

PENTAX

Service Manual

ENGLISH

PENTAX *K-50*



Product No.77750 BLACK

Product No.77751 ORDER COLOR

Product No.77752 WHITE

Product No.77753 PINK

Product No.77754 RED

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Global Service Department
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07.13 N.T.

[TABLE OF CONTENTS]

PREPARATION	2
Preparation of Adjustments	2
Outline of Assembly and Disassembly	4
1. Caution	4
2. Flow chart for assembling body and Front housing	4
3. [IV. Confirmation/ Adjustment] Flow	5
Assembly and Disassembly	6
I. Disassembly procedure of main body	6
II. Assembly and disassembly procedure of front housing block	6
III. Assemble procedure of main body	6
IV. Adjustment and Confirmation	7
TECHNICAL INFORMATION	9
Battery consumption current	9
Block diagram	10
Information of Jigs, Tools and Testers	11

PREPARATION

The following preparations are required before disassembling and assembling the camera.

1. Prepare the Jigs; tools and testers (Refer to the table of Jigs, tools and testers.)
2. Make the preparation for adjustment with referring [Preparation of Adjustments].

Preparation of Adjustments

[Required equipment]

[Programmed software for 77750\(CD-ROM: 95901 P426\)](#)

Computer (PC)

OS: Windows XP SP2 CPU: 1GHz or more RAM: 512MB or more

Free disk space (HD): 500MB or more Port: USB2.0

SD card 6 pieces (16Mb or above) --- for FW

SD card reader or USB cable (I-USB17) --- For connecting with PC

1. Prepare SD card (6 pcs) for adjustment

***prepare SD card (6pcs) (Format with K-50 before use)**

1. For repair FW (For replaced T100) ---1pcs
2. For product FW (Firmware: Latest version/running change version 1pcs each) --- 2pcs
3. For test mode ON / OFF (For confirming full version, 1 pcs each) ----2pcs
4. For Initial set (Initialize / Product shipment) ---1pcs

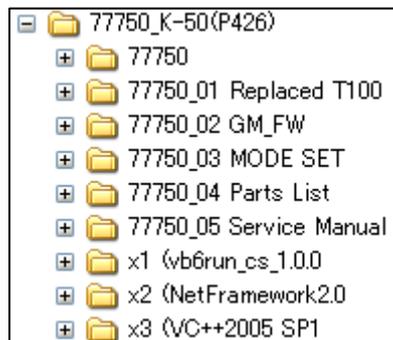
2. Installing procedure of the Adjustment Software (Setting of the Computer)

*Set programmed software for 77750 (CD-R) to CD-ROM drive.

1. Copy the [77750] folder from the programmed software contained in the CD-ROM to [C: drive]

*Copy the following files from CD-RPM

2. Copy the file from [01_Replaced T100] folder to SD card --- For replaced main PCB FW (Firmware)
3. Copy the file from [02_GM_FW] folder to SD card --- For Product FW (Firmware)
4. Copy the file from [Test mode ON] and [Test mode OFF] folder in the [03_MODE SET] to each SD card.
(Since the name of all files is the same, you should distinguish them by name label etc.)
5. Copy the file from [Initialize Set] folder in the [03_MODE SET] to each SD card. --- For Initial set (Initialize)



3. Installing software

[Important] Install below 3 kind of software (The same as 77010:K20D and 77050:K200D)

1. Net Framework Ver2.0 (Common with 77010 and 77050. It is not required if the software is already installed)
2. VC++2005 SP1 (Common with 77010 and 77050. It is not required if the software is already installed)
3. VB Runtime (Common with other product. It is not required if the VB Runtime is already installed)

* Set Programmed software for 77750 (CD-R) to CD-ROM drive.

- ① Select [dotnet.exe] from the [NetFramework2.0] folder in CD-ROM then double click icon. Installer will be started up and follow the instruction on the screen and continue with the installation.
- ② Select [vcredist_x86.exe] from the [VC++2005 SP1] folder in the CD-ROM then double click icon. Installer will be started up and follow the instruction on the screen and continue with the installation.
- ③ If [VB Runtime] is not set up to your PC yet, select [setup.exe] from the [vb6run_cs_xxx] folder in CD-ROM then double click icon. Installer will be started up and follow the instruction on the screen and continue with the installation. (Refer to the service manual for 76700 for details)

4. Calibration of light source for Digital adjustment

[Important] Execute Calibration of light source before 77750 Digital adjustments.

When replaced the program software, replaced light source or replaced AE master lens, it is required calibration.

Required equipment:

□Digital adjustment software for 77750 (M-test)

- K10D Master body for calibration (Headquarters office will lend the master body. Please contact with us)
- K-7 Master body for J400 calibration (Same as above)
- Light source (Example: LB3300, A light source)
- Master lens for 76180 (D20 or D20-01), and F8 set ring

***Use the same master lens as the ID number printed on CD-ROM to adjust it accurately.**

- PC □USB cable □AC adaptor □Dark curtain □Color temperature tester (for calibrate light source)
- LV meter (for check LV value)

Following items are the same as K-30 (77650). Refer to K-30(77650) service manual for details.

4-1. Setting for computer

4-2. Calibration of light source

4-3. Setting for Master body (K10D and K-7) and Master lens

4-4. Calibration 1 (WB/K10D)

4-5. Calibration 2 (J400 / K-7)

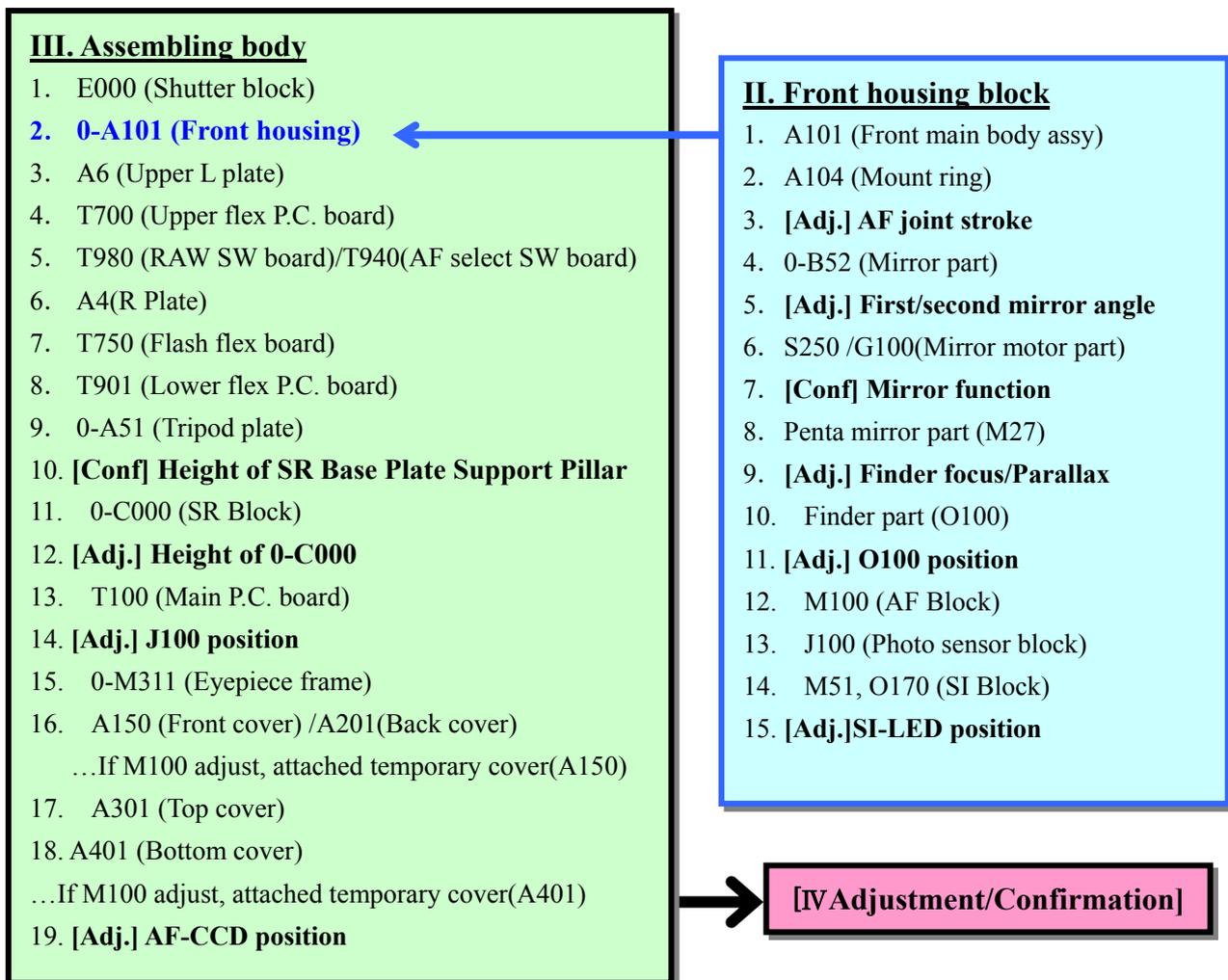
Outline of Assemble and Disassemble

1. Caution

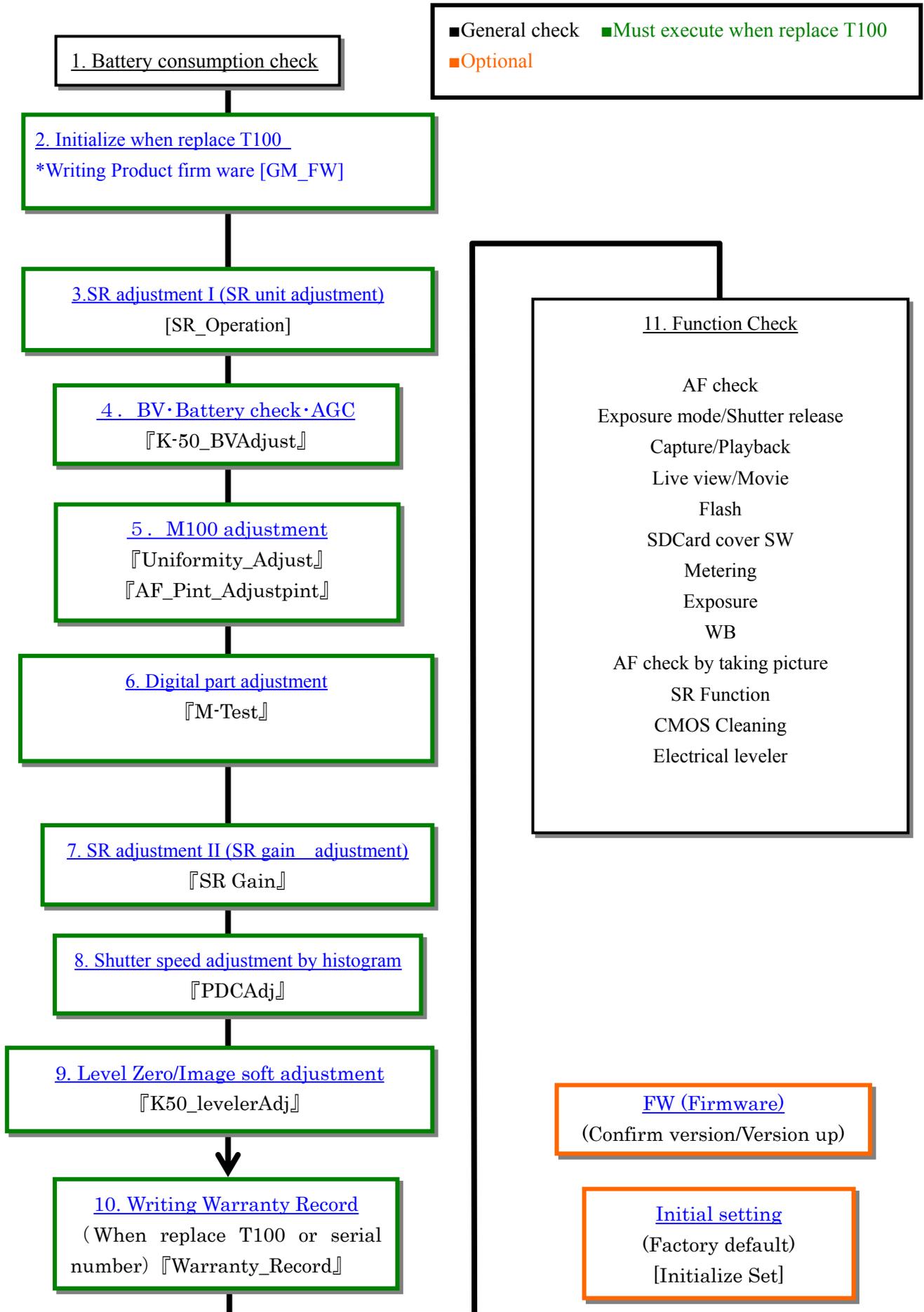
1. Be sure to use the anti-static mat and wrist strap to prevent static failure of circuits.
2. This product is used lead free solder.
Surface of solder will be white-tinged color. Solder quickly, because melting temperature is high and so if heat too much, it is possible to damage to PC board. Soldering iron requirement: The temperature can be adjusted up to 400°C and exclusive use for lead free solder. Also it is desirable to use antistatic soldering iron. The temperature for tip of soldering iron must set between **340°C~360°C** for lead free solder.
3. Do not stress to the connector terminals and flexible boards because they are very delicate parts. Pay careful attention to the connector terminals and flexible boards and, we recommend marking to the flexible board before disconnecting them. This will be helpful to reconnect the flexible board to the connector terminal properly.
4. Paste parts of that tape and etc. Follow the instructions in the service manual paste, so there is no float or drift. Specially, there is a risk of a short copper foil tape and gaskets to connector.
(If adhesive tape of glue weaken, it must replace to new one.)

2. Flow chart for assembling body and Front housing

*The same as K-30(77650)



3. [III. Confirmation/ Adjustment] Flow



Assembly and Disassembly

External covers are difference from K-30(77650) but basic structure is the same as K-30(77650).

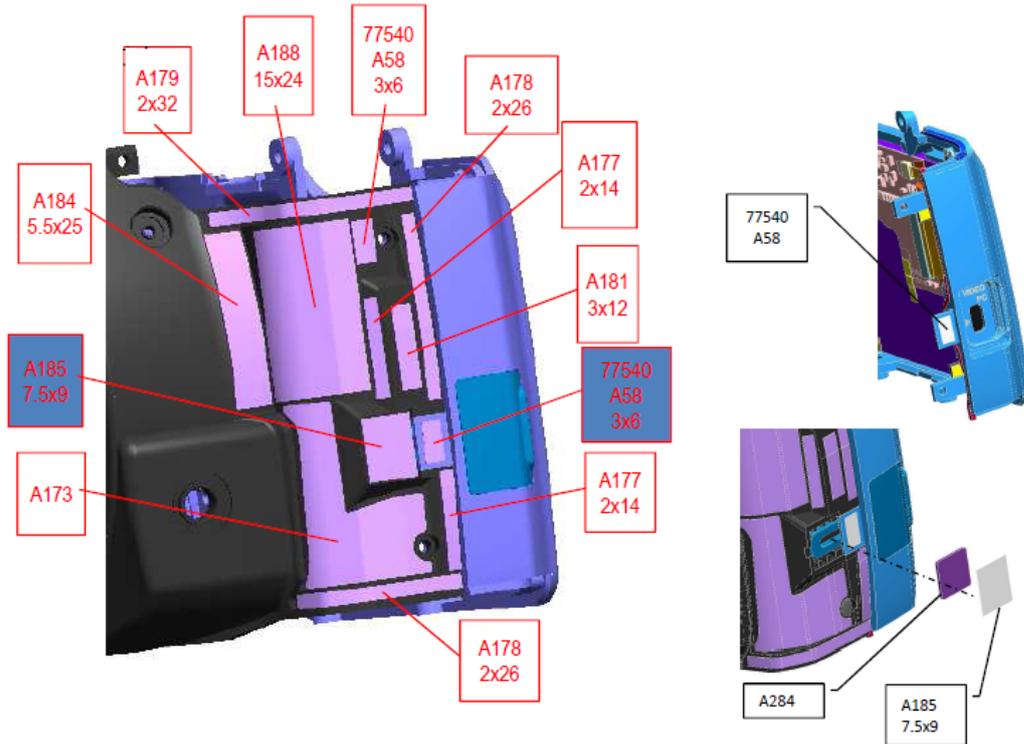
Following items are the same as K-30(77650). Refer to K-30(77650) service manual for details.

I. Disassembly procedure of main body

II. Assembly and disassembly procedure of front housing block

III. Assemble procedure of main body

Affix position for Grip rubber tape



IV. Adjustment and Confirmation

*Following contents are adjustment and confirmation after complete [III. Assemble procedure of main body]

*[Preparation for adjustment] should be completed.

*[Caution] When execute adjustment with program software, each setting will be initialized.

Oder of each adjustment items and content of adjustment are the same as K-30(77650). This manual write down only difference. Refer to K-30(77650) service manual for details.

1. [Confirmation] Confirmation for Battery consumption current

[Required equipment] □77420DC coupler □DC cable □Power supply (DC8.3V/3A or above)
□Circuit tester

[Caution] There are two kind of method for confirming Battery consumption current.
Depending on type of battery, select either method as followings.

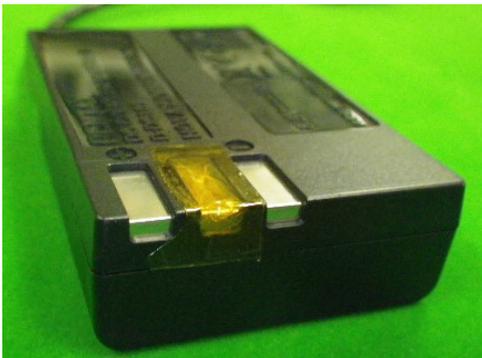
*Select DC coupler with affix insulation tape or DC coupler without affix insulation tape.

- ① Use DC coupler without affix insulation tape: condition → Using external power supply (AC adaptor) or Lithium-ion battery (Set the power supply 8.4V)
(For confirming, External power supply (AC adaptor)=Lithium-ion battery)
- ② Use DC coupler with affix insulation tape: condition→Using AA batteries (Set the power supply 6.0V)

Method for checking

[Caution] Be sure to set the correct voltage. Do not mistake to set type of power source.

- ①Connect DC cable to the power supply and set DC6.0 or 8.3V (3A).
- ②Install DC coupler into battery chamber.



◆DC coupler and DC cable



- ③Connect DC cable to DC coupler. Confirm that there must be neither short nor leakage.
[Caution]If there is short circuit, disconnect the power immediately.
- ④ Turn on the power and release 3 times.
- ⑤ [Confirmation] Turn off the power and confirm the battery consumption current. (Refer to below table)
- ⑥ Confirm other current if necessary. (Refer to technical information)

Consumption current (Ave)	Power (DC coupler/DC cable/Power supply/DC6.0 / 8.4V)
Main SW/OFF	100 μ A or less*
Main SW/ON···· Meter OFF	500mA / 400mA
Meter ON	600mA / 500mA

* : When replacing T100 (Before back-up battery is charged)

- 2. [Adjustment] Initialization when replace T100**
- 3. [Adjustment] SR adjustment I (Unit adjustment)**
- 4. [Adjustment] Metering, Battery check, AGC adjustment**
- 5. [Adjustment] M100 adjustment (AF)**
- 6. [Adjustment] Digital part (M-Test)**
- 7. [Adjustment] SR adjustment II (Gain adjustment)**
- 8. [Adjustment] Shutter speed adjustment by histogram**
- 9. [Adjustment] Level zero and Image shift adjustment**
- 10. [Adjustment] Writing Warranty Record**
- 11. [Confirmation] Function Check**
- 12. [Adjustment] each setting**
- 13. FW FIRMWARE**

TECHNICAL INFORMATION

Battery consumption current

Condition : Lens [FA lens, A position], each mode and setting is default setting.

Lens---- ○ : With × : Without SD card---- ○ : With × : Without

*Value on Battery equivalent --- DC adaptor + Power supply (3A or above)

*Value on AC power supply --- DC adaptor + AC adaptor

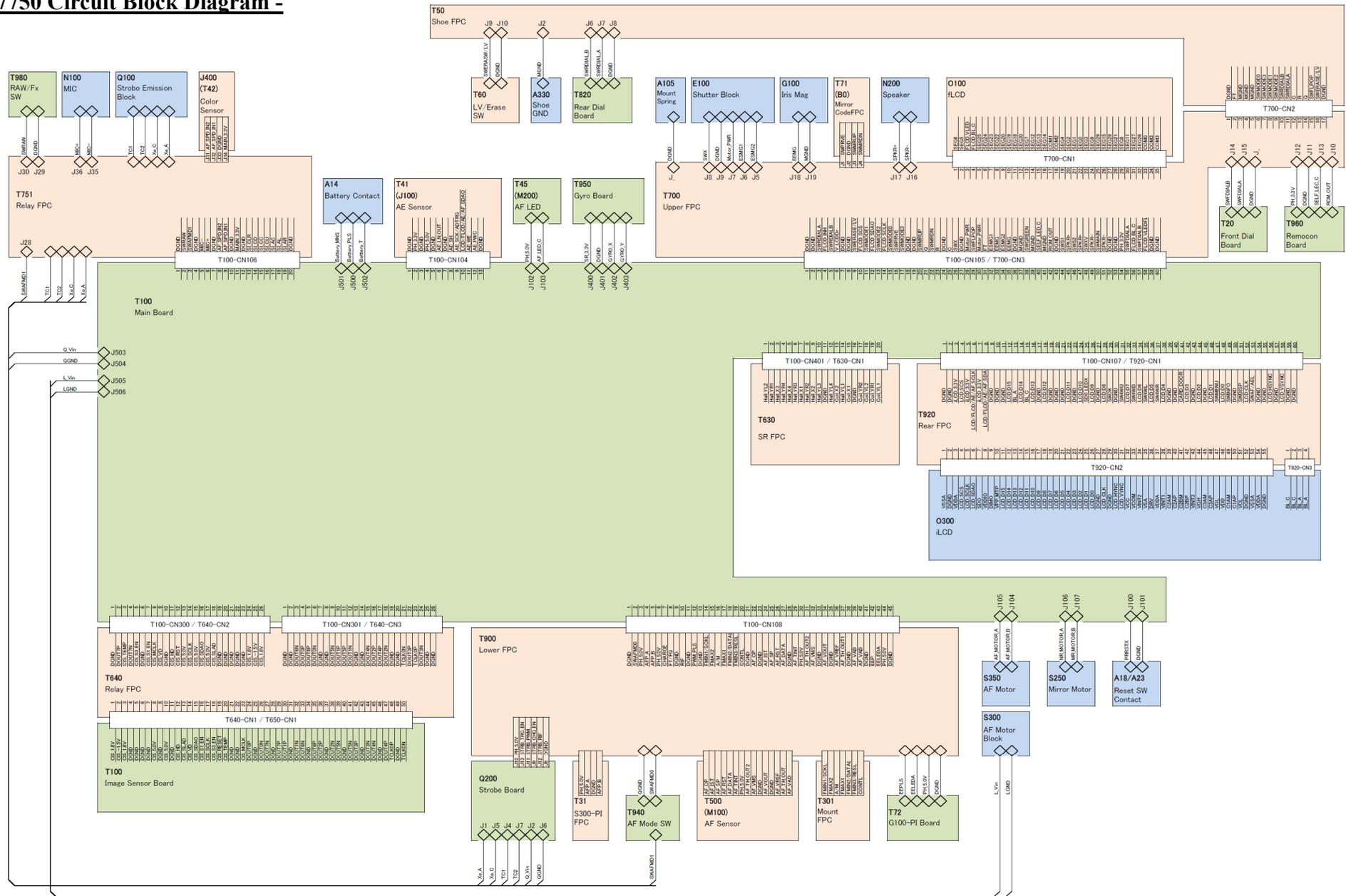
*1,2 included back-up battery charging current

*5,6 and 7 are peak value averages. Other value is average.

	Condition of camera	Lens	Card	Battery equivalent	Battery equivalent and AC equivalent
				DC6.0V	DC8.4V
1	Main SW/OFF	○	×	100 μ A	100 μ A
		○	○	100 μ A	100 μ A
		×	×	100 μ A	100 μ A
2	After auto power OFF	○	×	100 μ A	100 μ A
		×	×	100 μ A	100 μ A
3	Meter OFF (I-LCD:ON)	○	×	500mA	500mA
		○	○	500mA	500mA
		×	×	500mA	500mA
4	Meter ON	○	×	600mA	500mA
		○	○	600mA	500mA
5	Charging Flash (Meter ON)	○	×	3,200mA	2,800mA
6-1	Driving AF motor (phase difference AF)	○	×	2,800mA	3,000mA
		SDM	×	1,600mA	1,400mA
6-2	Driving AF motor (Contrast AF)	○	×	2,800mA	3,000mA
		SDM	×	2,000mA	1,600mA
7	Releasing shutter	○	×	2,800mA	3,000mA
		○	○	2,800mA	3,000mA
8	Recording image after release the shutter	○	○	600mA	600mA
9	Bulb	○	×	600mA	500mA
		○	○	600mA	500mA
10	Displaying menu (Meter:ON,I-LCD:ON)	○	×	600mA	500mA
11	Displaying menu (Meter:ON,Video output:ON, -LCD:ON)	○	×	600mA	500mA
12-1	Displaying playback image(Meter:ON)	○	○	600mA	500mA
12-2	Displaying playback image(Meter:OFF)	○	○	500mA	400mA
13	Reading playback image in the card	○	○	600mA	500mA
14	Stand by for USB communication	○	○	400mA	400mA

15	Reading playback image in the card with USB communication	○	○	400mA	400mA
16	During Live view	○	○	800mA	700mA
17	Stand by for Movie	○	×	900mA	800mA
18	Recording Movie	○	○	1,000mA	800mA
19	Playback Movie	○	○	600mA	500mA

77750 Circuit Block Diagram -



Information of Jigs, Tools and Testers for 77750

Order No. _____

* Exclusive use for 77750 (K-50)

Program soft for 77750 K-50 (For SLR/digital/SR)

No.95901-P426

For 77420 (K-r)

DC coupler D-DC109 (Battery level adjustment/ Battery consumption check)

Provide locally

*When adjusting battery level, affix insulation tape on Battery adaptor.

For 77170 (K-2000)

Temporary bottom cover (For M100 adjustment, Handmade)

2 SD card (32MB or above)

(For FW, test shooting --- Recommend 512MB or above)

◆DC coupler and DC code



For 76830 (K-10D)

K10D Master body for calibration

Ricoh imaging will send the master body. Please contact with us.

F5.6 Set plate for D20 (95901 D20)

--- ***If you have D20-01, you do not need set plate.**

F5.6 Set plate A (For Lens ID No.101~130)

No. 95901-D27-00A

F5.6 Set plate B (For Lens ID No.1~99)

No.95901-D27-00B

DC code (connect with power supply or DC adaptor, Battery consumption check)

No.95901-D25

For 76700 (K100D)

76700 SR adjusting Jig (required AC100V)

No.95901-J140

[Caution] If your area is not 100V, you must provide transformer at locally.

76700 SR unit adjusting base

No.95901-J141

SR gain chart (The same as K100D)

AC adaptor kit (D-AC76 (-AC10), AC cable)

***Others --- Common with 76700 (K100D)**

(Refer to service manual for 76700)

Cut off A150, A401



Prepare temporary bottom cover

Equipment: A150 (front cover), A401 (Bottom cover)

For M100 adjustment

Handmade