

English Edition

SERVICE MANUAL

By Portable Document Format

SPEEDLITE 580EX II
C50-0811

CY8-1201-307E

PREFACE

General

Technical

Repair

Adjustments

Parts Catalog

Circuit Diagrams

To CP-E4

To SB-E2

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SPEEDLITE 580EX II

REF. NO.C50-0811

SERVICE MANUAL

PREFACE

This manual contains the information necessary for servicing this product. It consist of the following sections.

General Information

Provides the basic information necessary to understand the product. (Operating instructions are not included. Refer to the product's instruction book if necessary.)

Technical Information

Provides technical information about the mechanisms and electronics of the product.

Repair Information

Provides information about disassembly, reassembly and mechanical adjustments, as well as Information about tools and expendables required their use.

Adjustments

Provides information about adjustment items and procedures, as well as tools to be used.

Parts Catalog

Circuit Diagrams

General Information

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CONTENTS

	Page
General Information	
1. DEVELOPMENT OBJECTIVES.....	1
1.1 Development Objectives.....	1
1.2 Development Concepts.....	1
2. OVERVIEW.....	2
3. FEATURES	8
3.1 Improved Reliability and Features for Professionals.....	8
3.2 New Design and Easier to Use	8
3.3 580EX's High-end Features Retained.....	9
4. NOMENCLATURE.....	10
5. SPECIFICATIONS	12
5.1 Specifications	12
5.2 Custom Functions	13
6. FEATURE AVAILABILITY WITH 580EX II + EOS.....	14

1. DEVELOPMENT OBJECTIVES

1.1 Development Objectives

While based on the 580EX, the 580EX II has been developed as the flagship Speedlite for pros. It features improved dust and water resistance to match the EOS-1D Mark III's system, a mounting foot made of metal for better strength, and improved reliability of the direct contacts.

1.2 Development Concepts

<Flagship Speedlite Featuring Professional Specs and High Reliability>

● Improved Reliability and Features for Pros

- Dust- and water-resistant as with the EOS-1D Mark III
- Dust- and water-resistant external power pack and Off-Camera Shoe Cord
- Improved reliability of communications through the direct contacts
- Shorter recycling time
- Safety measures against non-Canon external power packs
- Silent recycling
- External metering sensor

● New Design and Improved Operation Ease

- New design to match the EOS-1D Mark III
- Quick attachment and new locking lever
- Battery compartment cover easier to open and close
- Speedlite control with the EOS-1D Mark III's mer

● Retains the 580EX's excellent basic features



Fig. 001 Exterior View

2. OVERVIEW

While based on the 580EX, the 580EX II has been developed as the flagship Speedlite with pro specifications compatible with D-SLRs. The Guide No. is 58/190 (105mm, at ISO 100 in meters/feet). It is compatible with E-TTL II/E-TTL autoflash and has a wireless transmitter. The major specifications are compared with the 580EX below.

Table 001 Comparison of 580EX II and 580EX

Shaded cells indicate superior specifications.

↓ Item / Model→			580EX II	580EX
Max. Guide No. (ISO 100, in meters/feet)			58/190 (105mm)	
Autozoom Range			24 - 105mm	
Max. Coverage with Built-in Wide Panel (mm)			14	
Autozoom control for image size			●	
Flash Mode	Normal flash		E-TTLII/E-TTL/TTL	
	FP flash		●	
	Manual flash	Output	1/1 - 1/128	
		Increment	1/3 stop	
	Stroboscopic flash	Output	1/4 - 1/128	
		Frequency	1 - 199Hz	
Firing Features	FE Lock		●	
	Flash Exposure Compensation		●	
	FEB		●	
	2nd-curtain Sync		●	
	Color Temperature Information Transmission		●	
Wireless	Transmitter		●	
	Slave		●	
Bounce	Bounce Angle	Up	45 60 75 90°	
		Down	7°	
		Left	60 75 90 120 150 180°	
		Right	60 75 90 120 150 180°	
AF assist Beam	Linkable to the center AF point and 45-point Area AF		●	
Information Input	Method		Button + Dial	
	Custom Functions		14 (32 settings)	14 (28 settings)
	Camera-controlled Speedlite		●	—
Power Source	Internal Batteries	Battery	LR6 (HR6, FR6 also compatible)	
		Qty	4	
	Min. recycling time (with new LR6)		Approx. 3.7 sec.	Approx. 4.6 sec. (with latest batteries)
	Battery compartment cover lock		●	—
	Dust/water-resistant with external power pack		●	—
Reliability	Dust/water-resistant		●	—
	Mounting foot material		Metal	Mold
	Safety measures for non-Canon external power packs		●	—
Misc.	External metering (Auto, manual)		●	—
	PC terminal		●	—
	Dedicated bracket		●	—
Dimensions (W×H×D)			76×137×117 mm* 3.0×5.4×4.6 in* * Excluding the dust/water-resistant adapter	76×134×114 mm 3.0×5.3×4.5 in
Weight (Excluding batteries) (Approx.)			405 g/14.3 oz	375 g/ 13.2 oz

Although the 580EX II inherits the 580EX's basic functions, its reliability and features have been improved to meet the high-end needs of professional photographers.

1) Improved Reliability and Features for Professionals

■EOS-1D Mark III's dust- and water-resistance

While retaining the 580EX's easy operation, the 580EX II attains the same high level of dust- and water-resistance as the EOS-1D Mark III. Details are explained below.

1. Exterior seams and joints, window edges, moving parts, and the control panel are sealed against dust and water.
2. Dust- and water-resistant battery compartment cover and external power pack terminal cover.

The battery compartment cover and external power pack terminal cover are lined with rubber O-rings for dust- and water-resistance.

3. Dust- and water-resistant adapter for mounting foot.

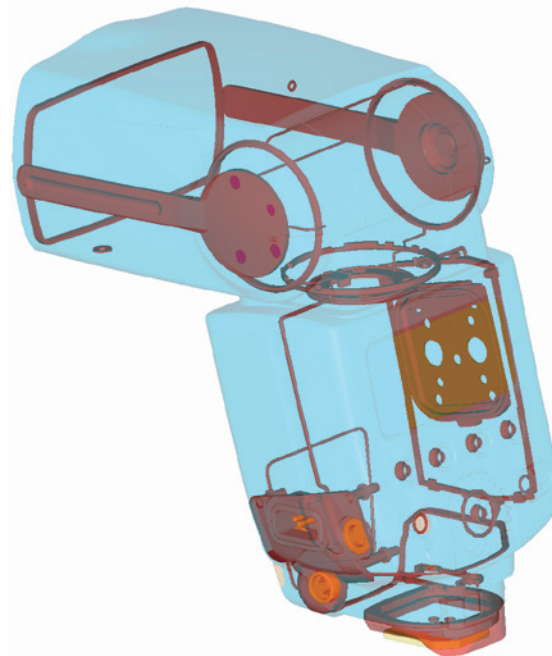
A dust- and water-resistant adapter for the mounting foot is provided. When attached to the new hot shoe of the EOS-1D Mark III and newer cameras, a high level of dust- and water-resistance is attained. Although this adapter can also be fitted on the hot shoe of older cameras, the dust- and water-resistance will not be so effective.

4. Sliding switch eliminated

Since sliding switches (power switch and wireless selector) make water seepage easier, they have been eliminated to improve dust- and water-resistance. The power switch is now shaped for better dust- and water-resistance. The wireless selector now operates with the ZOOM button and selection dial.

5. Dust- and water-resistant system

The external power pack (CP-E4) and Off-Camera Shoe Cord (OC-E3) to be marketed together with the 580EX II are also designed for dust- and water-resistance on par with the EOS-1D Mark III. Thus, the system as a whole is now dust- and water-resistant.



Seals indicated in Brown

Fig. 002 580EX II dust- and water-resistant parts

■ Improved reliability of direct contacts

1. Metal mounting foot

The mounting foot is now made of metal instead of molded plastic. With higher rigidity and less chance of breakage due to shock, the reliability is improved.

2. Improved communication reliability

In the past, there have been cases where the Speedlite's metallic contacts rubbed against the hot shoe's molded plastic as the Speedlite was attached to the camera. This generated dust which stuck onto the contacts and caused faulty connection and communications. The 580EX II's shape of the contacts has been changed to make the contact's surface smaller. The contact's torque has also been reduced. These countermeasures reduce the frictional dust generated with the EOS-1D Mark III's new hot shoe, and improve the connection and communications reliability.

■ Shorter recycling time

Thanks to an oscillator circuit whose frequency is controlled by a microcomputer, the flash recycling time is approx. 20% shorter than with the 580EX (approx. 4.6 sec. to approx. 3.7 sec.).

* With four new LR6 batteries. Right after the pilot lamp lit, the Speedlite was fired 10 times, and the time required for the pilot lamp to light again for the 11th flash was measured.

■ Safety measures against external power packs

If the external power pack terminal is connected to a power pack having 340 V or higher, the pilot lamp blinks as a warning and the circuitry is cut off. This prevents the Speedlite from damaging in case of 340 V or higher voltage is generated due to malfunction or alteration. Reliability is thus enhanced.

■ Silent recycling

Thanks to the oscillator circuit whose frequency is controlled by a microcomputer, the oscillation frequency is increased (70 KHz) beyond the hearing ability of humans. This makes the recycling sound inaudible.

* The hearing ability of humans ranges from 20 Hz to 20 KHz.

■ External metering sensor

An external metering sensor has been provided in response to pros who really wanted it.

1. 580EX II's external metering system

The 580EX II's external metering system works with the flash reflecting off the subject measured by the external metering sensor. In accordance with the ISO speed and aperture set for the Speedlite, the flash exposure is obtained in real-time. When the correct exposure level is attained, the flash is cut off. It is an orthodox system. The external metering sensor angle is approx. 20°.

2. External metering modes

Two modes are provided: Auto external metering and manual external metering. Auto external metering works with the EOS-1D Mark III and newer EOS digital cameras. The ISO speed and aperture information from the camera are sent to the Speedlite which then controls the flash output accordingly. Flash exposure compensation can also be set. Manual external metering can be used with all EOS SLR cameras. The ISO speed and aperture are entered to the Speedlite manually. However, flash exposure compensation cannot be set.

■PC terminal

A PC terminal has been newly provided. In case the mounting foot is broken, the Speedlite can still be used with the PC terminal connection (manual flash and manual external metering).

■Safety measures to prevent overheating

If the flash is repeatedly fired many times, it will be forced to wait for an interval of 8 seconds before it can be repeatedly fired again. If it is repeatedly fired many times again, the interval will be extended to 20 seconds. The extension of this forced extension of the flash interval serves to prevent the flash from overheating or deteriorating. This function will be activated in the following conditions. 1) When only the flash's batteries are used and the flash is fired 60 times continuously at the full output, 2) when the external battery pack is used and the flash is fired 40 times continuously at the full output. Since the above conditions are quite extreme, therefore, in normal use, this function will be rarely activated. In the 580EX II instruction manual, not to encourage the user to fire more than 20 consecutive flashes (as in the previous models), the conditions is stated as follows; "If you fire more than 20 continuous flashes and then fire more flashes in short intervals, the inner overheating prevention function may be activated...." . If this function is activated, it will return to normal after resting it for about 15 minutes. This function is also cleared if you set the power switch to OFF/ON, although it is not stated in the 580EX II instruction manual.

2) New Design and Easier Operation

■New design matching the EOS-1D Mark III

The Speedlite has been designed to optimally match the design of EOS-1 series digital cameras (EOS-1D Mark III). The shape and layout of the Speedlite controls have been optimized to convey the high reliability of this top-of-the-line Speedlite. An improved exterior and better materials for the controls give the Speedlite a luxury feel. The design also conveys an advanced and refined version of the 580EX.

■Quick attachment and new locking mechanism

The locking mechanism on the mounting foot has been changed from the conventional rotating collar to a quick-lock and quick-release lever. This makes it much easier to attach and detach the Speedlite. The new locking mechanism also has a lock-release button which prevents the lock from accidental release.

■Battery compartment cover easier to open and close

Instead of opening horizontally, the battery compartment cover now opens vertically as with the 430EX. The cover hinges are now metallic, with fixed hinges instead of the molded plastic hinges on the cover. This makes it smoother to open/close the cover and improves reliability. A locking mechanism is also provided to prevent accidental opening of the cover.

■Speedlite control with the EOS-1D Mark III's menu

When the 580EX II is attached to the EOS-1D Mark III, you can set the Speedlite function settings and Speedlite Custom Functions with the camera's menu. You can also cancel all the Speedlite Custom Function settings with the camera. However, if the flash exposure compensation is set with the Speedlite, you cannot set it with the camera. Except for the flash exposure compensation, if the settings are set with both the camera and the Speedlite, the last setting will be effective.



Fig. 003 EOS-1D Mark III's External Speedlite control menu

3) New Accessories

■CP-E4 (Dust/water-resistant external power pack)

Together with the 580EX II and EOS-1D Mark III, the dedicated external power pack is also dust/water-resistant. This makes the entire flash system dust/water-resistant. Other than the improved dust/water-resistance, the power pack's performance is the same as the previous Compact Battery Pack CP-E3.

When CP-E4 is used with 580EX II, flash interval and flash count are as follows (with size-AA alkaline batteries).

Flash interval: Approx. 0.1 to 1.2 sec.

Flash count: Approx. 440 to 3000 flashes

Dimensions (W×H×D): 71×171×26 mm/2.8×6.7×1.0 in.

Weight: 220 g/7.8 oz.



Fig. 004 CP-E4

■OC-E3 (Dust/water-resistant Off-Camera Shoe Cord)

Together with the 580EX II and EOS-1D Mark III, the Off-Camera Shoe Cord is also dust/water-resistant. This makes the entire flash system dust/water-resistant. Also, the OC-E3 employs the same quick-lock system on the mounting foot as the 580EX II. This improves reliability and operation ease.

Dimensions of camera end (W×H×D)*:

38×32×50 mm/1.5×1.3×2.0 in.

Dimensions of Speedlite end (W×H×D):

30×29×35 mm/1.2×1.1×1.4 in.

* Excluding the dust/water-resistant adapter.

Weight: 105 g/3.7 oz.



Fig. 005 OC-E3

■SB-E2 (Dust- and water-resistant bracket)

Updated model of SB-E1 which included the original Off-camera Shoe Cord. The bracket is now equipped with the new OC-E3 and it is now dust- and water-resistant, equivalent to EOS-1D Mark III.

Dimensions (W×H×D):

251×109.5×77.2 mm/9.88×4.31×3.04 in.

Weight: Approx. 295 g/10.4 oz

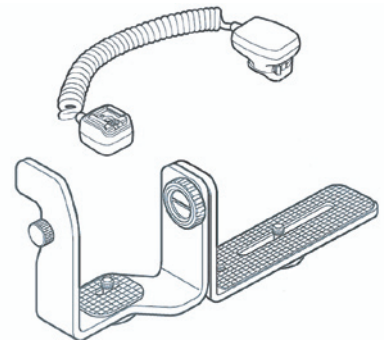


Fig. 006 SB-E2

3. FEATURES

3.1 Improved Reliability and Features for Professionals

- Same level of dust/water resistance as the EOS-1D Mark III
- Dust/water-resistant build also incorporated in the CP-E4 (external power pack), OC-E3 (Off-Camera Shoe Cord), and EOS-1D Mark III to make the whole system dust/water resistant
- Improved reliability of direct contacts
 1. Mounting foot now made of metal, 2. Improved connection reliability makes the direct contacts much more reliable.
- Shorter recycling time

20% shorter than with the 580EX (approx. 4.6 sec. to approx. 3.7 sec.).

* With four new LR6 batteries. Right after the pilot lamp lit, the Speedlite was fired 10 times, and the time required for the pilot lamp to light again for the 11th flash was measured.
- Safety measures against external power packs

If a power pack having 340 V or higher is connected, the circuitry is cut off to prevent damage to the Speedlite.
- Silent recycling

The recycling sound is inaudible. Good for places where you need to keep quiet.
- External metering

Provided in response to pros who really wanted it.
- PC terminal

In case the mounting foot is broken, the Speedlite can still be used (manual flash and manual external flash metering).

3.2 New Design and Easier to Use

- Since the design closely matches EOS-1 series digital cameras (EOS-1D Mark III), the system looks like a whole, integrated unit
- A new quick-lock lever makes it easier to attach and detach the Speedlite
- The battery compartment cover has been totally revamped to improve ease of use and reliability
- Speedlite function settings can be set with the EOS-1D Mark III's menu

When used with the EOS-1D Mark III, the Speedlite can be controlled with the camera's operation menus.

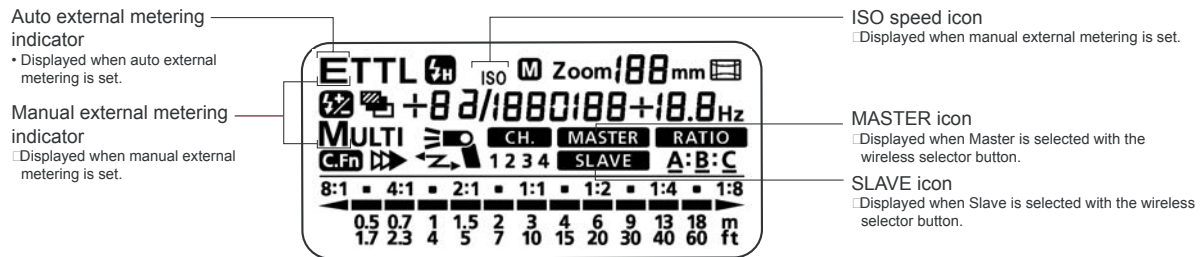
3.3 580EX's High-end Features Retained

- Maximum Guide No. 58/190 (105mm, at ISO 100 in meters/feet)
- Color temperature information transmission
 - The color temperature data is transmitted between the Speedlite and digital SLR camera.
 - The camera then sets the optimum white balance to minimize irregular colors.
- Autozoom control for image size
 - If the digital camera has an angle of view smaller than the full-frame 35mm-format, the Speedlite's autozoom will zoom to obtain the optimum flash coverage.
- AF-assist beam compatible with all EOS AF systems
 - The AF-assist beam is compatible with all EOS AF systems.
 - * Horizontal and vertical pattern emitted by three very bright LEDs.
- Built-in wide panel expands the flash coverage for 14mm wide-angle lenses
- E-TTL II/E-TTL autoflash
 - AF point-linked flash metering, preflash evaluative metering, high-speed sync (FP flash), and FE lock provided.
- Compatible with TTL autoflash
- Autozoom for 24-105mm lenses provided
- 1st- or 2nd-curtain sync can be set
- FEB (flash exposure bracketing) provided
- Wireless, multi-Speedlite control provided (master unit)
 - * Controls up to three groups of 580EX II, 580EX, 550EX, 430EX, or 420EX set as slave units.
 - AF point-linked, wireless, multi-Speedlite, E-TTL II/E-TTL autoflash.
 - Wireless, multi-Speedlite high-speed sync (FP flash)
 - Wireless, multi-Speedlite FE lock
 - Wireless, multi-Speedlite FEB
 - Wireless, multi-Speedlite manual flash
 - Wireless, multi-Speedlite stroboscopic flash
 - Flash ratio control with main and secondary flash units/groups (Flash ratio settable to one of 13 levels in 1/2-stop increments)
 - Wireless, multi-Speedlite shooting with Speedlite Transmitter ST-E2 (sold separately)
- Slave function
- Flash exposure compensation up to ± 3 stops in 1/3-stop increments
 - If the camera displays only 1/2-stop increments, the Speedlite adapts automatically to ± 3 stops in 1/2-stop increments.
 - If the camera can set flash exposure compensation, wireless flash exposure compensation can be controlled with the camera.
- Manual flash can be set to one of 22 output levels (1/1 - 1/128) in 1/3-stop increments.
 - Stroboscopic flash can be set to one of 41 frequencies (1 - 199 Hz).
- Auto power off provided

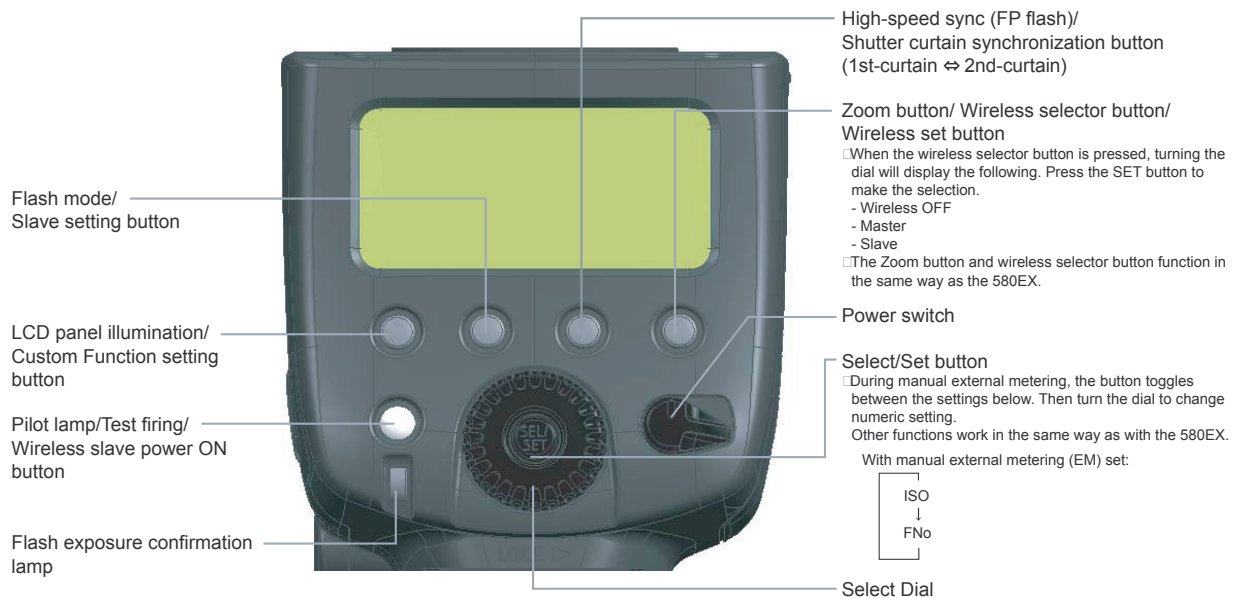
4. NOMENCLATURE



Fig. 007 Nomenclature (1)



* Other icons and displays are the same as with the 580EX.



* All other controls not explained here function in the same way as with the 580EX.

Fig. 008 Nomenclature (2)

5. SPECIFICATIONS

5.1 Specifications

Type	Type	On-camera, E-TTL II/E-TTL/TTL autoflash Speedlite
	Compatible cameras	Type-A EOS cameras (E-TTL II/E-TTL autoflash), Type-B EOS cameras (TTL autoflash)
	Guide No.	58/190 (at 105mm focal length)
	Flash coverage	24 - 105mm (14mm with wide panel)
	Flash duration	Normal flash: 1.2 ms or shorter, Quick flash: 2.3 ms or shorter
	Color temperature information transmission	Flash color temperature information transmitted to camera
Exposure Control	Exposure Control Type	E-TTL II/E-TTL/TTL autoflash, manual flash
	Flash range (with EF50mm f/1.4, ISO 100)	Normal flash: 0.5 - 30 m / 1.6 - 98.4 ft. Quick flash: 0.5 - 7.5 m / 1.6 - 24.6 ft. (min.) 0.5 - 21 m / 1.6 - 68.9 ft. (max.) High-speed sync: 0.5 - 15 m / 1.6 - 49.2 ft. (at 1/250 sec.)
	Flash exposure compensation	Manual, FEB: ± 3 stops in 1/3-stop increments (Manual and FEB can be combined)
	FE lock	With FE lock button or <*> button
	High-speed sync	Provided
	Stroboscopic flash	Provided (1 - 199 Hz)
	Flash exposure confirmation	Pilot lamp lights
Flash Recycling	Recycling time/ Flash-ready indicator	Normal Flash: Approx. 0.1 - 5 sec. / Red pilot lamp lights Quick Flash: Approx. 0.1 - 2.5 sec. / Green pilot lamp lights (with size-AA alkaline batteries)
Wireless Flash	Transmission method	Optical pulse
	Channels	4
	Wireless options	OFF, Master, and Slave
	Transmission range (Approx.)	Outdoors: 12 - 15 m / 39.4 - 49.2 ft., Indoors: 8 - 10 m / 26.2 - 32.8 ft. Reception angle: $\pm 40^\circ$ horizontal, $\pm 30^\circ$ vertical
	Controllable slave groups	3 (A, B, and C)
	Flash ratio control	8:1 - 1:1 - 1:8 in 1/2-stop increments (A : B)
	Slave-ready indicator	AF-assist beam blinks
	Modeling flash	Fired with camera's depth-of-field preview button
	Custom Functions	14 (32 settings)
Camera-controlled Speedlite		Enabled (with EOS-1D Mark III and newer digital SLR cameras)
AF-Assist Beam	Linkable AF points	1 - 45 AF points (28mm or longer focal length)
	Effective range	At center: 0.6 - 10 m / 2.0 - 32.8 ft., Periphery: 0.6 - 5 m / 2.0 - 16.4 ft.
Power Source	Internal power	Four size-AA alkaline * Size-AA Ni-MH or lithium batteries also possible
	Battery life (flash count)	Approx. 100 - 700 flashes (with size-AA alkaline batteries)
	Battery life (wireless transmissions)	Approx. 1500 transmissions (Master unit firing disabled, size-AA alkaline batteries)
	Power saving	Power off after a certain period of idle operation (approx. 1.5 min. to 15 min.) (60 min. if set as slave)
External power sources		CP-E3, CP-E4
Dimensions (W×H×D)		76×137×117 mm/3.0×5.4×4.6 in. (Excluding dust/water-resistant adapter)
Weight (excluding batteries)		405 g/ 14.3 oz.

5.2 Custom Functions

Shaded cells indicate new features not found in the 580EX.

No.	Item	Setting No.	Setting Description
C.Fn-00	Distance indicator display	0	Meters (m)
		1	Feet (ft)
C.Fn-01	Auto power off	0	Enabled
		1	Disabled
C.Fn-02	Modeling flash	0	Enabled (DOF preview butt.)
		1	Enabled (Test firing butt.)
		2	Enabled (with both buttons)
		3	Disabled
C.Fn-03	FEB auto cancel	0	Enabled
		1	Disabled
C.Fn-04	FEB sequence	0	0→→→+
		1	→→0→+
C.Fn-05	Flash metering mode	0	E-TTL II/E-TTL
		1	TTL
		2	External metering : Auto
		3	External metering : Manual
C.Fn-06	Quickflash w/continuous shot	0	Disabled
		1	Enabled
C.Fn-07	Test firing with autoflash	0	1/32
		1	Full output
C.Fn-08	AF-assist beam firing	0	Enabled
		1	Disabled
C.Fn-09	Auto zoom for sensor size	0	Enabled
		1	Disabled
C.Fn-10	Slave auto power off timer	0	60 minutes
		1	10 minutes
C.Fn-11	Slave auto power off cancel	0	Within 8 hours
		1	Within 1 hour
C.Fn-12	Flash recycle w/exter. power	0	Flash and external power
		1	External power source
C.Fn-13	Flash exposure metering set.	0	Speedlite button and dial
		1	Speedlite dial only

6. FEATURE AVAILABILITY WITH 580EX II + EOS

Camera	Max. Sync Speed (sec.)					Flash Metering System			External metering		Wireless Flash		FP Flash	FE Lock	Flash Exposure Compensation		FEB	Flash Ratio Control	Modeling Flash	2nd-Curtain Sync	Image Size Zoom	Color Temperature Information Transmission
	1/90	1/125	1/200	1/250	1/500	E-TTLII	E-TTL	TTL	Auto	Manual	E-TTL	M/MULTI			580EX II	Camera						
EOS 650		●				×	×	●	×	●	×	●	×	×	×	×	×	×	×	×	×	×
EOS 630/600 RT 10 700 ELAN/100		●				×	×	●	×	●	×	○*1	×	×	○*2	×	○*2	×	○*2	×	×	×
EOS750 850		●				×	×	●	×	●	×	×	×	×	×	×	×	×	×	×	×	×
EOS-1 620				●		×	×	●	×	●	×	●	×	×	○*8	×	○*8	×	×	●	×	×
EOS REBEL/REBEL S/1000/1000F REBEL II/REBEL S II/1000N/1000FN	●					×	×	●	×	●	×	●	×	×	●	×	●	×	×	●	×	×
EOS 5/A2/A2E			●			×	×	●	×	●	×	●	×	×	●	●	●	×	×	●	×	×
EOS REBEL X/REBEL XS/500	●					×	×	●	×	●	×	●	×	×	●	×	●	×	×	●	×	×
EOS-1N/1N RS				●		×	×	●	×	●	×	●	×	×	●	●	●	×	×	●	×	×
EOS 5000/888	●					×	×	●	×	●	×	●	×	×	●	×	●	×	×	●	×	×
EOS ELAN II/ELAN IIE/50/50E		●				×	●	●*9	×	●	●*3	●	●	●	●	●	●	×	×	●	×	×
EOS REBEL G/500N	●					×	●	●*9	×	●	●*3	●	●	●	●	×	●	×	×	●	×	×
EOS IX			●			×	●	●*9	×	●	●*3	●	●	●	●	●	×	×	×	●	×	×
EOS IX Lite/IX7		●				×	●	●*9	×	●	●*3	●	●	●	●	×	●	×	×	●	×	×
EOS-3			●			×	●	●*9	×	●	●	●	●	●	●	●	●	●	●	●	×	×
EOS 3000/88	●					×	×	●	×	●	×	●	×	×	●	×	●	×	×	●	×	×
EOS REBEL 2000/300	●					×	●	●*9	×	●	●*3	●	●	●	●	×	●	×	×	●	×	×
EOS-IV				●		×	●	●*9	×	●	●	●	●	●	●	●	●	●	●	●	×	×
EOS ELAN 7 E/ELAN 7/30/33 ELAN 7 NE/ELAN 7N/30V/33V		●				○*5	●	●*9	×	●	●	●	●	●	●	●	●	●	●	●	×	×
EOS 3000N/66/REBEL XS N/REBEL G II	●					×	●	●*9	×	●	●*3	●	●	●	●	×	●	×	×	●	×	×
EOS REBEL Ti/300V	●					×	●	●*9	×	●	●	●	●	●	●	×	●	●	●	●	×	×
EOS REBEL K2/3000V	●					×	●	×	×	●	●	●	●	●	●	×	●	●	×	●	×	×
EOS D30 D60 10D			○*10			×	●	×	×	●	●	●	●	●	●	●	●	●	●	●	×	×
EOS DIGITAL REBEL/300D DIGITAL			●			×	●	×	×	●	●	●	●	●	●	×	●	●	●	●	×	×
EOS-1D					●	×	●	×	×	●	●	●	●	●	●	●	●	●	●	●	×	×
EOS-1Ds				●		×	●	×	×	●	●	●	●	●	●	●	●	●	●	●	×	×
EOS-1DMarkII/1DsMarkII/MarkII N/MarkIII, 20D/20Da				○*6		●	×	×	○*7	●	●	●	●	●	●	●	●	●	●	●	○*4*11	○*4
EOS DIGITAL REBEL XT/XTI, 350D/400D DIGITAL, 5D, 30D			●			●	×	×	×	●	●	●	●	●	●	●	●	●	●	●	●	●
EOS REBEL T2/300X		●				●	×	×	×	●	●	●	●	●	●	×	●	●	●	●	×	×

*1: With the EOS 700, the aperture will be fixed at f/5.6. *2: With the EOS 700, enabled with shutter speed-priority AE. *3: Single slave group control.

*4: Enabled with EOS-1D Mark II's firmware update. *5: E-TTL II with EOS ELAN 7 NE/ELAN 7N/30V/33V. *6: 1/300 sec. with EOS-1D Mark III. *7: Enabled only with EOS-1D Mark III.

*8: EOS-1 only. *9: With C.Fn 05-1. *10: 1/250 sec. with EOS 10D. *11: EOS-1Ds Mark II not compatible.

Table 002 Feature Availability with EOS camera

Technical Information

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CONTENTS

Technical Information	Page
1. SWITCHES	1
2. ICS & PDS.....	2
3. CIRCUIT DESCRIPTION	3
3.1 Power Source	3
3.2 Recharging.....	3
3.3 Flash-Ready Indicator.....	4
3.4 Camera Communications	5
3.5 AF-Assist Lamp ON/OFF.....	6
3.6 Zoom Control	7
3.7 EEPROM	7
3.8 SE Timer	8
3.9 Flash Firing Operations	8
3.10 Remote Control Reception Circuit (For Slave Units)	10
3.11 Wireless Communication, FP, TTL Flash, and External flash metering.....	11
3.12 Quick Charging Voltage Tripler Circuit	12
3.13 External Power Circuit	12

1. SWITCHES

NO.	Code	Name	Function
SW1	TEST	Test switch	Test firing button
SW2	UPB	Bounce switch	Detects bounce direction (vert. or horiz.)
SW3	DOWNB	7° downward shift switch	Detects 7° downward shift.
SW8	HSS	High Speed Synchro switch	Determines HSS timing
SW9	WP	Wide panel switch	Detects wide panel (WP) setting.
SW10	MODE	Mode switch	Selects the firing mode.
SW11	SEL	Select set switch	Selects and sets various controls.
SW12	ZOOM	Zoom switch	Zoom & Wireless Function setting button
SW13	LIGHT	Light switch	Illuminates the display panel/CF setting.
SW14	MAIN	Main switch	Power on/off and SE position setting.
DSW-1	Dial	Dial switch	DSW-1 - 4 set dial functions
DSW-2	Dial	Dial switch	DSW-1 - 4 set dial functions
DSW-3	Dial	Dial switch	DSW-1 - 4 set dial functions
DSW-4	Dial	Dial switch	DSW-1 - 4 set dial functions

2. ICS & PDS

1) IC

Ckt	Brd Symbol	Name	Function
A	IC107S	MPU	Overall Control
A	IC106S	Comparator IC	Controls signal comparisons
A	IC101S	EEPROM	Stores electrical adjustment settings.
A	IC102S	Metering IC	Flash output control
A	IC19	OR Gate	Remote control pulse shaping control
A	IC15	Step-up Voltage regulator	Generates a regulated 5.5V
A	IC16	Voltage regulator IC	Generates Digital VCC (4.8V)
A	IC17	Voltage regulator IC	Generates Analog E1 (4.8V)
A	IC4	Voltage-detector IC	Starts MPU according to VCC detection result.
A	IC18	Motor driver	Controls the zoom motor.
C	IC108S	Operation amp	Stabilizes the Area AF-assist light intensity.
B	IC304	NOR Gate	Gate control of converter FET
I	IC20	Analog switch	Switches optical sensor

2) PDs

Brd Symbol	Function
PD3	Pilot Lamp (Charge completion)
PD5	Flash Check Lamp
PD1	AF assist beam LED (Horizontal AF)
PD9	AF assist beam LED (Vertical AF)
PD2	AF assist beam LED (Area AF)
PD8	Remote Control Receptor Sensor
PD10	Flash control optical sensor
PD11	External flash metering sensor

3. CIRCUIT DESCRIPTION

3.1 Power Source

- (1) When the batteries are installed, BATT1 is input to IC16 through L4 and D40.
 - (2) When the D40 voltage output enters IC16, VCC is output from pin 1 and input to IC107S (MPU) pin 94.
 - (3) VCC is also input to IC4 (voltage-detection IC). If the voltage is 3.2V or higher, "H" is output to IC107S pin 90. With "H", IC107S becomes operational.
Due to C55, VCC steadily increases until it reaches 4.8V.
 - (4) When IC107S becomes operational and the Power SW is on, "L" is input to pin 116, pin 115 goes "H", and IC15, IC17, and RQ100S turn on.
 - (5) When IC17 turns on, VCC is supplied to IC108S (op amp), IC106S (comparator IC), IC102S (metering IC), IC101S (EEPROM), and other pull-up components.
 - (6) IC107S pin 114 goes "H". 2.5V of which the reference voltage of 3.2V from pin 30 of IC102S is applied across R326 and R325 passes through R108S, and the voltage goes into pin 1 of IC106S. From IC15 pin 1, 5.5V is output, passes through RQ25, divided into R156 and R157, and goes into pin 3 of IC106S. IC106S inputs are compared. If pin 1 of IC15 is at least 5V, IC107S pin 114 goes "H", the output from pin 4 of IC106S passes through TH2 and IC304 and controls FET6 and FET7 to start recharging.
 - (7) Since the converter holds pin 1 of IC15 above 5V, pin 1 of IC16 is kept at 4.8V.
 - (8) The standard voltage of IC102S pin 30 (3.2V) is supplied to pin 38, and 43 of IC107S.
- * Power SW does not perform operations (4) - (8) during power OFF and SE.

<Operation Sequence>

- (1) → (2) → Power switch on → (4) → (5) (6) (7) (8)

3.2 Recharging

(Recharging Start)

- (1) 2.5V output of which 3.2V reference voltage supplied by IC102S pin 30 is applied over R326 and R325 passes through R108S to pin 1 of IC106S. The voltage of IC15 pin 1 (normally 5.5V) passes through RQ25 to voltage divider R156 and R157. The result is supplied to pin 1 of IC106S (usually 2.75V). If IC106S pin 3 is higher than pin 1, an "L" output from pin 4 turns on RQ101S. When RQ101S turns on, the "H" output from IC107S of pin 114 as a power supply, FET6 and FET7 turn on alternately via TH2 and IC304.
- (2) FET6 and FET7 turn on by turns and T1 oscillates, then passes through D302, D303 and D304 to reach C14 (main capacitor) and passes through R28 to recharge C21 and C22 (trigger capacitors). If the main capacitor's voltage reaches 165V, IC107S pin 120 outputs "H" to RQ5, and Q36 turns on to make D305 and D306 conductive, and then transformer connection is switched from parallel to in series.
- (3) C14's recharging voltage is applied across R16/R17, and R18. The voltage goes into IC107S pin 47 (A/D Detection). Recharging continues until the input voltage reaches about 2.4V.
(An input voltage of 2.4V is equivalent to a charge of 330V on the main capacitor)
(Input voltage of 0.0125V is equivalent to 1.71V on the main capacitor.)

(Recharging Stop)

- (4) When the main capacitor's voltage becomes about 350V or higher, it passes through ZD2 and R203 and turns on Q34. CPU is reset to stop the recharging.
(This is a safety circuit that stops charging in case the MPU malfunctions.)
- (5) If any of the following conditions occurs, IC107S pin 114 outputs "L" turning off FET6 and FET7 to stop the recharging. Then if all of the following conditions are met, recharging starts again.

* IC107S pin 47 (A-D detection terminal) input voltage is 2.4V or higher (when it is lower than 2.3875V at the restart of recharging).

(Hysteresis = 0.0125V)

* IC106s pin 3 input voltage is 2.5V or lower.

(An input voltage of 2.5V is equivalent to a voltage of 5V at IC15 pin 3.)

* ZOOM is operating

* PD1, PD2 or PD9 (AF-assist light) is on.

* A flash is being fired.

(Prevents CPU misoperation due to a battery voltage decrease.)

<Operation Sequence>



(Recharging suspension due to heating)

If the temperature of B PCB (converter PCB) is 124 degrees or higher, divided voltage over the resistance value of TH2 (Posister) that becomes over 4.7ohm and R13 (4.7K ohm) makes input from pin 8 and 9 of IC304 become "L", and recharging will stop.

If the temperature of B PCB increases, recharging will restart automatically.

3.3 Flash-Ready Indicator

- (1) When IC107S pin 47 (A-D detection terminal) input voltage becomes 1.56V or higher, IC107S pin 12 is set to "H" and RQ28 green pilot lamp (PD3) is lit to indicate that quick flash is ready to fire.
When IC107S pin 47 (A-D detection terminal) input voltage becomes 1.96V or higher, IC107S pin 12 is set to "H" and PD3 (green) is turned off. IC107S pin 13 is set to "L" and the red pilot lamp (PD3) is lit.
- (2) When IC107S pin 47 (A-D detection terminal) input voltage becomes 1.94V or lower, IC107S pin 13 is set to "H" and PD3 (red) is turned off.
(An input voltage of 1.94V is equivalent to 266.6V on the main capacitor.)

<Operation Sequence>

(1) → (2)

3.4 Camera Communications

1) X-sync Terminal Circuit

- (1) When X becomes "L," RQ9 turns on via D106S and R328.
- (2) When RQ9 turns on, IC107 pin 100 goes "H." and flash firing begins at the leading edge of "H."
- (3) When the TEST SW (Test firing button) is pressed, RQ 19 turns on and IC107 pin 117 becomes "H."
- (4) When PC terminal is short-circuited by something like a slave sensor, RQ9 turns on via D301, C302 and R306 and flash firing begins.

<Operation Sequence>

- (1) (3) (4) → (2)

2) STSPC Terminal Circuit (Communications Sync Terminal for Camera and Speedlite)

- (1) The input of STSPC is input to IC102S pin 25, and is compared with IC102S internal reference voltage (2.6V).
- (2) If the input voltage of STSPC is less than 2.6V, "L" is output to IC102S pin 13. If it is 2.6V or more, "H" is output. Communications from the camera to the flash are synchronized by IC107S pin 16 by these "L" and "H" states.
Firing is started by 107S pin 99 at the falling edge of "L".
- (3) The input of STSPC is input to IC102S pin 25, and is compared with IC102S internal reference voltage (0.3V).
- (4) If the input voltage of STSPC is less than 0.3V, "L" is output to IC102S pin 14. If it is 0.3V or more, "H" is output. Firing in the TTL mode is controlled by IC107S pin 53 by these "L" and "H" states.

<Operation Sequence>

- (1) → (2), (3) → (4)

3) AVEF Terminal Circuit (Speedlite to Camera Transmission Terminal)

- (1) AVEF is clock-synchronized to STSPC on the flash to camera communications line to output the "L" and "H" states from IC107S pin 15.
- (2) When "H" is output from IC107S pin 15, it enters IC102S pin 24, and is then output to the AVEFI terminal via IC102S pin 23. When "L" is output from IC107S pin 15, it enters IC102S pin 24, and is then output to the AVEFI terminal via IC102S pin 23.

<Operation Sequence>

- (1) → (2)

4) EFIDO Terminal Circuit (Camera to Speedlite Transmission Terminal)

- (1) EFIDO is input to IC102S pin 26, and is compared with the IC102S internal reference voltage (2.6V).
- (2) If the input voltage of EFIDO is less than 2.6V, "L" is output to IC102S pin 15, and "L" is input to IC107S pin 14. If it is 2.6V or more, "H" is output, and IC107S recognizes this signal as a serial input data and commands from the camera.
- (3) EFIDO is input to IC102S pin 26. If the input is "H", "L" is output to IC102S pin 22 and the AVEFI signal is selected to IC102S pin 23. (AVEFI can be output.)
If input of EFIDO is "L", "H" is output to IC102S pin 22, and "L" is output to IC102S pin 23. (AVEFI cannot be output).

<Operation Sequence>

- (1) → (2), (3)

5) CCC Terminal Circuit (AF LED [Focus-Assist] ON/OFF)

- (1) When CCC's output is "H", it passes through R87 and turns on Q23. Also, it passes through R88 to IC107S pin 49 (A-D detection terminal). When CCC's output is "L", Q23 turns off.
- (2) When Q23 is on, IC102S pin 22 turns off and AVEFI output is enabled.
When Q23 is off, IC102S pin 22 turns on and AVEFI output is disabled.
- (3) When "H" is output from IC107S pin 4, RQ11 turns on. When pin 4 is "L", RQ11 turns off.
- (4) If RQ11 is on, R84's current flows from CCC.

<Operation Sequence>

- (1) → (2), (3) → (4)

3.5 AF-Assist Lamp ON/OFF

- (1) When the camera requires the AF-assist light, 2.2V or higher voltage is input from the CCC terminal. It passes through R88 and enters IC107S pin 49 (A-D detection terminal). (A pulse signal is sent from the CCC. This is repeated up to 10 times until AF is achieved.)
- (2) If the camera's focusing point is set to the center focusing point, IC107S pin 3 is set to "H" and RQ8 (L), RQ106S, and RQ103S are turned on to turn on the AF-assist lamp (PDI). If the EOS-3's Area AF is used, IC107S pin 2 is set to "H" and RQ8 (R), RQ 16, Q4 and RQ31 are turned on to turn on the AF-assist lamps (PD2, PD9) corresponding to the active focusing point.
(If CCC is lower than 2.2V, IC107S pins 2 and 3 are set to "L" and RQ8 (L&R) turns off.)
IC108S and R132S stabilize the current going to PD1. Also, the current going to PD2 and PD9 is stabilized by operation amp IC108S, R4 and R5.
- (3) In wireless slave mode, IC107S pin 95 is set to H, RQ22 turns off, IC108S pin 3 is set to 0.1V, and the current through PD1 is set to 100mA.

<Operation Sequence>

- (1) → (2) → (3)

3.6 Zoom Control

- (1) The focal length information from the camera is input through the EFIDO terminal.
- (2) If the focal length has changed, the focal length is displayed on the LCD panel and output from either pin 5, 6 or 7 of IC107S and input to either pin 2, 3, or 4 of IC18.
- (3) This input causes a change at pins 7-10 which causes the stepping motor to move the flash head accordingly.
- (4) This movement is based on the timing when pin 102 of IC107S detected the signal of Photo-interrupter P301.
- (5) The motor runs until the focal length information from the camera matches the stepping motor position.
- (6) Q35 is a voltage regulator and the output (constant 4V) is supplied to IC18. Q35 output is constantly approx. 4V. It is input to pin 1 of IC18 and is supplied via an internal bridge to pins 7-10 and input to the motor.
- (7) The signal from IC107S pin 7 to IC18 pin 3 turns on IC18 establishing the reference voltage.

* Flash coverage is set automatically. If bounce flash is set, flash coverage is set to 50mm and the zoom display on the LCD will show --mm. During bounce flash, the focal length information from the camera is ignored (flash coverage is fixed at 50mm).

Flash coverage can also be set manually. If it is set manually, the "M" icon and the set focal length will be displayed on the LCD.

* When there is no signal of P301 for the initial position detection of the stepping motor, a zoom error declared --mm is displayed and the stepping motor is stopped. The stepping motor is referenced by the P301 signal when power is turned on and zoom operated 20 times.

<Operation Sequence>

(1) → (2) → (3) → (4) → (5), (6), (7)

3.7 EEPROM

- (1) IC107S communicates with the EEPROM only in the following cases: After the power turns on immediately after IC107S is reset, after the SE mode is canceled, and when data is to be modified. The data in EEPROM is written and read.
- (2) The clock line of IC107S pin 37 is used for the synchronization of the reading and writing of EEPROM data.
- (3) IC107S pin 35 and pin 36 line is used to read and write EEPROM data.

<Operation Sequence>

(1) → (2) (3)

3.8 SE Timer

- (1) With the wireless mode set to OFF or MASTER, if no operation is executed for about 90 seconds (Maximum 15 minutes, if it is overheated) after the Power SW is turned on, IC107S pin 115 becomes "L" and IC15, IC17 and RQ100S turn off to cut off the power source. This also occurs when the no-operation-time is 60 seconds with the wireless mode set to SLAVE.
- (2) When IC107S pin 114 goes off, oscillation stops.
- (3) The Speedlite restarts (SE mode canceled) when the test button (TEST SW) is pressed or when there is a signal (CCC and EFIDO terminal is "H") from the camera. This inputs an "L" to IC107S pin 117 and pin 14.
- (4) IC107S pin 115 thereby goes "H" and the Speedlite restarts.

<Operation Sequence>

(1) → (2) → (3) → (4)

3.9 Flash Firing Operations

1) Trigger output

Trigger output is executed when the Speedlite is fully recharged and the flash is fired with the test firing button (TEST SW) or with a firing command from the camera.

- (1) With the firing command, "H" is output from IC107S pin 10.
- (2) This signal turns on SCRI, and C21 starts to discharge.
- (3) The voltage stepped up by T2 is applied to Xe. (Trigger voltage)
- (4) Also, with the firing command, "H" is output from IC107S pin 112, Q 18 turns on and Q17 turns on.
- (5) When Q17 turns on, the 30V is generated by Q20, Q 19, and ZD3 passes through Q15 and it is applied to IT1's gate. IT1 thereby turns on.
- (6) When IT1 turns on, Xe discharged electric current passes.

<Operation Sequence>

(1) → (2) → (3)  (4) → (5) → (6)

2) Flat Firing (Preflash, Main Flat Firing)

The preflash fires at the preflash command from the camera regardless of whether bounce flash has been set.

- (1) By the firing instruction from the camera, serial data communications using IC107S pin 57 (chip select), pin 58 (chip select), pin 37 (clock sync) and pin 36 (command data) start, and serial data is sent respectively to IC102S pin 7 (chip select), pin 8 (chip select), pin 10 (clock sync) and pin 9 (command data).
- (2) Serial data (firing control value (A/D converter voltage), firing command) is sent to IC102S from IC107S according to the firing wave height value data from the camera and the firing mode (regular (no firing), flat firing, flash firing, TTL firing). Also, "H" is output to IC107S pin 56, and input to IC102S pin 11.
- (3) If "L" outputs from IC107 pin 41, the voltage corresponding to the firing intensity in the flat firing mode is generated at pin 31 by the PD10 metering sensor selected in IC20.
- (4) That voltage is compared with the firing control value (A/D converter voltage). If the voltage is lower than the internal reference voltage (1.6V), "H" is output to IC102S pin 17. If it is higher, "L" is output.

- (5) If that output signal is "H", FET1 turns ON, and Q8 turns on turn IT1 ON.
As a result, Xe1 fires, If that output signal is "L", FET1 turns OFF, Q16 turns ON and IT1 turns OFF to stop firing.

<Operation Sequence>

(1), (2)

(3) → (4) → (5)

↑

Repeated for the time indicated from the camera (flat firing)

3) Flash Firing

- (6) If "L" outputs from IC107pin 41, the voltage corresponding to the firing intensity in the flash firing mode is generated at the IC102S internal integration circuit by the metering sensor selected by IC20. (ABOUT)
- (7) That voltage is compared with the firing control value (A/D converter voltage). If the voltage is lower, "H" is output to IC102S pin 17. If it is higher, "L" is output. Either of "H" or "L" is input to IC107S pin 46 (A/D detection terminal), and the firing integrated value is checked internally by IC107S.

<Operation Sequence>

(1), (2)

(6) → (7) → (5)

4) TTL Firing

- (8) The signal (STSPC input) from the camera is input to IC102S pin 25 and the firing is turned on or off. It is input also into pins 16 and 99 of IC107S from IC102S pin 13, and "H" and "L" of STSPC are checked.
- (9) If STSPC becomes "H" within 4 ms after the flash fires, PD5 is turned on for 3 seconds. (Flash exposure confirmation)

<Operation Sequence>

(1), (2)

(8) → (5) → (9)

5) External Flash Metering

- (10) If IC107S outputs "H", voltage corresponding to the signals (reflected light from subjects) from optical sensor of PD11 selected by IC20 is generated in integrating circuit inside IC102S.
- (11) That voltage is compared with the firing control value (A/D converter voltage). If the voltage is lower, "H" is output to IC102S pin 17. If it is higher, "L" is output. Either of "H" or "L" is input to IC107S pin 46 (A/D detection terminal), and the firing integrated value is checked internally by IC107S.

<Operation Sequence>

(1), (2)

(10) → (11) → (5)

3.10 Remote Control Reception Circuit (For Slave Units)

- (1) When the Speedlite 580EX II is set as a slave unit, IC107S pin 95 is set to "L" and RQ105S is turned on to supply VCC to the remote control reception circuit.
- (2) When supplied with VCC, Q25 turns on. When light hits sensor element PD8, it passes through RQ25 and an optical current corresponding to the light amount received goes to PD8. (Constant light)
- (3) At this time, the light pulse transmitted from the master flash reduces the current flowing to PD8. That is, the current which flowed from anode to cathode at PD8 and was applied as bias to the base of Q27 through C47, causing the collector of Q27 to conduct and turn on through R135 through C49 turning Q29 OFF. Then, the current of R136 turns on Q30 through C50, turns off RQ15, and sets pin 1 of IC19 to "H". The minimum pulses at C88/R205 is amplified, and input into pin 101 of IC107S.
- (4) Based on this signal, IC107S analyze wireless communication and controls flash mode output in accordance with the commands from the master unit.

3.11 Wireless Communication, FP, TTL Flash, and External flash metering

- (1) For FP "Flat Firing" an inductance of about $60\ \mu\text{H}$ is necessary, so for flat firing IC107S pin 118 goes low, turning off BRC1 and SCR2 and placing both L2 and L3, a total of $60\ \mu\text{H}$, in series with the Xenon tube.
- (2) For ordinary M flash, wireless communication flash pulses and external flash metering firing, IC107S pin 118 goes high turning RQ30, and RQ33 on which turns BCR1 and SCR2 on. At the same time RQ31 turns IT1's 30V on.
- (3) When SCR2 is on the circuit is through L2 ($30\ \mu\text{H}$), and SCR2, bypassing L3 ($30\ \mu\text{H}$), so the total inductance is only 30mH.

The reasons for this circuit are as follows:

- When using ordinary TTL, with an inductance of $60\ \mu\text{H}$ the extra energy in the coil makes it difficult to cut off the Xenon tube quickly, resulting in a longer than necessary flash and overexposure.

The Speedlite 380 and 220EX have a single $60\ \mu\text{H}$ coil. Precedence is given to flat firing at the expense of TTL operation. (Since E-TTL is basically manual flash, compensation is made within the flash.)

The Speedlite 580EX II will likely be used with the EOS-1N in TTL mode so performance must be maintained at the same level as the Speedlite 540EZ which has a 30mH coil.

The dual 30mH coil design makes this possible.

- In E-TTL compensation could be made using $60\ \mu\text{H}$, as in the Speedlite 380 and 220EX, at a small sacrifice in maximum power (Guide No.), but the dual $30\ \mu\text{H}$ coil design makes this unnecessary.

Speedlite Coil Inductance

540EZ $30\ \mu\text{H}$

380/220EX $60\ \mu\text{H}$

550EX $30\ \mu\text{H} \times 2$

580EX $30\ \mu\text{H} \times 2$

580EX II $30\ \mu\text{H} \times 2$

- When used in the wireless communication mode, only one coil is used to keep the time constant as small as possible for short pulses.

3.12 Quick Charging Voltage Tripler Circuit

Quick Flash, which triples the main capacitor voltage operates as follows.

<Negative Tripler Flash Circuit>

- (1) The C22 capacitor multiplies the voltage to the flash circuit. It is charged along with the main capacitor C14.
It is charged from the top of C14 through R28 and D22W and connected to ground by D14.
- (2) When the Xenon lamp is triggered, IT1 is turned on through SCR1 and IT1. This effectively puts the plus side of C22 at ground level which places the minus end at a minus voltage equivalent to the main capacitors positive voltage.
- (3) At this time the base of Q14 is connected through R40 and the emitter is connected directly to the minus side of C22 turning on Q14.
- (4) With Q14 on, the (+) side of C88W becomes a negative voltage.
- (5) Because the same voltage as the main capacitor is charged to C88W beforehand through R28 and D29W, the (-) side of C88W becomes twice the negative voltage.
The voltage is applied to the negative terminal of the Xe lamp through Q24W, R139W, and R32W.
Therefore, a voltage three times the main capacitor voltage will be applied to the Xe tube.

3.13 External Power Circuit

- (1) Recharging by external power
During regular operation, 4.8V from E1 power is output to SHE through R1, which activates the external power converter. If pin 113 of IC107S outputs, FET5 turns on, FET4 turns on through R310 and R309, and then recharging by the external power starts. If output from pin 113 of SHE and IC107S is set to "L" at the time of power-off or reset so external power is being blocked off.
- (2) Detecting operation
If pin 51(A/D detection terminal) of IC107S detects the external power that has been applied across R113S, R114S, R118S and R115, voltage regulation setting (detected from pin 47 of IC107S) for the main capacitor is switched from 330V to 320V.
- (3) Operation when abnormal voltage is detected
If pin 51(A/D detection terminal) of IC107S detects the external power that has been applied across R113S, R114S, R118S and R115 and also voltage detected from the main capacitor (detected from pin 47 of IC107S) is 340V or higher, output from pin 113 of IC107S is set to "L", FET4 turns off, and external power is blocked off.

Repair Information

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CONTENTS

Repair Information	Page
1. REPAIR PREPARATIONS	1
1.1 Discharge the Main Capacitor.....	1
1.2 Electrostatic Damage	2
1.3 Waterproofing	2
1.4 Expendables	2
2. DISASSEMBLY AND REASSEMBLY	3
2.1 Front Cover Ass'y Disassembly	3
2.2 Rear Cover Ass'y Disassembly.....	10
2.3 Flash Head Disassembly	13
2.4 Flash Head Ass'y Disassembly.....	20
2.5 Wide Panel Ass'y Disassembly	22
2.6 Battery Case Ass'y Disassembly	24

1. REPAIR PREPARATIONS

Important! Read this before starting repairs.

1.1 Discharge the Main Capacitor

The Speedlite's main capacitor holds a maximum of 330V. Even after the flash is fired at full power, the capacitor still retains 70V to 90V. Before disassembly, be sure to discharge the main capacitor.

1. Set the flash head to the normal position (bounce angle 0). (Fig. 001)
2. Remove both the Side Cover (A) on the Pivot Ass'y release button side and the double-sided tape.

CAUTION Do not lose the lock pin.



Fig. 001 Position of the lock pin

3. There is a plus terminal of the main capacitor shown as a red dot. Use a discharging resistor of about 500 ohm and 10w to discharge by short-circuiting this terminal and a plate of the mounting foot. (Fig. 002)

CAUTION When discharging, attach one end of the discharger to the plate of the mounting foot first, and then connect another end to the plus terminal of the main capacitor. Do not touch the contacts to the camera of the mounting foot.

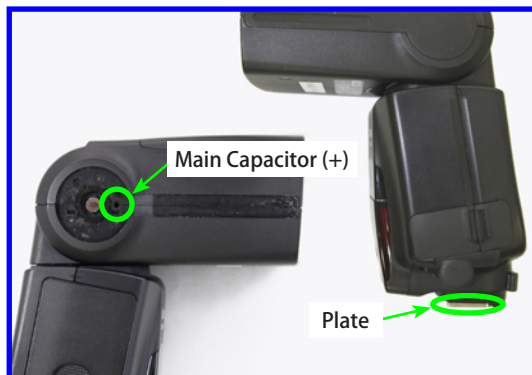


Fig. 002 Discharging Points

1.2 Electrostatic Damage

Static electricity, generated by the rubbing of your clothing, can cause an electric charge to accumulate on your body.

Static electricity can damage electrical components and change their electrical characteristics.

CAUTION Be sure to protect electronic elements from electrostatic damage.

Before servicing a product, take adequate measures, such as touching metallic objects, to release static electricity accumulated on your body.

1.3 Waterproofing

To maintain waterproofing, make sure that dust and dirt are not stuck to the packing or the O ring and that they are not twisted.

1.4 Expendables

New	Expendable Name	Part No.	Purpose
	TAPE (No.31B)	CY9-4029-000	Fixing Fiber Wire, Temperature Fuse insulation
	GREASE SJF102	CY9-8100-000	On the power SW pattern side of the PCB Ass'y (A).
	GREASE FLX-2	CY9-8114-000	Waterproof connector
	BOND SUPER X 8008	CY9-8118-000	Fiber Wire adhesive
	GREASE G-177	CY9-8132-000	Lubricate mechanical part

Apply materials as lightly as possible unless instructed otherwise.

2. DISASSEMBLY AND REASSEMBLY

2.1 Front Cover Ass'y Disassembly

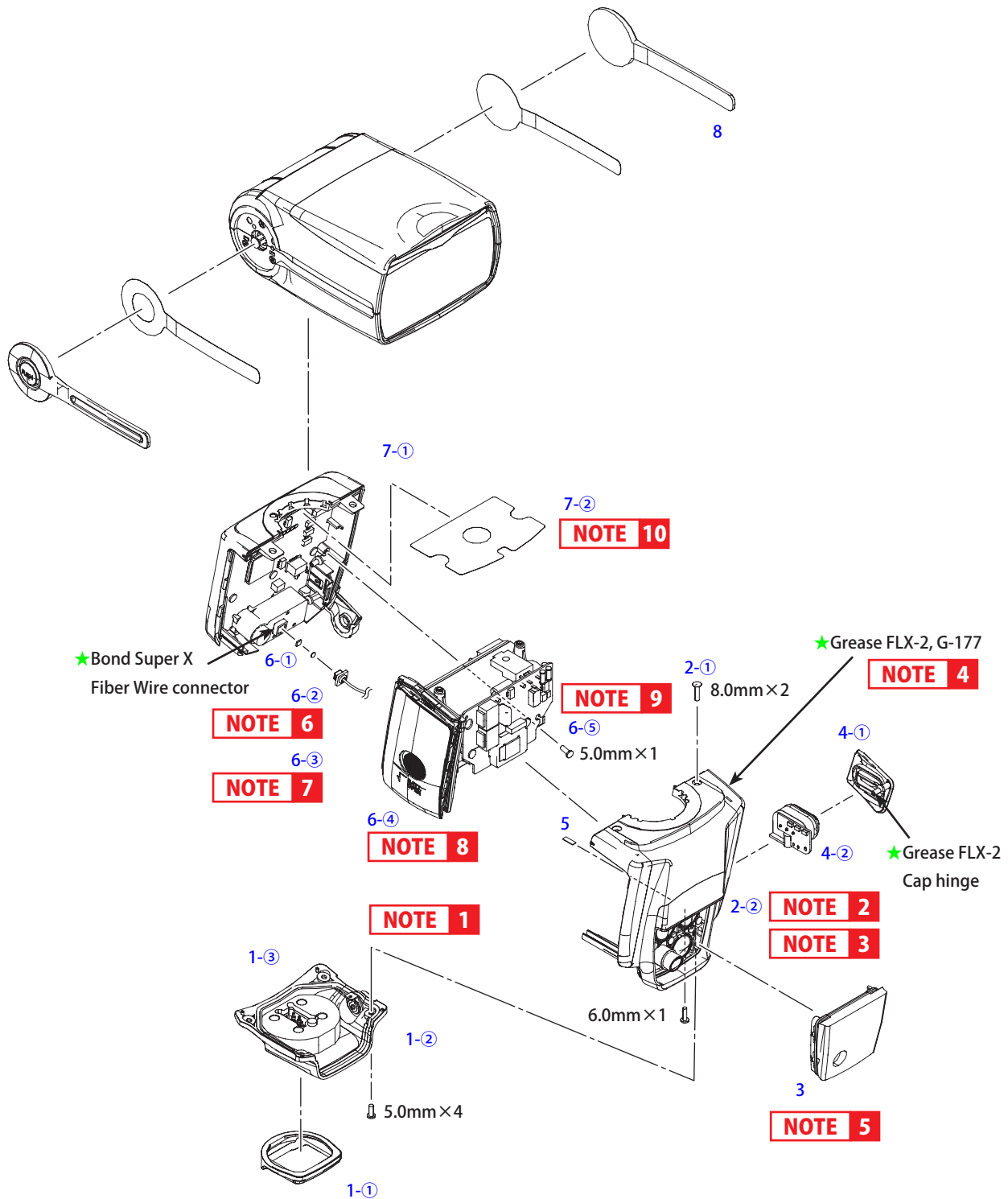


Fig. 003 Front Cover Ass'y Disassembly

<Disassembly and Reassembly Notes>

1. Accessory Shoe Case Ass'y removal

- ① Unscrew the 4 screws to remove the Accessory Shoe Cover.
- ② Lift the PC Terminal cap and detach the Accessory Shoe Case Ass'y.
- ③ Remove the connector. (Fig. 004)

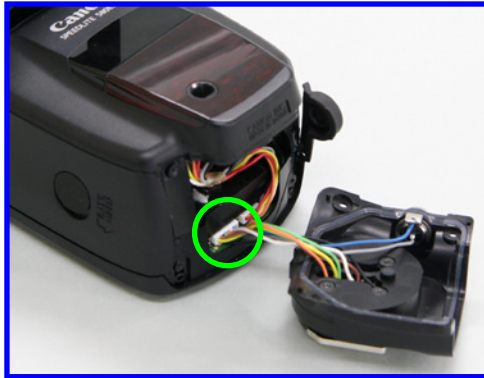


Fig. 004 Accessory Shoe Case Ass'y Connector

NOTE 1 : Location to Apply Grease G-177 (Fig. 005)

Grease G-177
Apply to the inner side of the rib

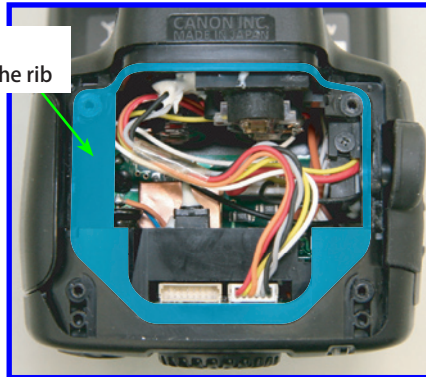


Fig. 005 Application Surface

2. Front Cover Ass'y removal

- ① Rotate the Flash Head horizontally and remove the two screws on the top of the Front Cover.
- ② Push the Cover Lock Plate on the Rear Cover inward to remove the Front Cover. (Fig. 006)

NOTE 2 : Front Cover Ass'y removal

- When pushing on the Cover Lock Plate, make sure to not damage the inner parts by using excessive force.

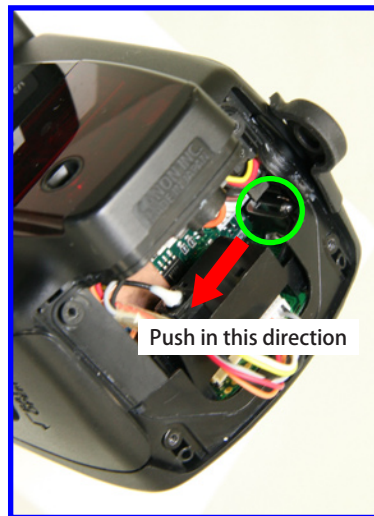


Fig. 006 Position of the Cover Lock Plate

NOTE 3 : Attaching the Front Cover

- To attach the front cover, align the notches on the Dust-proof Sheet with the protrusion on the back side of the Front Cover. (Fig. 007)

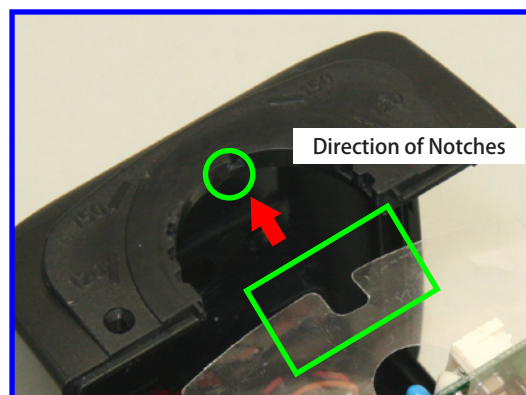


Fig. 007 Alignment of the Dust-proof Sheet

- ③ Disconnect the two connectors from the Front Cover Ass'y. (Fig. 008)

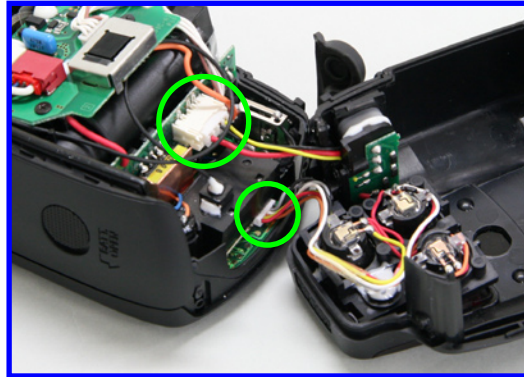


Fig. 008 Front Cover Connectors

NOTE 4 : Locations to Apply Front Cover Grease GLX-2 and G-177 (Fig. 009)

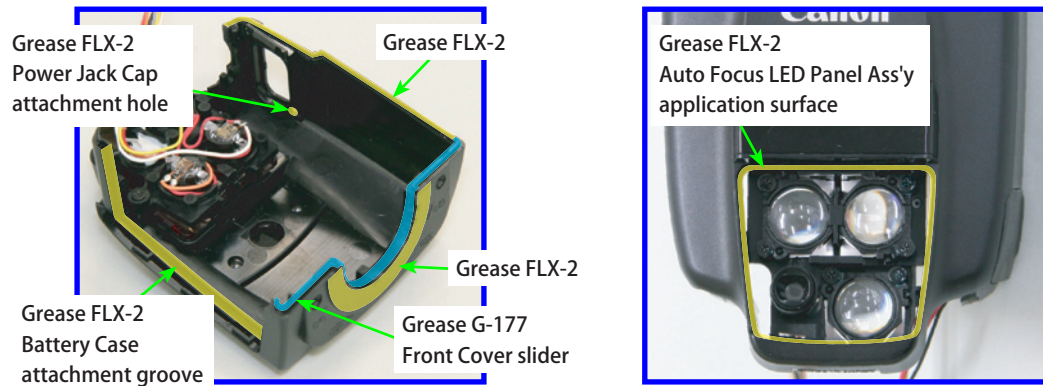


Fig. 009 Front Cover Application Locations

3. Auto Focus LED Panel Ass'y removal

- Remove the Front Cover Ass'y from the Auto Focus LED Panel Ass'y. (Hooks in 4 places) (Fig. 010)

NOTE 5 : Auto Focus LED Panel Ass'y removal

- When pushing on the Auto Focus LED Panel Ass'y hooks, make sure not to damage the unit by using excessive force.
- Do not disassemble the Assist beam emitter of the Front Cover Ass'y (Fig. 011). It is preadjusted at the factory. When this part is disassembled, the entire unit must be replaced. The Auto Focus LED Panel Ass'y can be replaced separately.

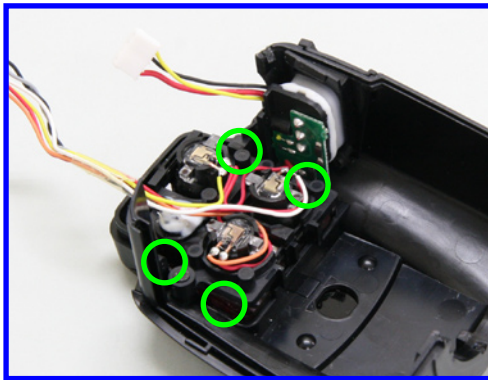


Fig. 010 Auto Focus LED Panel Ass'y



Fig. 011 Assist Beam Emitter

4. Power Jack Ass'y removal

- ① Remove the Power Jack Cap.
- ② After removing the screw, push from the outside to the inside to detach the Power Jack Ass'y.

5. Peel off the Front Cover Tape.

6. Battery Case Ass'y removal

Positioning the vertical bounce of the Flash Head at 75° will make it easier to repair.

- ① Peel off the Bond Super X.
- ② Detach the Fiber Wire from the Rear Cover Ass'y.

NOTE 6 : Handling the Fiber Wire

- Do not use excessive force or overly bend the Fiber Wire as it is easily damaged.

- ③ Remove the ND Filter and the IR Filter from the inner connector of the PCB Ass'y (I). (Fig. 012)

NOTE 7 : Attaching the Filter

- When inserting the filters, insert the IR Filter before the ND filter.

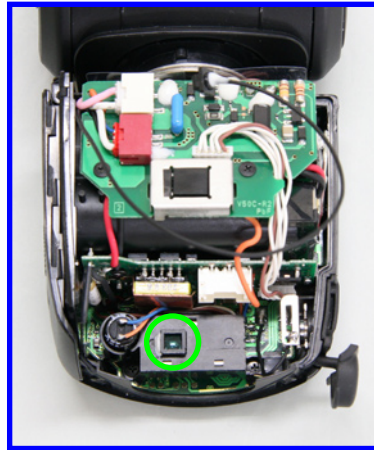


Fig. 012 Filter

- ④ Remove the two battery case connectors. (Fig. 013)

NOTE 8 : Attaching the Lead Wires

- Be careful when dealing with the Flash Head lead wires.

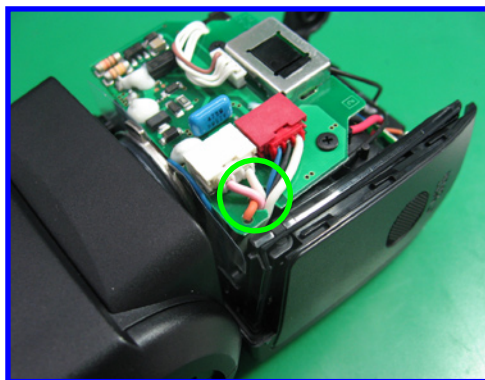


Fig. 013 Battery Case Connector

- ⑤ Remove the Battery Case Ass'y. (Screw x 1)

NOTE 9 : Reassembling the Battery Case Ass'y

- Align the Battery Case pins with the notches on the Dust-proof Sheet. (Fig. 014)

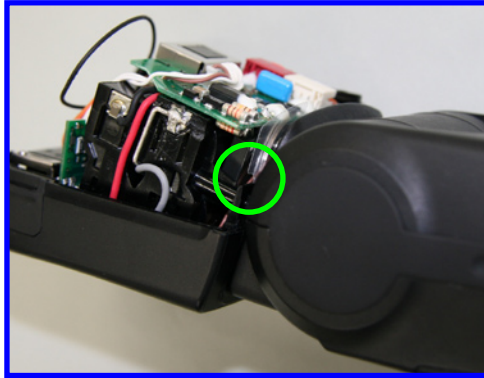


Fig. 014 Alignment Position of the Battery Case Ass'y and the Dust-proof Sheet

7. Flash Head removal

- ① Remove the two connectors from the Flash Head.
- ② Remove the Dust-proof Sheet.

NOTE 10 : Attaching the Dust-proof Sheet

- Note the installation orientation of the Dust-proof Sheet. (Fig. 015)

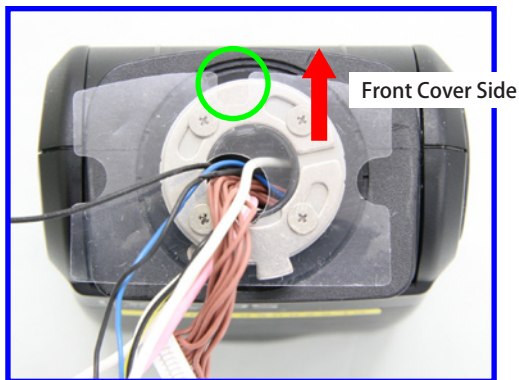


Fig. 015 Orientation of the Dust-proof Sheet

8. Side Cover (B) removal

- Remove the Side Cover (B). (Double-sided tape)

2.2 Rear Cover Ass'y Disassembly

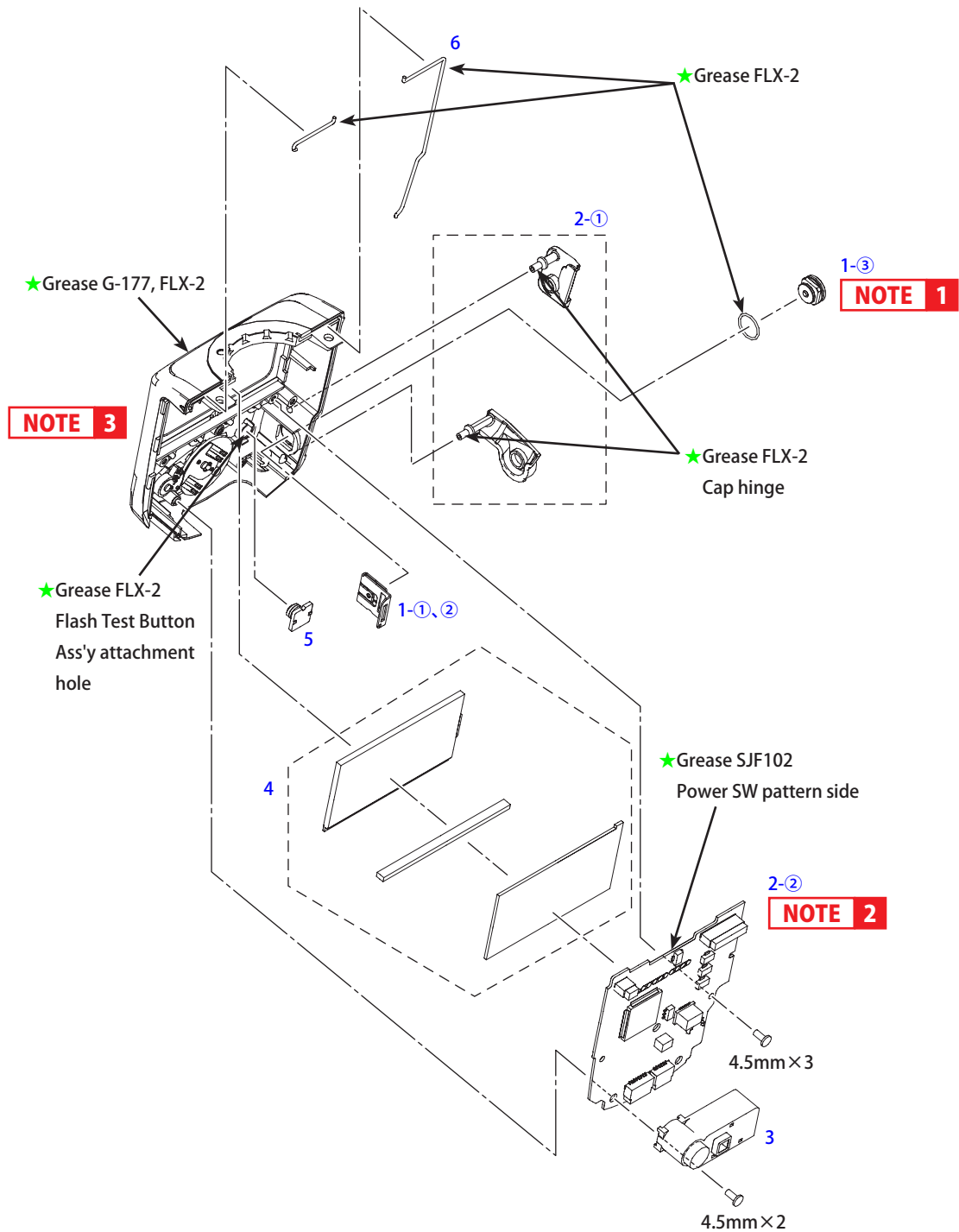


Fig. 016 Rear Cover Ass'y Disassembly

<Disassembly and Reassembly Notes>

1. Bracket Holder Plate removal

- ① Disconnect the lead wires from the Cover Lock Plate. (Soldered at one location)
- ② Push on the back side of the Cover Lock Plate. (Fig. 017)
- ③ Remove the Bracket Holder Plate.

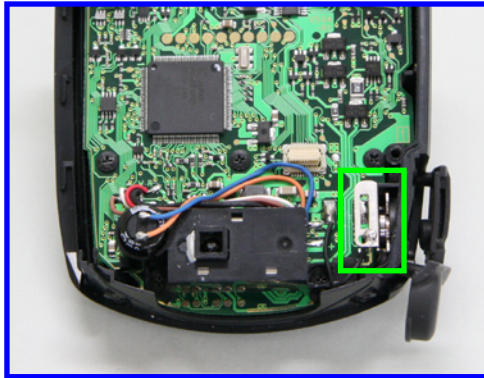


Fig. 017 Cover Lock Plate

NOTE 1 : Attaching the Bracket Holder Plate

- Pull the Cover Lock Plate until you hear a “click” to fix the Bracket Holder Plate in place.

2. PCB Ass'y (A) removal

- ① Remove the PC Terminal Cap and the Bracket Holder Cap.
- ② Detach the PCB Ass'y (A). (Screws x 5)

NOTE 2 : Reassembling the PCB Ass'y (A)

- Install the PCB Ass'y (A) by inserting the top side of it into the Rear Cover Ass'y. (Fig. 018)

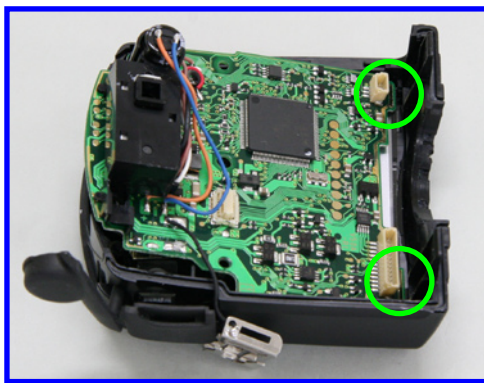


Fig. 018 PCB Ass'y (A)

3. PCB Ass'y (I) removal

- Remove the lead wires from the PCB Ass'y (A). (Soldered in 6 places) (Fig. 019)

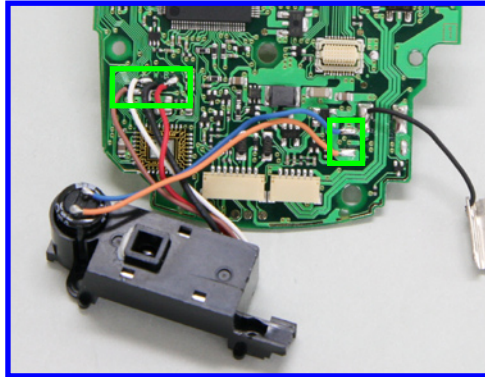


Fig. 019 Lead Wires

4. Detach the Light Guide Plate, the LCD, and the LCD Connector.
5. Detach the Flash Test Button Ass'y.
6. Detach the packing. (2 places)

NOTE 3 : Locations to Apply Rear Cover Grease FLX-2 and G-177 (Fig. 020)

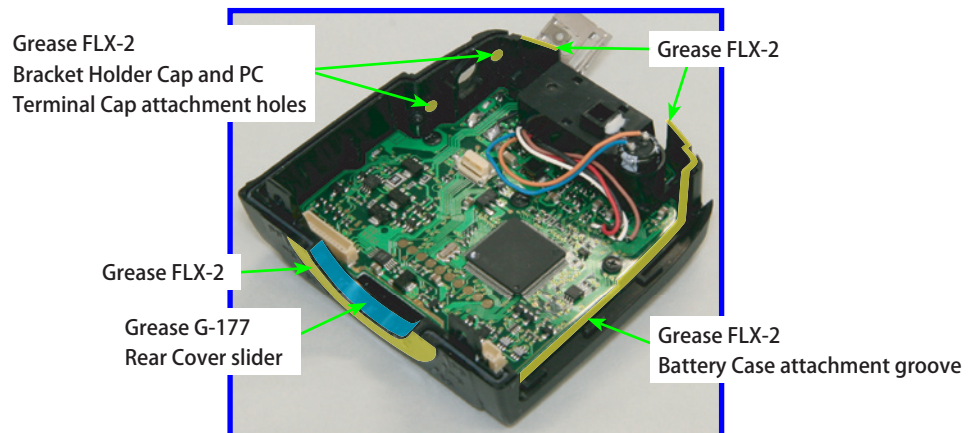


Fig. 020 Rear Cover Application Locations

2.3 Flash Head Disassembly

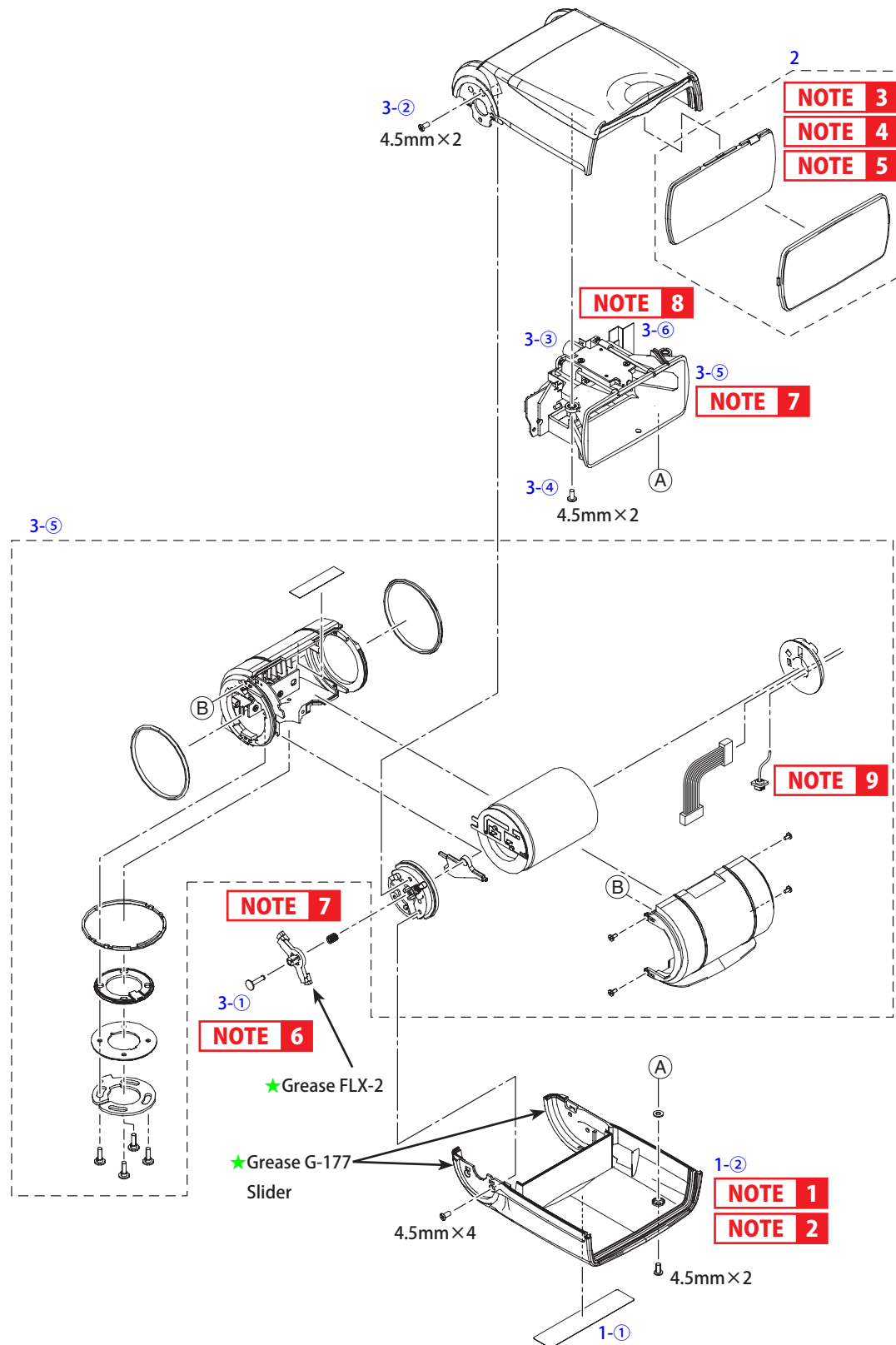


Fig. 021 Flash Head Disassembly

<Disassembly and Reassembly Notes>

1. Flash Head Cover (Lower) removal

① Peel off the Body Number Label.

② Detach the Flash Head Cover (Lower). (Screws x 6)

NOTE 1 : Flash Head Cover (Lower) removal

- Looking at the Flash Head from the front and releasing the hook on the right side makes working with the unit easier. (Fig. 022)
- Do not lose the silicon washers located inside the two screw holes on the bottom side of the Flash Head Cover (Lower). (Fig. 023)

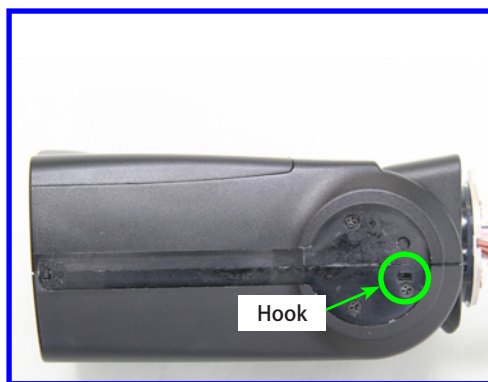


Fig. 022 Right Side of the Flash Head Cover



Fig. 023 Silicon Washers

NOTE 2 : Attaching the Flash Head Cover (Lower)

- After attaching the Flash Head Cover, always check to make sure that the rib is in the correct position. (Fig. 024, Fig. 025)



Fig. 024 Correct Rib Position

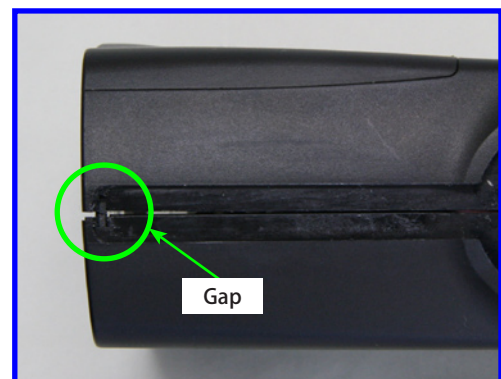


Fig. 025 Incorrect Rib Position

2. Fresnel Panel Ass'y and Flash Panel Ass'y removal

- Detach the Fresnel Panel Ass'y and the Flash Panel Ass'y.

NOTE 3 : Installing the Fresnel Panel Ass'y

- When installing the Fresnel Panel Ass'y, align the Fiber Wire attachment of the Flash Head with the Sensor Seal (silver colored) attachment of the Fresnel Panel Ass'y. (Fig. 026)

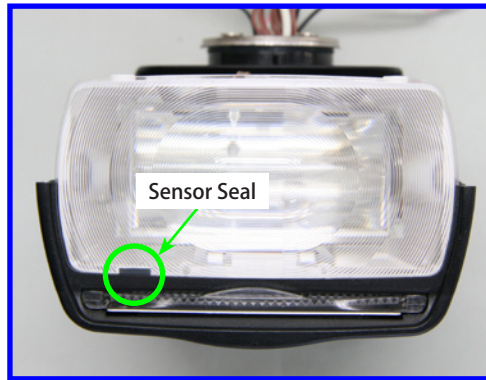


Fig. 026 Sensor Seal

NOTE 4 : Attaching the Flash Panel Ass'y

- Install with the grooves in the center of the Flash Panel Ass'y facing the Flash Head Ass'y side and with the packing rib towards the Flash Head Cover (Upper). (Fig. 027)

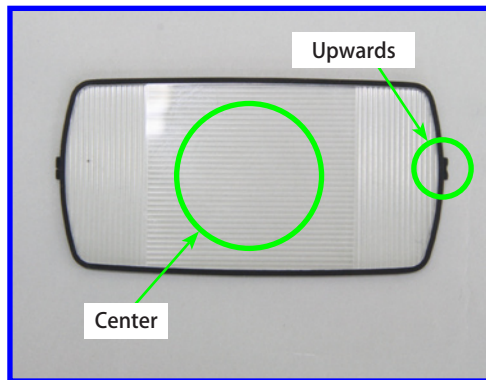


Fig. 027 Orientation of the Flash Panel Ass'y

NOTE 5 : When the Flash Panel Ass'y and the Packing are Separated

- Looking at the packing from the side, check to see which side the rib is on. Then install the Flash Panel Ass'y so that the grooves face the same direction as the rib. (Fig. 028)

At this point, pay attention to the orientation of the Flash Panel Ass'y and the packing. (Fig. 029)

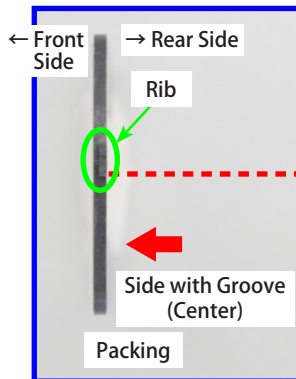


Fig. 028 Orientation of the Rib

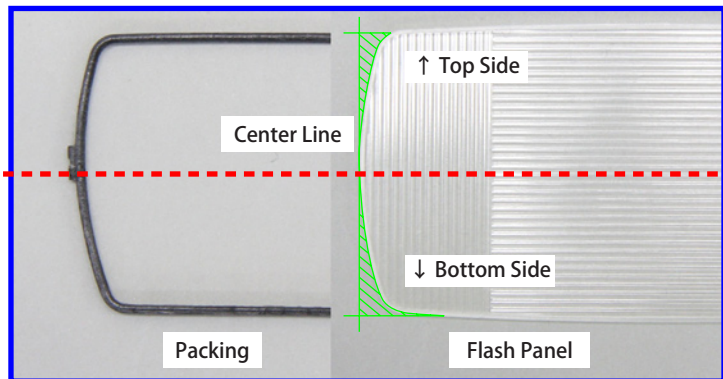


Fig. 029 Packing and Flash Panel Ass'y

3. Pivot Ass'y and Flash Head Ass'y removal

- Remove the lock pin.

NOTE 6 : Installing the Lock Pin

- After installing the Lock Pin, check to see if the Horizontal Lock Pin retracted when the Lock Pin was pushed in. (Fig. 030)
- Do not lose the spring.



Fig. 030 Horizontal Lock Pin

- Remove the two screws on the Pivot Ass'y side.

- ③ Remove the FPC that is inserted into the Flash Head Ass'y. (Fig. 031)

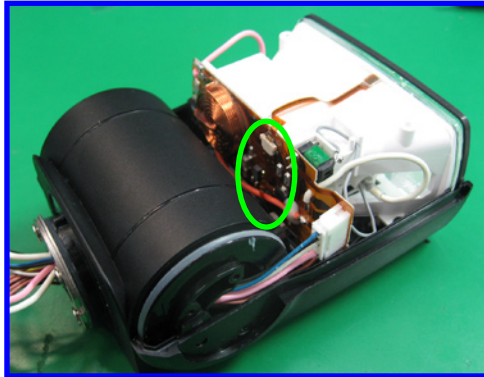


Fig. 031 FPC Connector Position

- ④ Remove the two screws on the Flash Head Ass'y.
- ⑤ Remove the Pivot Ass'y and the Flash Head Ass'y together.

NOTE 7 : Pivot Ass'y and Flash Head Ass'y removal

- Because the Fiber Wire of the Pivot Ass'y is connected to the Flash Head Ass'y, make sure not to damage the Fiber Wire by applying excessive force.
 - Do not lose the Lock Lever and the spring as they are removed at the same time.
- ⑥ Disconnect the two connectors and then remove the Fiber Wire from the Flash Head Ass'y.

NOTE 8 : Attaching the Fiber Wire to the Flash Head Ass'y

- Run the Fiber Wire along the Flash Head Ass'y groove and then push it into the groove.
- Attach it with Bond Super X and cover with tape.

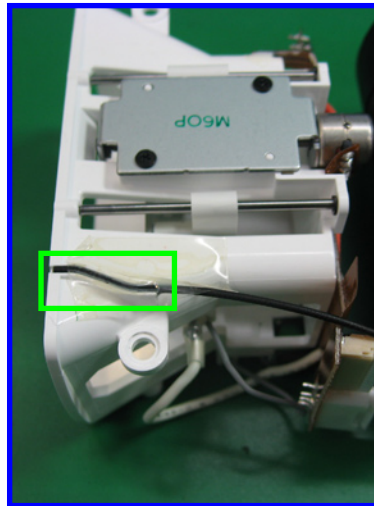


Fig. 032 Fiber Wire Attachment Position

NOTE 9 : Replacing the Fiber Wire

- ① Cut the existing Fiber Wire close to the connector.
- ② Connect the end of the new Fiber Wire to the remaining wire with tape. (Fig. 033)

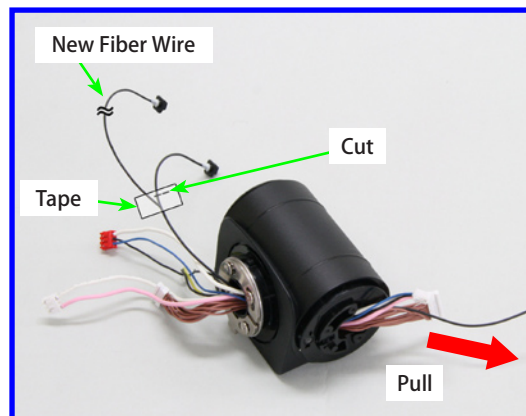


Fig. 033 Replacing the Fiber Wire 1

- ③ Slowly pull on the existing Fiber Wire to pull the new Fiber Wire through the Pivot Ass'y. (Fig. 034)
- ④ Remove the tape and the existing Fiber Wire.

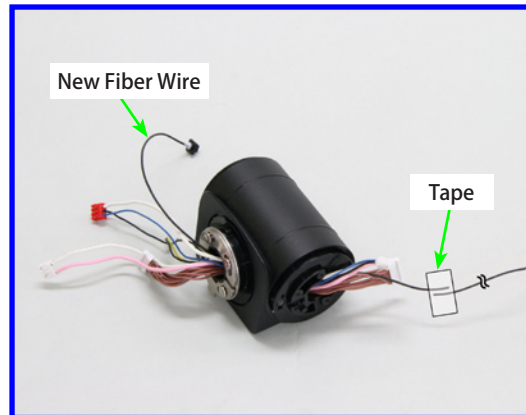


Fig. 034 Replacing the Fiber Wire 2

2.4 Flash Head Ass'y Disassembly

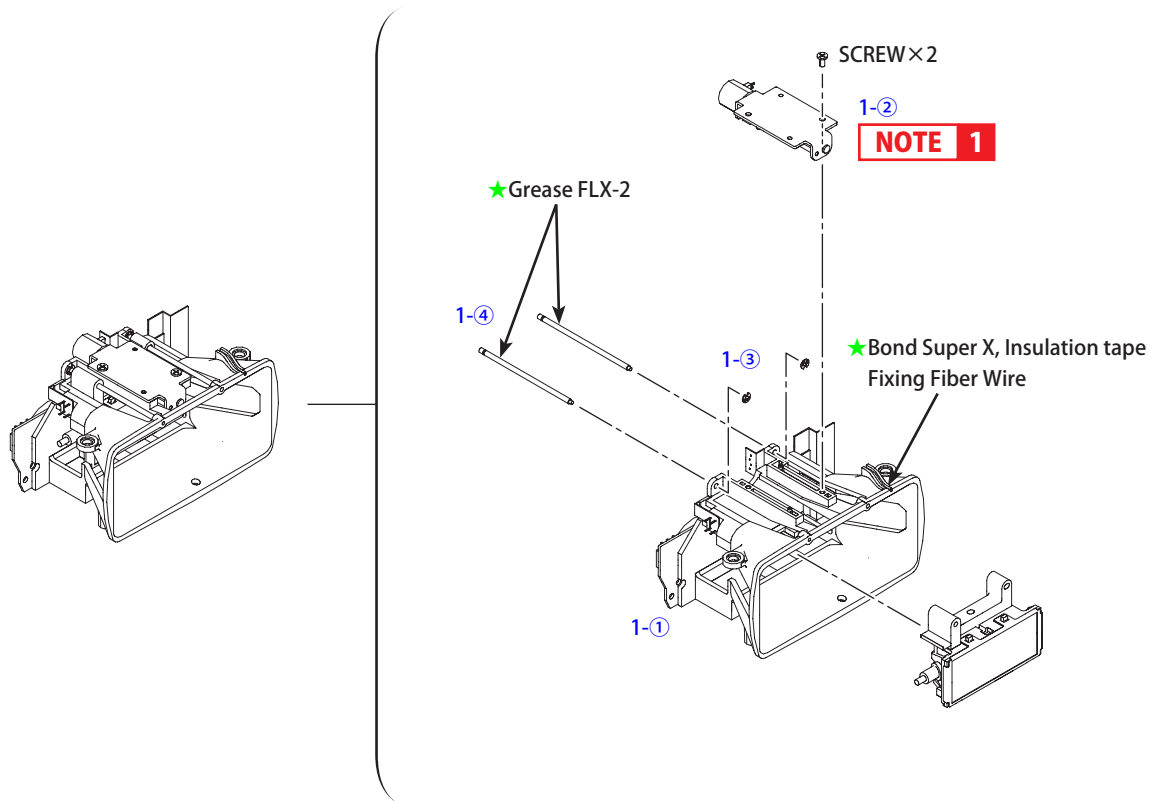


Fig. 035 Flash Head Ass'y Disassembly

<Disassembly and Reassembly Notes>

1. Reflector Ass'y removal

- ① Remove the lead wire protruding from the Reflector Ass'y. (Soldered in 3 places)
(Fig. 036, Fig. 037)

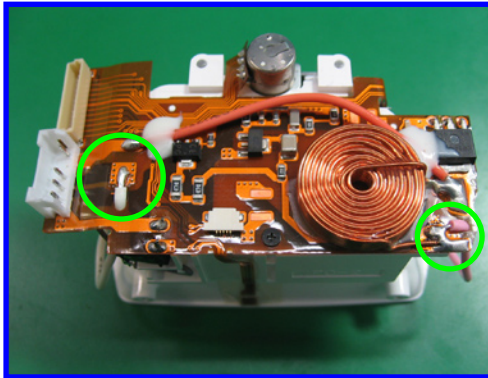


Fig. 036 Reflector Ass'y Soldering Positions

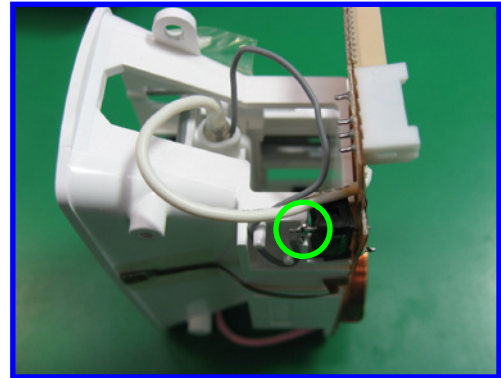


Fig. 037 Reflector Ass'y Soldering Position

- ② Remove the two screws and then remove the Motor Ass'y pin from the Reflector Ass'y hole. (Fig. 038)

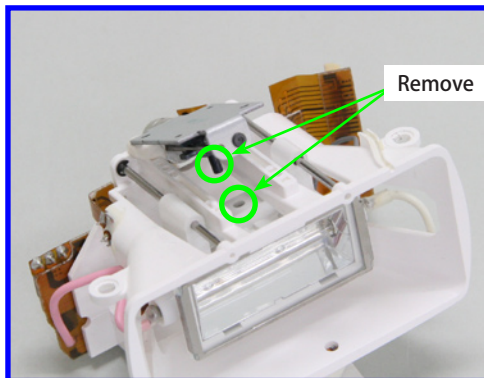


Fig. 038 Removal of the Reflector Ass'y and the Motor Ass'y

- ③ Remove the E Ring.
④ Remove the guide shaft.

NOTE 1 : Reassembly of the Reflector Ass'y

- When attaching the Motor Ass'y, align the Reflector Ass'y hole with the pin protruding from the Motor Ass'y.

2.5 Wide Panel Ass'y Disassembly

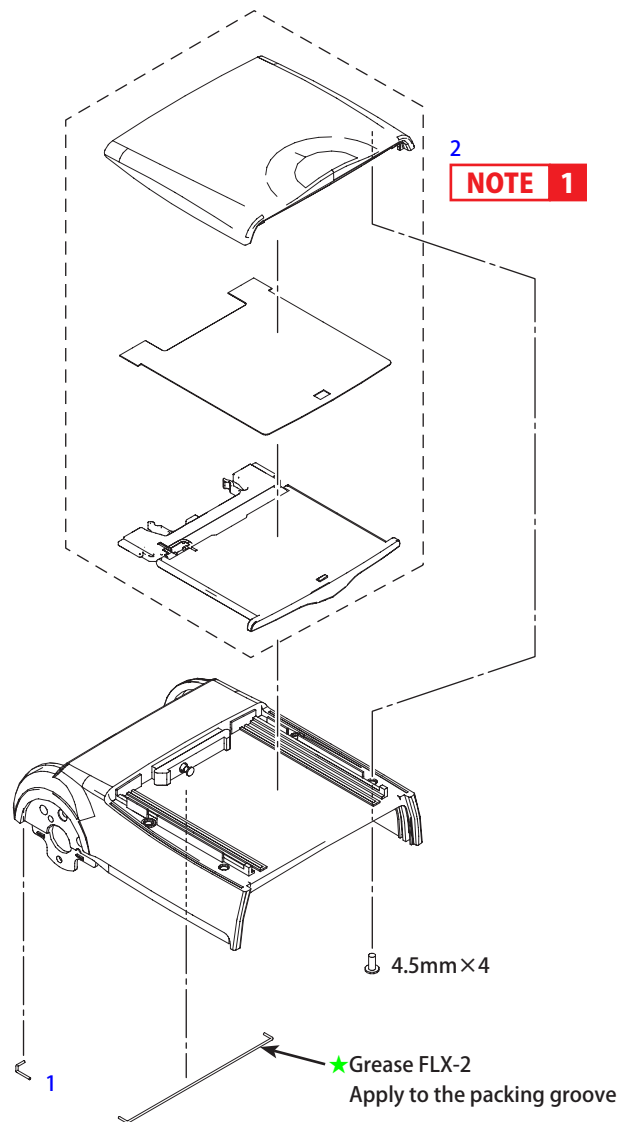


Fig. 039 Wide Panel Ass'y Disassembly

<Disassembly and Reassembly Notes>

1. Remove the packing (3 places).
2. Remove the Wide Panel Cover, the Catch Sheet, and the Wide Panel Ass'y (Screws x 4).

NOTE 1 : Reassembly of the Wide Panel Ass'y and Catch Sheet

- Attach by aligning the Catch Sheet hole and the Wide Panel hook. (Fig. 040)
- After attaching the Wide Panel Cover, pull out the Wide Panel and check to see that the Catch Sheet also comes out.

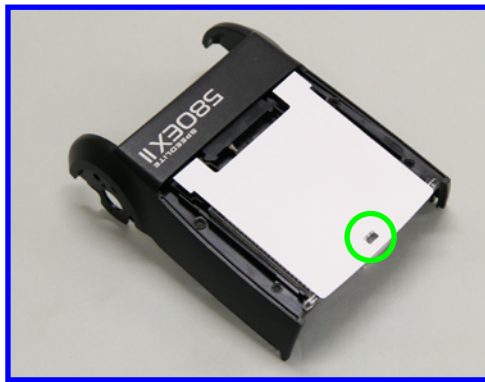


Fig. 040 Assembly of the Catch Sheet

2.6 Battery Case Ass'y Disassembly

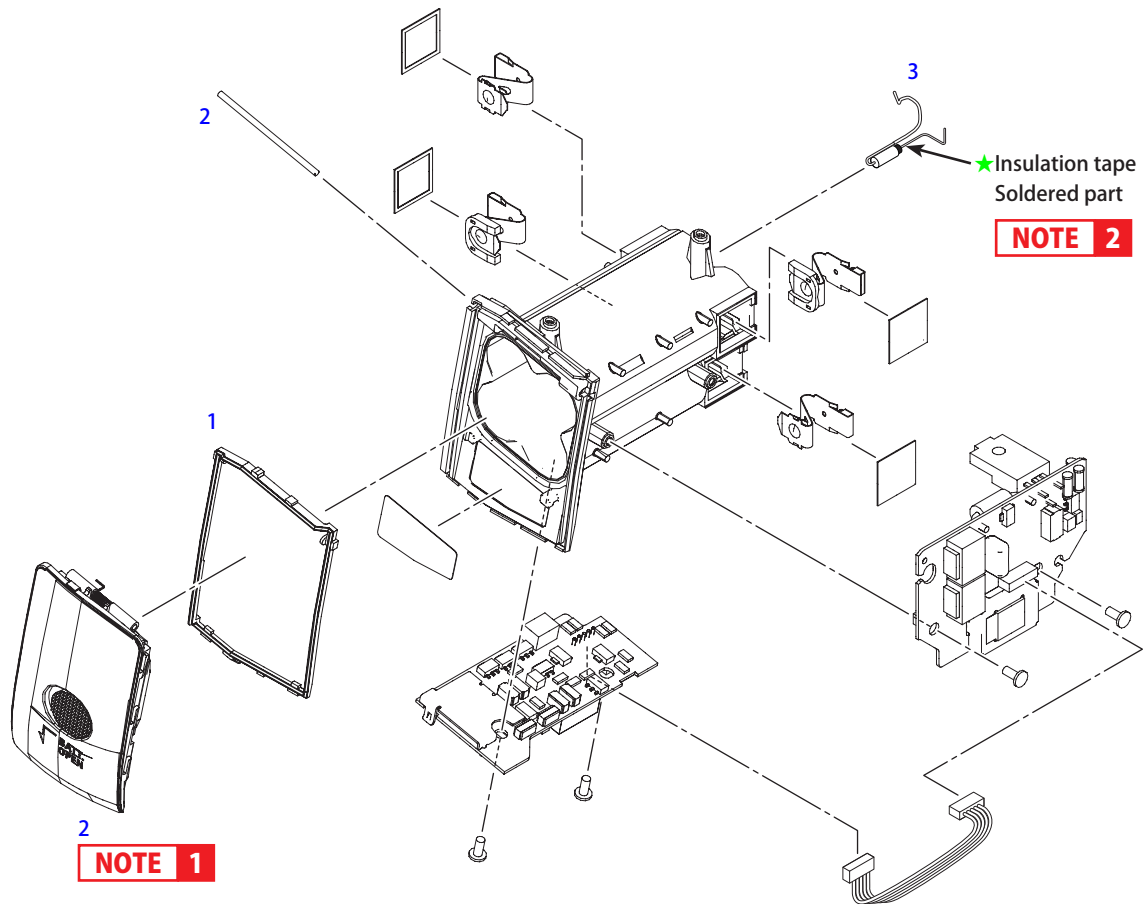


Fig. 041 Battery Case Ass'y Disassembly

<Disassembly and Reassembly Notes>

1. Battery Case Packing removal
 - Open the Battery Cover and remove the Battery Case packing.
2. Remove the Battery Cover Shaft and then remove the Battery Cover Ass'y.

NOTE 1 : Assembly of the Battery Cover Ass'y

- Take note of the Battery Cover Ass'y spring position. (Fig. 042)

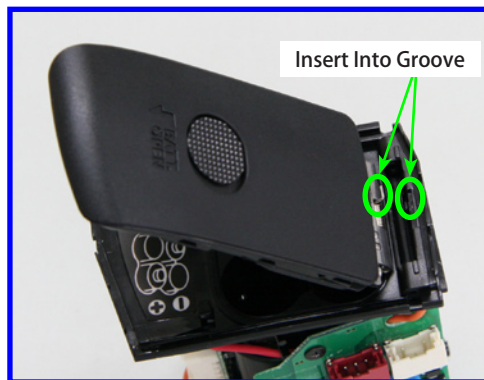


Fig. 042 Battery Cover Ass'y Spring

3. Remove the Temperature Fuse. (Soldered in 2 places) (Fig. 043)

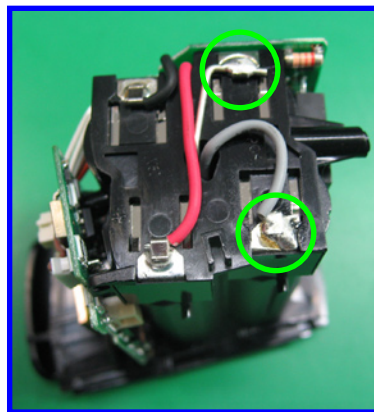


Fig. 043 Temperature Fuse

NOTE 2 : Placement of the Temperature Fuse tape (Fig. 044)

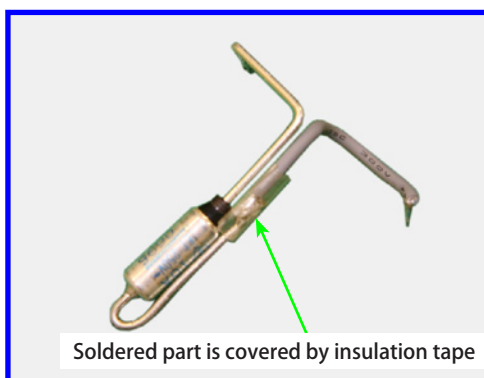


Fig. 044 Placement of tape

Adjustments

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CONTENTS

Adjustments	Page
1. PRELIMINARY INSTRUCTION	1
1.1 Notes for Electrical Adjustments	1
1.2 Adjustment	1
1.3 SL-I/F RS-232C Cable	2
1.4 SL-I/F (Speedlite Interface)	3
1.5 Installation/Uninstallation	4

1. PRELIMINARY INSTRUCTION

1.1 Notes for Electrical Adjustments

Speedlite 580EX II uses EEPROM for the electrical adjustment. The adjustment data is transferred via PC as is the case of a camera. For communication between the PC and the flash, SL-I/F (Speedlite interface)/ CY9-7097-000 is used.

EEPROM (IC101S) is located on the (A) PCB Ass'y. When the (A) PCB Ass'y is replaced, be sure to initialize and carry out all the electrical adjustment.

When the replacement of the (A) PCB Ass'y is expected and the data can be transfer to the PC, be sure to save the original data.

1.2 Adjustment

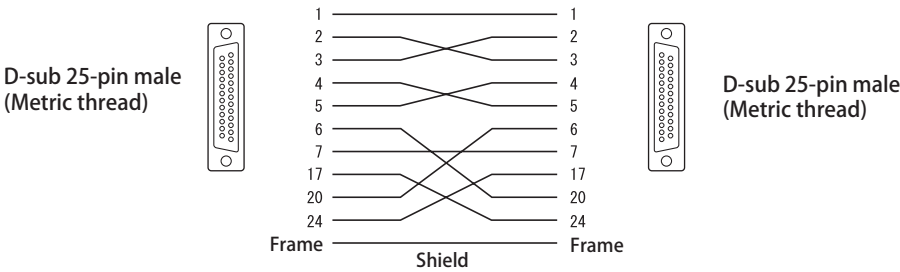
Adjustment Items

	Adjustment	Details
Temperature Compensation	Temperature Compensation	Saves room temperature at the time of adjustment in the flash unit.
Home Position Compensation	Home Position Compensation	It searches for the zoom Home Position.
Full Charge Voltage Adjustment	Full Charge Voltage Adjustment	Set the maximum voltage to be charged to the main capacitor.
Sensor Adjustment	Sensor Adjustment	Write the A/D->D/A differences, maximum integration.
Sensor Sensitivity Compensation	Sensor Sensitivity Compensation	Compensate the sensor sensitivity by zoom position.
Pre Flash GNo Adjustment	Pre Flat Adjustment	Compensate flash output so that the pre flat flash GNo. is set to max. GNo. x 1/4.
	Pre Flare Adjustment	Compensate flash output so that the pre flare flash GNo. will be the same as the pre flat flash output.
Longest Flash Time Adjustment	Longest Flash Time Adjustment	Write the longest flash time.
Main Flash Level Adjustment	Main Flash Level Adjustment	Compensate flat/ flare flash output.
Manual Flash level Adjustment	Manual Flash level Adjustment	Compensate manually set flat/ flash output.
External flash metering adjustments	External flash metering adjustments	Compensate to achieve proper exposure when the external flash metering is set.
Data Transfer Menu	Data Save	Transfer the flash adjustment data to the PC.
	Data Transfer	Transfer the adjustment data from the PC to flash to overwrite.
	Initialization	EEPROM is initialized (adjustment data is stored).

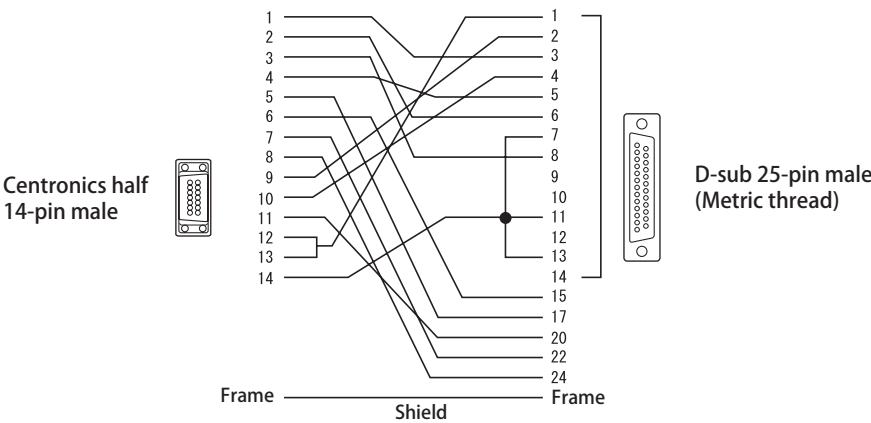
1.3 SL-I/F RS-232C Cable

The RS-232C cable for connecting the SL-I/F must meet the following specifications:

NEC computers



NEC notebook computers



IBM and NEC computers

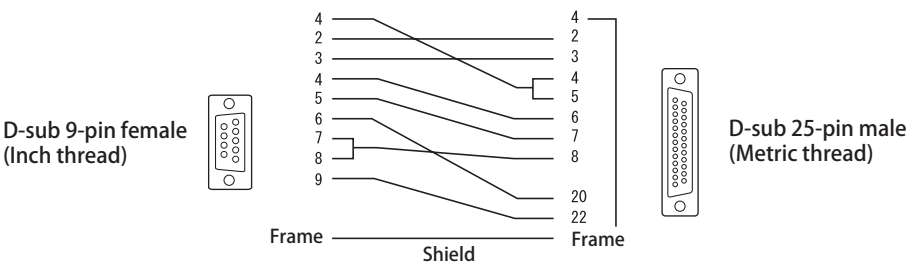


Fig. 001 RS232C Cable

1.4 SL-I/F (Speedlite Interface)

The SL-I/F is an interface used for communicating with a personal computer to write adjustment values into the speedlite's EEPROM during electrical adjustment.

1) SL-I/F specification and nomenclature

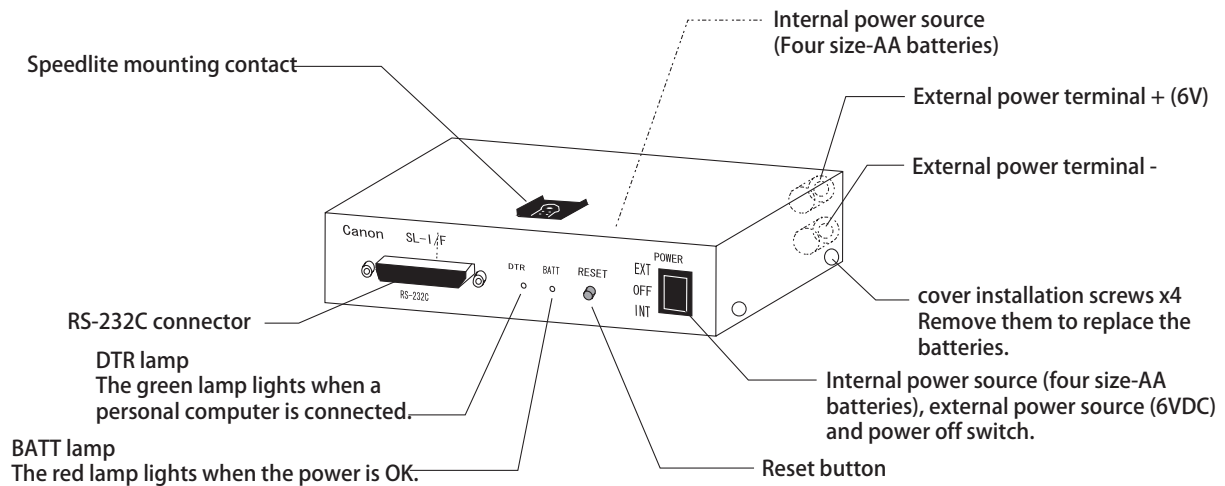


Fig. 002 SL-I/F specification

2) SL-I/F connection

1. Turn the power to the SL-I/F OFF and connect it with the personal computer with an RS-232C cable (reverse type). When the correct cable is used and the power is turned ON, the DTR lamp (green) lights.
2. Turn the flash unit OFF and connect it to the SL-I/F.
3. Start the adjustment software and follow the instructions shown on the screen.
4. Turn the SL-I/F ON. When it is turned ON, the BATT lamp (red) lights. Be careful when using internal size-AA batteries.

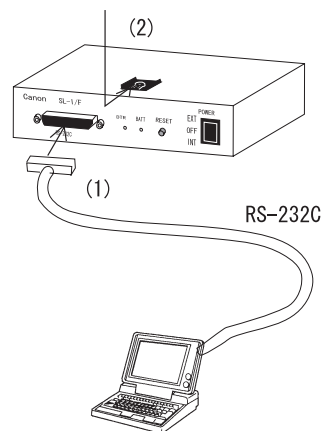


Fig. 003 SL-I/F setting

1.5 Installation/Uninstallation

1) Provided Software

Adjustment Software (self-extracting compressed file): Speedlite Adj_Vxxx.exe (Vxxx = version)

IE4 (Internet Explorer) or later

2) Installation Procedure

Install the adjustment software.

3) Uninstallation Procedure

Discard the adjustment software folder in the Recycle bin.

Parts Catalog

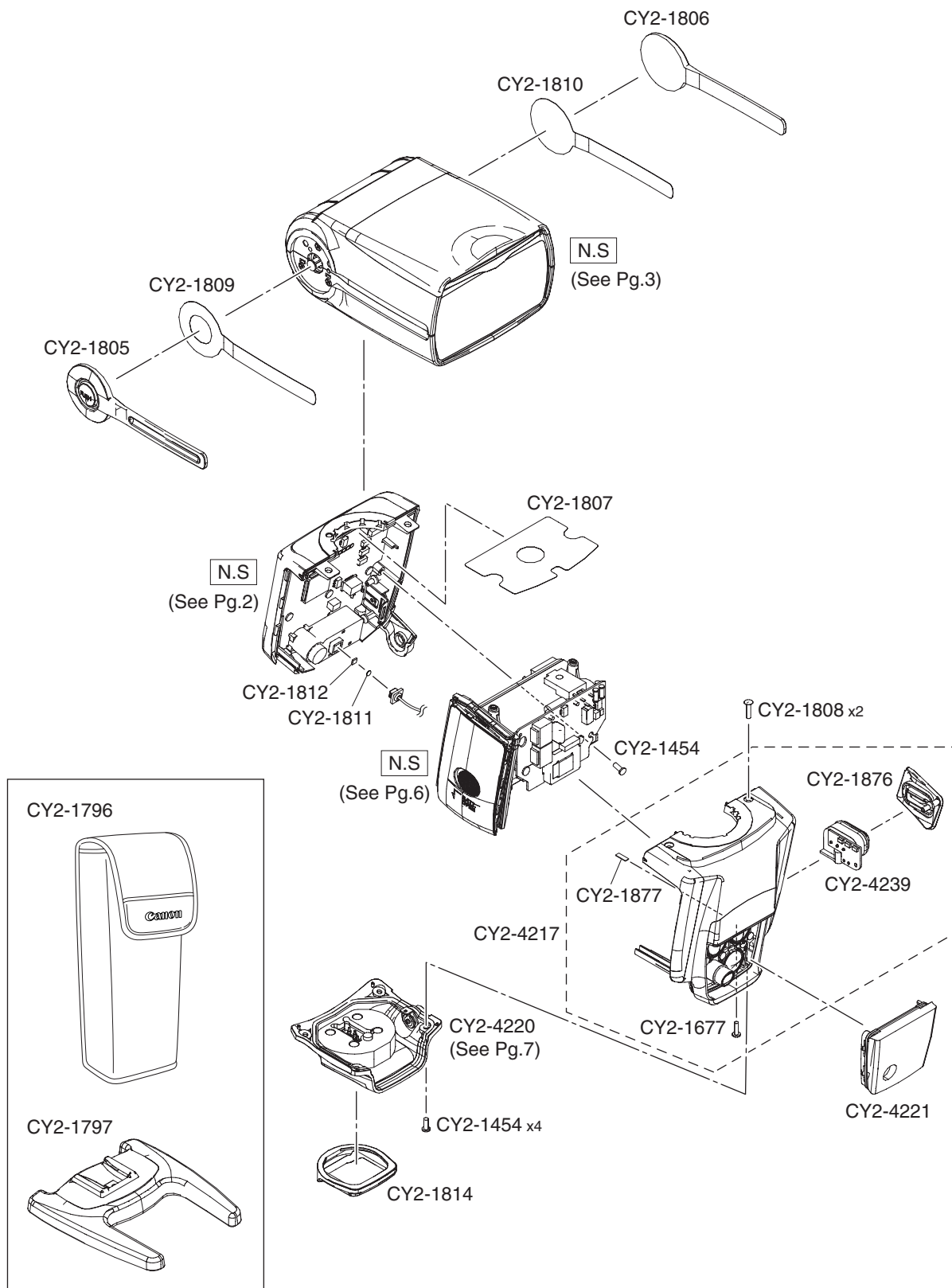


SPEEDLITE 580EX II

REF. NO. C50-0811

PARTS CATALOG

CANON SPEEDLITE 580EX II



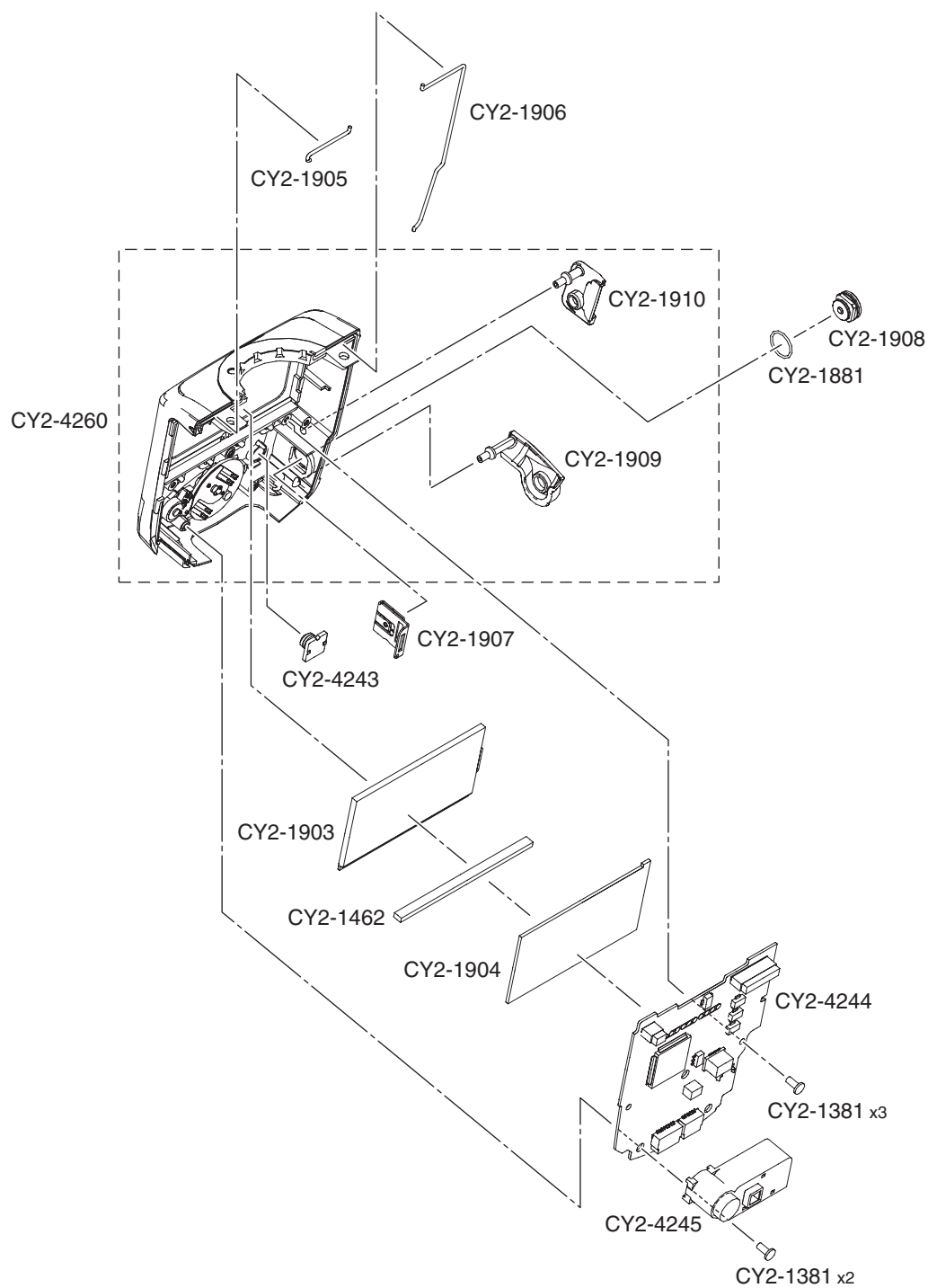
PARTS LIST

Pg. 1

REF. NO. C50-0811

NEW	PARTS NO.	CLASS	QTY	DESCRIPTION
	CY2-1454-000 000	C	5	SCREW (2X5)
*	CY2-1677-000 000	C	1	SCREW, (1.7X6)
*	CY2-1796-000 000	N	1	CASE ASS'Y, FLASH
*	CY2-1797-000 000	N	1	STAND, FLASH
*	CY2-1805-000 000	B	1	COVER, SIDE (A)
*	CY2-1806-000 000	B	1	COVER, SIDE (B)
*	CY2-1807-000 000	C	1	SHEET, DUST-PROOF
*	CY2-1808-000 000	C	2	SCREW, (2X8)
*	CY2-1809-000 000	A	1	TAPE, SIDE COVER (A)
*	CY2-1810-000 000	A	1	TAPE, SIDE COVER (B)
*	CY2-1811-000 000	C	1	FILTER, ND
*	CY2-1812-000 000	C	1	FILTER, IR
*	CY2-1814-000 000	C	1	COVER, ACCESSORY SHOE
*	CY2-1876-000 000	B	1	CAP, POWER JACK
*	CY2-1877-000 000	C	1	TAPE, FRONT COVER
*	CY2-4217-000 000	B	1	COVER ASS'Y, FRONT
*	CY2-4220-000 000	B	1	CASE ASS'Y, ACCESSORY SHOE
*	CY2-4221-000 000	B	1	PANEL ASS'Y, AUTO FOCUS LED
*	CY2-4239-000 000	C	1	JACK ASS'Y, POWER

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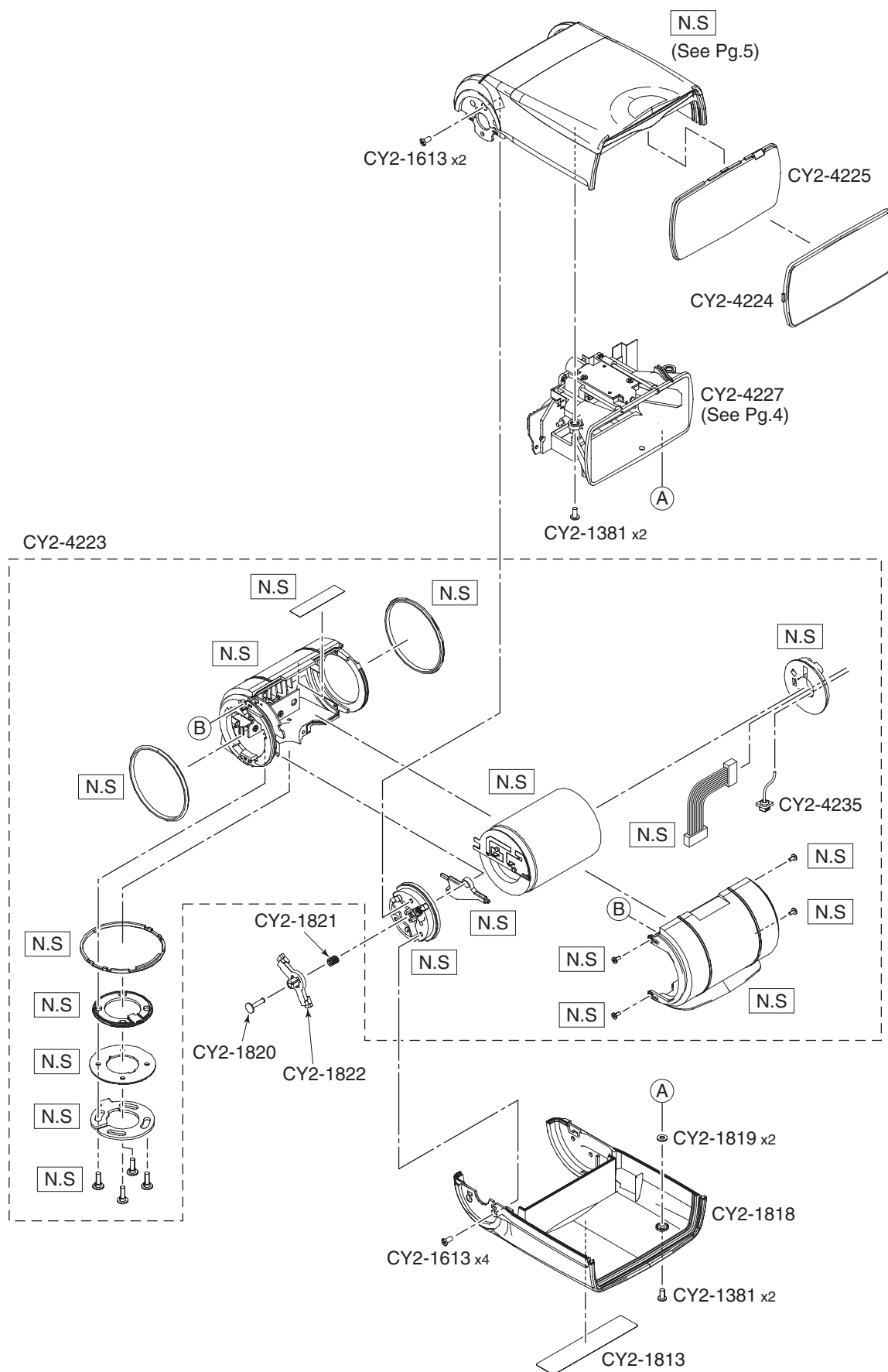
PARTS LIST

Pg. 2

REF. NO. C50-0811

NEW	PARTS NO.	CLASS	QTY	DESCRIPTION
	CY2-1381-000 000	C	5	SCREW (2X4.5)
	CY2-1462-000 000	C	1	CONNECTOR, LCD
*	CY2-1881-000 000	C	1	RING, O
*	CY2-1903-000 000	C	1	LCD
*	CY2-1904-000 000	C	1	PLATE, LIGHT GUIDE
*	CY2-1905-000 000	C	1	PACKING, REAR COVER (B)
*	CY2-1906-000 000	C	1	PACKING, REAR COVER (A)
*	CY2-1907-000 000	C	1	PLATE, COVER LOCK
*	CY2-1908-000 000	C	1	PLATE, BRACKET HOLDER
*	CY2-1909-000 000	B	1	CAP, PC TERMINAL
*	CY2-1910-000 000	B	1	CAP, BRACKET HOLDER
*	CY2-4243-000 000	C	1	BUTTON ASS'Y, FLASH TEST
*	CY2-4244-000 000	C	1	PCB ASS'Y, (A)
*	CY2-4245-000 000	C	1	PCB ASS'Y, (I)
	CY2-4260-000 000	B	1	COVER ASS'Y, REAR

CANON SPEEDLITE 580EX II



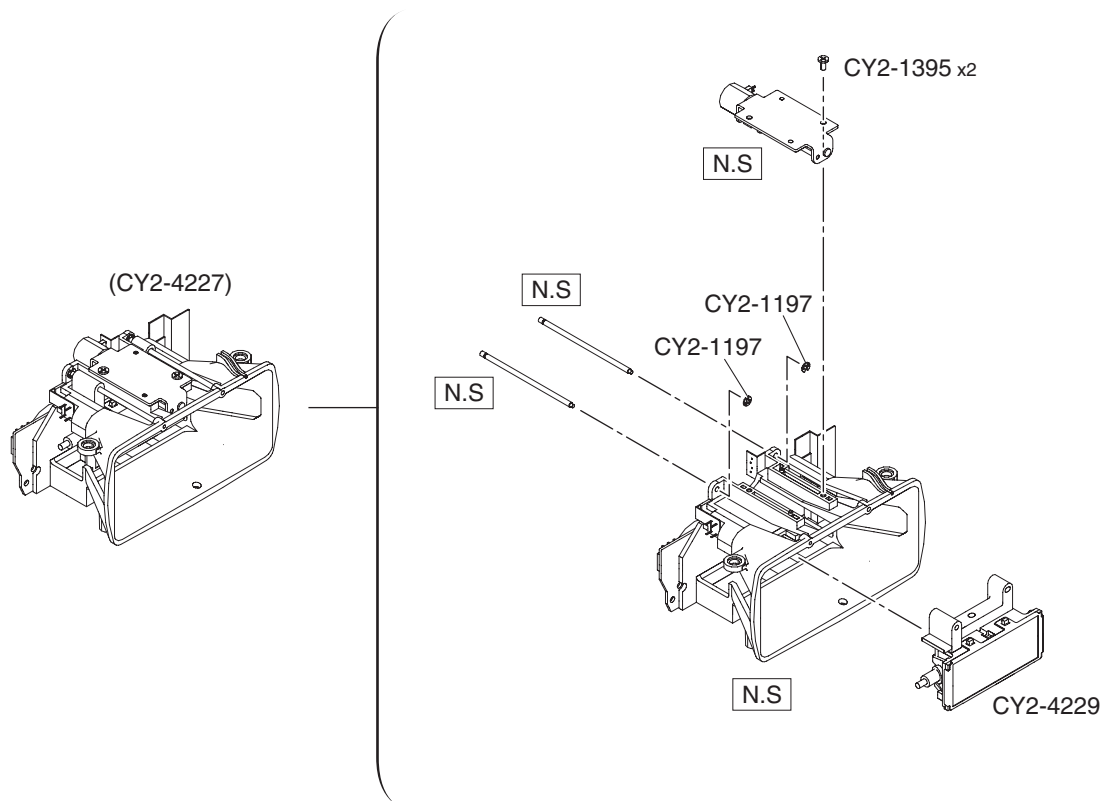
PARTS LIST

Pg. 3

REF. NO. C50-0811

NEW	PARTS NO.	CLASS	QTY	DESCRIPTION
	CY2-1381-000 000	C	4	SCREW (2X4.5)
	CY2-1613-000 000	C	6	SCREW, (2X4.5)
*	CY2-1813-000 000	C	1	LABEL, BODY NUMBER
*	CY2-1818-000 000	B	1	COVER, FLASH HEAD (LOWER)
*	CY2-1819-000 000	C	2	WASHER
*	CY2-1820-000 000	C	1	PIN, LOCK
*	CY2-1821-000 000	C	1	SPRING, LOCK LEVER
*	CY2-1822-000 000	C	1	LEVER, LOCK
*	CY2-4223-000 000	B	1	PIVOT ASS'Y
*	CY2-4224-000 000	B	1	PANEL ASS'Y, FLASH
*	CY2-4225-000 000	B	1	PANEL ASS'Y, FRESNEL
*	CY2-4227-000 000	B	1	FLASH HEAD ASS'Y
*	CY2-4235-000 000	C	1	FIBER WIRE ASS'Y

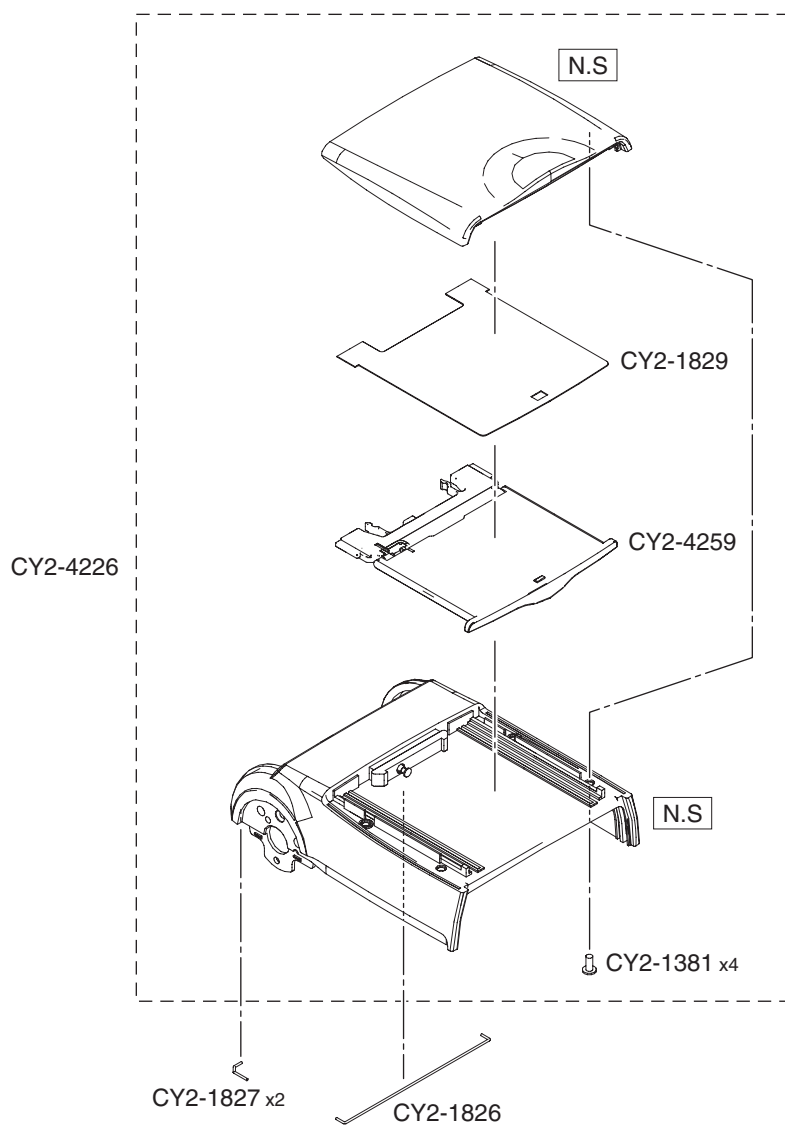
CANON SPEEDLITE 580EX II



P A R T S L I S T

NEW	PARTS NO.	CLASS	QTY	DESCRIPTION
	CY2-1197-000 000	F	2	RING, RETAINING (E, 1.2)
	CY2-1395-000 000	C	2	SCREW
*	CY2-4229-000 000	B	1	REFLECTOR ASS'Y

CANON SPEEDLITE 580EX II



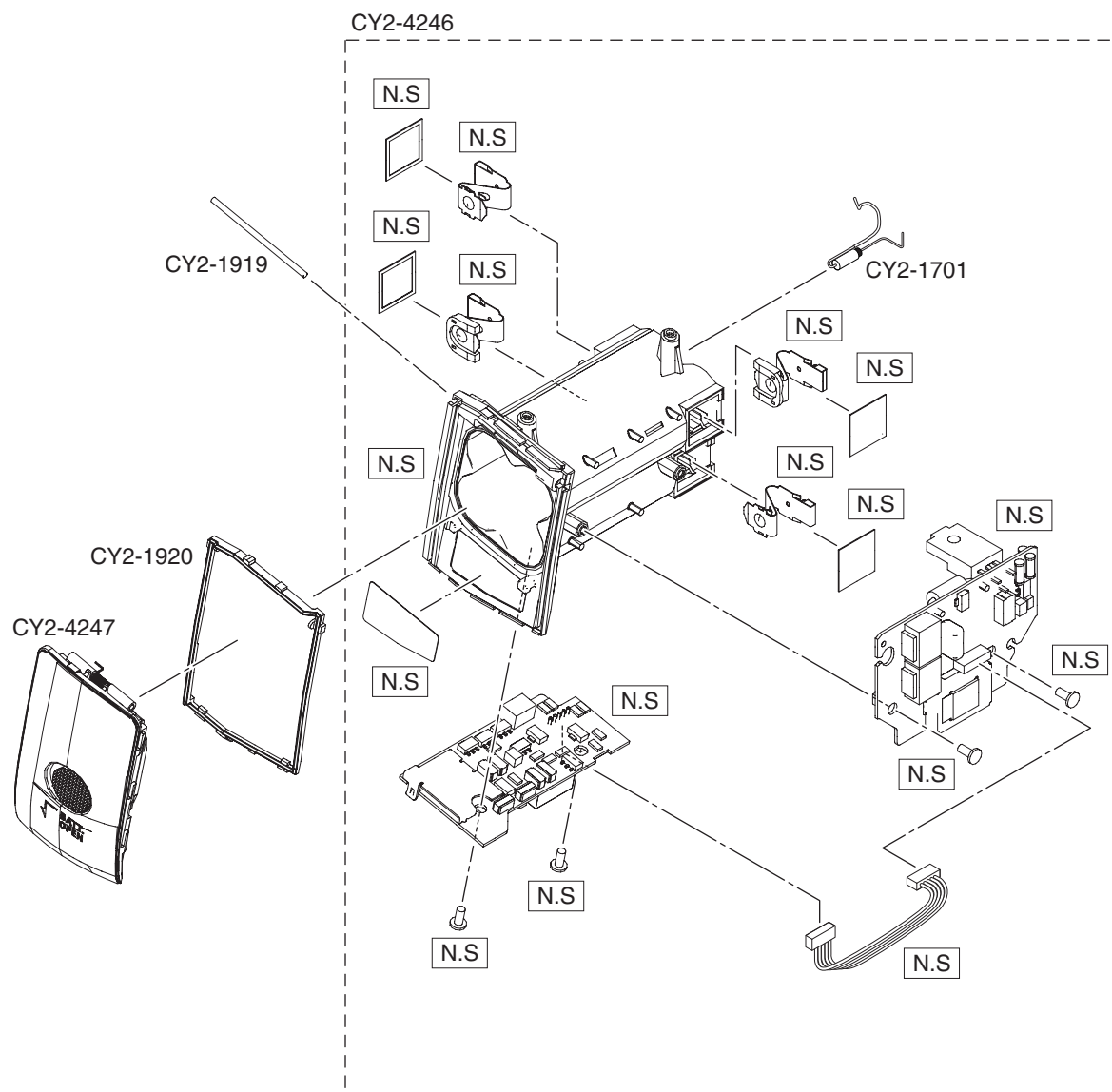
PARTS LIST

Pg. 5

REF. NO. C50-0811

NEW	PARTS NO.	CLASS	QTY	DESCRIPTION
	CY2-1381-000 000	C	4	SCREW (2X4.5)
*	CY2-1826-000 000	C	1	PACKING, FLASH HEAD COVER (A)
*	CY2-1827-000 000	C	2	PACKING, FLASH HEAD COVER (B)
*	CY2-1829-000 000	B	1	SHEET, CATCH
*	CY2-4226-000 000	B	1	COVER ASS'Y, FLASH HEAD (UPPER)
*	CY2-4259-000 000	B	1	PANEL ASS'Y, WIDE

CANON SPEEDLITE 580EX II



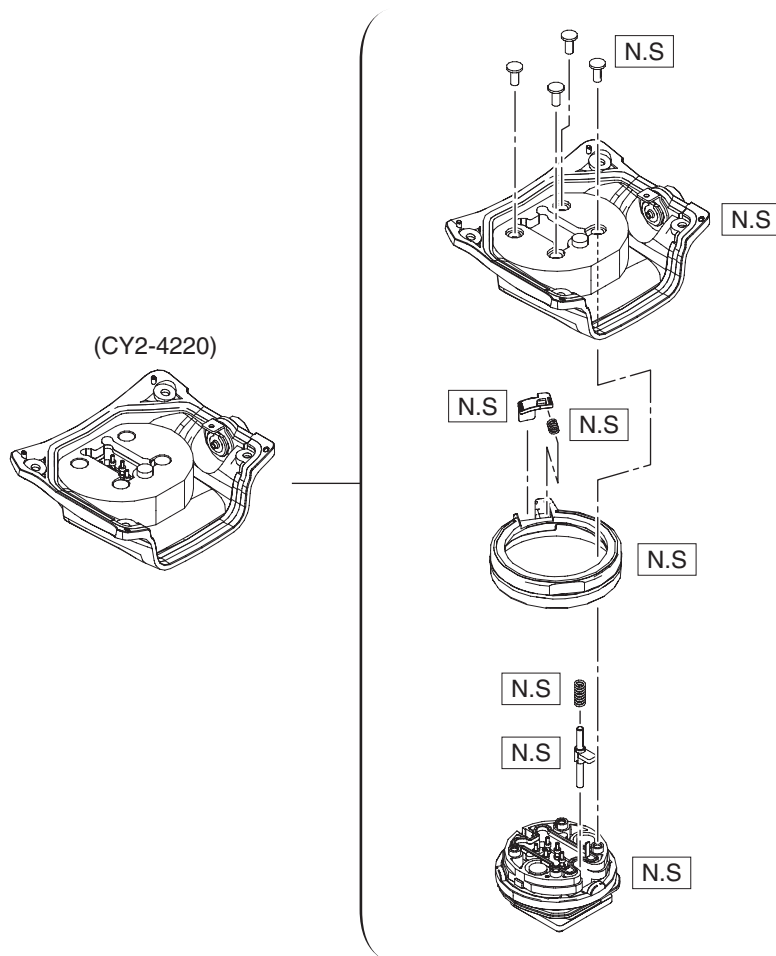
P A R T S L I S T

Pg. 6

REF. NO. C50-0811

NEW	PARTS NO.	CLASS	QTY	DESCRIPTION
	CY2-1701-000 000	C	1	FUSE, TEMPERATURE
*	CY2-1919-000 000	C	1	SHAFT, BATTERY COVER
*	CY2-1920-000 000	C	1	PACKING, BATTERY CASE
*	CY2-4246-000 000	B	1	CASE ASS'Y, BATTERY
*	CY2-4247-000 000	B	1	COVER ASS'Y, BATTERY

CANON SPEEDLITE 580EX II



INDEX OF PARTS LIST

Pg. 8

REF. NO. C50-0811

NEW	PARTS NO.	PAGE	NEW	PARTS NO.	PAGE
	CY2-1197-000 000	4	*	CY2-1907-000 000	2
	CY2-1381-000 000	2, 3, 5	*	CY2-1908-000 000	2
	CY2-1395-000 000	4	*	CY2-1909-000 000	2
	CY2-1454-000 000	1	*	CY2-1910-000 000	2
	CY2-1462-000 000	2	*	CY2-1919-000 000	6
	CY2-1613-000 000	3	*	CY2-1920-000 000	6
*	CY2-1677-000 000	1	*	CY2-4217-000 000	1
	CY2-1701-000 000	6	*	CY2-4220-000 000	1
*	CY2-1796-000 000	1	*	CY2-4221-000 000	1
*	CY2-1797-000 000	1	*	CY2-4223-000 000	3
	CY2-1805-000 000	1	*	CY2-4224-000 000	3
*	CY2-1806-000 000	1	*	CY2-4225-000 000	3
*	CY2-1807-000 000	1	*	CY2-4226-000 000	5
*	CY2-1808-000 000	1	*	CY2-4227-000 000	4
*	CY2-1809-000 000	1	*	CY2-4229-000 000	4
	CY2-1810-000 000	1	*	CY2-4235-000 000	3
*	CY2-1811-000 000	1	*	CY2-4239-000 000	1
*	CY2-1812-000 000	1	*	CY2-4243-000 000	2
*	CY2-1813-000 000	3	*	CY2-4244-000 000	2
*	CY2-1814-000 000	1	*	CY2-4245-000 000	2
	CY2-1818-000 000	3	*	CY2-4246-000 000	6
*	CY2-1819-000 000	3	*	CY2-4247-000 000	6
*	CY2-1820-000 000	3	*	CY2-4259-000 000	5
*	CY2-1821-000 000	3		CY2-4260-000 000	2
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	CY2-1826-000 000	5			
*	CY2-1827-000 000	5			
*	CY2-1829-000 000	5			
*	CY2-1876-000 000	1			
*	CY2-1877-000 000	1			
	CY2-1881-000 000	2			
*	CY2-1903-000 000	2			
*	CY2-1904-000 000	2			
*	CY2-1905-000 000	2			
*	CY2-1906-000 000	2			

Circuit Diagrams

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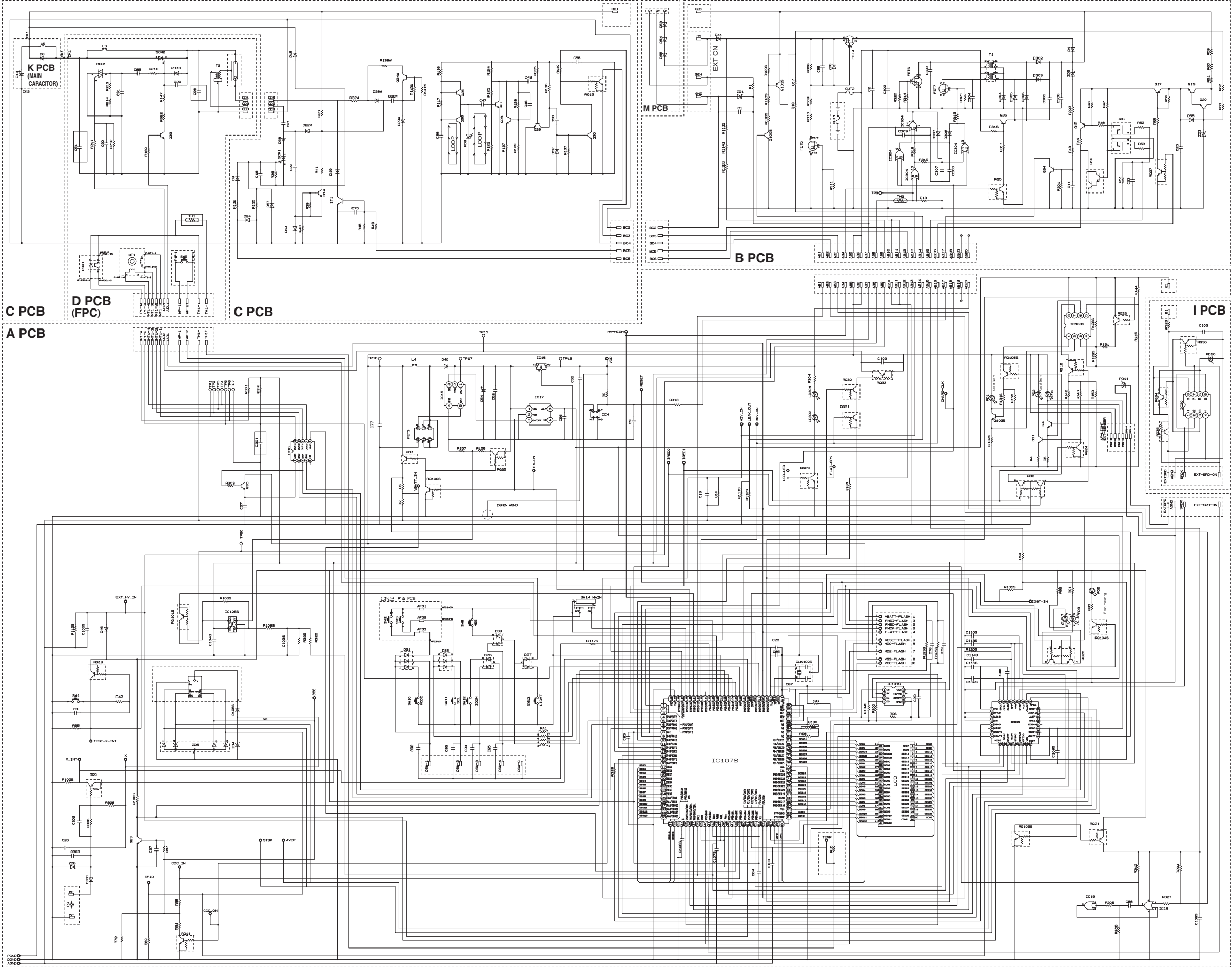
Copyright

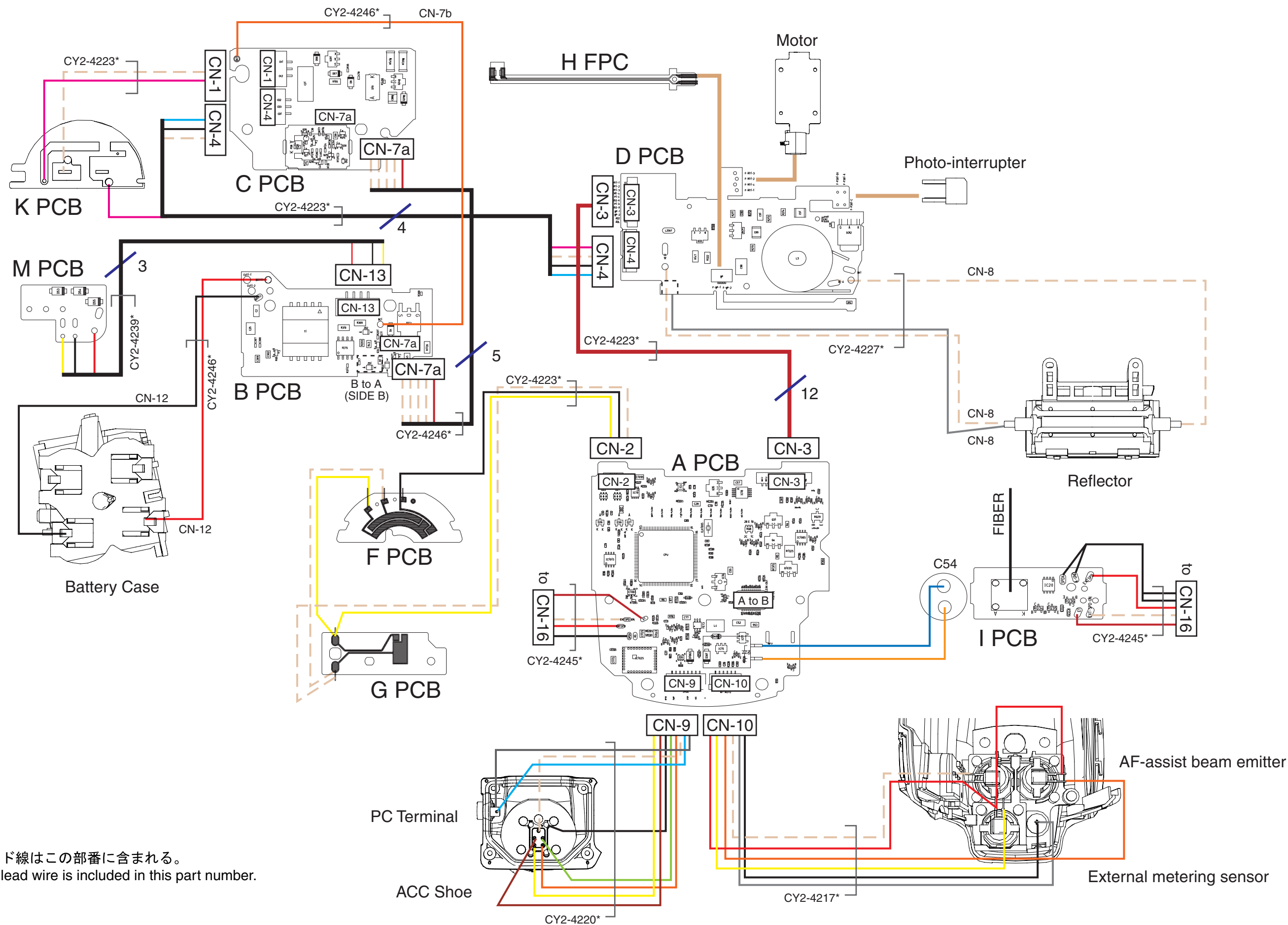
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CONTENTS

Circuit Diagrams

1. SCHEMATIC DIAGRAM
2. WIRING DIAGRAM
3. P.C.B DIAGRAM
 - 3-1 A PCB
 - 3-2 B PCB
 - 3-3 C PCB
 - 3-4 D PCB
 - 3-5 I PCB
 - 3-6 M PCB



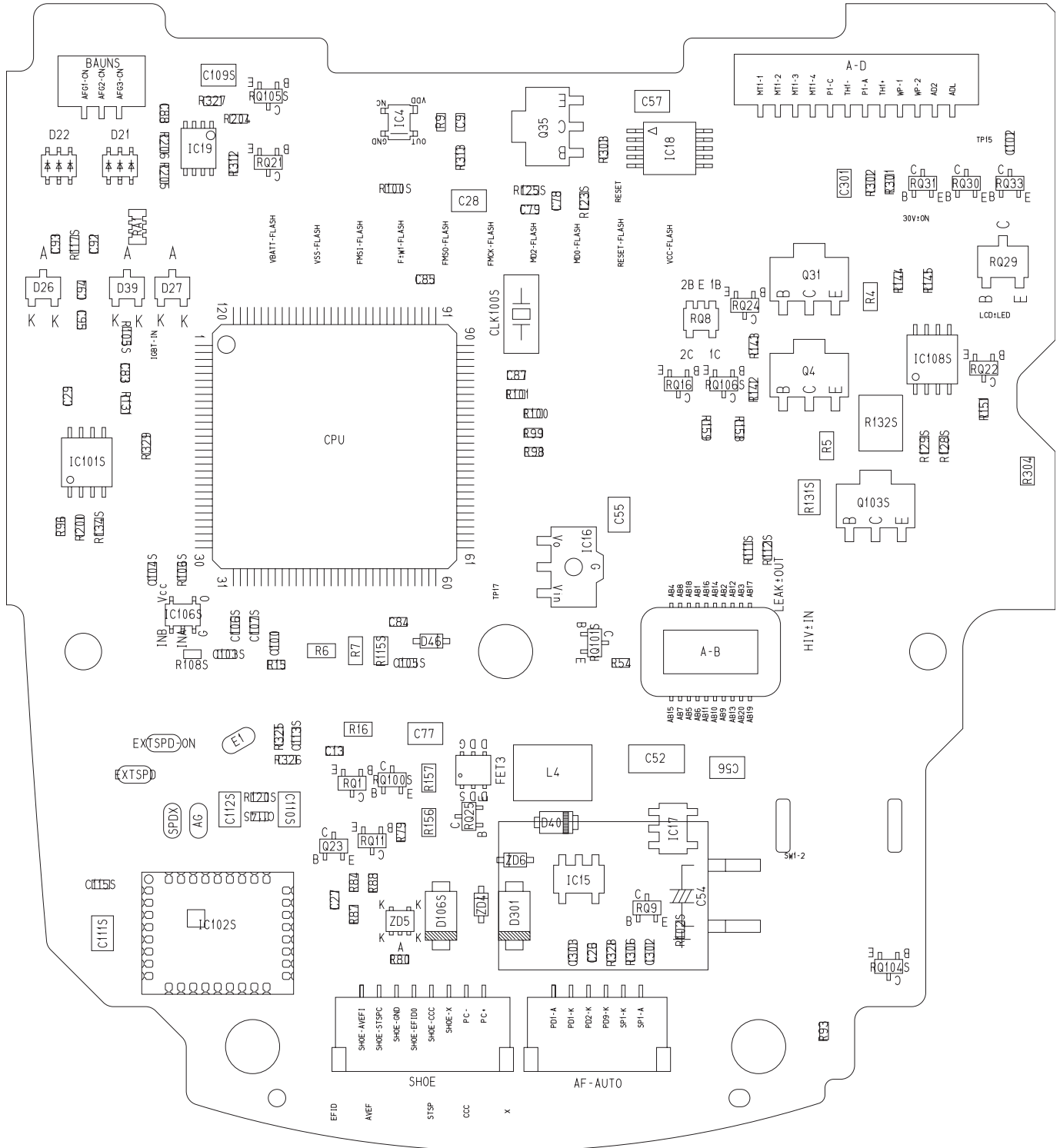


*リード線はこの部番に含まれる。
*The lead wire is included in this part number.

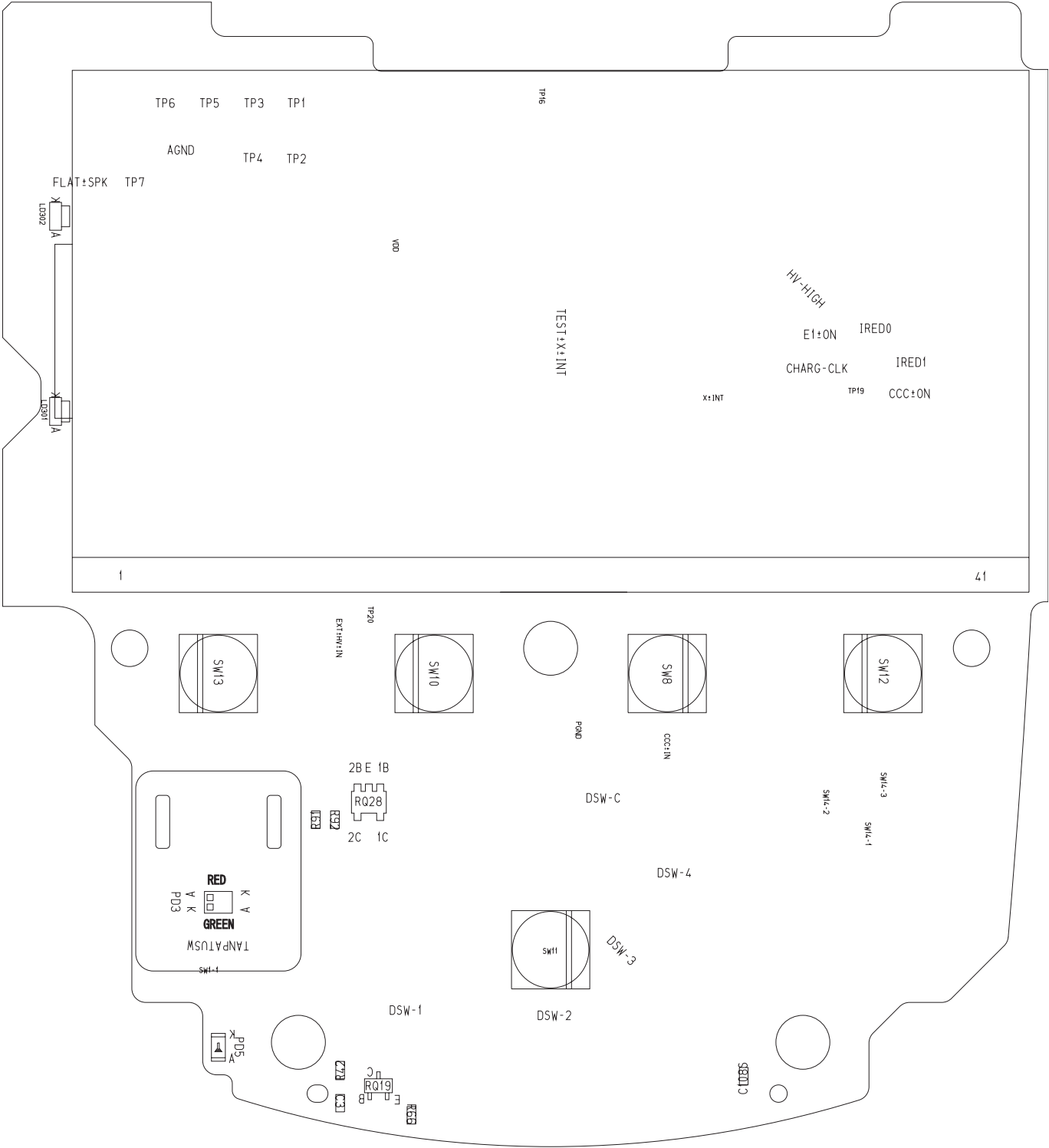
3. P.C.B DIAGRAM

3-1 A PCB (1)

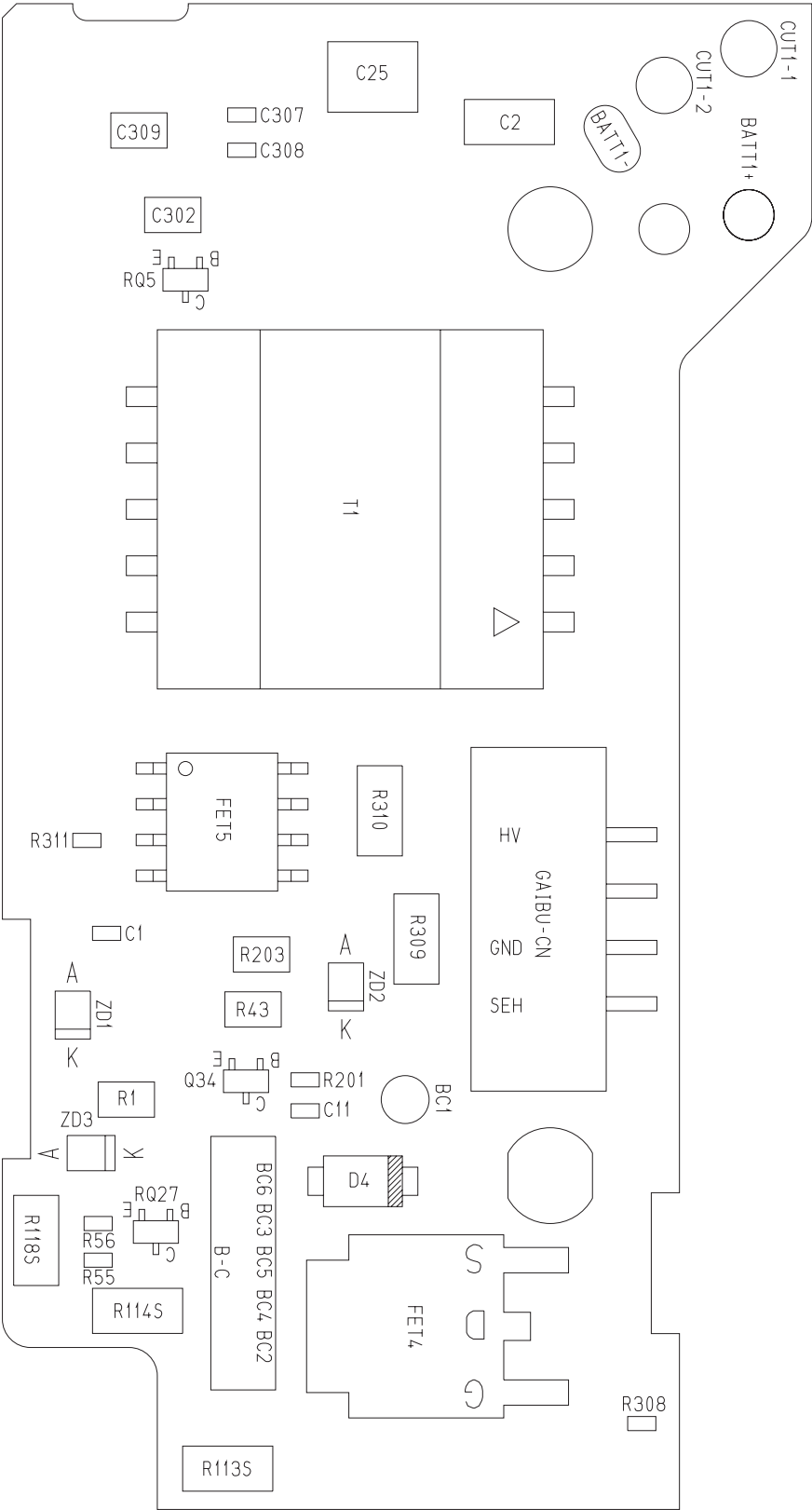
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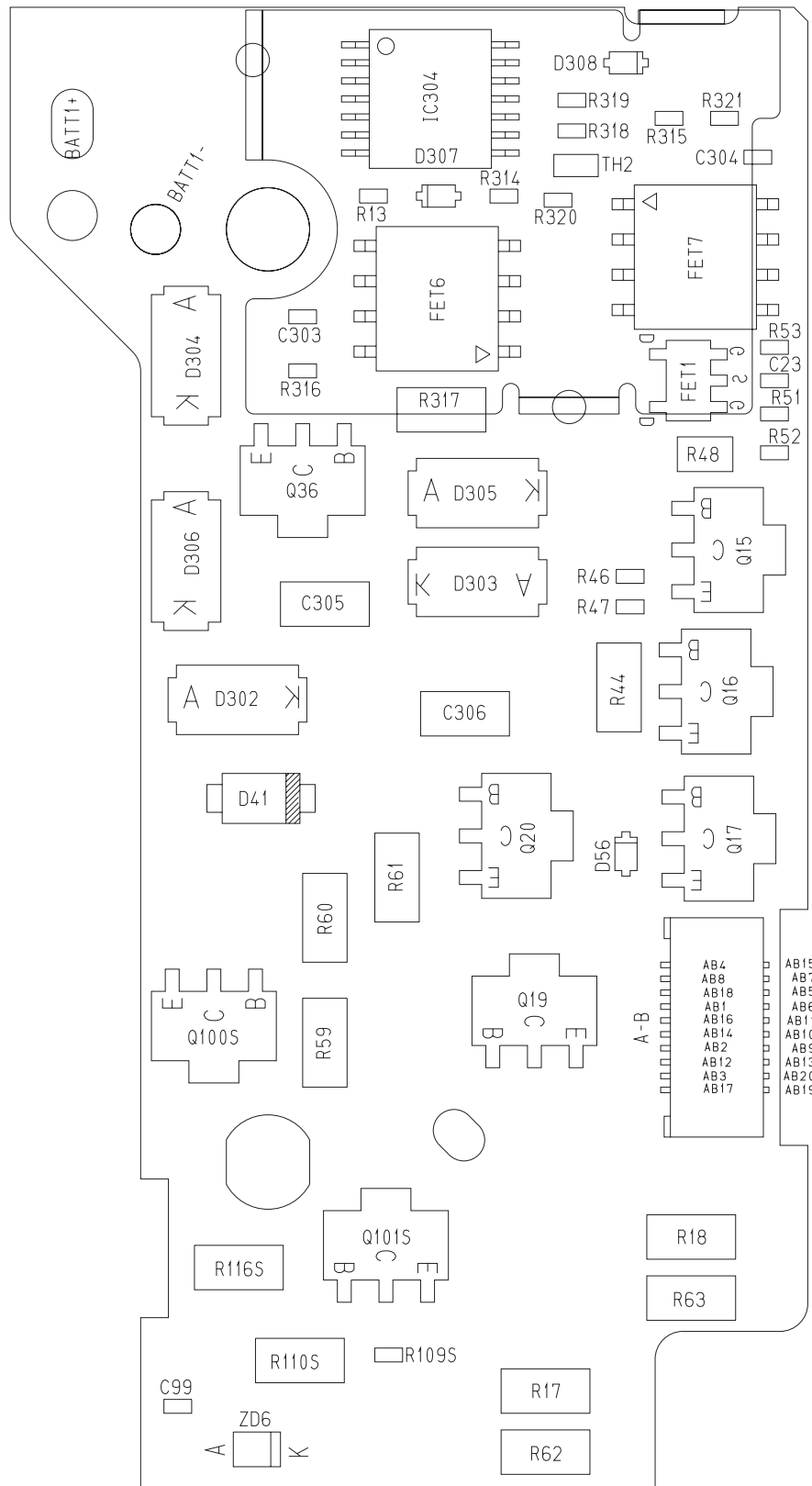


3-1 A PCB (2)

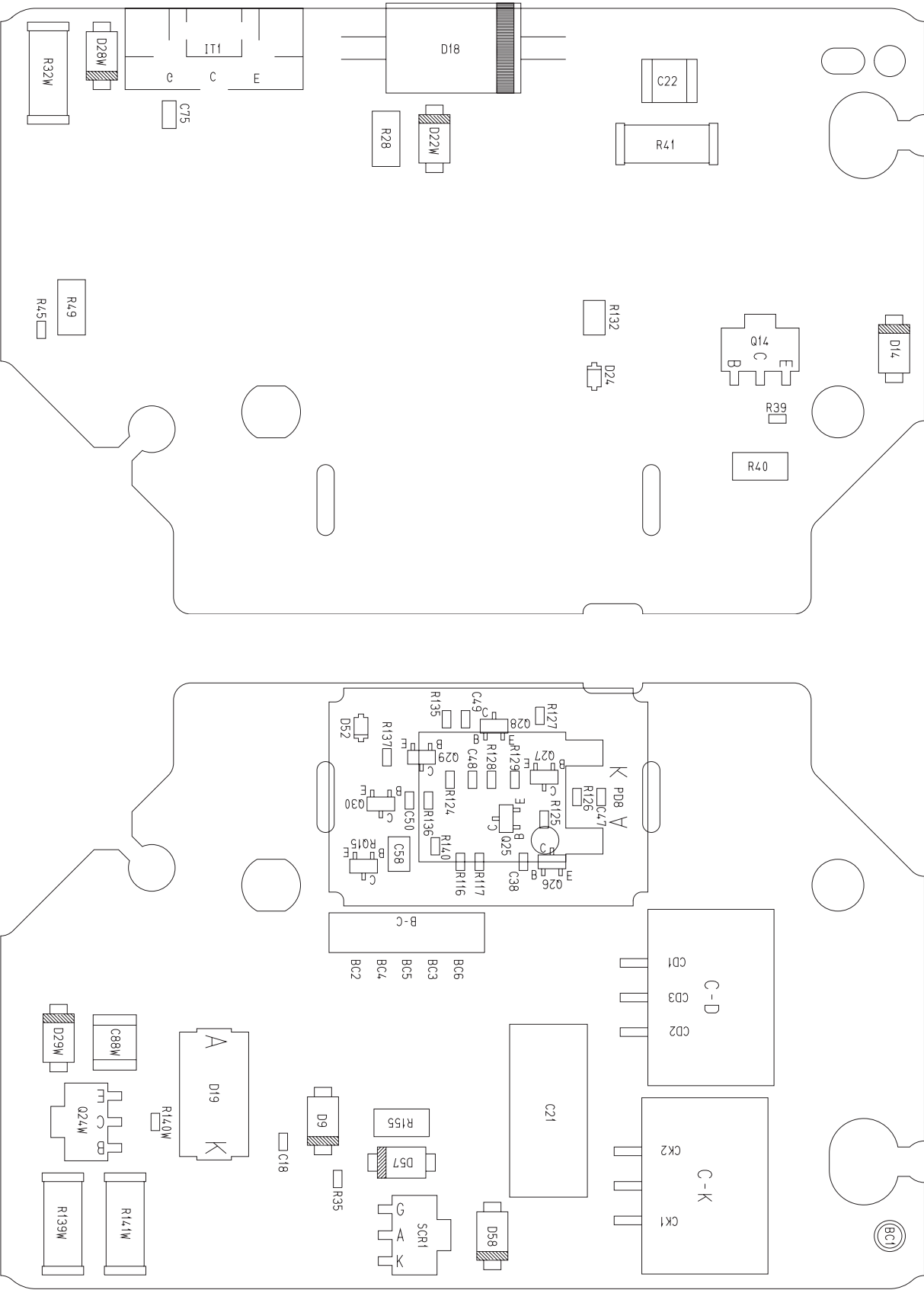


3-2 B PCB (1)

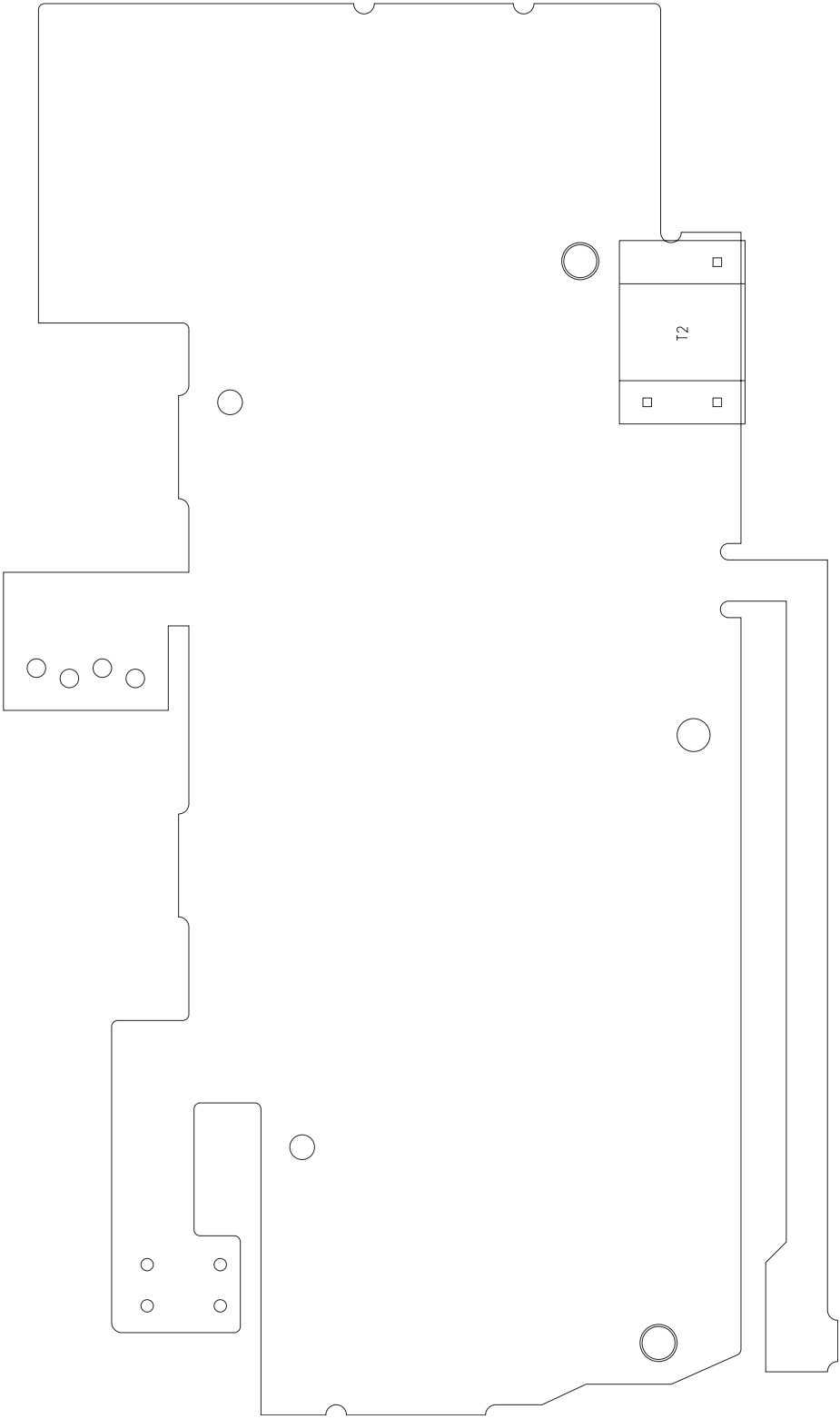




3-3 C PCB



3-4 D PCB (1)



3-4 D PCB (2)

