

DSC-S930

Ver. 1.1 2009.07

Revision History

SECTION 5 ADJUSTMENTS

ADJ

Link

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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


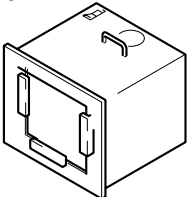
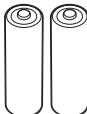
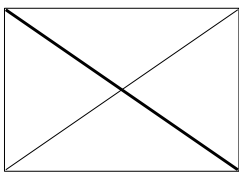
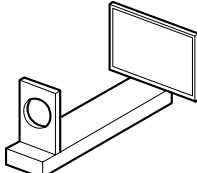
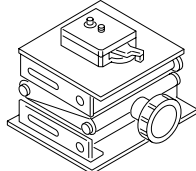
J-1  SONY Memory Stick PRO Duo (256 MB or more)	J-2  Small pattern box PTB-1450 J-6082-557-A	J-3  HR 15/51:HR6 (size AA) Nickel-Metal Hydride batteries (× 2) (Note 1)
J-4  Chart (Note 2)	J-5  Mini flange back jig J-6082-719-A or Flange back adjustment jig J-6082-563-A	J-6  Camera table J-6082-384-A

Fig. 5-1-1

Note 1:

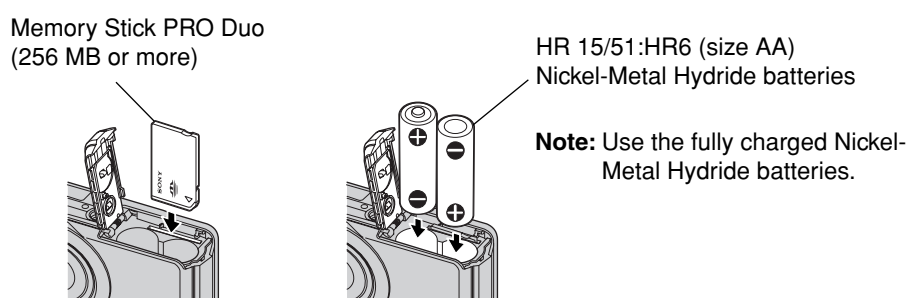
Use the fully charged Nickel-Metal Hydride batteries.

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.



DSC-S930 Bottom side

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.

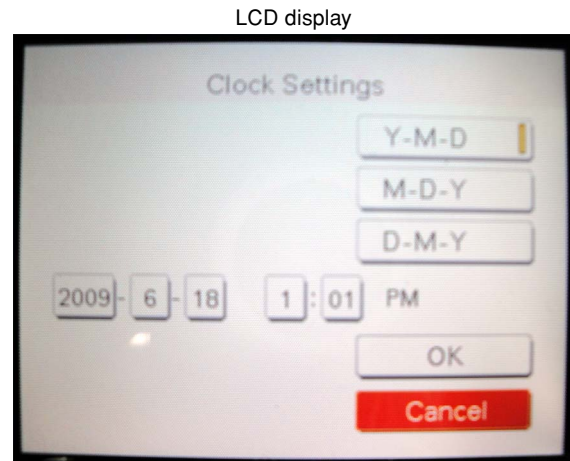


Fig. 5-1-3

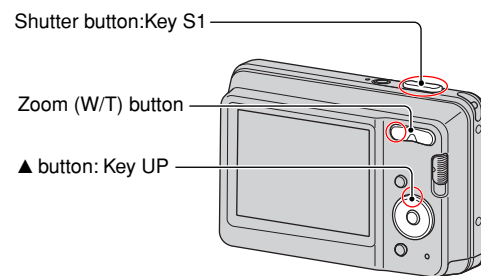
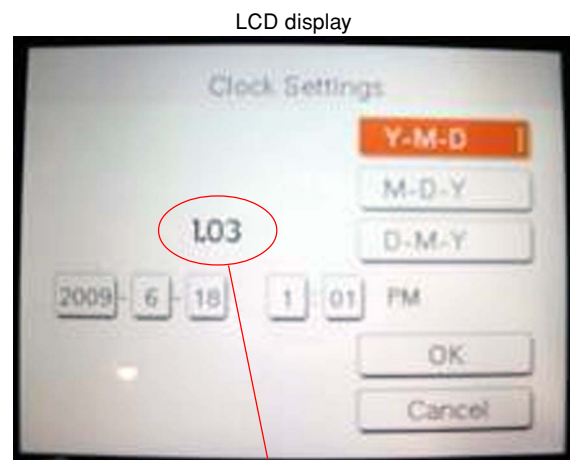


Fig. 5-1-4



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)

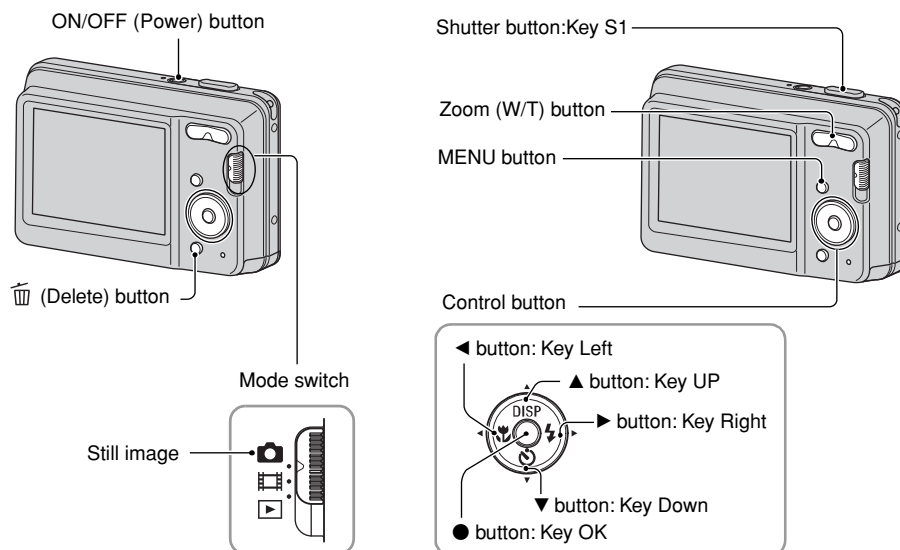


Fig. 5-2-1

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 = $3150 \pm 50\text{K}$
Luminance: LV 12.3 ± 0.2

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

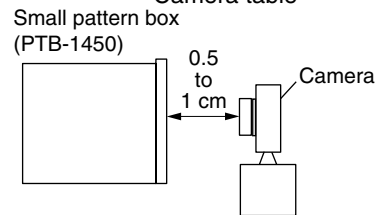
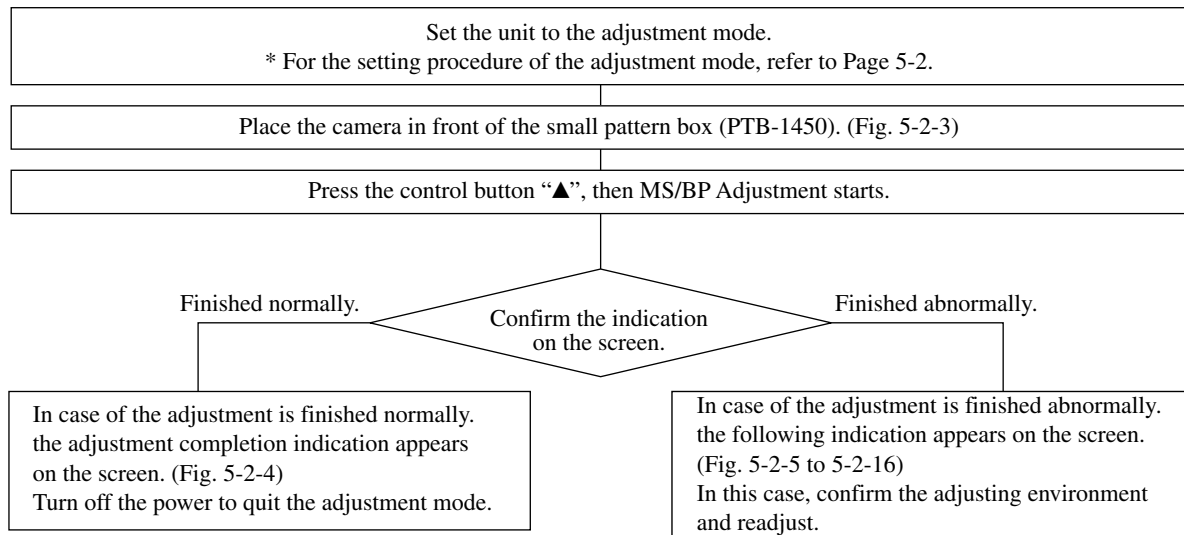


Fig. 5-2-3

Adjustment order



Screen display

The adjustment is finished normally.

O ADJUST IRIS OK
O MshuttEer OK
O PreviewPixel OK
O Still Pixel OK

Fig. 5-2-4

The adjustment is complete.

The adjustment is finished abnormally.

X ADJUST IRIS NG
O Mshutter OK
O PreviewPixel OK
O Still Pixel OK

Fig. 5-2-5

Malfunction of Iris adjustment

O ADJUST IRIS OK
X Mshutter NG
O PreviewPixel OK
O Still Pixel OK

Fig. 5-2-6

Malfunction of Mechanical Shutter adjustment

O ADJUST IRIS OK
O Mshutter OK
X PreviewPixel NG
O Still Pixel OK

Fig. 5-2-7

Malfunction of PreviewPixel adjustment

O ADJUST IRIS OK
O Mshutter OK
O PreviewPixel OK
X Still Pixel NG

Fig. 5-2-8

Malfunction of Still Pixel adjustment

The adjustment is finished abnormally.

X ADJUST IRIS NG
X Mshutter NG
O PreviewPixel OK
O Still Pixel OK

Malfunction of Iris & mechanical shutter adjustment

Fig. 5-2-9

X ADJUST IRIS NG
O Mshutter OK
X PreviewPixel NG
O Still Pixel OK

Malfunction of Iris & Preview Pixel adjustment

Fig. 5-2-10

X ADJUST IRIS NG
O Mshutter OK
O PreviewPixel OK
X Still Pixel NG

Malfunction of Iris & Still Pixel adjustment

Fig. 5-2-11

X ADJUST IRIS NG
X Mshutter NG
X PreviewPixel NG
O Still Pixel OK

Malfunction of Iris & Mechanical shutter & PreviewPixel adjustment

Fig. 5-2-12

X ADJUST IRIS NG
O Mshutter OK
X PreviewPixel NG
X Still Pixel NG

Malfunction of Iris & Preview Pixel & Still Pixel adjustment

Fig. 5-2-13

X ADJUST IRIS NG
X Mshutter NG
O PreviewPixel OK
X Still Pixel NG

Malfunction of Iris & Mechanical shutter & Still Pixel adjustment

Fig. 5-2-14

O ADJUST IRIS OK
X Mshutter NG
X PreviewPixel NG
X Still Pixel NG

Malfunction of Mechanical shutter & PreviewPixel & Still Pixel adjustment

Fig. 5-2-15

X ADJUST IRIS NG
X Mshutter NG
X PreviewPixel NG
X Still Pixel NG

Malfunction of all adjustment

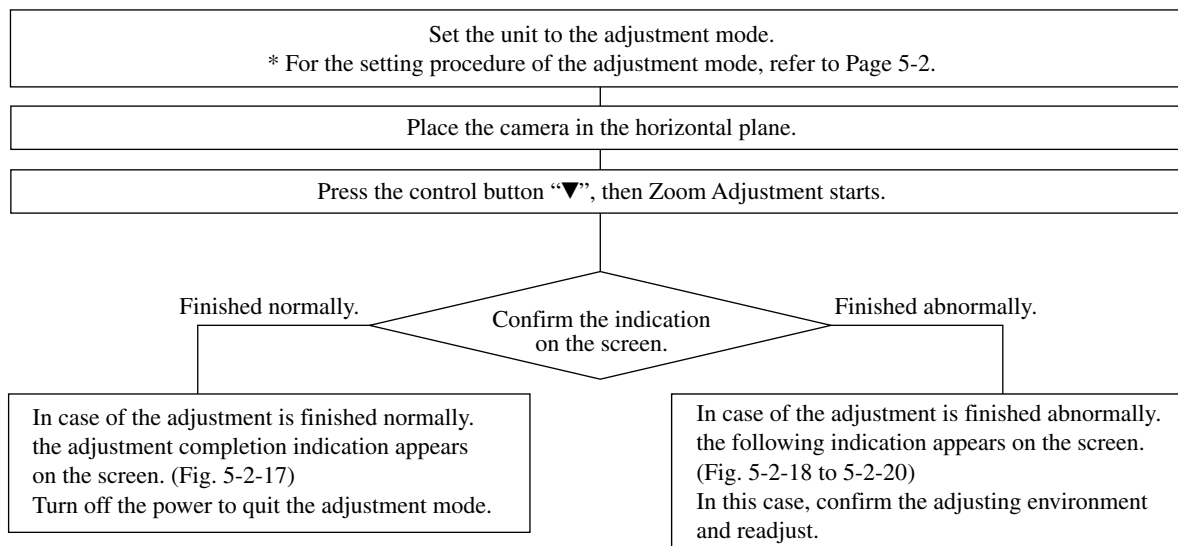
Fig. 5-2-16

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.

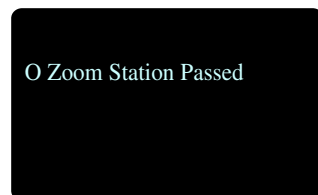


Fig. 5-2-17

The adjustment is complete.

The adjustment is finished abnormally.

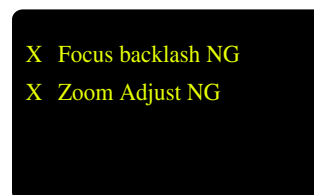


Fig. 5-2-18

Malfunction of Zoom adjustment

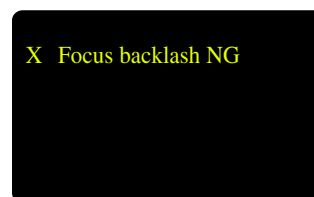


Fig. 5-2-19

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.

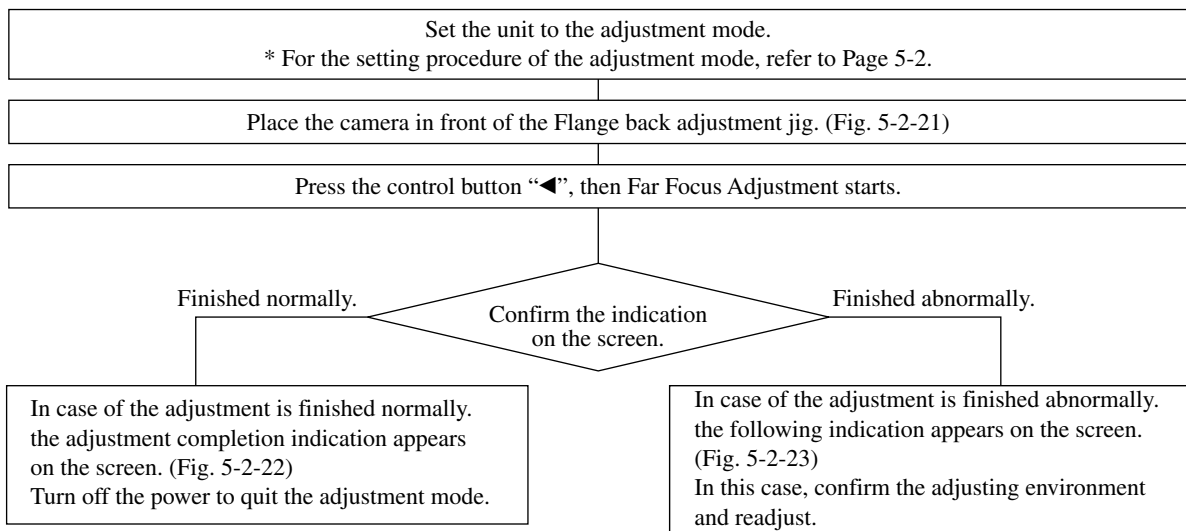
- 2) Make the height of flange back adjustment jig and the camera equal.

- 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 = $5000 \pm 300\text{K}$

Be sure not to turn off the power during adjusting.

Adjustment order



Equipments required: Flange back adjustment jig
Camera table

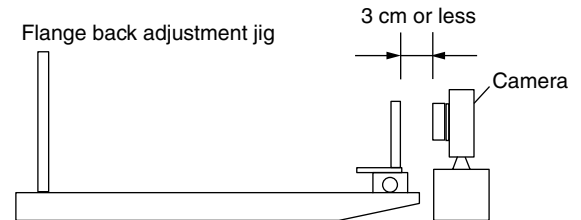


Fig. 5-2-21

Screen display

The adjustment is finished normally.

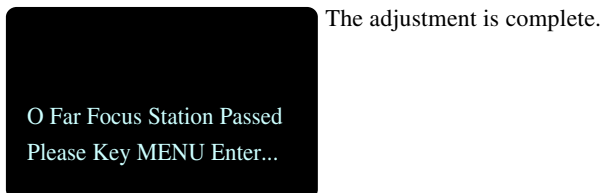


Fig. 5-2-22

The adjustment is finished abnormally.

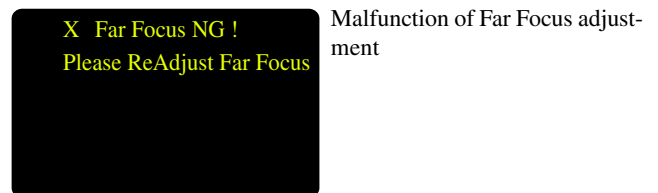


Fig. 5-2-23

5-2-5. Near Focus Adjustment

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

- 1) Be sure to set 50 ± 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 ± 300 K

Be sure not to turn off the power during adjusting.

Equipments required: Chart
Camera table

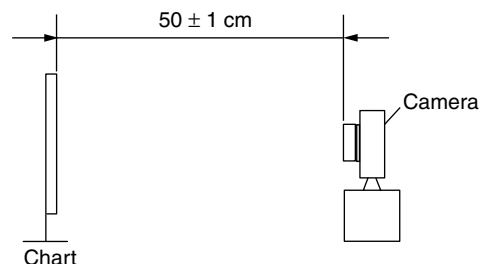
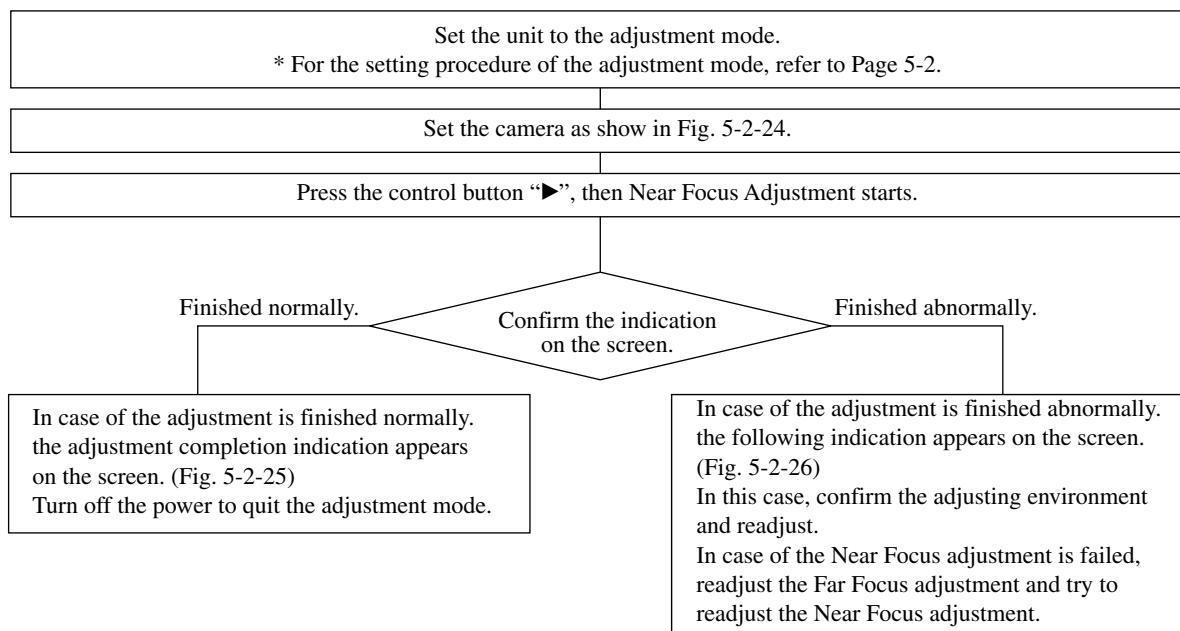


Fig. 5-2-24

Adjustment order



Screen display

The adjustment finished normally.

O Near Focus Station Passed
Please Key MENU Enter...

Fig. 5-2-25

The adjustment is complete.

The adjustment is finished abnormally.

X Near Focus NG !
Please ReAdjust Far Focus

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 ± 50K
Luminance: LV 12.3 ± 0.2

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

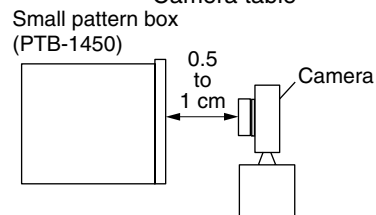
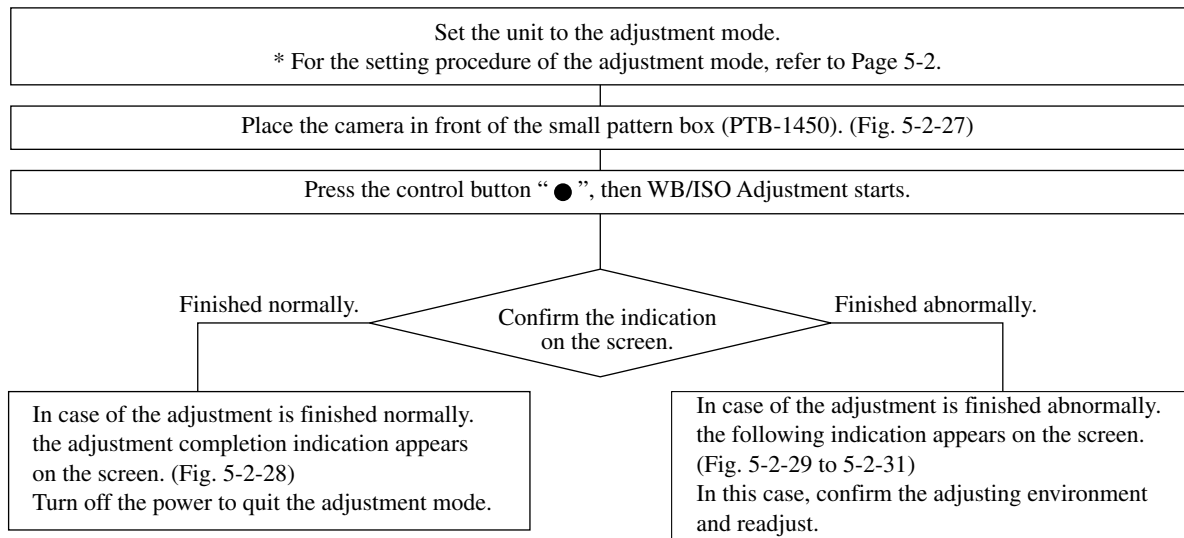


Fig. 5-2-27

Adjustment order



Screen display

The adjustment is finished normally.

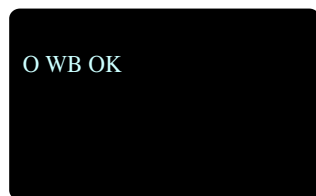


Fig. 5-2-28

The adjustment is complete.

The adjustment is finished abnormally.

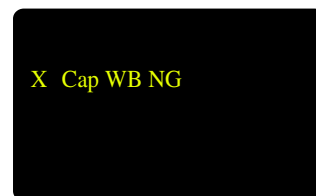


Fig. 5-2-29

Malfunction of Cap White Balance adjustment

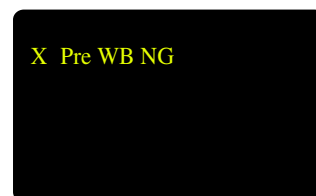


Fig. 5-2-30

Malfunction of Pre White Balance adjustment

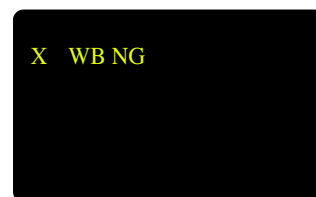


Fig. 5-2-31

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)

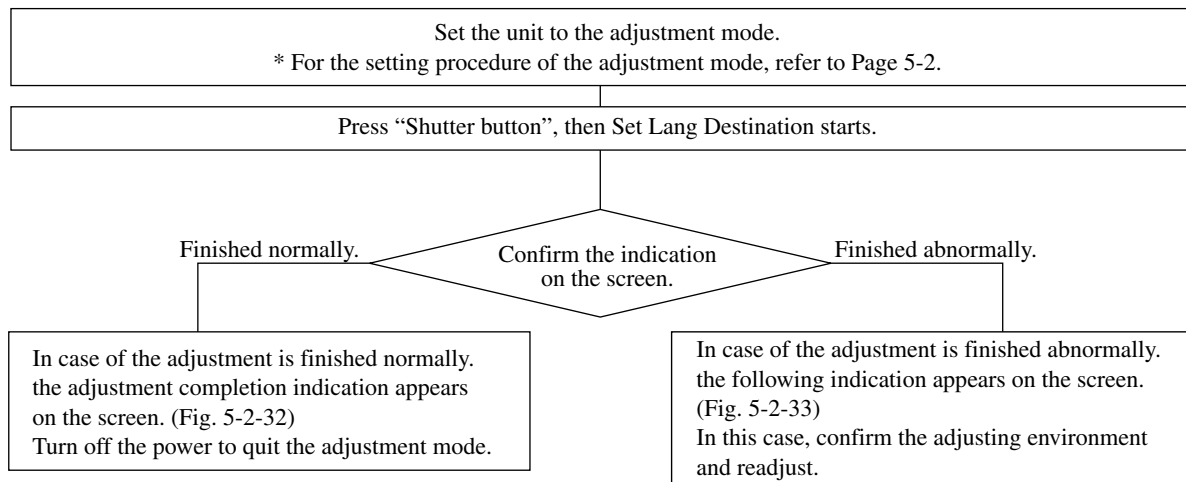
Now as DSC-S930 silver camera U2 Lang Destination setting for the lang.txt document example.

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.

Set LangDestination
Set LangDestination OK!
Lan:XXX NTSC Des:XXX

The adjustment is complete.

Note: The screen above is an example.

Fig. 5-2-32

The adjustment is finished abnormally.

Read Language NG!

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
BR	Silver	48870754

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 (A1 09-070)	<p>Replacement of the previously issued SERVICE MANUAL 9-852-674-51 with this Manual.</p> <ul style="list-style-type: none"> • Change of the “PREPARATIONS” to “BEFORE STARTING ADJUSTMENTS” • Change of the “Introduction” • Change of the “Iris/Mechanical Shutter” to “MS/BP Adjustment” • Addition of the “WB/ISO Adjustment” • Addition of the “Set Lang Destination” <p>S.M. revised: Page 5-1, Page 5-2, Page 5-3, Page 5-4, Page 5-5, Page 5-9, Page 5-10, Page 5-11</p>	Yes