

# DSC-S930

Ver. 1.1 2009.07

Revision History

## SECTION 5 ADJUSTMENTS

ADJ

### Link

#### • BEFORE STARTING ADJUSTMENTS

- Adjustment Items When Replacing CCD Block and Lens Block and Main Board
- List of Service Tools and Equipments
- Connecting the Equipments
- Handling of Adjusting Firmware

#### • CAMERA SECTION ADJUSTMENTS

- Introduction
  - MS/BP Adjustment
  - Zoom Adjustment
  - Far Focus Adjustment
  - Near Focus Adjustment
  - WB/ISO Adjustment
  - Set Lang Destination
- 
- Product ID List

# SONY®

5-1. BEFORE STARTING ADJUSTMENTS

5-1-1. Adjustment Items When Replacing CCD Block and Lens Block and Main Board

When replacing these parts, adjust the items indicated by “●” in the following table.

| Adjustment            | Replaced Parts |            |            |
|-----------------------|----------------|------------|------------|
|                       | CCD block      | Lens block | Main board |
| MS/BP Adjustment      | ●              | ●          | ●          |
| Zoom Adjustment       |                | ●          | ●          |
| Far Focus Adjustment  | ●              | ●          | ●          |
| Near Focus Adjustment | ●              | ●          | ●          |
| WB/ISO Adjustment     | ●              |            | ●          |
| Set Lang Destination  |                |            | ●          |

Table 5-1-1

5-1-2. List of Service Tools and Equipments

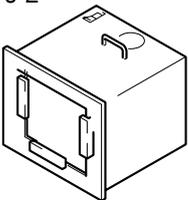
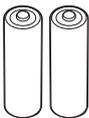
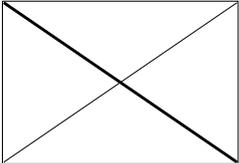
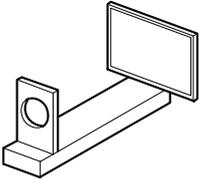
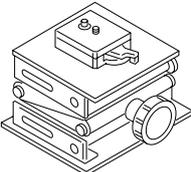
|   |  |   |
|---|--|---|
| <p>J-1</p>  <p>SONY<br/>Memory Stick PRO Duo<br/>(256 MB or more)</p> | <p>J-2</p>  <p>Small pattern box<br/>PTB-1450<br/>J-6082-557-A</p>   | <p>J-3</p>  <p>HR 15/51:HR6 (size AA)<br/>Nickel-Metal Hydride<br/>batteries (× 2) (Note 1)</p> |
| <p>J-4</p>  <p>Chart<br/>(Note 2)</p>                                | <p>J-5</p>  <p>Mini flange back jig<br/>J-6082-719-A<br/>or<br/>Flange back<br/>adjustment jig<br/>J-6082-563-A</p> | <p>J-6</p>  <p>Camera table<br/>J-6082-384-A</p>   |

Fig. 5-1-1

Note 1:

Use the fully charged Nickel-Metal Hydride batteries.

Note 2:

For the chart, search “J-6082-563-A” in the JIG & Software on ESI homepage, download the PDF file and print out it on the A4 size white paper.

5-1-3. Connecting the Equipments

Connect the equipments as shown below.

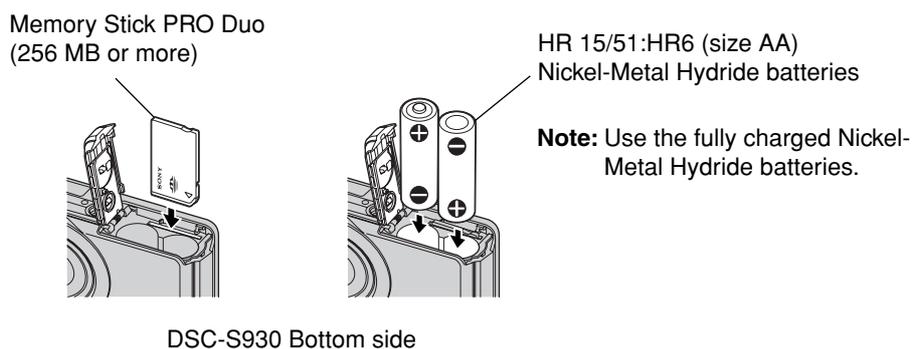


Fig. 5-1-2

### 5-1-4. Handling Adjusting Firmware

#### Formatting a Memory Stick PRO Duo:

First, format the Memory Stick PRO Duo.  
When formatting, perform on the PC, using the FAT. Do not format on the camera.  
If the concealed file "MEMSTICK.IND" exists, delete it.

#### Version check of main firmware:

Adjusting firmware to use is different by the version of main firmware. When replace the Lens block or CCD block, check the version of main firmware before adjustment.

#### Checking procedure:

1. Power on the camera.
2. Select the "SETUP" from the menu screen.
3. Select the "Clock Setting", and display the Clock Setting screen. (Fig. 5-1-3)
4. Press three buttons of "▲ (Up)", "Zoom (W)" and "Shutter button" simultaneously. (Fig. 5-1-4)
5. The version of main firmware is displayed on the center of screen. (Fig. 5-1-5)

#### Preparations of the adjusting firmware update:

Download the following adjusting firmware in conformity to replaced part from the ESI website.

#### When replace the Main board:

S930 New All Adjustment Program

#### When replace the Lens block or CCD block:

For main firmware Ver. 1.02 before:

S930 Old Lens CCD Adjustment Program

For main firmware Ver. 1.03 after:

S930 New All Adjustment Program

Decompress the downloaded file and confirm the file format as shown below.

Adjusting firmware file for DSC-S930: **SDCA351C.bin**

Save the decompression file in the root directory of Memory Stick PRO Duo.

And also save the file of "lang.txt" in the root directory of Memory Stick PRO Duo when replacing Main board. (Refer to [5-2-7. Set Lang Destination])

#### Adjustment mode:

1. With the camera turned OFF, set the Mode switch to "📷 (Still image)" and insert the Memory Stick PRO Duo with the adjusting firmware files into the Memory Stick slot of the camera.
2. While pressing the "🗑️ (Delete)" button, press the ON/OFF (Power) button and release when the ON/OFF (Power) lamp and the LCD display turns on. Release the "🗑️ (Delete)" button when the ON/OFF (Power) lamp and the LCD display goes out.
3. After a few seconds, the LCD display will turn white and then show the Adjustment mode screen.

Pushing "MENU" button, the adjustment is finished makes to return to the initial screen display for adjustments.

In case of adjusting continuously, go to the next step with above mentioned operation.

Turning off the power will take you out of the Adjustment mode. When all adjustments are completed, just simply remove the power from the unit completes the adjustment procedure.



Fig. 5-1-3

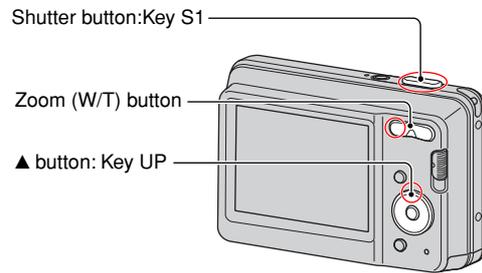
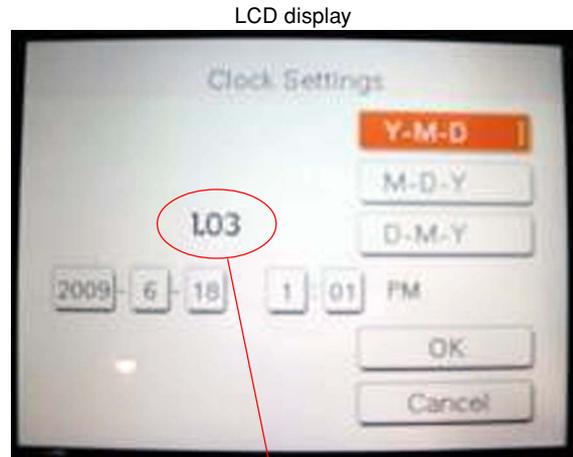


Fig. 5-1-4



Version Number

Fig. 5-1-5

## 5-2. CAMERA SECTION ADJUSTMENTS

### 5-2-1. Introduction

After CCD block, Lens block or Main board replacement, perform adjustments to operate the camera. Followings are keys and functions used in the adjustments. (Fig. 5-2-1)

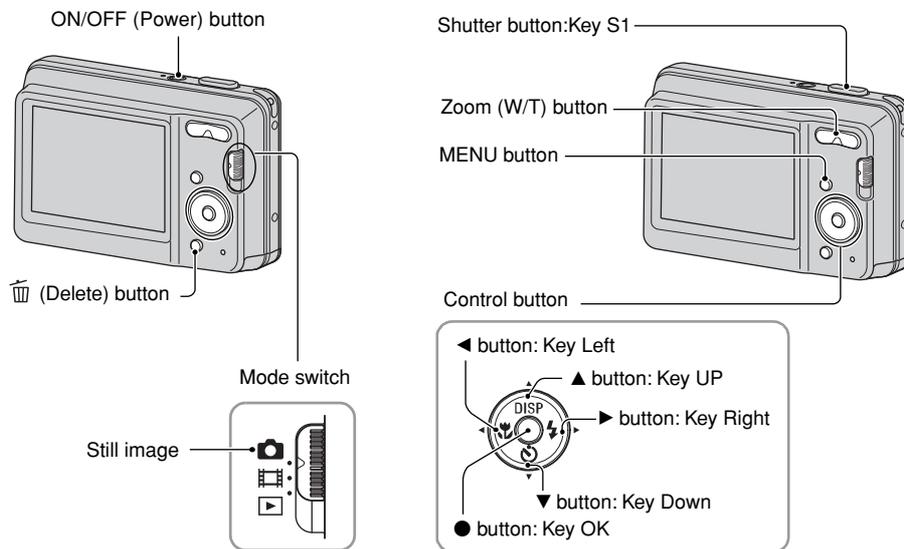


Fig. 5-2-1

The initial screen for the adjustment mode is as follows. (Fig. 5-2-2)

**Key Up: MS/BP Adjust**  
**Key OK: WB/ISO Adjust**  
**Key Down: Zoom Adjust**  
**Key Left: Far Focus Adjust**  
**Key Right: Near Focus Adjust**  
**Key S1: Set Lang Destination**

Fig. 5-2-2

### 5-2-2. MS/BP Adjustment

The Iris, Mechanical Shutter and Bad Pixel adjustment order is as follows.

Small pattern box (PTB-1450) setting:

- Color temperature =  $3150 \pm 50K$
- Luminance: LV  $12.3 \pm 0.2$

Equipments required: Small pattern box (PTB-1450)  
Camera table

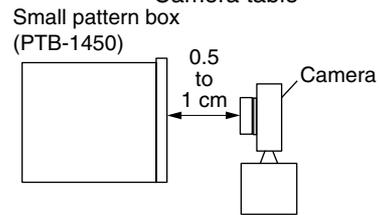
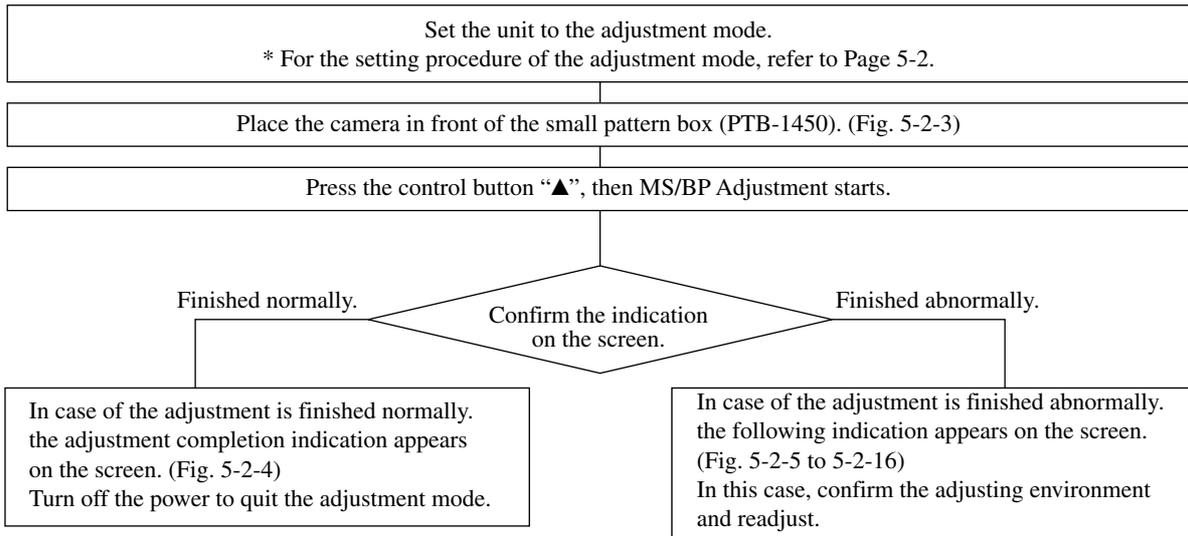


Fig. 5-2-3

Adjustment order



Screen display

The adjustment is finished normally.



Fig. 5-2-4

The adjustment is complete.

The adjustment is finished abnormally.



Fig. 5-2-5

Malfunction of Iris adjustment



Fig. 5-2-6

Malfunction of Mechanical Shutter adjustment



Fig. 5-2-7

Malfunction of PreviewPixel adjustment

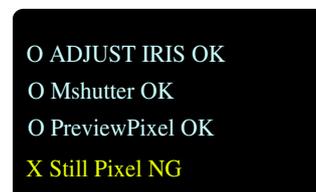


Fig. 5-2-8

Malfunction of Still Pixel adjustment

The adjustment is finished abnormally.

ADJUST IRIS NG  
 Mshutter NG  
 PreviewPixel OK  
 Still Pixel OK

Malfunction of Iris & mechanical shutter adjustment

**Fig. 5-2-9**

ADJUST IRIS NG  
 Mshutter OK  
 PreviewPixel NG  
 Still Pixel OK

Malfunction of Iris & Preview Pixel adjustment

**Fig. 5-2-10**

ADJUST IRIS NG  
 Mshutter OK  
 PreviewPixel OK  
 Still Pixel NG

Malfunction of Iris & Still Pixel adjustment

**Fig. 5-2-11**

ADJUST IRIS NG  
 Mshutter NG  
 PreviewPixel NG  
 Still Pixel OK

Malfunction of Iris & Mechanical shutter & PreviewPixel adjustment

**Fig. 5-2-12**

ADJUST IRIS NG  
 Mshutter OK  
 PreviewPixel NG  
 Still Pixel NG

Malfunction of Iris & Preview Pixel & Still Pixel adjustment

**Fig. 5-2-13**

ADJUST IRIS NG  
 Mshutter NG  
 PreviewPixel OK  
 Still Pixel NG

Malfunction of Iris & Mechanical shutter & Still Pixel adjustment

**Fig. 5-2-14**

ADJUST IRIS OK  
 Mshutter NG  
 PreviewPixel NG  
 Still Pixel NG

Malfunction of Mechanical shutter & PreviewPixel & Still Pixel adjustment

**Fig. 5-2-15**

ADJUST IRIS NG  
 Mshutter NG  
 PreviewPixel NG  
 Still Pixel NG

Malfunction of all adjustment

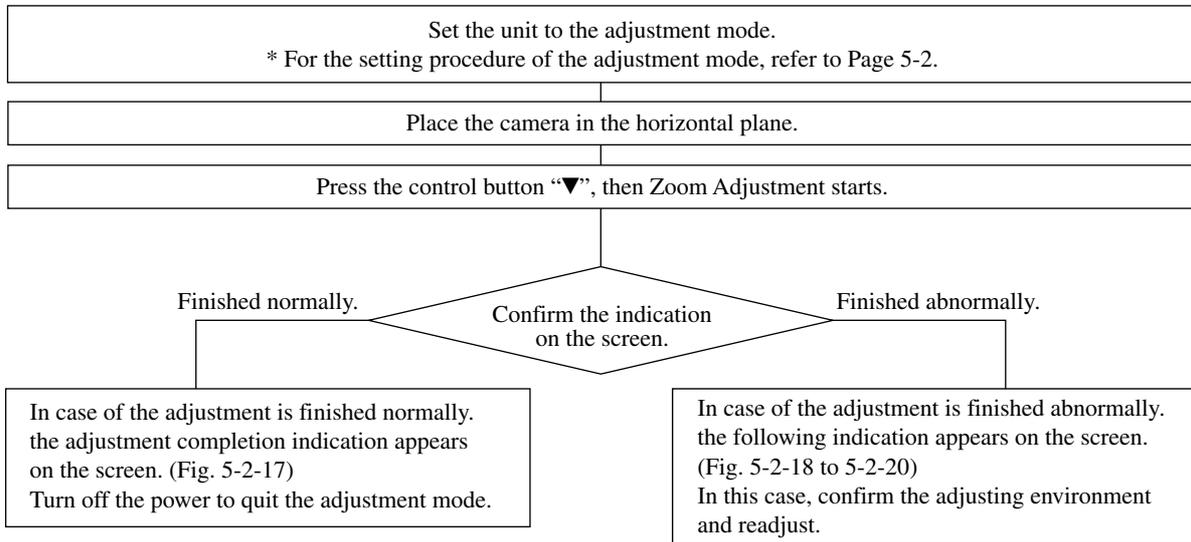
**Fig. 5-2-16**

### 5-2-3. Zoom Adjustment

The Zoom Over Run/Focus Back Lash adjustment order is as follows.

Perform the zoom adjustment in the condition the camera stands up in the horizontal plane.  
Adjusting in the other condition causes the malfunction of the zoom adjustment.

Adjustment order



#### Screen display

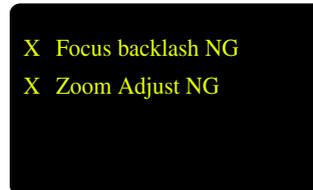
The adjustment is finished normally.



**Fig. 5-2-17**

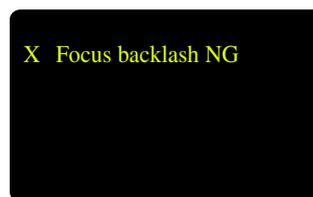
The adjustment is complete.

The adjustment is finished abnormally.



**Fig. 5-2-18**

Malfunction of Zoom adjustment



**Fig. 5-2-19**

Malfunction of Zoom adjustment  
Focus section



**Fig. 5-2-20**

Malfunction of Zoom adjustment  
Zoom section

## 5-2-4. Far Focus Adjustment

**Note:** When using the flange back adjustment jig, take care of the following points:

- For the illumination, use a light source such as an incandescent lamp or inverter type fluorescent light free from flickering.
- Do not make an adjustment in the environment where fluorescent lamp flickering occurs even if the illuminance can be ensured with the room illumination only.  
Use an incandescent lamp or inverter type fluorescent light at a place free from the influence of room illumination.

- 1) Install the flange back adjustment jig so that the distance between it and the front of lens of camera is less than 3 cm.

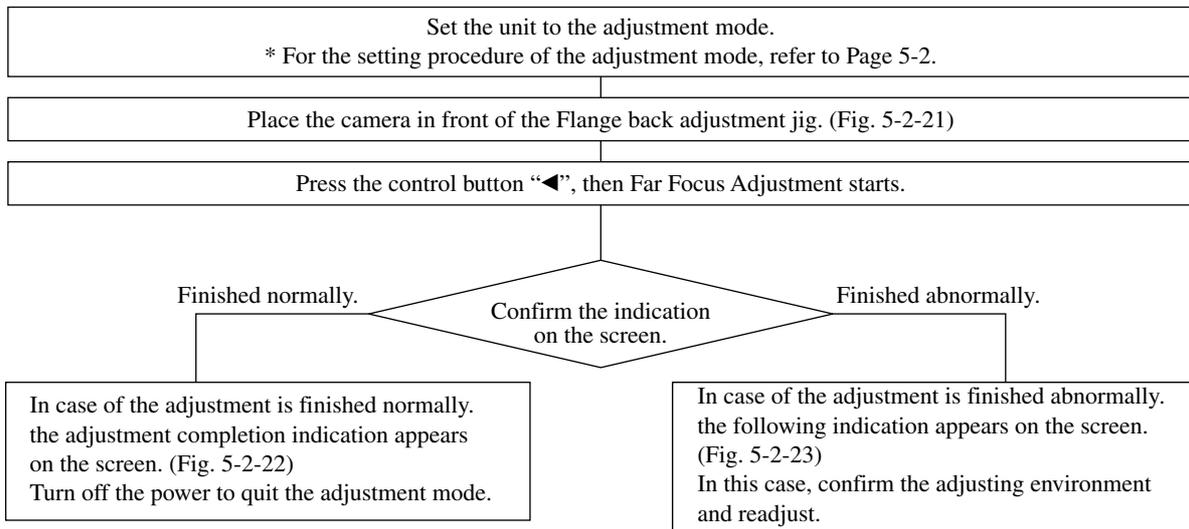
**Note:** Take care not to hit the flange back adjustment jig when extending the lens.

- 2) Make the height of flange back adjustment jig and the camera equal.
- 3) Check that the center of chart meets the center of shot image screen with the zoom lens at TELE end and WIDE end respectively.

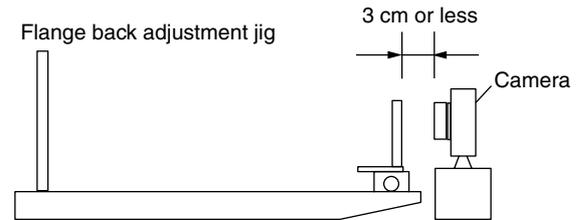
Color temperature = 5000 ± 300K

Be sure not to turn off the power during adjusting.

Adjustment order



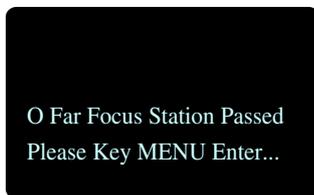
Equipments required: Flange back adjustment jig  
Camera table



**Fig. 5-2-21**

Screen display

The adjustment is finished normally.



**Fig. 5-2-22**

The adjustment is complete.

The adjustment is finished abnormally.



**Fig. 5-2-23**

Malfunction of Far Focus adjustment

### 5-2-5. Near Focus Adjustment

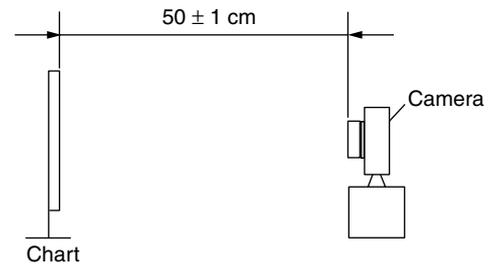
**Note:** Perform the Near Focus Adjustment after the Far Focus adjustment.

- 1) Be sure to set  $50 \pm 1$  cm distance between the chart and the tip of camera lens.
- 2) Check that the center of chart meets the center of shot image screen with the zoom lens at TELE end and WIDE end respectively.

Color temperature =  $5000 \pm 300$ K

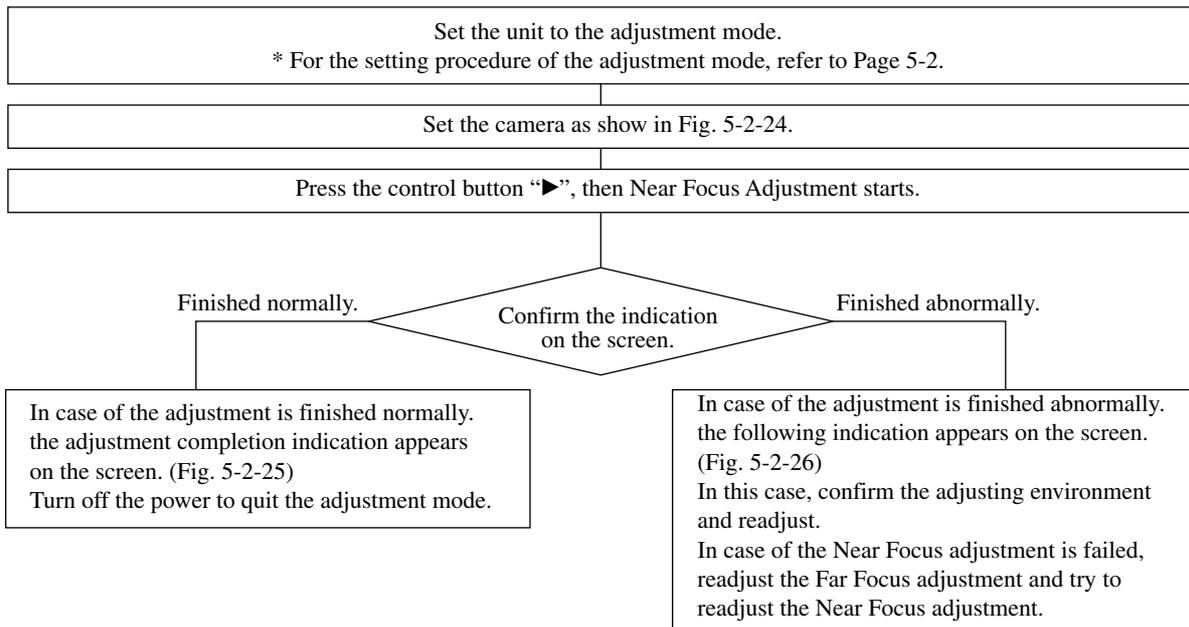
Be sure not to turn off the power during adjusting.

Equipments required: Chart  
Camera table



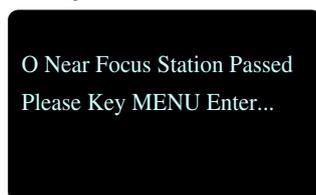
**Fig. 5-2-24**

Adjustment order



Screen display

The adjustment finished normally.



**Fig. 5-2-25**

The adjustment is complete.

The adjustment is finished abnormally.



**Fig. 5-2-26**

Malfunction of Near Focus adjustment

In case of the Near Focus adjustment is failed, readjust the Far Focus adjustment and try to readjust the Near Focus adjustment.

### 5-2-6. WB/ISO Adjustment

The White balance Adjustment is as follows.

Small pattern box (PTB-1450) setting:

Color temperature =  $3150 \pm 50K$   
 Luminance: LV  $12.3 \pm 0.2$

Equipments required: Small pattern box (PTB-1450)  
 Camera table

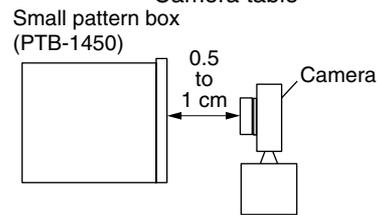
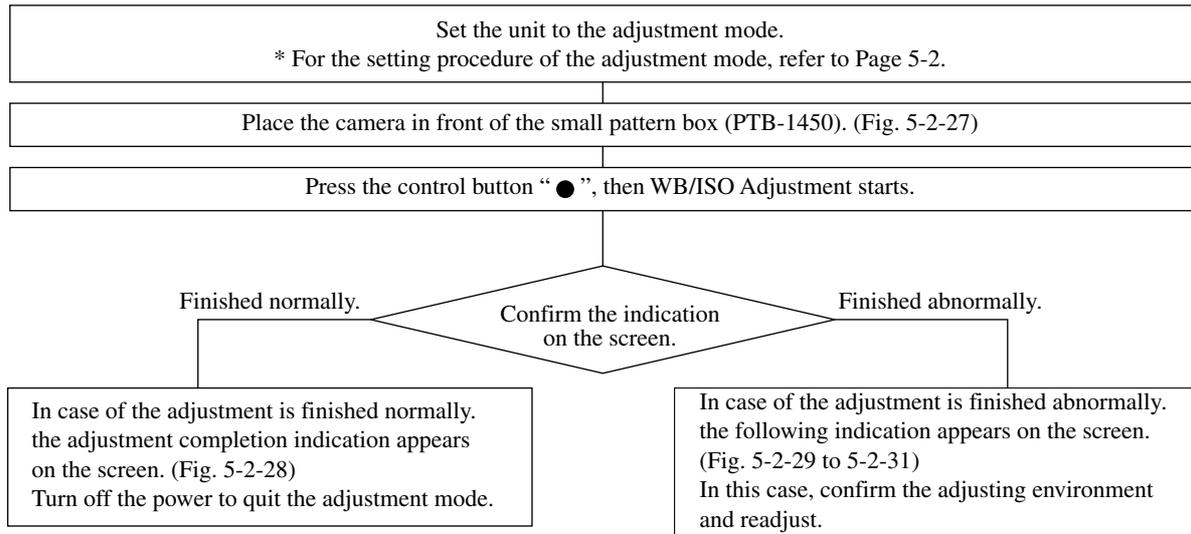


Fig. 5-2-27

Adjustment order



Screen display

The adjustment is finished normally.



Fig. 5-2-28

The adjustment is complete.

The adjustment is finished abnormally.

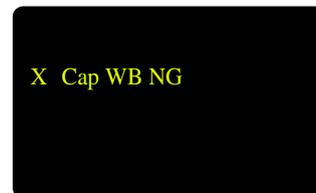


Fig. 5-2-29

Malfunction of Cap White Balance adjustment

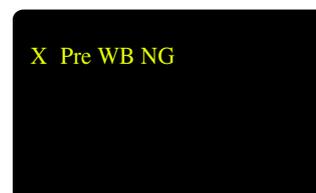


Fig. 5-2-30

Malfunction of Pre White Balance adjustment



Fig. 5-2-31

Malfunction of White Balance adjustment

### 5-2-7. Set Lang Destination

**Language destination set:**

Save “lang.txt” document in the root directory of Memory Stick PRO Duo used.  
The content of “lang.txt” as follows:

Language destination (for example: U2) (enter key)  
Product ID (10 bit) (enter key) (Refer to “5-3. PRODUCT ID LIST”)  
S/N (7 bit) (enter key)

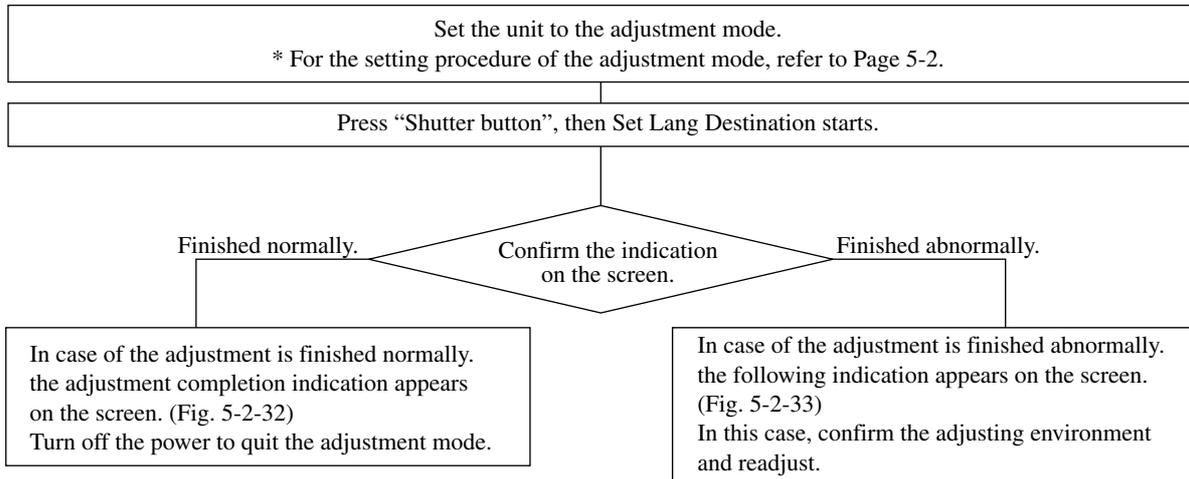
Now as DSC-S930 silver camera U2 Lang Destination setting for the lang.txt document example.

U2  
0048870734  
0120243

**especially attention:**

1. The enter key must be the end symbol each row.
2. The product ID refer to “5-3. PRODUCT ID LIST”. And the product ID must be 10 bit. If the product ID less than 10 bit, add 0 before the product ID.
3. The S/N must be 7 bit. It refer to the serial number of shipment.

**Adjustment order**



**Screen display**

The adjustment is finished normally.

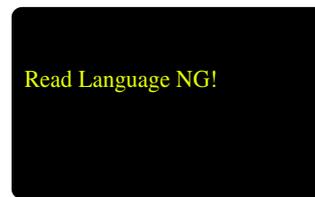


The adjustment is complete.

**Note:** The screen above is an example.

**Fig. 5-2-32**

The adjustment is finished abnormally.



Malfunction of Set language destination.  
In case of the set language destination is failed, reset the language destination.

**Fig. 5-2-33**

5-3. PRODUCT ID LIST

| Area | Color  | Product ID |
|------|--------|------------|
| E37  | Silver | 48870706   |
|      | Black  | 48870707   |
|      | Pink   | 48870708   |
| E32  | Silver | 48870710   |
|      | Black  | 48870770   |
|      | Pink   | 48870786   |
| E33  | Silver | 48870711   |
|      | Black  | 48870771   |
|      | Pink   | 48870787   |
| E15  | Silver | 48870712   |
|      | Black  | 48870772   |
|      | Pink   | 48870788   |
| HK1  | Silver | 48870713   |
|      | Black  | 48870773   |
|      | Pink   | 48870789   |
| JE3  | Silver | 48870720   |
|      | Black  | 48870721   |
|      | Pink   | 48870722   |
| U2   | Silver | 48870734   |
|      | Black  | 48870735   |
|      | Pink   | 48870736   |
| CA2  | Silver | 48870740   |
|      | Black  | 48870741   |
|      | Pink   | 48870742   |

| Area      | Color         | Product ID      |
|-----------|---------------|-----------------|
| CEE8      | Silver        | 48870750        |
|           | Black         | 48870763        |
|           | Pink          | 48870793        |
| CEE9      | Silver        | 48870751        |
|           | Black         | 48870764        |
|           | Pink          | 48870794        |
| CEE2      | Silver        | 48870752        |
|           | Black         | 48870765        |
|           | Pink          | 48870795        |
| CEH       | Silver        | 48870760        |
|           | Black         | 48870761        |
|           | Pink          | 48870762        |
| CN1       | Silver        | 48870775        |
|           | Black         | 48870776        |
|           | Pink          | 48870777        |
| KR2       | Silver        | 48870780        |
|           | Black         | 48870781        |
|           | Pink          | 48870782        |
| AU2       | Silver        | 48870790        |
|           | Black         | 48870791        |
|           | Pink          | 48870792        |
| <b>BR</b> | <b>Silver</b> | <b>48870754</b> |

Selectable Language Table

| DESTINATION | AREA | SELECTABLE LANGUAGE |         |        |        |         |         |            |                    |                     |       |         |        |         |        |      |        |         |           |        |         | VIDEO OUT Default |        |       |           |         |       |      |
|-------------|------|---------------------|---------|--------|--------|---------|---------|------------|--------------------|---------------------|-------|---------|--------|---------|--------|------|--------|---------|-----------|--------|---------|-------------------|--------|-------|-----------|---------|-------|------|
|             |      | Japanese            | English | French | German | Spanish | Italian | Portuguese | Simplified Chinese | Traditional Chinese | Dutch | Russian | Korean | Persian | Arabic | Thai | Melayu | Swedish | Norwegian | Danish | Finnish |                   | Polish | Czech | Hungarian | Turkish | Greek |      |
| J           | J    | ●                   |         |        |        |         |         |            |                    |                     |       |         |        |         |        |      |        |         |           |        |         |                   |        |       |           |         |       | NTSC |
| JE3         | JE   |                     | ●       | ○      |        | ○       |         | ○          | ○                  |                     |       | ○       | ○      | ○       | ○      | ○    |        |         |           |        |         |                   |        |       |           |         |       | PAL  |
| U2          | US   |                     | ●       | ○      |        | ○       | ○       |            | ○                  | ○                   |       |         |        |         |        |      |        |         |           |        |         |                   |        |       |           |         |       | NTSC |
| CA2         | CND  |                     | ●       | ○      |        | ○       | ○       |            | ○                  | ○                   |       |         |        |         |        |      |        |         |           |        |         |                   |        |       |           |         |       | NTSC |
| CEE2        | AEP  |                     | ○       | ○      | ○      | ○       | ○       | ○          |                    |                     | ○     | ●       |        |         |        |      | ○      | ○       | ○         | ○      | ○       | ○                 | ○      | ○     | ○         | ○       | ○     | PAL  |
| CEE8        |      |                     | ●       | ○      | ○      | ○       | ○       | ○          |                    |                     | ○     |         |        |         |        |      |        | ○       | ○         | ○      | ○       | ○                 | ○      | ○     | ○         | ○       | ○     | PAL  |
| CEE9        |      |                     | ●       | ○      | ○      | ○       | ○       | ○          |                    |                     | ○     | ○       |        |         |        |      |        | ○       | ○         | ○      | ○       | ○                 | ○      | ○     | ○         | ○       | ○     | PAL  |
| CEH         | UK   |                     | ●       | ○      | ○      | ○       | ○       | ○          |                    |                     | ○     |         |        |         |        |      | ○      | ○       | ○         | ○      | ○       | ○                 | ○      | ○     | ○         | ○       | ○     | PAL  |
| E15         | E    |                     | ●       | ○      |        | ○       |         | ○          | ○                  |                     |       | ○       | ○      | ○       | ○      | ○    |        |         |           |        |         |                   |        |       |           |         |       | PAL  |
| E32         |      |                     | ●       | ○      |        | ○       |         | ○          | ○                  |                     |       | ○       | ○      | ○       | ○      | ○    |        |         |           |        |         |                   |        |       |           |         |       | PAL  |
| E33         |      |                     | ○       | ○      |        | ●       |         | ○          | ○                  |                     |       | ○       | ○      | ○       | ○      | ○    |        |         |           |        |         |                   |        |       |           |         |       | NTSC |
| E37         |      |                     | ●       | ○      |        | ○       |         | ○          | ○                  |                     |       | ○       | ○      | ○       | ○      | ○    | ○      |         |           |        |         |                   |        |       |           |         |       | PAL  |
| TH6         | Thai |                     | ○       | ○      |        | ○       |         | ○          | ○                  |                     |       | ○       | ○      | ○       | ○      | ●    | ○      |         |           |        |         |                   |        |       |           |         |       | PAL  |
| AU2         | AUS  |                     | ●       | ○      |        | ○       | ○       |            | ○                  | ○                   |       |         |        |         |        |      |        |         |           |        |         |                   |        |       |           |         |       | PAL  |
| HK1         | HK   |                     | ●       | ○      |        | ○       |         | ○          | ○                  |                     |       | ○       | ○      | ○       | ○      | ○    |        |         |           |        |         |                   |        |       |           |         |       | PAL  |
| CN1         | CH   |                     | ○       | ○      |        | ○       |         | ○          | ○                  | ●                   | ○     |         |        |         |        |      | ○      | ○       | ○         | ○      | ○       | ○                 | ○      | ○     | ○         | ○       | ○     | PAL  |
| KR2         | KR   |                     | ○       | ○      |        | ○       |         | ○          | ○                  |                     |       | ●       |        |         |        |      | ○      | ○       | ○         | ○      | ○       | ○                 | ○      | ○     | ○         | ○       | ○     | NTSC |
| AR2         | AR   |                     | ○       | ○      |        | ●       |         | ○          | ○                  |                     |       | ○       | ○      | ○       | ○      | ○    |        |         |           |        |         |                   |        |       |           |         |       | NTSC |
| BR1         | BR   |                     | ○       | ○      |        | ○       |         | ●          | ○                  | ○                   |       | ○       | ○      | ○       | ○      | ○    |        |         |           |        |         |                   |        |       |           |         |       | NTSC |

●: INITIAL LANGUAGE

## Revision History

| Ver. | Date    | History                  | Contents   | S.M. Rev. issued |
|------|---------|--------------------------|--|------------------|
| 1.0  | 2009.02 | Official Release         | —  | —                |
| 1.1  | 2009.07 | Revised-1<br>(A1 09-070) | Replacement of the previously issued SERVICE MANUAL 9-852-674-51 with this Manual. <ul style="list-style-type: none"> <li>• Change of the “PREPARATIONS” to “BEFORE STARTING ADJUSTMENTS”</li> <li>• Change of the “Introduction”</li> <li>• Change of the “Iris/Mechanical Shutter” to “MS/BP Adjustment”</li> <li>• Addition of the “WB/ISO Adjustment”</li> <li>• Addition of the “Set Lang Destination”</li> </ul> S.M. revised: <a href="#">Page 5-1</a> , <a href="#">Page 5-2</a> , <a href="#">Page 5-3</a> , <a href="#">Page 5-4</a> , <a href="#">Page 5-5</a> , <a href="#">Page 5-9</a> , <a href="#">Page 5-10</a> , <a href="#">Page 5-11</a> | Yes              |
|      |         |                          |  |                  |