作成承認印	配布許可印
ニコンカメラサービス部 GM	

Autofocus Speedlight

SB-25

PARTS LIST (REVISED-1)

修 理 部 品 表 (改 訂-1)

Nikon | NIKON CORPORATION
Tokyo, Japan

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〔2〕 展開図 EXPLODED DRAWINGS

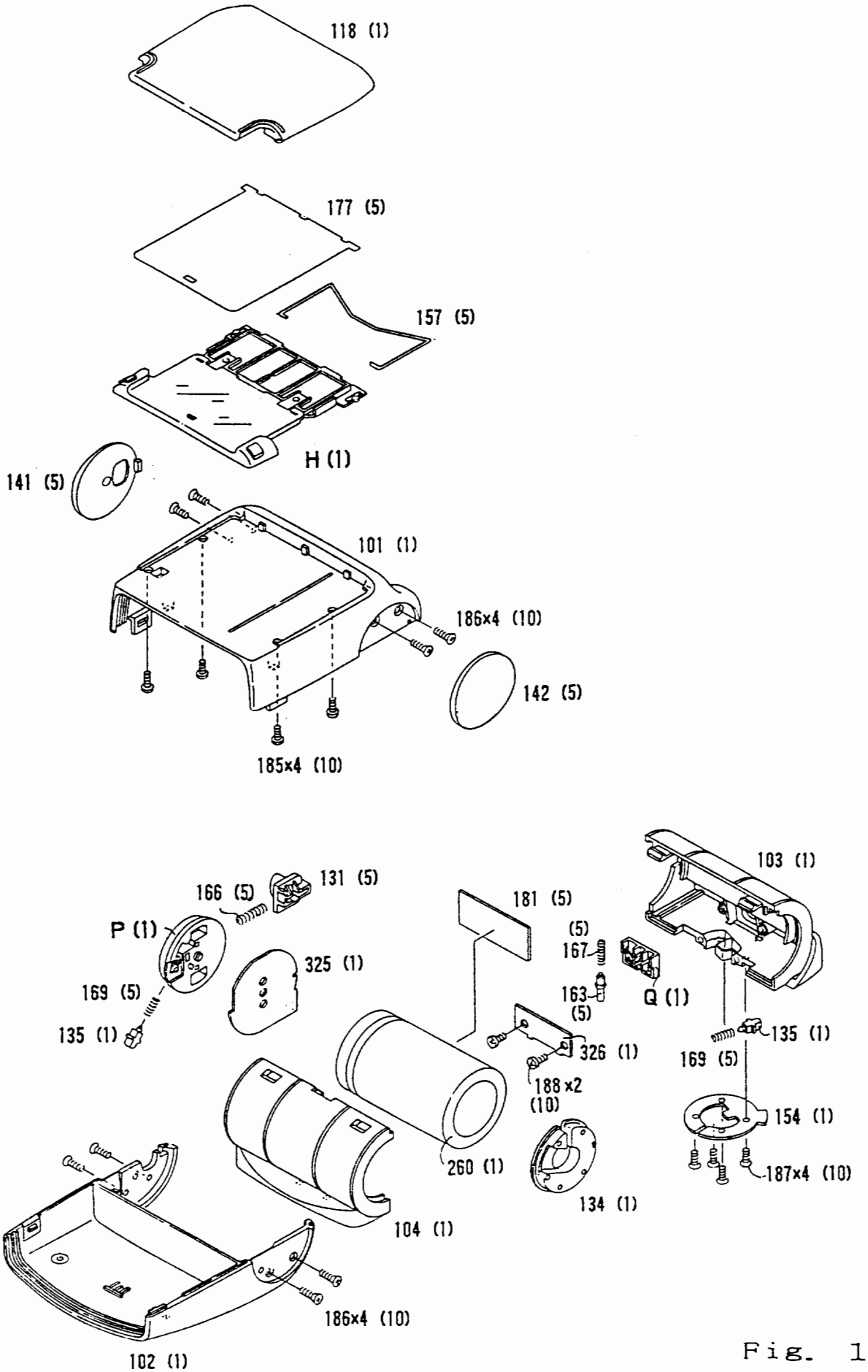
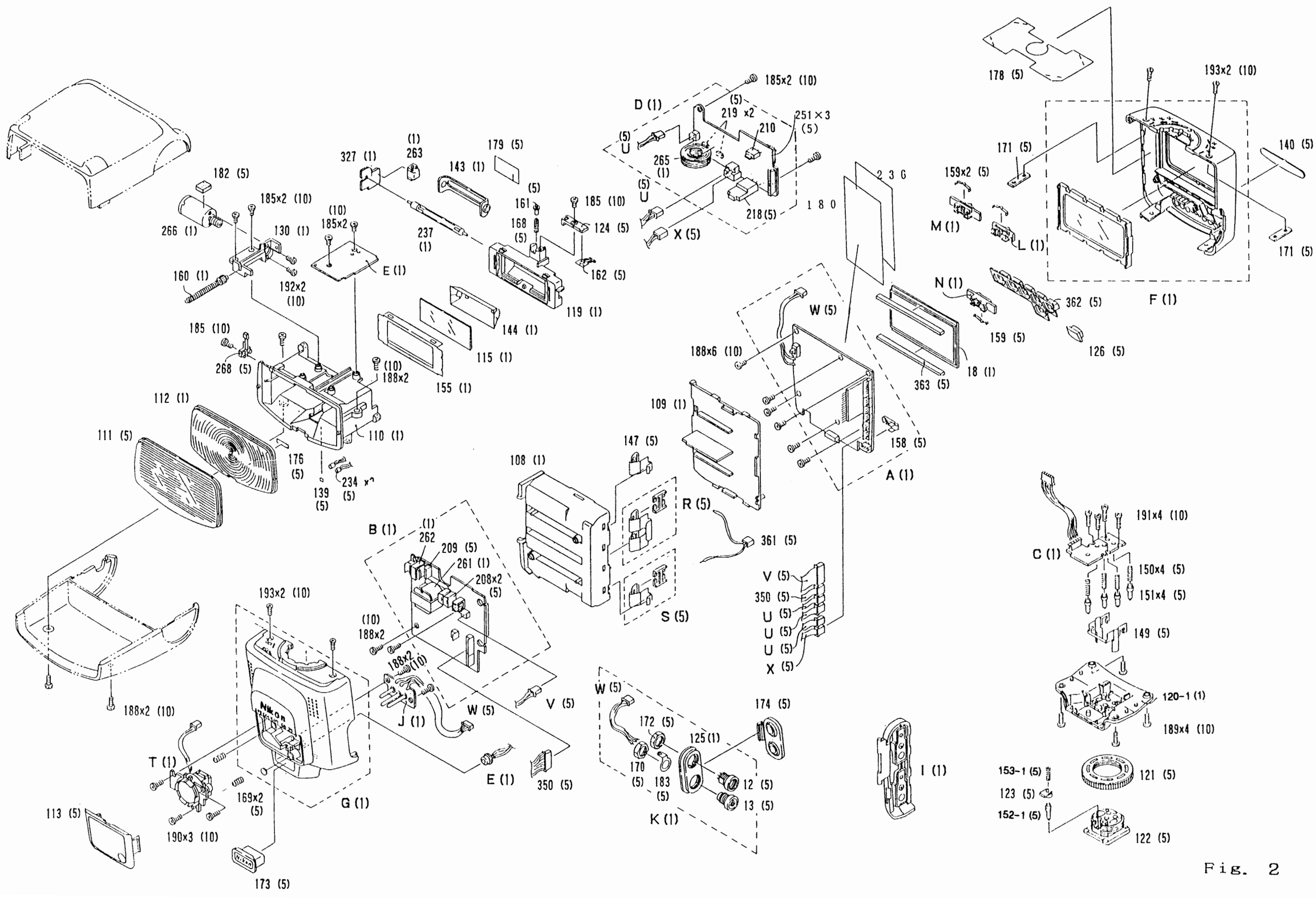


Fig. 1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171 (5)
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M (1)
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171 (5)
F (1)
362 (5)
126 (5)
159 (5)
N (1)
18 (1)
363 (5)
2 3 6
1 8 0
D (1)
185×2 (10)
(5)
219 ×2
251×3
(5)
210
265
(1)
(5)
U
(5)
U
X (5)
218 (5)
327 (1)
(1)
263
143 (1)
179 (5)
(5)
161
168
(5)
185 (10)
124 (5)
162 (5)
237
(1)
119 (1)
182 (5)
185×2 (10)
266 (1)
130 (1)
(10)
185×2
E (1)
160 (1)
192×2
(10)
144 (1)
115 (1)
155 (1)
185 (10)
268 (5)
(10)
188×2
112 (1)
111 (5)
110 (1)
176
(5)
234 ×2
139
(5)
W (5)
188×6 (10)
109 (1)
158 (5)
A (1)
147 (5)
108 (1)
R (5)
361 (5)
S (5)
V (5)
350 (5)
U (5)
U (5)
U (5)
X (5)
B (1)
(1)
262
209 (5)
261 (1)
208×2
(5)
(10)
188×2
188×2
(10)
J (1)
W (5)
V (5)
E (1)
350 (5)
193×2 (10)
188×2 (10)
T (1)
169×2
(5)
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113 (5)
G (1)
173 (5)
W (5)
172 (5)
174 (5)
125 (1)
170
(5)
183
(5)
12 (5)
13 (5)
K (1)
I (1)
191×4 (10)
C (1)
150×4 (5)
151×4 (5)
149 (5)
120-1 (1)
189×4 (10)
153-1 (5)
123 (5)
152-1 (5)
121 (5)
122 (5)

Fig. 2

部品番号 Part No.	補助番号 Ckt No.	名称 Name	1台分個数 Pcs. Per Unit	部組品番号 Assembly	参照図番 Fig. No.	販売区分 Term of Delivery	備考 Remarks	要求単位 Q'ty per order
* 12 (1B400-026-1)		増灯ターミナル TTL multiple flash terminal	1	K	2	○△	SB-24 #12	5
* 13 (1B400-035)		シンクロターミナル Synchro. terminal	1	K	2	○△	SB-24 #13	5
18 (1S268-028)		液晶 L C D	1		2	○		1
101 (FSA02501-101)		上ケース Cover (upper)	1		1	○		1
102 (FSA02501-102)		下ケース Cover (lower)	1		1	○	S/N 入り Printed S/N	1
103 (FSA02501-103)		ケース C Cover C	1		1	○		1
104 (FSA02501-104)		ケース D Cover D	1		1	○		1
108 (FSA02501-108)		電池室 モールド A Battery chamber mold A	1		2	○		1
109 (FSA02501-109)		電池室 モールド B Battery chamber mold B	1		2	○		1
110 (FSA02501-110)		フード Hood	1		2	○		1
111 (FSA02501-111)		アクリル パネル Acryle panel	1		2	○		5
112 (FSA02501-112)		フレネル レンズ Fresnel lens	1		2	○		1
113 (FSA02501-113)		フォーカシング パネル Focusing panel	1		2	○		5
115 (FSA02501-115)		フロント パネル Front panel	1		2	○		1
118 (FSA02501-118)		ワイド パネル カバー Wide panel cover	1		1	○		1
119 (FSA02501-119)		リフレクター カバー Reflector cover	1		2	○		1

部品表 Parts List

FSA02501-R. 3315. B

部品番号 Part No.	補助番号 Ckt No.	名称 Name	1台分個数 Pcs. Per Unit	部組品番号 Assembly	参照図番 Fig. No.	販売区分 Term of Delivery	備考 Remarks	要求単位 Q'ty per order
120 (FSA02501-120)		シュー ケース Shoe case	1		2	○		1
121 (FSA02501-121)		ロック ナット Lock nut	1		2	○		5
122 (FSA02501-122)		足台 Mounting foot	1		2	○		5
123 (FSA02501-123)		シューロック モールド Shoerock mold	1		2	○		5
124 (FSA02501-124)		傘駆動モールド Reflector actuating mold	1		2	○		5
125 (FSA02501-125)		ターミナル モールド Terminal mold	1	J	2	○△		1
126 (FSA02501-126)		フラッシュ ボタン Flash button	1		2	○		5
130 (FSA02501-130)		モーター 固定台 Motor base	1		2	○		1
131 (FSA02501-131)		上下ロック釦 U / D lock button	1		1	○		5
134 (FSA02501-134)		上下バウンス軸 (B) U / D bounce shaft (B)	1		1	○		1
* 135 (FSA02401-131)		クリック突子 Clik point	2		1	○	SB-24#131	1
139 (FSA02501-139)		SPD フィルター S P D filter	1		2	○		5
140 (FSA02501-140)		調整部保護カバー Protecting cover	1		2	○		5
141 (FSA02501-141)		サイドゴム (A) Side rubber (A)	1		1	○		5
142 (FSA02501-142)		サイドゴム (B) Side rubber (B)	1		1	○		5
143 (FSA02501-143)		Xeブッシュ Xenon bush	1		2	○		1

部品表 Parts List

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部品番号 Part No.	補助番号 Ckt No.	名称 Name	1台分個数 Pcs. Per Unit	部組品番号 Assembly	参照図番 Fig. No.	販売区分 Term of Delivery	備考 Remarks	要求単位 Q'ty per order
144 (FSA02501-144)		リフレクター Reflector	1		2	○		1
* 147 (FSA02101-148)		電池接片 (−) Battery contact (-)	1		2	○	SB-20#148	5
* 149 (FSA02301-118)		シュー接片 (−) Shoe contact (-)	1		2	○	SB-23 #118	5
* 150 (FSA02101-145)		シュー接片 バネ Shoe contact spring	4		2	○	SB-20 #145	5
* 151 (FSA02101-146)		シュー接片 Shoe contact	4		2	○	SB-20 #146	5
152 (FSA02501-152)		シューロックピン Shoe lock pin	1		2	○		5
153-1 (FSA02501-153)		シューロックバネ Shoe lock spring	1		2	○		5
* 154 (FSA02401-148)		回転板 Retainer plate	1		1	○	SB-24 #148	1
155 (FSA02501-155)		パネル保持板 Panel retainer plate	1		2	○		1
157 (FSA02501-157)		ワイドパネル バネ Wide panel spring	1		1	○		5
158 (FSA02501-158)		単発接片 Flash test contact	1	A	2	○△		5
159 (FSA02501-159)		クリック バネ Click spring	3		2	○		5
* 160 (FSA02401-153)		駆動軸 Actuating shaft	1		2	○	SB-24 #153	1
161 (FSA02501-161)		クラッチ軸 Clatch shaft	1		2	○		5
* 162 (FSA02401-155)		ズーム検出ブラシ Zoom detection brush	1		2	○	SB-24 #155	5
163 (FSA02501-163)		左右ロックピン L / R lock pin	1		1	○		5

部品表 Parts List

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部品番号 Part No.	補助番号 Ckt No.	名称 Name	1台分個数 Pcs. Per Unit	部組品番号 Assembly	参照図番 Fig. No.	販売区分 Term of Delivery	備考 Remarks	要求単位 Q'ty per order
166 (FSA02501-166)		上下バウンスロック バネ U / D bounce lock spring	1		1	○		5
＊ 167 (FSA02401-159)		左右バウンスロック バネ L / R bounce lock spring	1		1	○	SB-24 #159	5
＊ 168 (FSA02401-160)		クラッチ バネ Clatch spring	1		2	○	SB-24 #160	5
＊ 169 (FSA02401-161)		圧縮コイル バネ Coil spring	4		1	○	SB-24 #161	5
170 (FSA02501-170)		シンクロ ナット Synchro nut	1	K	2	○△		5
＊ 171 (FSA02401-163)		横止め板ナット Side nut	2		2	○	SB-24 #163	5
172 (FSA02501-172)		増灯ナット Nut	1	K	2	○△		5
＊ 173 (FSA02401-167)		電源キャップ Power source cap	1		2	○	SB-24 #167	5
174 (FSA02501-174)		ターミナル キャップ Terminal cap	1		2	○		5
176 (FSA02501-176)		センサー シール Sensor seal	1		2	○		5
177 (FSA02501-177)		キャッチ シート Catch sheet	1		1	○		5
＊ 178 (FSA02401-170)		テトロン シート (B) Sheet (B)	1		2	○	SB-24 #170	5
179 (FSA02501-179)		テトロン シート (C) Sheet (C)	1		2	○		5
＊ 181 (FSA02401-183)		両面テープ (A) 35x15 t=0.12 Double side adhesive tape	1		1	○	SB-24 #183	5
182 (FSA02501-182)		スポンジ 2 x 6 x 7 w /glue Sponge	2		2	○		5
＊ 183 (1K610-476)		ラグ板 Lug plate	1	K	2	○△	SB-20 #160	5
180 (FSA02501-180)	NEW	テープ, ELパネル Tape , Electrical luminance plate	1	A	2	○△	RP-03C7 販売区分変更 △⇨○△	5

部品表 Parts List

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部品番号 Part No.	補助番号 Ckt No.	名称 Name	1台分個数 Pcs. Per Unit	部組品番号 Assembly	参照図番 Fig. No.	販売区分 Term of Delivery	備考 Remarks	要求単位 Q'ty per order
185 (FSA02501-185)		タップタイトネジ 頭Φ4 M1.7 X 3.5 Tap/Tight screw	12		1, 2	○		10
186 (FSA02501-186)		タップタイトネジ M2 X 5 Tap/Tight screw	8		1	○		10
187 (FSA02501-187)		タップタイトネジ 頭Φ3 M2 X 5 Tap/Tight screw	4		1	○		10
188 (FSA02501-188)		タップタイトネジ 頭Φ4 M2 X 4.5 Tap/Tight screw	16		1, 2	○		10
189 (FSA02501-189)		タップタイトネジ 頭Φ3.5 M2 X 6 Tap/Tight screw	4		2	○		10
190 (FSA02501-190)		タップタイトネジ 頭Φ4 M2 X 6 Tap/Tight screw	3		2	○		10
191 (FSA02501-191)		小ネジ M2 X 9 Screw	4		2	○		10
192 (FSA02501-192)		小ネジ M1.4 X 2.5 Screw	2		2	○		10
193 (FSA02501-193)		小ネジ M2 X 4 Screw	4		2	○		10
208 (FSA02501-208)		トランジスター 2SB1148 Transistor	2	B	2	○△		5
209 (FSA02501-209)		トランジスター 2SD1225M Transistor	1	B	2	○△		5
210 (FSA02501-210)		トランジスター 2SC3632 Transistor	1	D	2	○△		5
218 (FSA02501-218)		IGBT CT40TMH-8 IGBT	1	D	2	○△		5
219 (FSA02501-219)		チップサイリスター CR08AS-12 Chip thyristor	2	D	2	○△		5
234 (FSA02501-234)		フォトダイオード PPC201 Photo diode	2		2	○		5
237 (FSA02501-237)		Xe チューブ D-3830PLS Xenon tube	1		2	○		1
236 (FSA02501-236)		ELパネル Electrical luminance plate	1	A	2	○△	RP-03C7 販売区分変更 △⇨○△	5

部品表 Parts List

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部品番号 Part No.	補助番号 Ckt No.	名称 Name	1台分個数 Pcs. Per Unit	部組品番号 Assembly	参照図番 Fig. No.	販売区分 Term of Delivery	備考 Remarks	要求単位 Q'ty per order
260 (FSA02501-260)		メイン コンデンサー 1400μF/350V Main condenser	1		1	○		1
261 (FSA02501-261)		トランス 1624 Transformer	1	B	2	○△		1
262 (FSA02501-262)		トランス 08EL Transformer	1	B	2	○△		1
263 (FSA02501-263)		トリガー コイル KP-42 Trigger coil	1		2	○		1
265 (FSA02501-265)		インダクター BL-3 Inductor	1	D	2	○△		1
266 (FSA02501-266)		モーター 12C-010L06 Motor	1		2	○		1
268 (FSA02501-268)		リーフ スイッチ Leaf switch	1		2	○		5
325 (FSA02501-325)		プリント板 (F) Printed circuit (F)	1		1	○		1
326 (FSA02501-326)		プリント板 (G) Printed circuit (G)	1		1	○		1
327 (FSA02501-327)		プリント板 (H) Printed circuit (H)	1		1	○		1
350 (FSA02501-350)		リード線セット (B) CN-3 Lead wire set (B)	1		2	○		5
361 (FSA02501-361)		リード線セット (H) CN-11 Lead wire set (H)	1		2	○		5
362 (FSA02501-362)		ゴム スイッチ Rubber switch	1		2	○		5
363 (FSA02501-363)		ゴム コネクター Rubber connector	2		2	○		5
251 (FSA02501-251)		チップ フィルムコンデンサー Chip film condenser	3	D	2	○△	RP-03E3 使用頻度高いため サ技報03-43 号参照	5

部組品表 Assembly List

FSA02501-R. 3315. B

部組番号 Part No.	名称 Name	1台分個数 Pcs. Per Unit	構成部品番号 Constituent Parts	参照図番 Fig. No.	備考 Remarks	要求単位 Q'ty per order
A (FSA02501-A)	A 基板 Printed circuit A	1		2		1
B (FSA02501-B)	B 基板 Printed circuit B	1		2		1
C (FSA02501-C	C 基板 Printed circuit C	1		2		1
D (FSA02501-D)	D 基板 Printed circuit C	1		2		1
E (FSA02501-E)	E 基板 Printed circuit E	1		2		1
F (FSA02501-F)	本体モールド (F) 組 Mold (F) assembly	1		2		1
G (FSA02501-G)	本体モールド (E) 組 Mold (E) assembly	1		2		1
H (FSA02501-H)	ワイドパネル組 Wide panel assembly	1		3 1		1
I (FSA02501-I)	電池蓋組 Battery cap assembly	1		2		1
J (FSA02501-J)	J 基板 Printed circuit J	1		2		1
K (FSA02501-K)	シンクロターミナル組 Synchro. terminal assembly	1		2		1
L (FSA02501-L)	スイッチツマミ (A) 組 Switch knob (A) assembly	1		2		1
M (FSA02501-M)	スイッチツマミ (B) 組 Switch knob (B) assembly	1		2		1
N (FSA02501-N)	スイッチツマミ (C) 組 Switch knob (C) assembly	1		2		1
P (FSA02501-P)	上下バウンス軸 (A) 組 U / D bounce shaft (A) assembly	1		2		1
Q (FSA02501-Q)	左右ロックボタン組 L / R lock button assembly	1		1		1

部組品表 Assembly List

FSA02501-R. 3315. B

部組番号 Part No.	名称 Name	1台分個数 Pcs. Per Unit	構成部品番号 Constituent Parts	参照図番 Fig. No.	備考 Remarks	要求単位 Q'ty per order
R (FSA02501-R)	接片ガード部 組 Contact assembly	1		2		5
S (FSA02501-S)	電池接片（+）部 組 Battery contact (+) assembly	1		2		5
T (1B150-066)	AFモジュール組 A F module assembly	1	1G300-002. 1K240-836. 1K641-179. 1K681-487. 1K681-488. 1S045-333.	2		1
U (FSA02501-U)	リード線セット （A） Lead wire set (A)	1		2		1
V (FSA02501-U)	リード線セット （C） Lead wire set (C)	1		2		1
W (FSA02501-U)	リード線セット （D） Lead wire set (D)	1		2		1
X (FSA02501-U)	リード線セット （G） Lead wire set (G)	1		2		1

部組品表 Assembly List

FSA02501-R. 3315. B

部組番号 Part No.	名称 Name	1台分個数 Pcs. Per Unit	構成部品番号 Constituent Parts	参照図番 Pig. No.	備考 Remarks	要求単位 Q'ty per order
R (FSA02501-R)	接片ガード部 組 Contact assembly	1		2		5
S (FSA02501-S)	電池接片 (+) 部 組 Battery contact (+) assembly	1		2		5
T (18150-066)	AFモジュール組 A F module assembly	1	1G300-002. 1K240-836. 1K641-179. 1K681-487. 1K681-488. 1S045-333.	2		1

[1] SPECIFICATIONS

See the SB-25 instruction manual.

1. Exclusive SB-25 features

(Features/functions found in the SB-25 but not available with SB-24)

(1) Automatic Balanced Fill-Flash with TTL Multi Sensor (for F90-series/N90 cameras)——3D Multi-Sensor Balanced Fill-Flash (with D-type AF Nikkor lens) and Multi-Sensor Balanced Fill-Flash

(2) FP High-Speed Sync Flash

(3) Manual light output levels of 1/32 and 1/64 possible.

(4) Angle of coverage of 102° horizontal and 90 ° vertical (with wide-flash adapter) enables use with 20mm lens

(5) Red-Eye Reduction control (for F90-Series/N90 cameras)

(6) Built-in diffuser card

(7) Mount pin (for Posi-Mount mechanism)

(8) Underexposure indication: "underexposure" symbol and amount of underexposure remains in the LCD panel for three seconds. Underexposure indication is recalled by pressing the illuminator button.

2. Guide number

2-1 Manual flash mode

(ISO 100, m)

	20mm	24mm	28mm	35mm	50mm	70mm	85mm
FULL	20±	30±	32 ±	36 ±	42 ±	48 ±	50 ±
M1/2	14±	21±	22.5 ±	25.5 ±	30 ±	34 ±	36 ±
M1/4	10±	15±	16 ±	18 ±	21 ±	24 ±	25 ±
M1/8	7±	10.5±	11.3 ±	12.7 ±	15 ±	17 ±	18 ±
M1/16	5±	7.5±	8±	9 ±	10.5±	12 ±	12.7±
M1/32	3.5±	5.3±	5.7 ±	6.4 ±	7.5±	8.5±	9 ±
M1/64	2.5±	3.8±	4 ±	4.5 ±	5.3±	6 ±	6.3 ±
Preflashes for Red-Eye Reducttion	1.1±	1.7±	1.8 ±	2±	2.4±	2.7±	2.8±
FP1	——	9.9±	10.6 ±	12 ±	14 ±	16 ±	16.7±
FP2	——	7±	7.5 ±	8.5 ±	9.9±	11.3±	11.8±

* The above guide numbers are for a subject 3m away.

* With a shutter speed at 1/500 sec. for FP1 and FP2.

2-2 Repeating flash mode

	20mm	24mm	28mm	35mm	50mm	70mm	85mm
M1/8	6.2 ±	9.4 ±	10.1 ±	11.3±	13.4±	15.1±	16
M1/16	4.5 ±	6.7 ±	7.1 ±	8±	9.4 ±	10.7±	11.3±
M1/32	3.1 ±	4.7 ±	5.1 ±	5.7 ±	6.7 ±	7.6±	8±
M1/64	2.5 ±	3.8 ±	4±	4.5 ±	5.3 ±	6±	6.3±

* The above guide numbers are for a subject 3m away.

3. Number of flashes /Recycling time

With a power source other than those listed below, number of flashes and recycling time are same as for the SB-24.

3-1 With batteries installed in the SB-25 (for FP1)

	Number of flashes	Recycling time
AA-type alkaline-manganese	95 or more	8 sec. or less
AA-type NiCd	35 or more	5.5 sec. or less

3-2 With an external power source---Battery Pack SD-8 using alkaline-manganese batteries

Recycling time	Up to 3 sec.	Up to 5 sec.	Up to 9 sec.	Up to 30 sec.
Number of flashes	Initial	100 or more	200 or more	250 or more

3-3 With an external power source---Battery Pack SD-8 using NiCd batteries

Recycling time	Up to 2 sec.	Up to 30 sec.
Number of flashes	Initial	100 or more

* The number of flashes/recycling times shown above are obtained when not using AF assist illuminator, zooming and LCD panel illuminator.

4. Flash modes/functions and synchronization in continuous shooting

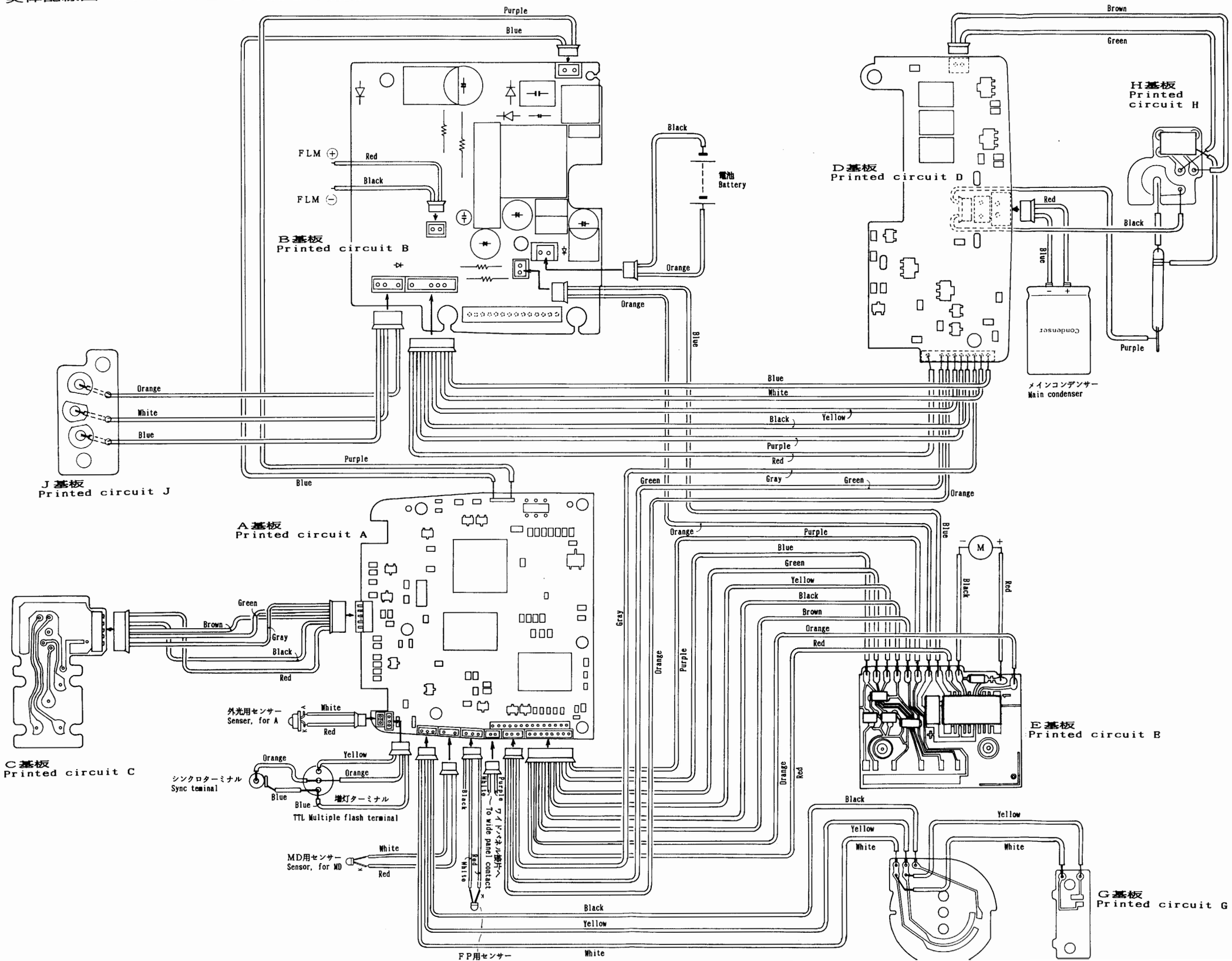
4-1 Flash modes/functions

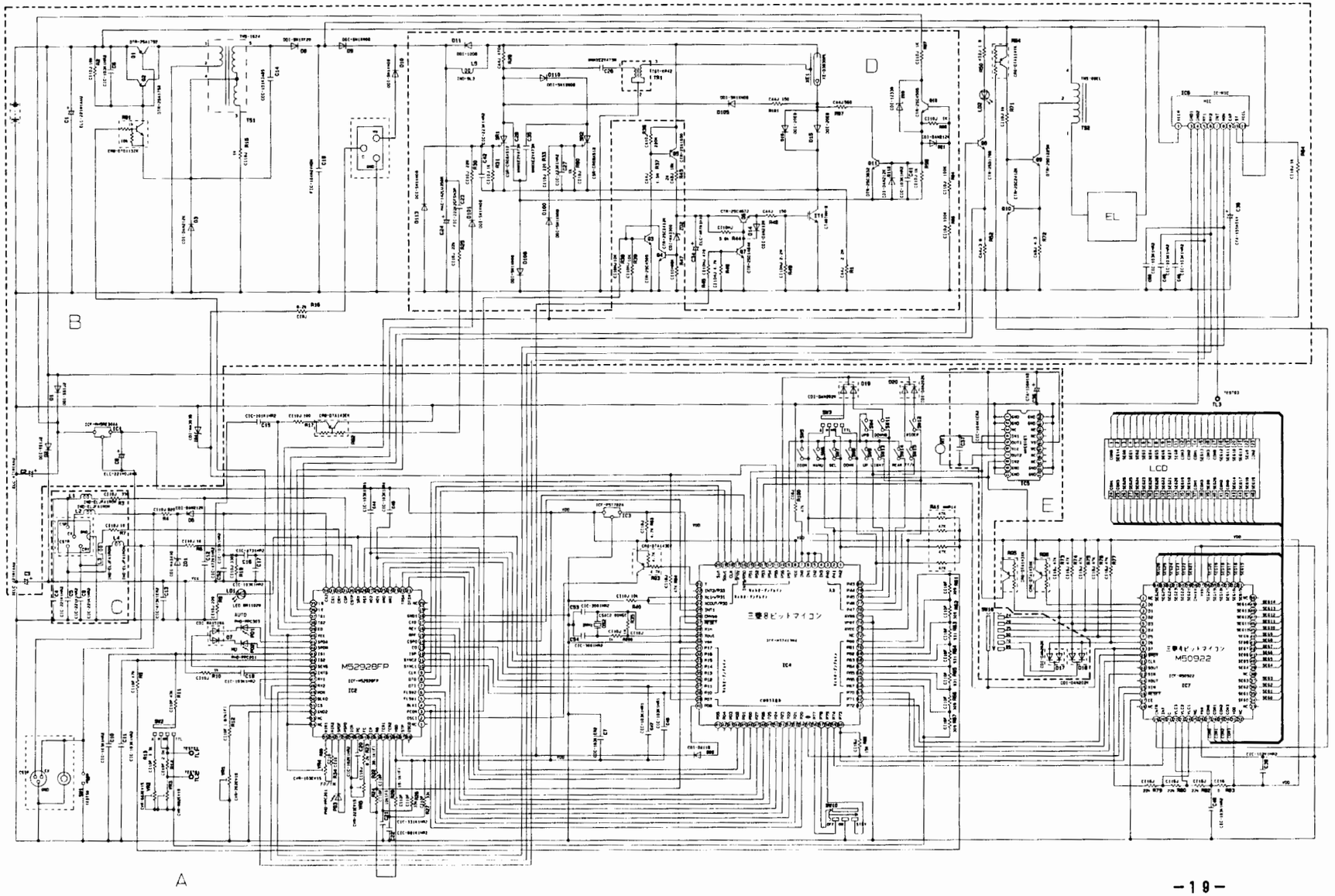
The following flash modes/functions can be selected using the flash mode selector and "M " button:

(1) Automatic Balanced Fill-Flash with TTL Multi-Sensor (for F90-series/N90 camera)---3D Multi-Sensor Balanced Fill-Flash and Multi-Sensor Balanced Fill-Flash
(2) Matrix Balanced Fill-flash/Center-Weighted Fill-Flash
(3) Standard TTL flash
(4) Manual flash mode
(5) FP High-Speed Sync Flash (for F90-series/N90 camera)
(6) Repeating flash mode
(7) Non-TTL auto flash mode

実体配線図 WIRING DIAGRAM

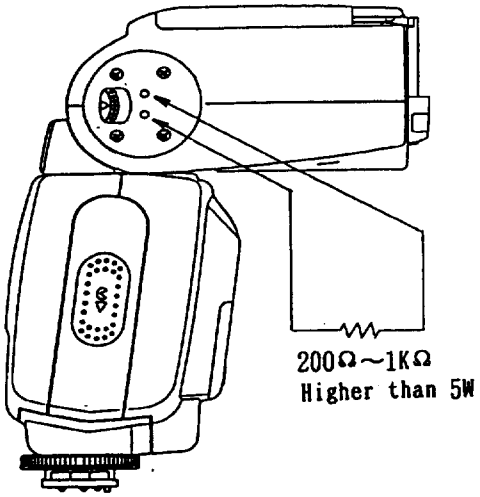
FSA025UI-R. 3315. A




A
B
C
D
E
EL
LCD
M52928FP
M50922

DISASSEMBLING (Assembly can be carried out in reverse order.)

1. Discharging main condenser

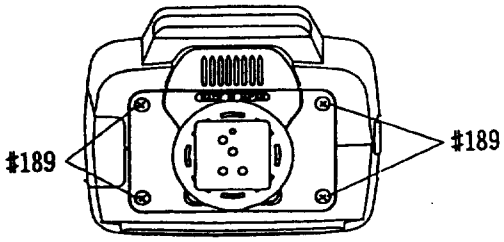


① Remove the rubber cover (A).

② Press the flash head tilting lock release lvers and set flash head to "0 ° " position.

③ Discharge the main condenser. (See illustration at left.)

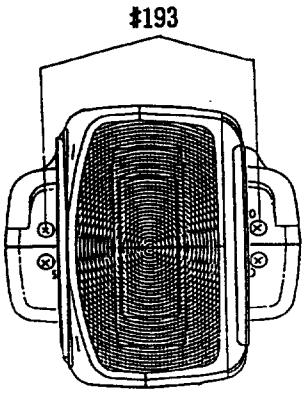
2. Mounting foot



① Unfasten screws #189x4.

② Lift mounting foot and remove the connector.

3. Front cover

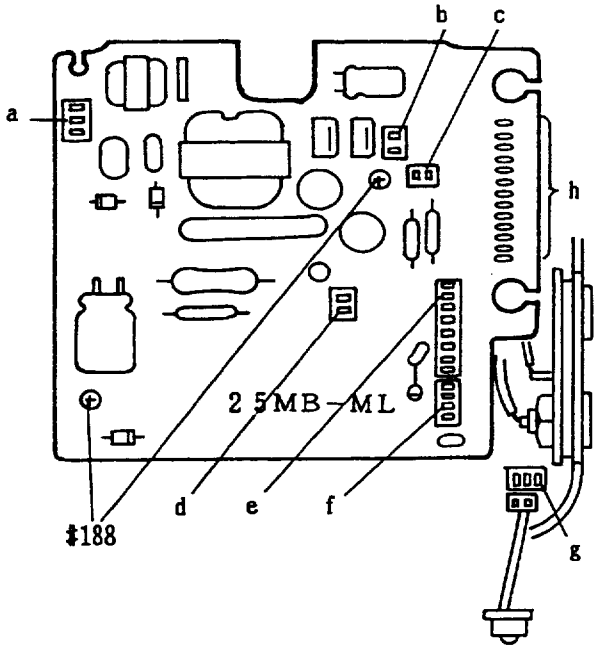


① Rotate the flash head right and left by 90° and unfasten screws #193x2 (one on each side).

② Rotate flash head to the original position and lock it.

③ While holding rear cover, remove the front cover. (Battery chamber lid also comes off).

4. Printed circuit B



Sensor unit

① Remove the six connectors ("a" to "f").

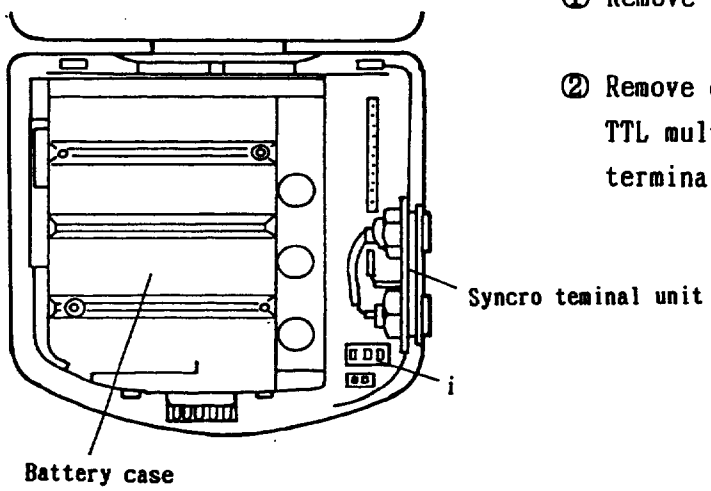
② Remove sensor unit from the main unit (E).

③ Unfasten screws #188x2.

④ Take out lead wires from the hole in the bottom printed board.

⑤ Remove connector (h) on the rear side of the bottom printed board.

5. Battery case and TTL multiple flash terminal/syncro terminal unit



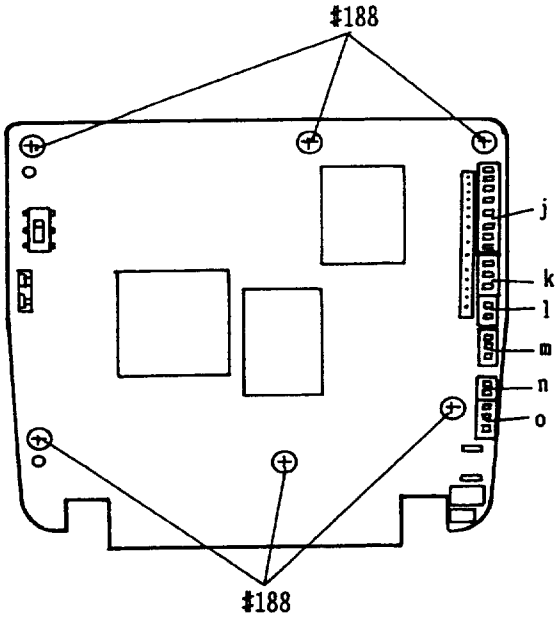
① Remove the battery case

② Remove connector (i) and take out the TTL multiple flash terminal/syncro terminal unit.

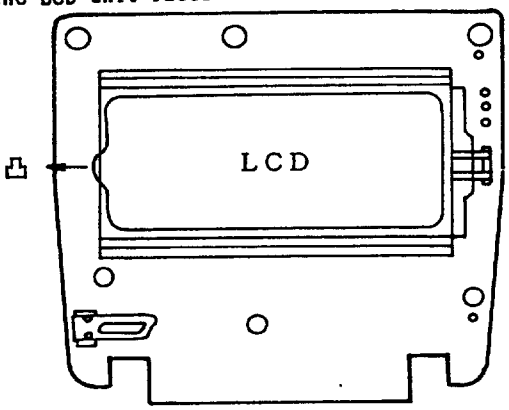
6. Printed circuit A

① Unfasten screws #188x6.

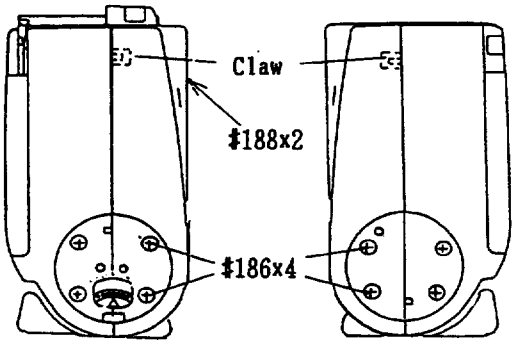
② Remove six connectors "j" to "o").



Make sure the portruding tab on the LCD unit faces left



7. Flash head



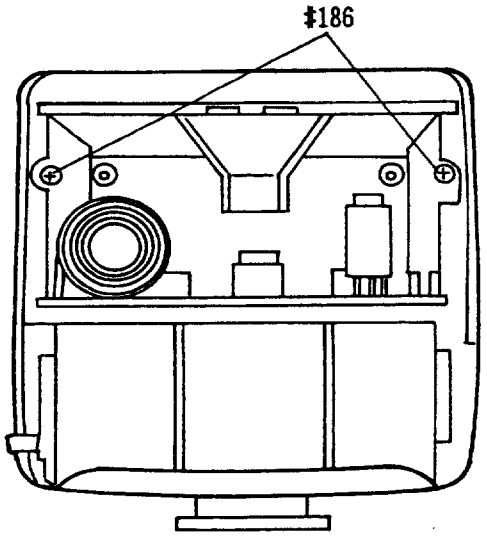
Right side　　Reft side

① Remove the rubber cover (B).

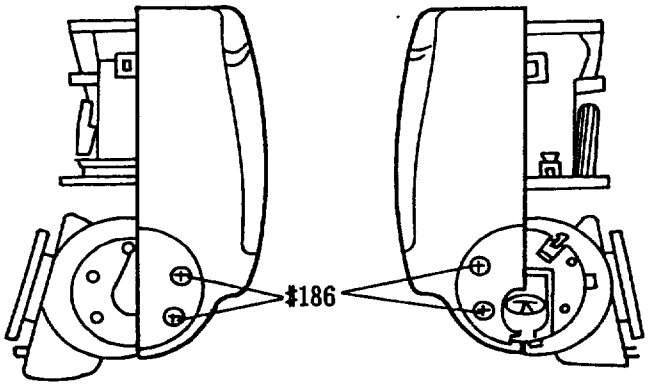
② Unfasten screws #188x2 on the bottom at the flash head.

③ Unfasten screws #186x4.

④ Remove flash head lower cover.

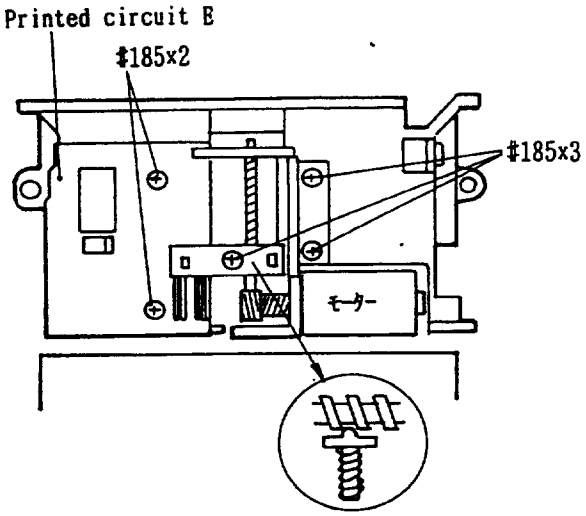


⑤ Unfasten screws #186x2.



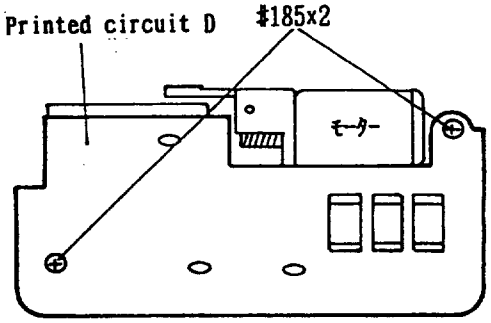
⑥ Tilt flash head up to the 90 ° position and unfasten screws #186x4.

⑦ Remove flash head upper cover.

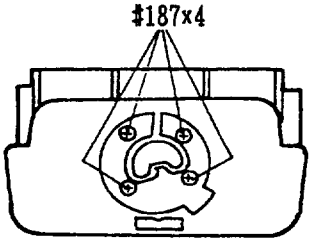


⑧ Remove the flash tube/motor gear unit.
Screw #185x3

⑨ Remove Printed circuit E.
Screws 185x2.



⑩ Remove Printed circuit D.
Screws 185x2.

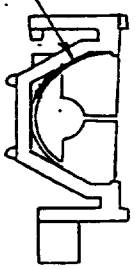


⑪ Remove screws #187x4, and disassemble the main condenser cover.

CHECK POINTS FOR ASSEMBLY

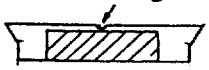
1. Head unit

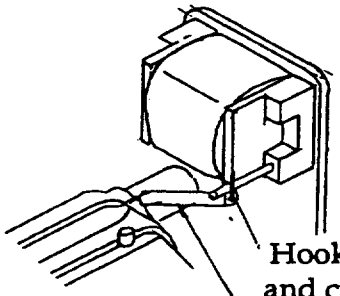
Attach the
mylar tape here.



Attach the 12mm-wide mylar tape to the reflector.

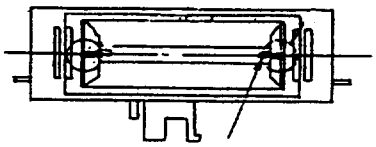
Note: Take care not to cover
the groove with the tape.





Hook, solder
and cut the tip.

Thermal contraction
tube ø1 x 8

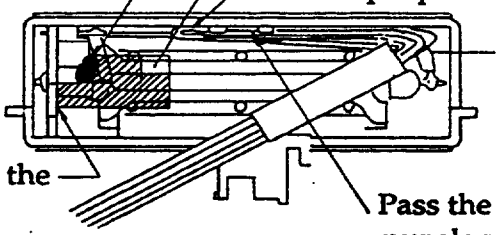


Both electrodes should
appear alike.

Insert a Tetoron sheet between
the thermal contraction tube and
trigger coil and fix with the
Cemedyne 575.

Put the Tetoron sheet under the Xe-pushing

Bend the purple wire in the reverse position.

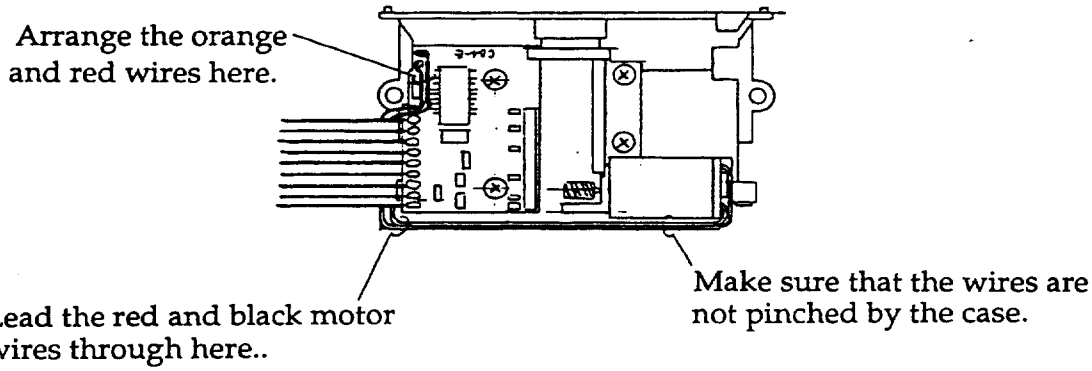


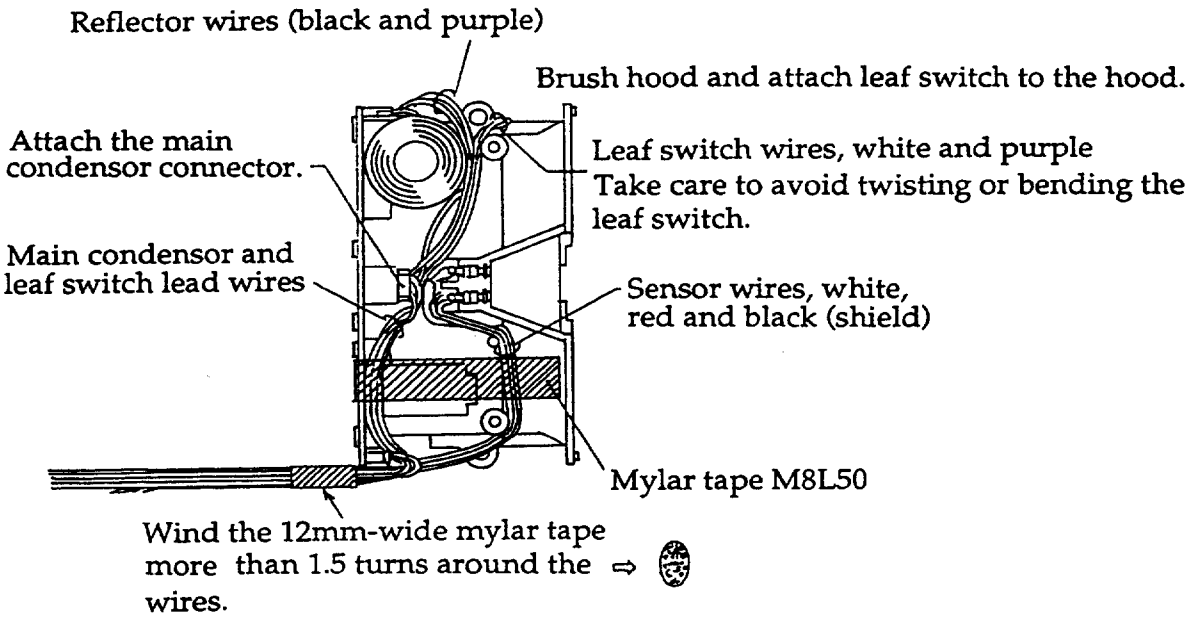
Bend the wires sharply
at the anode terminal.

Make sure the edge of the
Tetoron sheet touches
the board.

Pass the lead wires (except the
purple wire) through the hook.

2. Arranging lead wires





ADJUSTMENT PROCEDURE

a) Outline

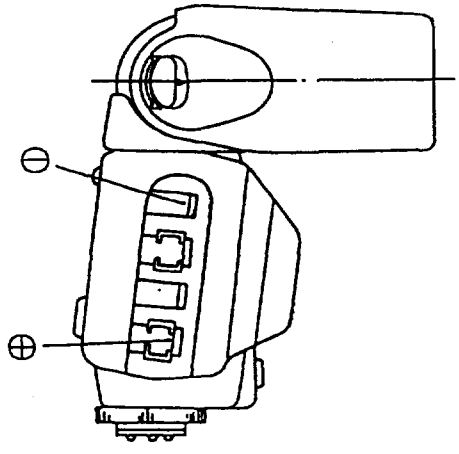
There are six kinds of adjustment to five for variable resistors (VR1~VR5), and one for the focus assist illuminator angle. Adjustments should be performed in the following order.

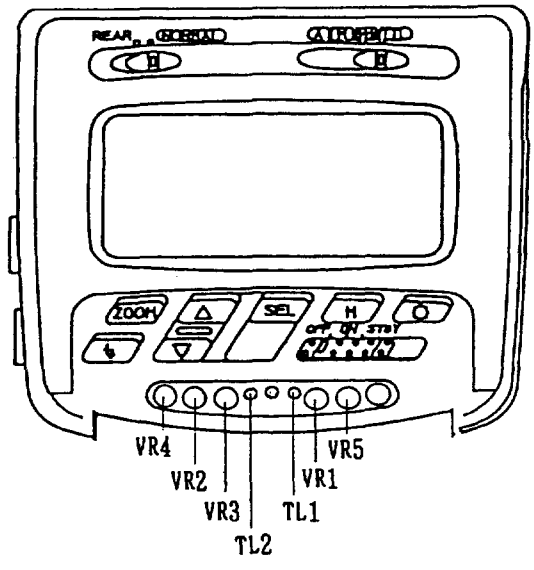
VR1: Gamma in M, MR or A mode (regulated current)
VR2: Flash output in A mode
VR3: Flash output in M and MR mode
VR4: Flash output for Monitor Pre-flash
VR5: Flash output for FP

Note: As voltage is checked inside the hybrid IC (M67112), adjustment is not required for recycling completion voltage or safety circuit voltage.
When the IC detects that the recycling completion voltage reaches 330V or safety circuit voltage reaches 350V, a signal is output.

b) Adjustment procedure

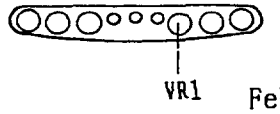
VR1 to VR5 resistors can be adjusted with the protect cover removed.
Connect power supply as illustrated. Use DC regulated power supply of 5.8V, 4A.



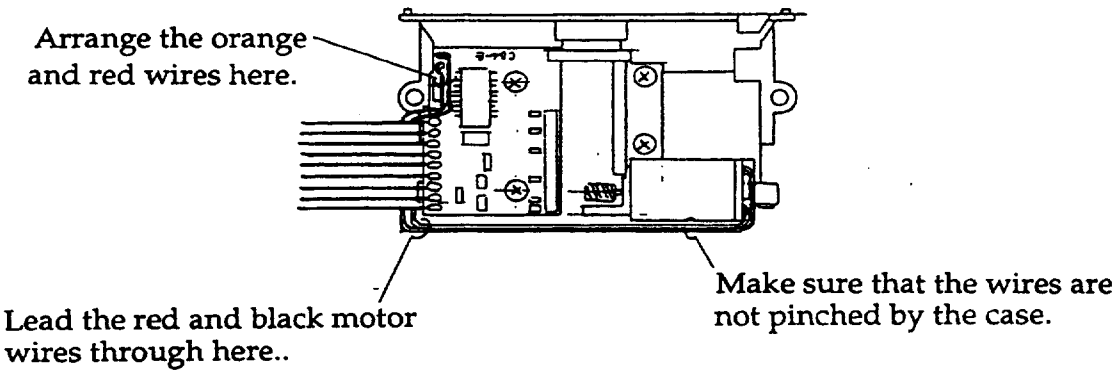


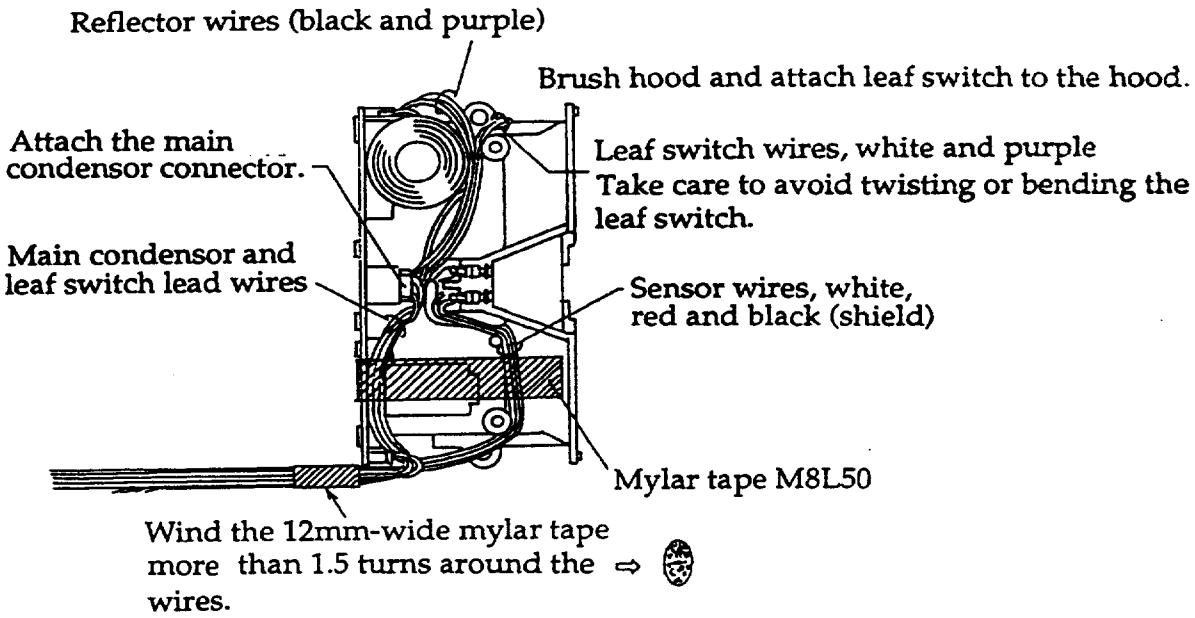
1) VR1 (Gamma)

VR1 is adjusted for proper light output level in M or MR mode.
Connect a voltmeter between TL1 and TL2. Adjust VR1 so that the voltmeter shows 42.0(± 0.5) mV. (Turning VR1 clockwise decreases the voltage.)



2. Arranging lead wires





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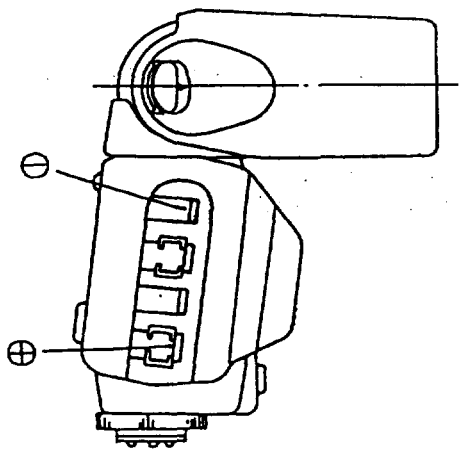

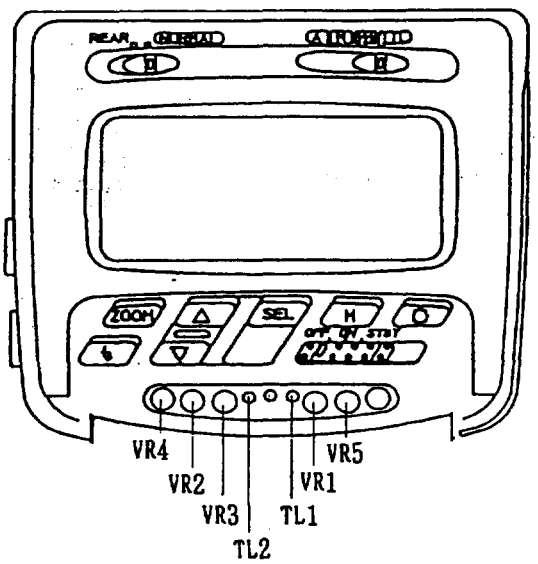

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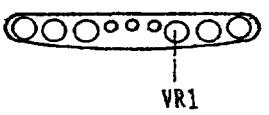
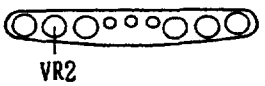


2) VR2 (Flash output level in A mode)

Adjust the flash output level for non-TTL auto flash.

Place the SB-25 two meters away from a standard reflector, and fire it by pressing the open-flash button or by closing the X-contact.

With the flash mode at A, film speed at ISO 100, zoom position at 35mm, and aperture at f/5.6, adjust VR2 so that the flashmeter shows F5.6 ±0.2



(Turning VR2 clockwise increases the amount of light.)

Check the flash output level at each film speed and aperture setting listed below:

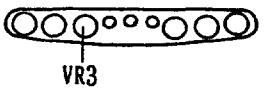
ISO	100	100	80	80	100	100
F number set on the lens	5.6	2	2	11	11	16
F number measured	5.4~5.8	1.8~2.2	2.0~2.5	11.3 ~13.9	10.2~12.5	14.4~17.7

3) VR3 (Flash output in M and MR mode)

VR3 is adjusted so that the difference in flash amount at each light output level for non-TTL auto flash, manual flash or repeating flash can be checked correctly.

Place the SB-25 two meters away from a flash meter, and fire it by pressing the open-flash button or by closing the X-contact.

With the flash mode selector set at M, the light amount at M1/8, and the zoom position at 28mm, adjust VR3 so that the flashmeter shows:



F5.85 ~F6.15 (F5.6 -0.1~0.24EV)

GN11.7~GN12.3

(Turning the VR3 clockwise increases the light amount.)

When the light output level at M1/8 is adjusted, at the same time the light output level at other settings (M1/64~ M/16 and M1/4~ M1/1 for M mode, or M1/64~ M1/16 for MR mode) can be adjusted.

Check the flash output level at each setting in accordance with the specifications.

(At least, check the flash output level at 35mm zoom setting.)

Also confirm that flash fires continuously eight times with a light amount of M1/16 and a speed of 10Hz, with a fresh battery set or a regulated power supply of 5.8V/4A.

4) VR4 (Preflash)

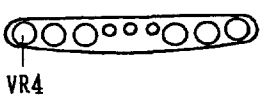
Purpose: Adjust the light output level of the Monitor preflash for TTL Multi mode.

Adjustment: Place the SB-25 with F90 camera one meter away from a flash meter, fire with the folloeing condition, then adjust VR4 so that the flash meter shows standard.

Set SB-25: Flash mode selector "M"
Zooming position 35mm
"M" button Except FP mode

Set the F-90: Flash sync mode button: Red-Eye Reduction control mode.

Standard: F1.9~F2.1 (F2-0.14 ~+0.15EV)
GN 1.9~GN2.1



(Turning the VR4 clockwise increases the light amount)

差換え(Change page)

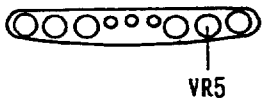
5) VR5 (Flash output for FP)

Adjust flash duration level for FP.

Attach the SB-25 to an F90-series/N90 camera. Set the SB-25's mode selector to M, then select FP1. Set the camera's shutter speed to "bulb" setting.

By using an oscilloscope and light detecting sensor, adjust VR4 to 9~10ms for FP1.

Check that the flash duration for FP2 should be 14.0~28.0ms.



Tool: light detecting sensor (hand-made)

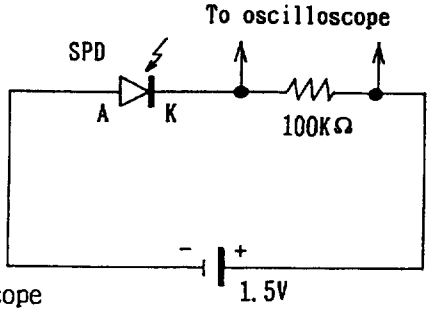
Parts to be used: TTL SPD (for F4 or F-801 camera)

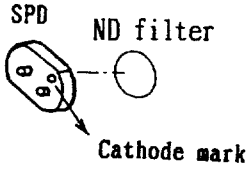
Resistance, 100k Ω

1.5 V dry cell

ND filter: 1K115-169x5

(Stick the ND filters on the front of SPD)





Setting and waveform of oscilloscope

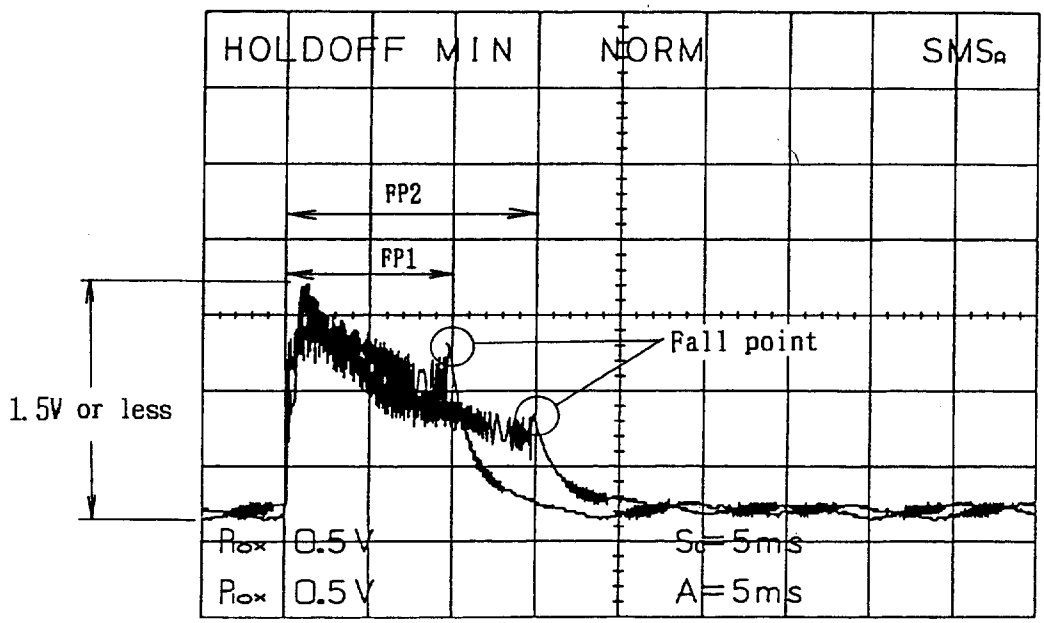
VOLTS/EIV 0.5V

TIME/EIV 5ms

Note: Because of the voltage of the hand-made tool is 1.5V, keep the saturation wave form to below 1.5V by changing the distance from SPD of hand made tool to SB-25 till you set the wave on the screen.

When you stick four ND filters on the front of SPD: Wave will appear on the screen on condition that the distance from SPD to SB-25 is approximately 40cm.

Use any item to reduce the light amount other than ND filter.



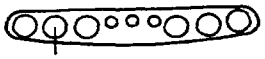
Wave form on the picture is FP1 wave and FP2 wave together.

2) VR2 (Flash output level in A mode)

Adjust the flash output level for non-TTL auto flash.

Place the SB-25 two meters away from a standard reflector, and fire it by pressing the open-flash button or by closing the X-contact.

With the flash mode at A, film speed at ISO 100, zoom position at 35mm, and aperture at f/5.6, adjust VR2 so that the flashmeter shows F5.6 ±0.1 (F5.6 ±0.05EV).



(Turning VR2 clockwise increases the amount of light.)

Check the flash output level at each film speed and aperture setting listed below:

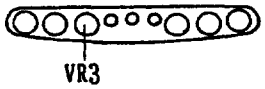
ISO	100	100	80	80	100	100
F number set on the lens	5.6	2	2	2	11	16
F number measured (EV)	5.6±0.5	2±0.5	$2^{+0.8}_{-0.2}$	$11^{+0.8}_{-0.2}$	11±0.5	16±0.5

3) VR3 (Flash output in M and MR mode)

VR3 is adjusted so that the difference in flash amount at each light output level for non-TTL auto flash, manual flash or repeating flash can be checked correctly.

Place the SB-25 two meters away from a flash meter, and fire it by pressing the open-flash button or by closing the X-contact.

With the flash mode selector set at M, the light amount at M1/8, and the zoom position at 28mm, adjust VR3 so that the flashmeter shows:



F5.85 ~F6.15 (F5.6 -0.1~0.24EV)
F6±0.07
GN11.7~GN12.3

(Turning the VR3 clockwise increases the light amount.)

When the light output level at M1/8 is adjusted, at the same time the light output level at other settings (M1/64~ M/16 and M1/4~ M1/1 for M mode, or M1/64~ M1/16 for MR mode) can be adjusted.

Check the flash output level at each setting in accordance with the specifications.

(At least, check the flash output level at 35mm zoom setting.)

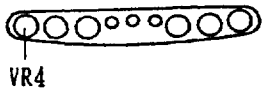
Also confirm that flash fires continuously eight times with a light amount of M1/16 and a speed of 10Hz, with a fresh battery set or a regulated power supply of 5.8V/4A.

4) VR4 (Flash output for Monitor Preflash)

Adjust the light output level of the Monitor Preflash for TTL Multi Sensor.

Place the SB-25 one meter away from a flashmeter, and fire it by pushing the open-flash button or by closing the X-contact.

With the flash mode selector set at M and the zoom setting at 35mm, adjust VR4 so that the flash meter shows:



F1.9 ~ F2.1 (F2-0, 14 ~+0.15EV)
GN1.9~ GN2.1

(Turning the VR4 clockwise increases the light amount.)

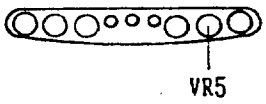
5) VR5 (Flash output for FP)

Adjust flash duration level for FP.

Attach the SB-25 to an F90-series/N90 camera. Set the SB-25's mode selector to M, then select FP1. Set the camera's shutter speed to "bulb" setting.

By using an oscilloscope and light detecting sensor, adjust VR4 to 9~10ms for FP1.

Check that the flash duration for FP2 should be 14.0~28.0ms.

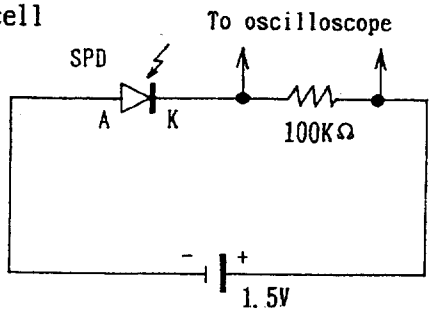


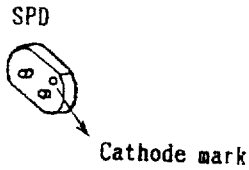
Tool: light detecting sensor (hand-made)

Parts to be used: TTL SPD (for F4 or F-801 camera)

Resistance, 100k Ω

1.5 V dry cell



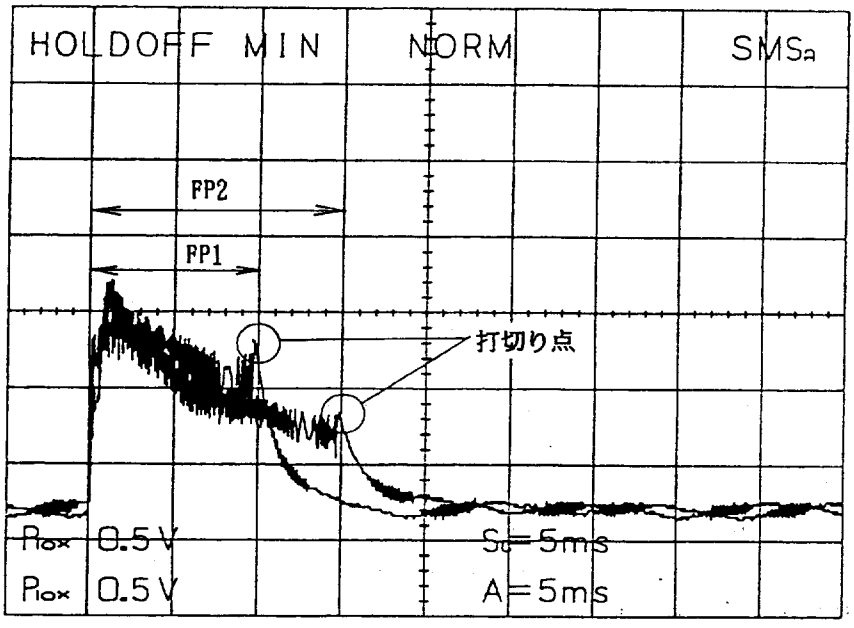


Setting and waveform of oscilloscope

VOLTS/DIV 0.5V

TIME/DIV 5ms

Note: Position the light detecting sensor so that the oscilloscope does not show a saturation waveform.



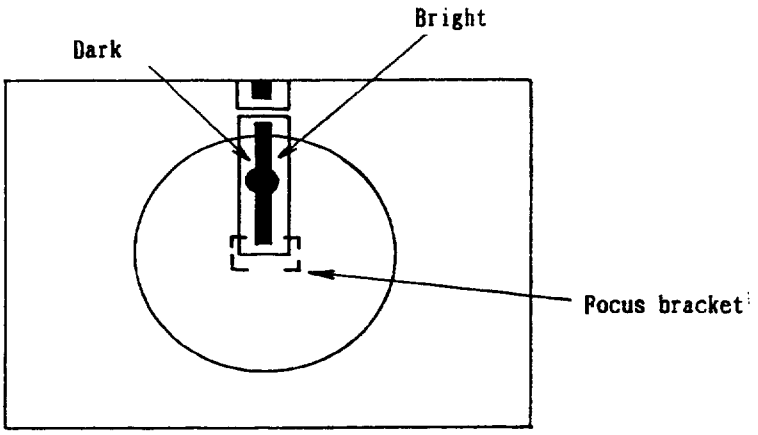
6) Adjustment of angle of FL module unit

Adjust angle of the FL module unit so that the AF assist illuminator creates a pattern in a position where it can be correctly detected.

To adjust, first remove the AF assist illuminator panel.

Use an AF camera mounted with the AF Zoom-Nikkor 70-210mm f/4 lens. Set the camera's focus mode to Single Servo AF and set the lens focal length to 135mm. Mount the SB-25 on the camera's accessory shoe. (Slide the mounting foot forward onto the camera's accessory shoe as far as it goes, then tighten the locking wheel firmly.)

Position the camera so that the film plane is located 1.6m away from a wall. Make the room dim, then lightly press the camera's shutter release button to turn on the AF assist illuminator. Adjust the three screws so that the AF assist illuminator's pattern is horizontally centered inside the viewfinder and the bottom edge of the pattern is centered inside the focus brackets. (See illustration.)



F-501/N2020's viewfinder

When the FL module is replaced with a new one, to make adjustment easier, first fasten the there screws then loosen as necessary.

Take care not to fasten the screws too tightly; if any screw is fastened too tightly, it may affect the loosening of the other screws.

After adjustment is performed, apply Cemedyne 575 around the three screws (#190) to affix the body mold (G), FL module unit and screws (#190).

Reattach the AF assist illuminator cover, and replace the lens with the AF Nikkor 50mm f/1.8. Confirm correct focusing is available at distances of 1m and 8m.

TROUBLE SHOOTING

[A] Normal operation

The following are normal conditions:

- Distance indicator bars disappear when the flash head is tilted up or rotated.

- Distance indicator bars blink when the flash head is tilted down.

- When SB-25 is attached to an F90-series/N90, F4-series or F-801 camera, with the SB-25's power switch off and camera's exposure meter off: when the SB-25 is turned on, the SB-25's LCD panel temporarily shows "ISO 100" for film speed, "24mm" for manual zoom setting, "F5.6" for aperture and "TTL" for flash mode regardless of the camera settings.

- With an F90-series/N90, F4-series or F-801s camera, rear-curtain sync cannot be set when repeating flash mode is selected.

- At a temperature below 0° C, LCD response and blinking speed become slower.

- With an F90-series/N90, F4-series or F-801s camera, with the exposure meter on, pressing the open-flash button for test firing in TTL auto flash mode fires the SB-25 at full output or at a small amount of output.

- In repeating flash mode, with old batteries, at a low voltage or in a low temperature, continuous firing may stop before the number of shootings set.

- In repeating flash mode at M1/8, M1/16, M1/32 (and M1/64), light output amount is 1/3 BV BV smaller than that in manual flash mode.

- If the SB-25 is left unused for a long time, the batteries inside the SB-25 may become exhausted. If more than 60 sec. is required for the ready-light come on, the SB-25 may automatically turns off even with the power switch set at "ON" position in the same manner as with the power switch at "STBY" position.

- With an FG, FE2, FA or Nikonos V camera at a mechanical shutter speed setting (B, M90 or M250), the SB-25 fires at its maximum output even with the flash mode selector set at TTL. The ready-light inside the camera's viewfinder blinks to warn that the mechanical shutter speed cannot be used for TTL auto flash.

- When pressing the open-flash button at an insufficient voltage fails to fire the SB-25 in TTL or non-TTL auto flahs mode, the ready-light blinks for three seconds.

- When attached to an all-metallic accessory shoe, such as on the Nikkormat FTN camera, the SB-25 will not fire, even if the syncro terminal on the SB-25 and on the camera body are connected with a sync cord (SC-11, etc.). In this case, sync cord SC-10 is required.

- With an autofocus Nikon camera, the AF assist illuminator will not turn on in the following situations:
  a) When Single Servo AF is not selected.
  b) When camera's shutter release button is not lightly pressed.
  c) When subject brightness is sufficient for autofocus.
  d) When SB-25's ready-light is off.*
  e) When X-contact is closed.
  * With an F90-series/N90 camera, the AF assist illuminator may turn on even if the ready-light does not come on.

- With a distant subject, autofocus may not be performed because subject brightness is too low even when the AF assist illuminator turns on.

- If camera's TTL auto flash exposure control is improperly adjusted, an improper amount of light is output in TTL auto flash operation

- When used with an F90-series/N90 camera, switching the SB-25's mode selector from [S], [M], [A], to [TTL] may cause the ready-light to temporarily turn off.

[B]Specific problems

1. Setting power switch to "ON" does not turn on the SB-25 (and does not make the LCD come on.) → (a)
   Setting power switch to "OFF" does not turn off the SB-25 (and does not cause the LCD to tur off.) - → (b)
   LCD indications blink with the power switch set at "ON."

2. Setting power switch to "STBY" does not set SB-25 at stand-by. → (b)
   After the SB-25 automatically turns off with the power switch set at "STBY," lightly pressing the shutter release button does not turn on the SB-25 again. → (b)
   After the SB-25 automatically turns off with the power switch set at "STBY," pressing the the open-flash button/fully depressing the camera's shutter release button does not turn on on the SB-25 again. → (b)

3. SB-25 will not begin charging (ready-light does not come on) with the power switch set at "ON." → (c)
   SB-25 does not stop charging (and SB-25 consistently fires at maximum output). → (c)
   When the voltage becomes 3V or lower, SB-25 does not stop charging. → (c)
   When powered by the SD-7, the SB-25 fires automatically, without releasing the shutter or pressing the open-flash button.
   Recycling time does not become shorter when an external power source is used. → (c)

4. Ready-light does not come on. → (d)
   SB-25 fires at a low output regardless of mode selector setting. → (d)
   SB-25 fires at maximum output regardless of mode selector setting. → (d)
   Underexposure warning occurs every time the flash fires. → (d)
   SB-25 fires preflash(es) at the maximum output. → (d)
   Releasing shutter does not cause SB-25 to fire. → (d)
   Releasing shutter immediately after the ready-light comes on does not cause SB-25 to fire. → (d)

5. Flash output level does not vary in non-TTL auto flash mode. → (e)
   Flash outpiut level does not vary in manual flash mode. → (e)

6. AF assist illuminator does not turn on. → (f)
   AF assist illuminator does not turn off. → (f)
   AF assist illuminator blinks. → (f)

7. Motor for power zoom does not stop. (If the motor continues operating for more than 4 sec., "—" appears in the LCD panel.) → (h)
   Motor for power zoom does not operate. → (h)

8. When combined with a camera that sends information to the SB-25, that information fails to to be sent.

9. Indications do not appear in the LCD panel. → (j)
   Distance indicator bars blink. → (j)

10. Switches do not function.

[C] List of failures

"Failure of part A" refers to poor soldering/short circuit of the part A and short circuit/ open circuit of the attached pattern.

(a) Batteries are improperly installed
Failure of power switch
Failure of 8-bit CPU
Low battery voltage (exhausted batteries)
Failure of custom IC
Failure of D1, D2, C1, C2, C3, C8, IC1 or IC3
Failure of 8-bit CPU's oscillation circuit (R35, R200, C53, C54, OS2, pin 28, pin 29).
Poor connection of CN-11

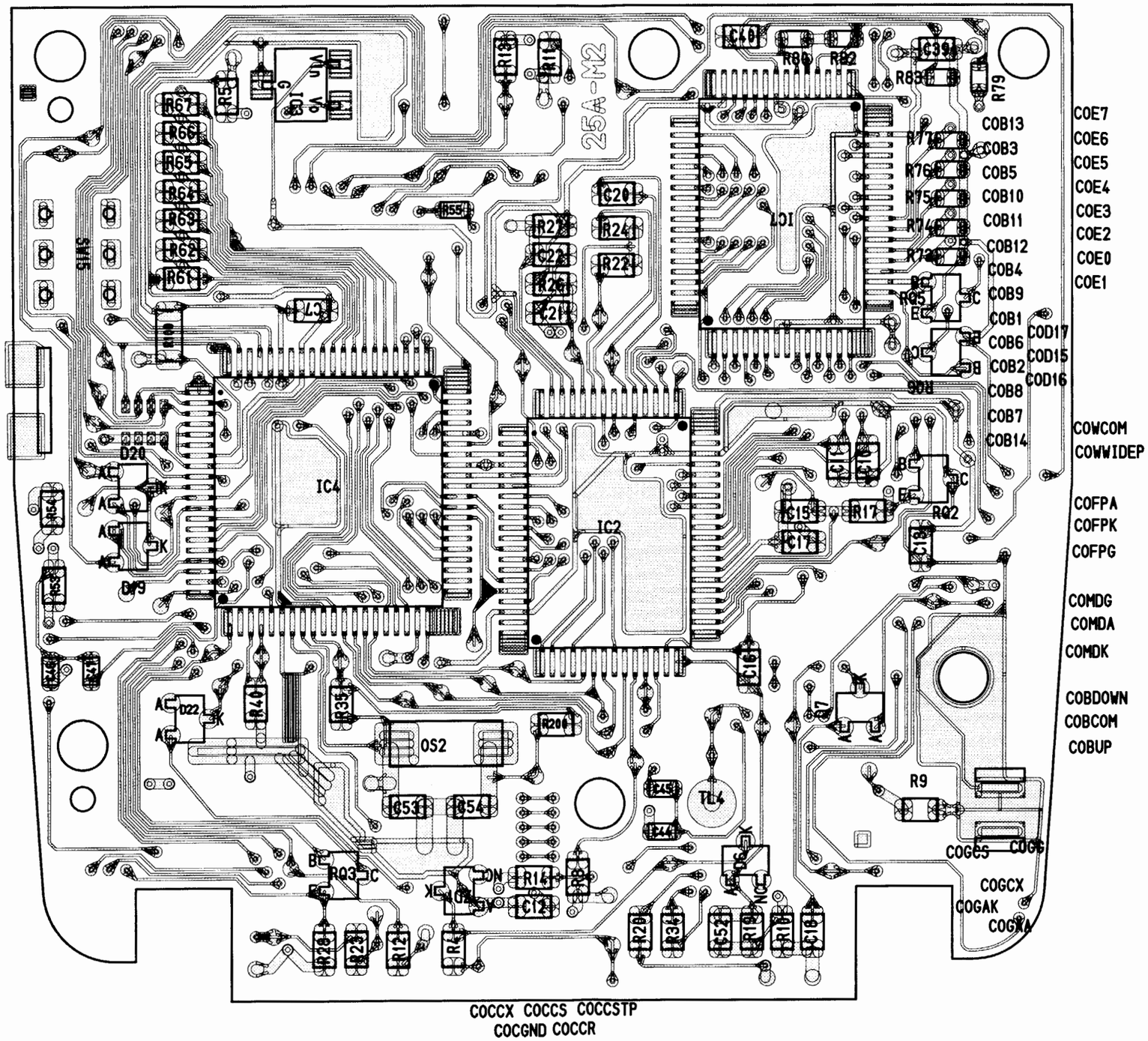
(b) Failure of power switch
- Failure of custom IC
- Poor connection of CSP terminal or X terminal
- Failure of 8-bit CPU

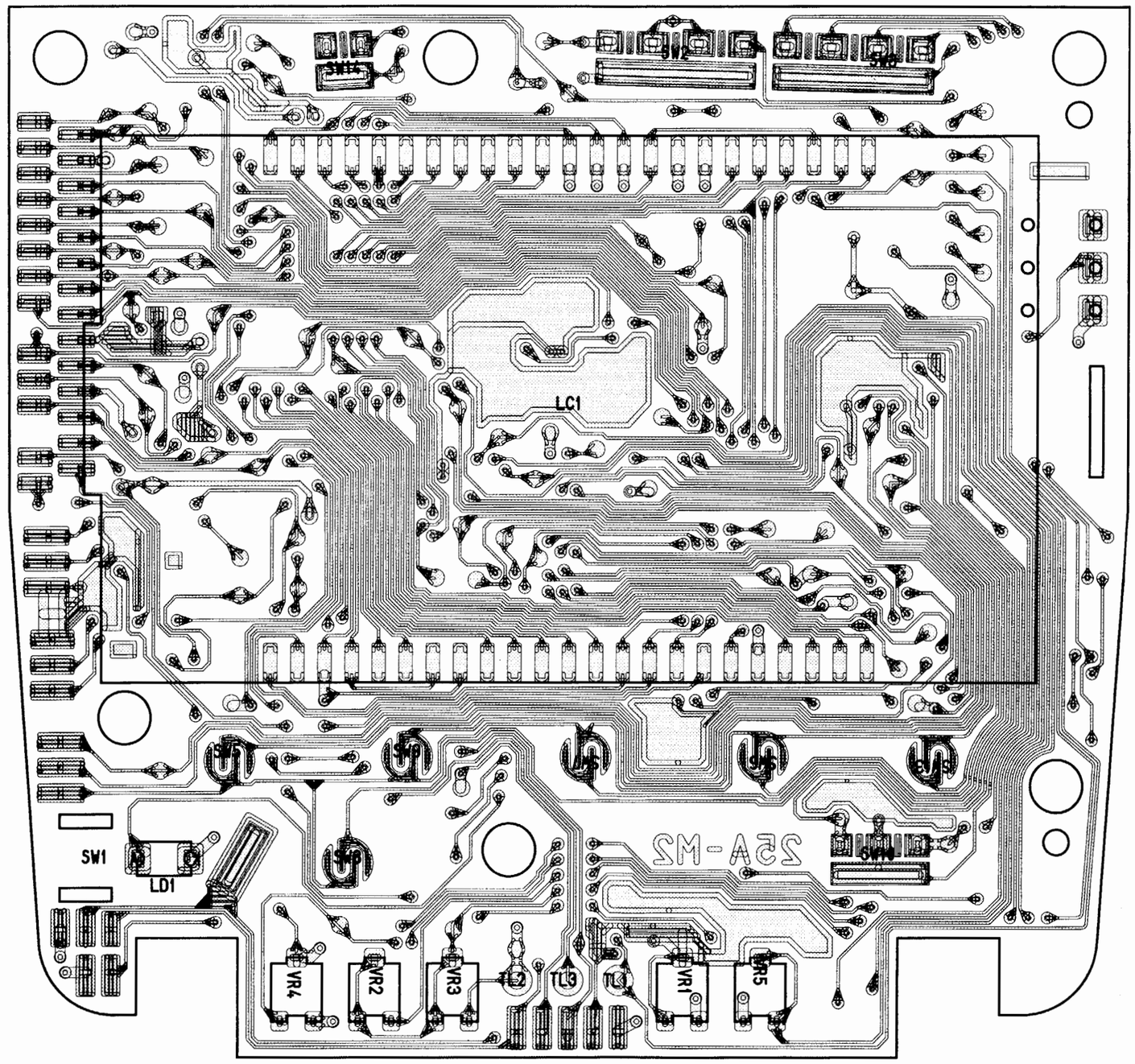
(c) Failure of custom IC
- Failure of charging (boosting?) circuit (RQ1, Q1, Q2, R2, C6, R5, TS1 or C14)
- Failure of HIC (M67112-2)
- Failure of C38
- Failure of D10

(d) Failure of HIC (M67112-2)
- Failure of custom IC
- Failure of IGBT
- Failure of 8-bit CPU
- Failure of high-speed-sync circuit (R20, R34, VR4, PD3, VR5, R23, C20, R22, R24 or R28)
- Failure of CX-terminal circuilt
- Failure of voltage doubler circuit (C28, C35, D108, Q11, D112, C41, R96, Q12, R57, ZD3 R95, D21, R94, R96, D105 or R101)

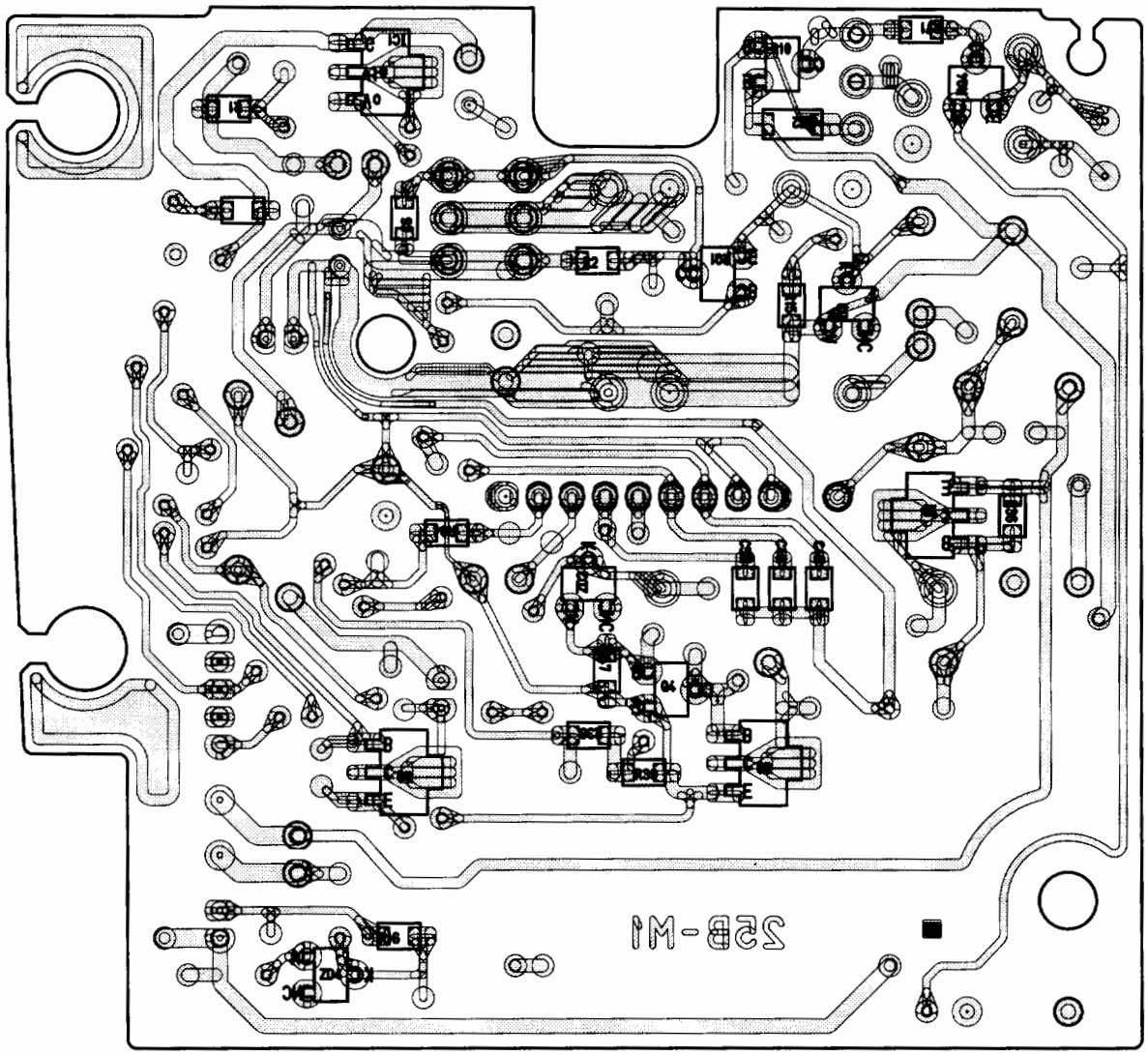
A基板

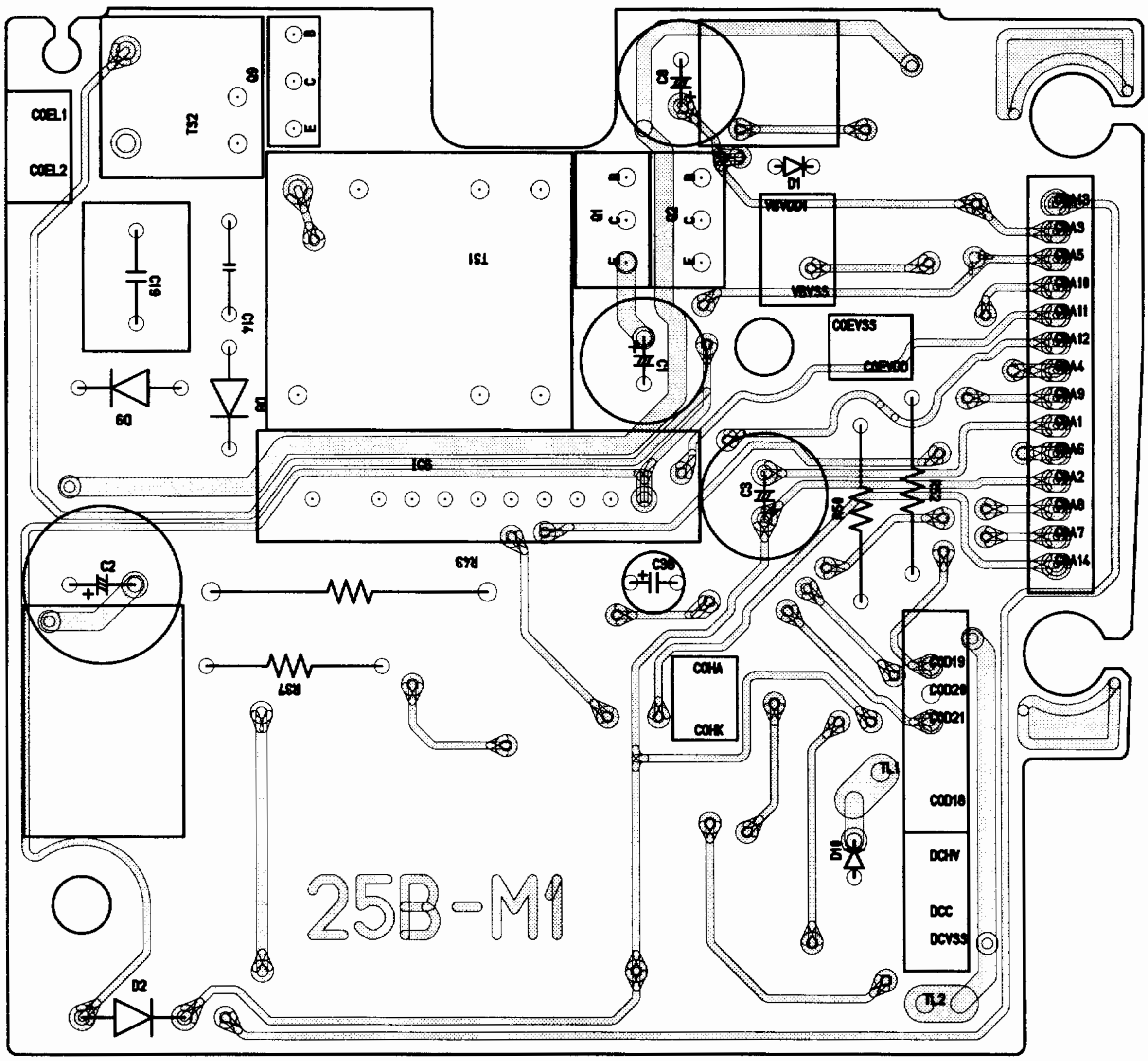
PRNTED CIRCUIT A




LC1
SW1
LD1
VR4
VR2
VR3
TL2
TL3
TL1
VR1
VR5
25A-M2

B基板
PRINTED CIRCUIT B




COEL1
COEL2
TS2
TS1
IC6
C2
C19
C14
R49
R57
C30
C3
C1
C9
D1
D2
D19
VBVDD1
VBVSS
COEVSS
COEVDD
COHA
COHK
COD19
COD20
COD21
COD18
DCHV
DCC
DCVSS
TL1
TL2
CMA13
CMA3
CMA5
CMA10
CMA11
CMA12
CMA4
CMA9
CMA1
CMA6
CMA2
CMA8
CMA7
CMA14
25B-M1

D基板

PRNTED CIRCUIT D