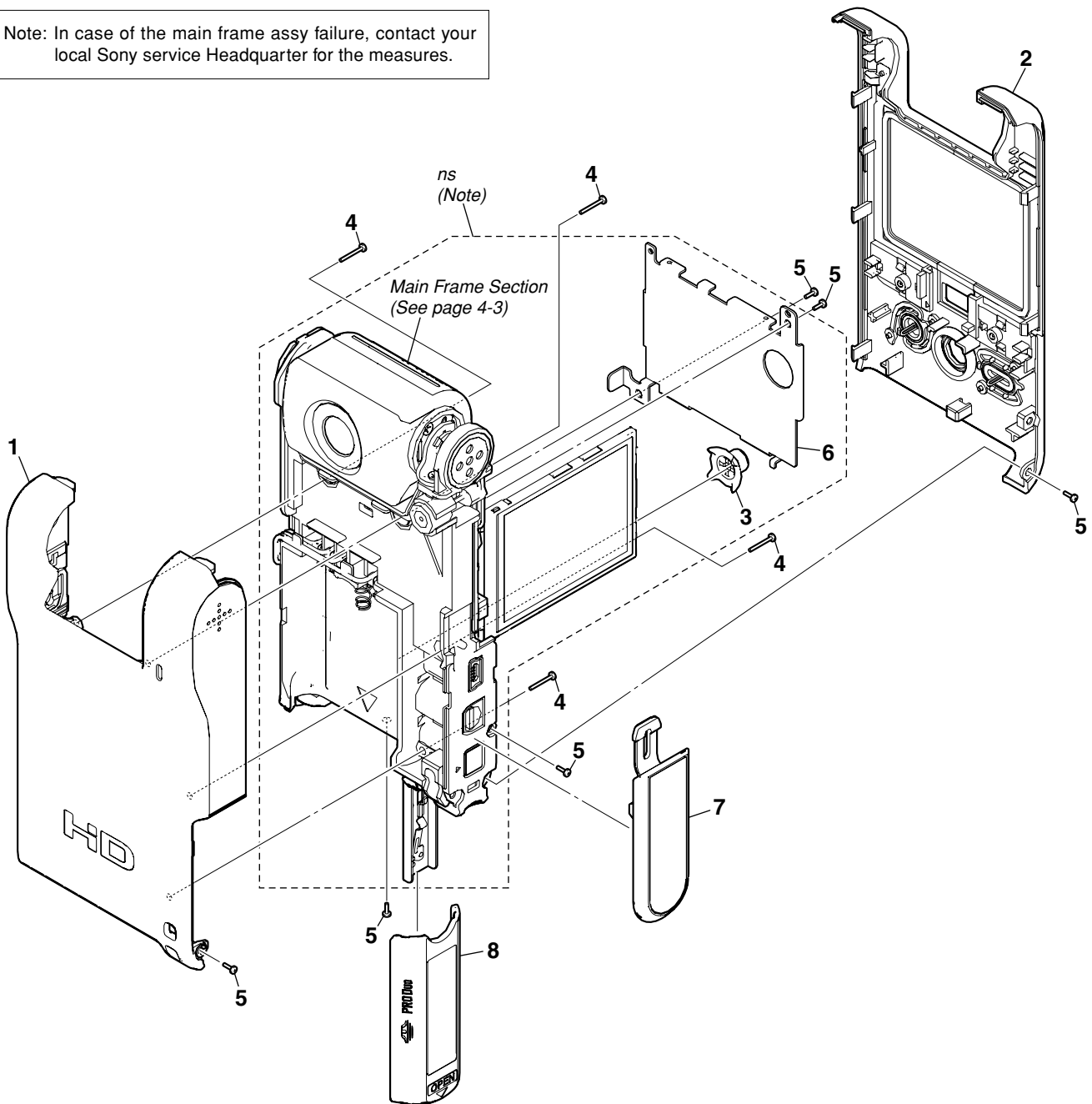
- Abbreviation
AR : Argentine model
AUS : Australian model
BR : Brazilian model
CH : Chinese model
CND : Canadian model
EE : East European model
HK : Hong Kong model
J : Japanese model
JE : Tourist model
KR : Korea model
NE : North European model

4-1. EXPLODED VIEWS

4-1-1. OVERALL SECTION

ns: not supplied

Note: In case of the main frame assy failure, contact your local Sony service Headquarter for the measures.



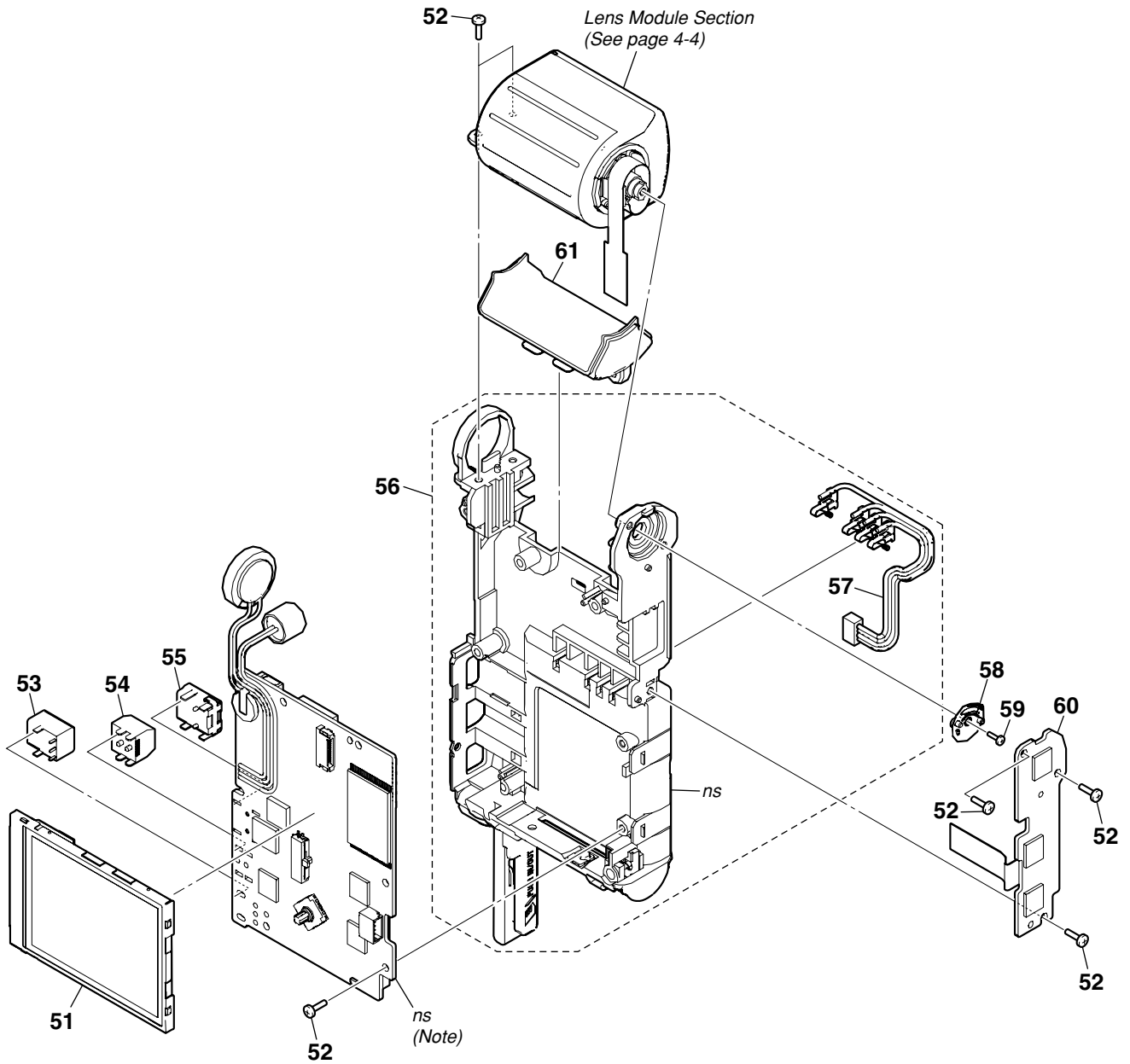
Ref. No.	Part No.	Description
1	X-2348-760-1	CABINET (FRONT) ASSY (S) (SILVER)
1	X-2348-761-1	CABINET (FRONT) ASSY (D) (ORANGE)
1	X-2348-762-1	CABINET (FRONT) ASSY (V) (VIOLET)
2	X-2348-757-1	CABINET (REAR) ASSY (S) (SILVER)
2	X-2348-758-1	CABINET (REAR) ASSY (D) (ORANGE)
2	X-2348-759-1	CABINET (REAR) ASSY (V) (VIOLET)
3	4-141-576-01	BUTTON, KNOB (SILVER)
3	4-141-576-11	BUTTON, KNOB (ORANGE)
3	4-141-576-21	BUTTON, KNOB (VIOLET)
4	4-141-560-01	SCREW, JOINT

Ref. No.	Part No.	Description
5	4-141-559-01	SCREW, STOPPER
6	4-141-561-01	LCD SHEET METAL
7	4-141-574-01	COVER, JACK (SILVER)
7	4-141-574-11	COVER, JACK (ORANGE)
7	4-141-574-21	COVER, JACK (VIOLET)
8	4-141-573-01	LID, BT (SILVER)
8	4-141-573-11	LID, BT (ORANGE)
8	4-141-573-21	LID, BT (VIOLET)

4-1-2. MAIN FRAME SECTION

ns: not supplied

Note: In case of the main board failure, contact your local Sony service Headquarter for the measures.



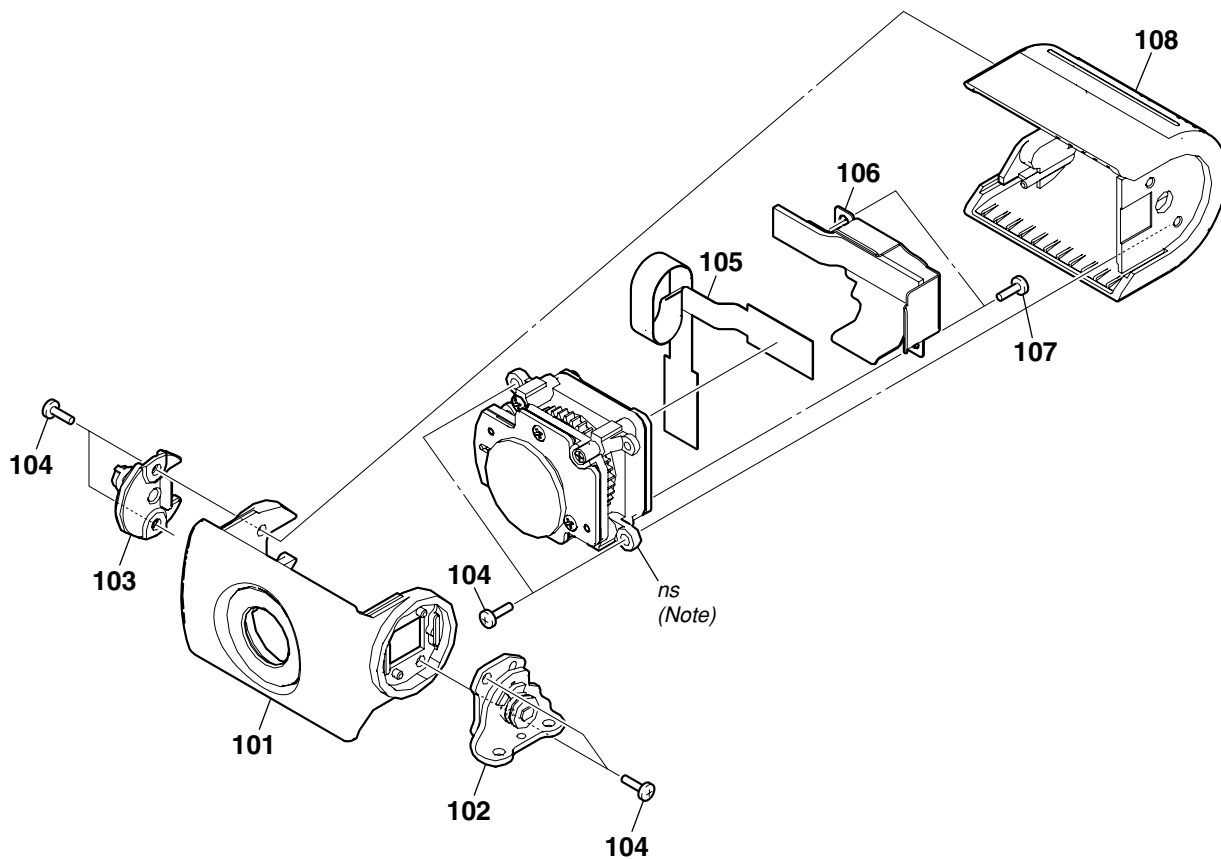
• Refer to page 4-1 for mark \triangle .

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
51	A-1709-921-A	LCD BLOCK ASSY	58	4-141-562-01	BRUSH
52	4-141-559-01	SCREW, STOPPER	59	4-145-214-01	SCREW, BRUSH STOPPER
\triangle 53	1-817-331-11	DC JACK 5P	60	A-1709-884-A	CARD, KY PC BOARD CORNER
54	1-815-794-13	CONNECTOR (MULTIPLE)	61	4-141-571-01	RETAINER, LENS (LOWER) (SILVER)
55	4-134-399-01	CONNECTOR, USB	61	4-141-571-11	RETAINER, LENS (LOWER) (ORANGE)
56	X-2348-766-1	FRAME ASSY	61	4-141-571-21	RETAINER, LENS (LOWER) (VIOLET)
57	4-141-575-01	TERMINAL, BATTERY			

4-1-3. LENS MODULE SECTION

ns: not supplied

Note: In case of the lens assy failure, contact your local Sony service Headquarter for the measures.



Ref. No.	Part No.	Description
101	X-2348-763-1	LENS (FRONT) ASSY (S) (SILVER)
101	X-2348-764-1	LENS (FRONT) ASSY (D) (ORANGE)
101	X-2348-765-1	LENS (FRONT) ASSY (V) (VIOLET)
102	4-141-564-01	HINGE
103	4-141-563-01	BEARING
104	4-141-559-01	SCREW, STOPPER

Ref. No.	Part No.	Description
105	4-141-572-01	WIRE, LENS CONNECTION
106	X-2348-777-1	CUSHION, SHIELD CASE
107	4-141-583-01	SCREW, LENS STOPPER
108	4-141-565-01	COVER, LENS (REAR) (SILVER)
108	4-141-565-11	COVER, LENS (REAR) (ORANGE)
108	4-141-565-21	COVER, LENS (REAR) (VIOLET)

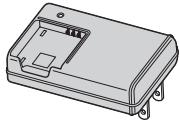
Ver. 1.1 2009.06

The changed portions from Ver. 1.0 are shown in blue.

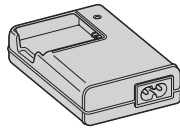
4-2. ACCESSORIES

Checking supplied accessories.

Note: This item is supplied with the unit as an accessory, but is not prepared as a service part.



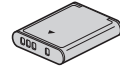
Battery Charger
(BC-CSK/BC-CSKA)
△ 1-487-212-11 (US, CND)



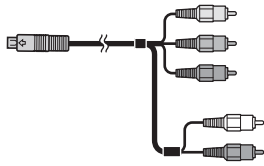
Battery Charger
(BC-CSK/BC-CSKA)
△ 1-487-212-21
(AEP, UK, NE, E)



Power Cord (Mains Lead)
△ 1-832-169-41 (UK)
△ 1-834-482-21 (AEP, NE, E)



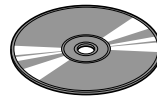
Rechargeable Battery Pack
(NP-BK1)
(Note)



Component A/V Cable
1-834-646-11



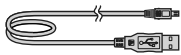
A/V Connecting Cable
1-823-156-61



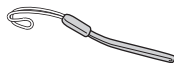
CD-ROM
(PMB (Picture Motion Browser)
including PMB Guide/Mobile HD
Snap Camera Handbook (PDF))
4-140-975-01



Conversion 2P Adaptor
△ 1-569-008-12 (E)



USB Cable
4-134-402-01



Hand Strap
2-050-981-01



Instruction Manual

- 4-135-531-12 (ENGLISH) (US, CND, AEP, UK)
- 4-135-531-21 (FRENCH) (CND, AEP)
- 4-135-531-32 (SPANISH) (US, AEP, E)
- 4-135-531-41 (DUTCH) (AEP)
- 4-135-531-51 (PORTUGUESE) (AEP)
- 4-135-531-61 (GREEK) (AEP)
- 4-135-531-71 (GERMAN) (AEP)
- 4-135-531-81 (ITALIAN) (AEP)
- 4-135-531-91 (TURKISH) (AEP)
- 4-140-060-11 (POLISH, CZECH, HUNGARIAN, SLOVAK)
(AEP)
- 4-140-060-21 (SWEDISH, DANISH, FINNISH, ROMANIAN)
(AEP)
- 4-140-060-31 (RUSSIAN, UKRAINIAN) (NE)



Mobile HD Snap Camera Handbook (PDF)

The CD-ROM supplied contains all of language version of the Mobile HD Snap Camera Handbook (PDF) for printing.

- The printed matter is not supplied. If required, please order it with the part number below.

- * 4-135-530-11 (ENGLISH)
- * 4-135-530-21 (FRENCH)
- * 4-135-530-31 (SPANISH)
- * 4-135-530-41 (DUTCH)
- * 4-135-530-51 (PORTUGUESE)
- * 4-135-530-61 (GREEK)
- * 4-135-530-71 (GERMAN)
- * 4-135-530-81 (ITALIAN)
- * 4-135-530-91 (TURKISH)
- * 4-140-058-11 (POLISH)
- * 4-140-058-21 (CZECH)
- * 4-140-058-31 (HUNGARIAN)
- * 4-140-058-41 (SLOVAK)
- * 4-140-058-51 (SWEDISH)
- * 4-140-058-61 (DANISH)
- * 4-140-058-71 (FINNISH)
- * 4-140-058-81 (ROMANIAN)
- * 4-140-058-91 (RUSSIAN)
- * 4-140-059-11 (UKRAINIAN)

• Refer to page 4-1 for mark △.

