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PUB.C-IE-136
1087B2.3

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CY8-6577-002

PRINTED IN JAPAN

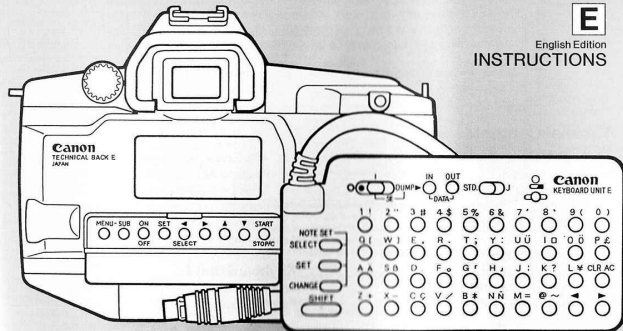
Canon

Technical Back

E

E

English Edition
INSTRUCTIONS



The Technical Back E is an interchangeable back designed for exclusive use with EOS cameras. Simple operation allows automatic imprint and storage of shooting data and notes, draw program lines, and execute auto exposure bracketing and timer controlled functions. Another feature of this accessory back is that data is imprinted on the film upon rewind, whereas the imprint mechanism of previous camera backs was coupled to exposure. Imprinted data can also be corrected before auto rewind starts. Finally, connection of the Technical Back E to a personal computer using the Interface Unit TB (optionally available) enables data to be displayed on a monitor screen or printed out.

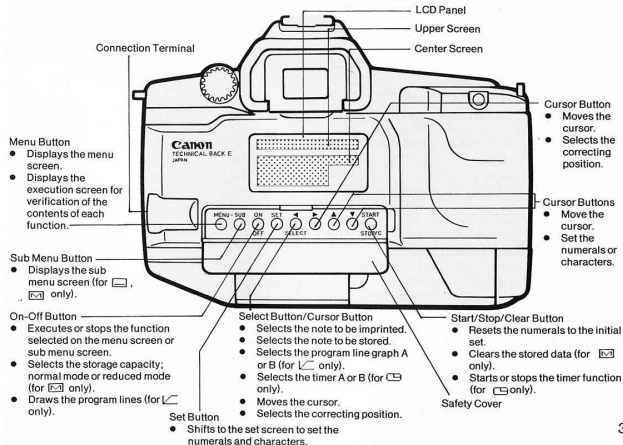
For a full understanding of the Technical Back E, please read this instruction booklet carefully.

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- **Features of the Technical Back E**

- 1) Sets notes (comments) up to 30 characters.
- 2) Imprints 7 types of data.
- 3) Stores 13 types of exposure data (for maximum 361 exposures in the normal capacity mode)
- 4) Draws two types of program lines.
- 5) Performs auto exposure bracketing up to 9 exposures.
- 6) Executes three timer-controlled functions, self-timer, interval timer and long release timer.

- **Keyboard Unit E**

The Keyboard Unit E is used for input notes and making corrections on imprint data much easier than the Technical Back E. The Keyboard Unit E stores up to four types of notes which can be exchanged with the notes stored in the Technical Back E. You can set a total of eight types of notes. Furthermore, the exposure data stored in the Technical Back E with the data storage function can be transferred to the Keyboard Unit E temporarily.

- **Interface Unit TB**

Technical Back E can be connected to a personal computer through the Interface Unit TB (PC) which were exclusively developed.

Interface Unit TB (PC): for the IBM personal computer (5150), XT (5160), and portable personal computer (5155).

■ The product availability may vary from area to area.

- **Functions**

1. Detailed exposure data is displayed on the monitor in addition to the data displayed on the Technical Back E.
2. Sets and corrects notes on the monitor.
3. Prints exposure data.
4. Saves exposure data.
5. You can design characters as you like and transfer them to the Technical Back E for imprint on the film or note storage.
6. Imprint data can be preset for up to 36 frames.
7. Timer control with hour/minute/second and year/month/day of up to 36 frames.

With an MSX computer, the last function is possible with a computer of more than 32 K-bytes.

Technical Back E

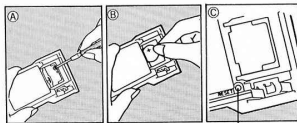
It's a good idea to acquaint yourself with the Technical Back E by first taking some pictures with test film. Pictures taken without film loaded, the data cannot be stored.

1. Battery Loading

The Technical Back E uses one CR2025 lithium battery.

Before using the Technical Back E for the first time, remove the insulating sheet and reload the battery as follows.


- 1) Using a phillips-head screwdriver, remove the retaining screw to take off the battery chamber cover (illus. (A)).
- 2) Remove the battery and then take the insulating sheet out.
- 3) Reload the battery in the battery chamber with the "+" side facing out (illus. (B)).
- 4) Replace the retaining screw securely.
- 5) Press the reset button under the battery chamber (illus. (C)).



RESET Button

- Make sure to press the reset button after replacing or reloading the battery. When the reset button is pressed, all previously set data, such as date or time, or the exposure data stored in the Technical Back E are completely cleared.

[Battery Replacing]

The battery life is approximately one year in normal use. Battery power is checked automatically by the Technical Back E. When the battery power becomes low, the warning mark  appears in the upper screen. When this occurs, replace the battery promptly.

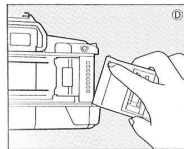
Precautions:

- Always replace an exhausted battery with a new one.
- Battery power reduces in low temperatures (0°C, or 32°F), but don't throw away a battery that has become temporarily unusable because of cold weather. Once restored to room temperature, it may be reusable. Moreover, in extremely low temperatures (-10°C, 14°F) use a new battery.
- Do not open the battery chamber except when replacing the battery.
- Keep the battery away from children. If swallowed, contact a physician immediately.
- Wipe dust and fingerprints off the battery to prevent corrosion.

2. Attaching the Technical Back E

Be sure there is no film in the camera before attaching the Technical Back E.

- 1) Open the camera's back cover and push the hinge release pin down to remove it (illus. (D)).
- 2) To attach the Technical Back E, insert its lower hinge into the bottom socket, and then depress the hinge release pin, align it with the upper socket and release to lock it on.
- 3) Button labels in five languages are included. Please attach in your language to the inside of the safety cover.



Notes:

- Wipe the contacts of the camera and the Technical Back E with a clean, dry cloth to ensure proper connection.
- Do not short-circuit the contacts of the Technical Back E.
- Film winding speed decreases when the Technical Back E is attached.

Nothing will appear on the LCD panel unless the Technical Back E is attached to the camera.

[Liquid Crystal Display]



Liquid crystal is used in the display. There is a possibility that a lack of contrast or blur in the digital display may occur after about five years of normal use. When this occurs, please contact an authorized Canon Service Facility for replacement. (Replacement will be at owner's expense.)

3. Displays of the Technical Back E

Close the Technical Back E and press one of the nine buttons. The "MENU" screen will appear on the panel.

Besides the MENU screen, the main screen consists of "SUB MENU screen", "SET screen" and "EXECUTION screen."

The contents of these screens are as follows.


- MENU screen:** Selects the main functions of the Technical Back E
- SUB MENU screen:** Selects the multiple functions provided by the data imprint () and data storage () functions
- SET screen:** Inputs numbers and characters
- EXECUTION screen:** Displays the main function settings and execution status

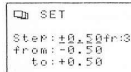
- Press the reset button once again, if the menu screen does not appear after loading the battery for the first time.
- All Technical Back E functions are turned off when the set screen is displayed. Even if the shutter is released, these functions will not be executed.


Examples

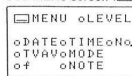
MENU screen



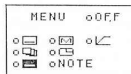
SET screen ()



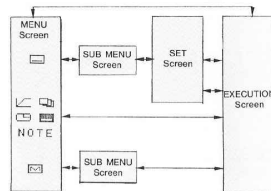
SUB MENU screen ()



EXECUTION screen ()









[Relation of Displays]



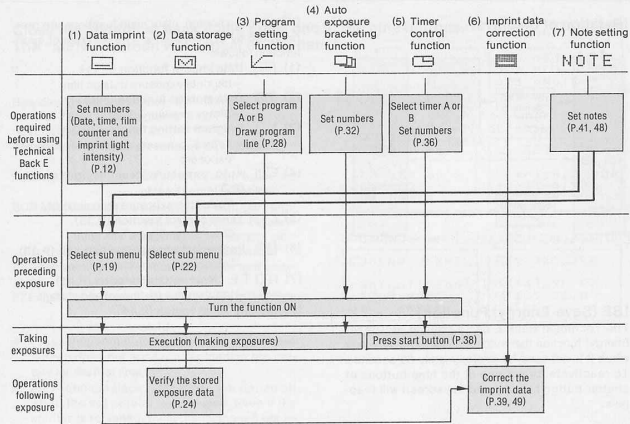
[SE (Save-Energy) Function]

The Technical Back E has a built-in SE (Save-Energy) function that automatically turns off power when it is not used for approximately 30 seconds. To reactivate, press one of the nine buttons or shutter button halfway and the screen will reappear.

On the menu screen, eight main functions are represented by symbol marks. The purpose of each function follows:

- (1)  **Data imprint function (P.11)**
—Imprints exposure data on film
- (2)  **Data storage function (P.21)**
—Stores exposure data
- (3)  **Program setting function (P.27)**
—Draws program lines and controls exposure
- (4)  **Auto exposure bracketing function (P.31)**
—Varies the exposure automatically
- (5)  **Timer control function (P.35)**
—Controls exposure with timer
- (6)  **Imprint data correction function (P.39)**
—Verifies and corrects imprinted data
- (7) **NOTE Note setting function (P.41)**
—Inputs notes for imprint and storage
- (8) **OFF Main switch (P.44)**

4. Outline of Operations



5. Data Imprint Function


With this function, you can imprint up to three types of exposure data including notes.

Imprint data:

Date	Any of three sequences (month/day/year, day/month/year, or year/month/day)
Time	Hour/minute/second
Exposure data	Shutter speed and aperture value
Shooting mode	Shutter-priority AE, aperture-priority AE, program AE, manual, or depth-of-field AE (EOS 650 only)
Film counter	4-digit serial number or film cartridge number and frame counter number
Note	Comments up to 30 characters


Screen changes and their purpose

- (1) MENU screen (selects data imprint function)
- ↓
- (2) SUB MENU screen (selects the data to be set)
- ↓
- (3) SET screen (sets numbers)
- ↓
- (4) SUB MENU screen (selects imprint data)
- ↓
- (5) MENU screen (turns the data imprint function ON)
- ↓
- (6) EXECUTION screen (verifies imprint data)
- ↓
- Take exposures

1. On the menu screen, move the cursor to  using the four cursor buttons.



- The cursor moves in the direction indicated by the arrow above each button.
- ● indicates button is pressed

2. Press  to call up the sub menu screen.

On the sub menu screen, select the data type for imprint. Out of seven types of data displayed on the screen, you can select up to three.



- 1 DATE Date
- 2 TIME Time
- 3 No. Film counter
- 4 TVAV Shutter speed and aperture value
- 5 MODE Shooting mode
- 6 f Lens focal length in use
- 7 NOTE Note length up to 30 characters

- LEVEL changes the imprint light intensity and does not appear on the film. For details, see page 18 "Light Intensity Compensation for Data Imprinting".

3. Before selecting imprint data, note, date, time or film counter must be set.


See the following examples for setting numbers. (About note setting, see page 41 "Note Setting Function".) The other data are transmitted automatically from the camera to the Technical Back E.

EXAMPLE FOR SETTING THE DATE


When you want to set November 14, 1990.

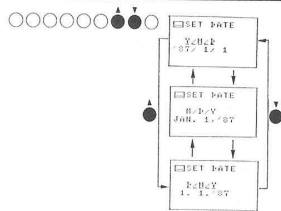
1. On the sub menu screen, move the cursor to DATE.



2. When  is pressed, the display shifts to the set screen, and Y/M/D display will blink.



3. Each time  is pressed, the display rotates in sequence of: year/month/day, day/month/year, and month/day/year. Select one.



4. When is pressed, '87 (year) starts blinking. A digit can be changed only when it is blinking. ● Regardless of the display sequence, the year digits blink first.	<div> SET DATE M/D/Y JAN. 1, '87 </div>
5. Press or until '90 appears.	<div> SET DATE M/D/Y JAN. 1, '90 </div>
6. Set Nov. (month) and then 14 (day) following the same procedures in steps 4 and 5.	<div> <div> M/D/Y JAN. 1, '90 </div> <div> M/D/Y NOV. 1, '90 </div> </div>
7. Press to finish setting. The display will return to the sub menu screen.	<div> MENU LEVEL DATE TIME NO TV MODE of NOTE </div>

Note:

When is pressed while the number is blinking, the number is restored to the initial set.
 year — '87
 month, day — 1 (JAN for M/D/Y display only)

EXAMPLE FOR SETTING THE TIME When you want to set 10:32:00.

1. On the sub menu screen, move the cursor to TIME.	<div> DATE TIME NO TV MODE of NOTE </div>
2. When is pressed, the display shifts to the set screen, and 0 (hour) will start blinking. ● The time displayed on the screen counts when the reset button is pressed.	<div>— 0:00:01</div>
3. Press (or) until 10 appears.	<div>10:01:15</div>
4. When is pressed, the minute digits will start blinking. Set 32 by pressing (or) .	<div>10:01:20</div> <div>10:32:01</div>
5. When is pressed, the seconds digits will start blinking. ● Press once when the time given on the radio or telephone. The internal clock will immediately start counting from 00 seconds.	<div>10:32:05</div> <div>10:32:00</div>
6. Press to finish setting. The display will return to the sub menu screen.	<div> DATE TIME NO TV MODE of NOTE </div>

Notes:

- When is pressed while the number is blinking, the number is restored to 00.
- When imprinting the seconds, inaccuracy may occur within ± 1 second.

SETTING THE FILM COUNTER

You can select between two imprint number formats.

1. 4-digit serial number (SERIAL NO.)

The frame number will be imprinted automatically in sequence from 0001 to 9999. Even if the film cartridge is changed, the Technical Back E does not count up during automatic film loading.

This 4-digit number can be changed as desired. (see p. 17)



2. Film cartridge number and frame number (film[FRAME])

The number of exposed film cartridges and the number of exposures taken will be imprinted automatically on the film. This number cannot be changed.



Notes:

- The film cartridge number is counted up each time film rewind finishes.

Selecting SERIAL NO. or film [FRAME]

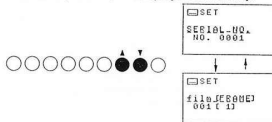
- On the sub menu screen, move the cursor to No.



- When **SET** is pressed, the display shifts to the set screen, and SERIAL NO. is blinking.



- Each time **▲** or **▼** is pressed, SERIAL NO. and film [FRAME] are displayed alternately.







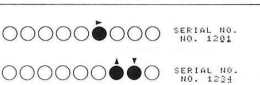

- Press **SET** to return to the sub menu screen.



Changing the serial number

EXAMPLE

When you want to change 0001 to 1234

1. On the sub menu screen, move the cursor to No.	
2. Press SET to call up the set screen and then select SERIAL NO. display.	
3. When ▲ is pressed, 00 starts blinking.	
4. Press ▲ or ▼ until 12 appears.	
5. When ▲ is pressed again, 01 will start blinking. Set 34 with ▲ or ▼	
6. Press SET to finish setting. The display will return to the sub menu screen.	

[Light Intensity Compensation for Data Imprinting]

Data imprint light intensity is set automatically according to the film speed.

However, compensation is necessary when using black and white film, or Sakura SR-series, and Agfa XR-series.

- 1) Display the sub menu screen, and move the cursor to LEVEL.

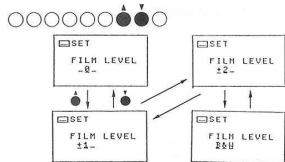


- 2) When **SET** is pressed, the display changes to the set screen with 0 blinking.



- 3) Each time **▲** or **▼** is pressed, the display changes as shown below.

- We recommend light compensation intensity of +1 or +2 steps when using film from Sakura SR-series or Agfa XR-series. Please set B&W when using black and white film.



- 4) Press **SET**, and the display will return to the sub menu screen.



Note:

The required light intensity varies according to the thickness of the film base and the characteristics of the film's anti-halation backing. A few trial shots for sufficient intensity adjustment are recommended.

4. Select the data you want to imprint.

- 1) On the sub menu screen, move the cursor to the desired data to be imprinted.



- 2) Press **ON**, and **ON** will change to **ON** (execution status)



- **ON** indicates that function execution in progress.
- You can select up to three types of data.

5. Turn the data imprint function ON.

- 1) Press **MENU** to return to the menu screen.

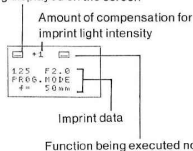


- 2) Press **ON**, and **ON** will change to **ON** (execution status).







6. When **MENU** is pressed again on the menu screen, the execution screen is displayed for imprint data verification.

Function being displayed on the screen



Notes:

- If TVAV is selected for imprint data on the sub menu screen, the shutter speed and aperture value appear when the shutter button is pressed halfway down.
- When NOTE is selected on the sub menu screen, you can select one of four types of notes previously set. For setting notes, see page 41.
- The data are imprinted in one line at the bottom of the picture. Data are imprinted flush-left if there are fewer than 30 characters.
- The imprint data is temporarily stored in the Technical Back E when the shutter button is pressed, and data imprint is executed upon film rewind. Therefore, correcting the imprint data is possible before auto film rewind starts (See page 39 "Imprint Data Correction Function").
- Data will not be imprinted correctly if the film rewind button is pushed. To rewind the film before the roll ends, cover the lens with your hand and press the shutter button repeatedly until the camera starts film rewind automatically.
- With multiple exposures, data is imprinted only upon the first shutter release.
- The film cartridge number is always imprinted before the first frame regardless of other imprint data selected.

- If the data has been stored correctly for imprinting, the  mark in the upper right screen will change to the "  " mark. If there is no film in the camera, the "  " mark will not appear.
- Be sure not to remove the grip during film rewinding.
- If "HELP" appears in the screen after film rewinding, the Technical Back E is not correctly connected with the camera. In this case, data imprint has not been executed. Wipe the contacts, then press , and the menu screen will appear.
- If the background color of the data imprint area is bright, the data may not appear clearly on the picture. Be sure that a dark part of the subject lies within the data imprinting area.
- When the reset button is pressed after changing the battery, the data you have set, such as date, time, or no. are all cleared. Please reset them again.

6. Data Storage Function

With this function, you can store exposure data or notes in the Technical Back E memory upon shutter release.

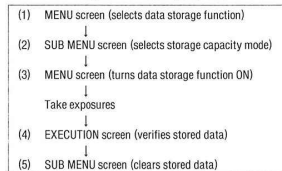
● Storing data

The Technical Back E has two data storage capacity modes. Be sure to select one mode.

- 1) In the normal capacity mode, 13 types of data can be stored for a maximum of 361 exposures (about 10 rolls of 36-exposure film):
 - (1) 4-digit serial number (or film cartridge number)
 - (2) Frame number
 - (3) Shooting mode
 - (4) Metering mode
 - (5) Flash used or not
 - (6) Shutter speed
 - (7) Aperture value
 - (8) Focal length
 - (9) Amount of exposure compensation
 - (10) ISO film speed
 - (11) Date
 - (12) Time
 - (13) Note

- 2) In the reduced capacity mode, 7 types of data can be stored for up to 824 exposures (about 22 rolls of 36-exposure film)
 - (1) 4-digit serial number (film cartridge number)
 - (2) Frame number
 - (3) Shooting mode
 - (4) Flash used or not
 - (5) Shutter speed
 - (6) Aperture value
 - (7) Focal length
- Storage capacity is only approximate.
 - The numbers of the 4-digit serial number, date and time are the same as those set in the data imprint function.

Screen changes and their purpose



To better acquaint yourself with the data storage function, we strongly recommend loading practice film before reading this section. Exposure data cannot be stored in the Technical Back E without film loaded.

1. Press to display the menu screen. Move the cursor to mark.



2. Press to call up the sub menu screen. Select the storage capacity mode on this screen.



[Selecting the storage capacity mode]

Each time is pressed, the cursor moves to NORM. (normal capacity mode) and REDUCE (reduced capacity mode) alternately. indicates the mode selected.



[Storing the notes]

Previously set notes can be stored with the exposure data.

- For setting notes, see page 41.

- 1) After selecting norm. capacity mode on the sub menu screen, move the cursor to NOTE with .



- 2) Press to activate the NOTE execution status ().



Notes:

- Note storage can only be done in the norm. capacity mode.
- You can select one of four types of notes. (See page 43.)
- Note automatically returns to the execution OFF status upon shutter release due to space storage capacity.
- When the storage capacity mode changes from norm. to reduce, NOTE returns to execution OFF status automatically.
- When storing seconds, inaccuracy may occur within ± 1 second.

3. Turn the data storage function ON.

- 1) Press **MENU** to return to the menu screen.

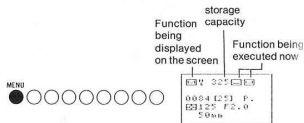


- 2) Press **ON**, and **OFF** will change to **ON** (execution status).



4. After taking exposures, verify the stored data.

- 1) When **MENU** is pressed again on the menu screen, the execution screen is displayed to verify stored data.



The stored data are displayed in three screens.

- 2) Each time **SELECT** is pressed, the data from the previous exposure is displayed in the following sequence:



• In the norm. mode

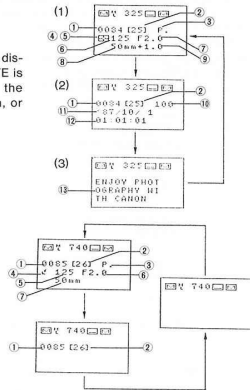
- (1) ① 4-digit serial no. (film cartridge number)
 ② Frame number
 ③ Shooting mode
 ④ Metering mode
 ⑤ Flash used or not (✓)
 ⑥ Shutter speed
 ⑦ Aperture value
 ⑧ Focal length
 ⑨ Amount of exposure compensation





• In the reduced mode

- ① 4-digit serial no. (film cartridge number)
 ② Frame number
 ③ Shooting mode
 ④ Flash used or not
 ⑤ Shutter speed
 ⑥ Aperture value
 ⑦ Focal length

- 3) When **SELECT** or **SELECT** is pressed, the frame number in the panel changes and automatically displays the data stored for that exposure. It is thus possible to search the data for any frame.

- (2) ⑩ ISO film speed
 ⑪ Date
 ⑫ Time
 (3) ⑬ Note (Nothing is displayed when NOTE is not selected on the sub menu screen, or no note is set.)





- If the data has been stored correctly,  on the upper right screen will change to "  ".
- For the execution screen when NOTE is turned on the sub menu screen, see p. 43.
- When the remaining storage capacity becomes less than 20 characters in the standard mode, or less than 40 in the reduced mode,  on the upper screen switches to  to warn.

[Clearing stored data]



"full" will appear on the upper screen when the memory's maximum capacity is reached. The stored data can be cleared on the sub menu screen.

- 1) Display the sub menu screen, and move the cursor to CLEAR.



- 2) Press  to turn on CLEAR status ().



- 3) When  is pressed, CLEAR will return to OFF status ().
At this time, all stored data are completely cleared.



- Clear stored data by dumping to the Keyboard Unit E. Dumped data can be transferred to the Technical Back E again. (See page 50.)

7. Program Setting Function


With this function you can draw two program lines to control exposure. In addition, two different program line graphs are preset in the Technical Back E.

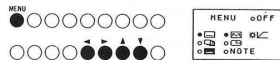
Screen changes and their purpose.

- ```


graph TD
 A["(1) MENU screen (selects program setting function)"] --> B["(2) EXECUTION screen (displays program line graphs)"]
 B --> C["(3) SET screen (draws program line graphs)"]
 C --> D["(4) MENU screen (turns program setting function ON)"]
 D --> E["(5) EXECUTION screen (displays program line graphs)"]
 E --> F["Take exposures"]

```


1. Display the menu screen and move the cursor to  mark.



2. Display the program line graphs.

- 1) Press  to call up the execution screen of the program setting function. Program A appears in the panel.



- 2) Each time  is pressed,  $\sqrt{A}$  (Program A) and  $\sqrt{B}$  (Program B) are displayed alternately.



### 3. Draw the program line graphs.

If you want to use one of the preset program lines, please see page 30.

To draw your own program line, follow these steps:

- 1) Select Program A or B.



- 2) Press  $\text{SET}$  to call up the set screen.



- + : Moving dot (blinking)
- 30" : Shutter speed at the position of the moving dot
- 1.0 : Aperture value at the position of the moving dot

Draw the program line with this dot. Imagine the LCD panel as a graph with its vertical line as the aperture value and its horizontal line the shutter speed.

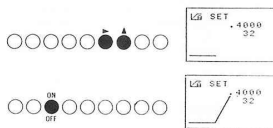
- 3) Move the dot up or right with  $\blacktriangle$  and  $\blacktriangleright$ .  
Each time  $\blacktriangle$  is pressed, the shutter speed increases by 0.5 step. Each time  $\blacktriangleright$  is pressed the aperture value increases by 0.5 step.



- 4) Press  $\text{ON/OFF}$  to bend the line. A line is drawn between the starting point and the point at which the button is pressed.



- 5) Enter the program line to the ending point, that is, the shutter speed of 1/4000, and the aperture value of f/32.



- 6) Press  $\text{SET}$  to complete the program line graph input.


At this time, Technical Back E corrects the program line automatically according to the fastest shutter speed of the camera and maximum aperture value of the lens being used.






#### Notes

- Always enter the program line to the end of the graph (the shutter speed of 1/4000 and the aperture value of f/32) regardless of the body or lens in use. Otherwise, the line cannot be set even though  $\text{SET}$  is pressed. The program line returns to the previous line automatically.
- Any previous program line is not cleared until  $\text{SET}$  is pressed to complete input.

#### 4. Turn the program setting function ON.


- 1) Press  to return to the menu screen.




- 2) Press  and  will change to  (execution status).

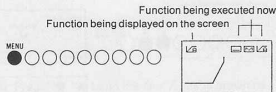


#### Notes

- If the camera's main switch is set to  mark (full auto position), you can not use this function.
- In the execution status, the camera's shooting mode switches to program AE automatically making change to other modes impossible.

#### 5. Display the program line on the LCD panel and take the exposure.

- 1) Press  again on the menu screen, the execution screen is displayed.





- 2) Select Program A or B.

- 3) Press the shutter button halfway down and a slanting line (EV line) will appear. The cross point of this line and the program line indicates the shutter speed and aperture value that control the exposure.



#### Note:

- The program line is ignored when the flash becomes charged. At this time,  mark changes to  mark on the execution screen.




## 8. Auto Exposure Bracketing Function (AEB Function)


With this function, you can change the amount of exposure on film intentionally for up to nine exposures.

#### Screen changes and their purpose

- (1) MENU screen (selects the auto bracketing function)
  - (2) EXECUTION screen (displays bracketing contents)
  - (3) SET screen (sets bracketing amounts)
  - (4) MENU screen (turns auto bracketing function ON)
  - (5) EXECUTION screen (displays bracketing execution status)
- ↓  
Take exposures

1. Display the menu screen and move the cursor to  mark.



2. Press  to call up the execution screen.

The auto bracketing contents will be displayed.



The initial amounts preset in the Technical Back E are as follows:

- step: +0.50 (the size and direction of the compensation step; setting is possible from -2.0 to +2.0 steps in 0.25-step)
- from: -0.50 (exposure level for first exposure; setting is possible from -5.0 to +5.0 EV in 0.25-step)
- to: +0.50 (exposure level for final exposure; automatically set)
- fr: 3 (number of exposures; up to nine exposures)

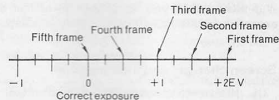
If you use the preset amounts, the first exposure is 0.5 steps underexposure, the second is the correct exposure, and the third is 0.5 steps overexposure.



### 3. Set the bracketing amounts.

#### EXAMPLE

step: In 0.5-step in the direction to the under-exposure  
from: 2 EV overexposure  
fr: 5 exposures

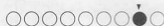


1. Press and the set screen appears with "step: +0.50" blinking.



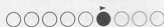
SET  
Step: +0.50fr:2  
from: -0.50  
to: +0.50

2. Press until -0.50 appears.



SET  
Step: -0.50fr:3  
from: -0.50  
to: -1.50

3. When is pressed, "from: -0.50" starts blinking.  
Set +2.00 with .

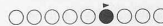


SET  
Step: -0.50fr:3  
from: -0.50  
to: -1.50



SET  
Step: -0.50fr:3  
from: +2.00  
to: +1.00

4. When is pressed, "fr: 3" starts blinking.  
Set 5 with .



SET  
Step: -0.50fr:5  
from: +2.00  
to: +1.00



SET  
Step: -0.50fr:5  
from: +2.00  
to: +0.00

5. Press to finish setting.

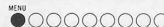


OFF SET  
Step: -0.50fr:5  
from: +2.00  
to: +0.00

- Each time the numbers are set, the number of "to:" changes coupling to their settings.

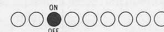
#### 4. Turn the auto bracketing function ON.

- 1) Press to return to the menu screen.



MENU OFF  
• [ ] • [ ] • [ ]  
• [ ] • [ ] • [ ]  
• [ ] • [ ] • [ ]


- 2) Press , and will change to (execution status).

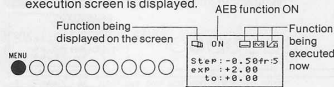


MENU OFF  
• [ ] • [ ] • [ ]  
• [ ] • [ ] • [ ]  
• [ ] • [ ] • [ ]

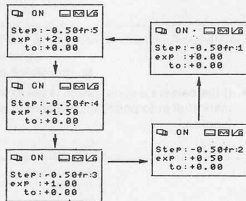
- If the camera's main switch is set to the mark (full auto position), you cannot use this function.

## 5. Display the AEB function and take the exposures.

- Press  again on the menu screen, and the execution screen is displayed.



- The "from:" changes to "exp:" with the auto bracketing function turned on.
- The number of "fr:", "exp:" and "to:" changes with every shutter release as follows.



### Notes:

- When the AEB function is turned on, the auto bracketing execution screen is displayed when the shutter button is pressed halfway down regardless of the display. The display returns to the previous screen when the specified number of exposures have been completed.
- Even if the film end is reached during AEB execution, the function will continue when the film is changed.
- To cancel the AEB function, return the display to the menu screen and turn the AEB function OFF.
- During auto bracketing execution, the AEB function on the EOS 620 is not used.
- If the camera is set to bulb, or the flash becomes charged, the AEB function does not execute.
- If exposure compensation of the camera is used with this AEB function, the first exposure will be a total value that was set "from:" on the Technical Back E and set at the camera.

## 9. Timer Control Function

With this function, you can control shutter release by combining the self-timer control with the interval timer or long release timer control.

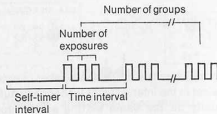
### Timer A

S: Self-timer control; from 1 sec to 99 hrs, 59 mins, 59 secs.

I: Interval timer control; from 1 sec to 99 hrs, 59 mins, 59 secs.

F: Number of exposures; from 1 to 9.

G: Number of groups; from 1 to 99.



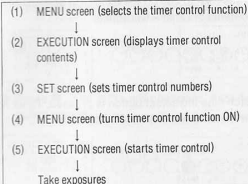
### Timer B


S: Self-timer control; from 1 sec to 99 hrs, 59 mins, 59 secs.

L: Long release timer control; from 1 sec to 99 hrs, 59 mins, 59 secs.

F: Aperture value; the aperture value of the lens in use.

### Screen changes and their purpose



- Display the menu screen and move the cursor to  mark.

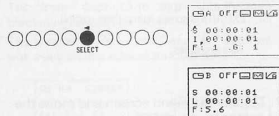


## 2. Display the timer control contents.

- 1) Press **MENU** to call up the execution screen. The contents of Timer A will appear.



- 2) Each time the select button is pressed, Timer A and Timer B are displayed alternately.



## 3. Set the timer.

### [Timer A]

- 1) Select Timer A.



- 2) Press **SET** to call up the set screen. Move the cursor to the position to be set with **▲** or **▼**, and set the desired number with **▲** or **▼**.



- 3) Press **SET** after setting is completed.



- When AEB function is ON, the number of exposures set in the interval timer function will automatically be the same setting as the auto bracketing function; the auto bracketing function is executed simultaneously.

### [Timer B]

- 1) Select Timer B.



- 2) Press **SET** to call up the set screen. Move the cursor to the position to be set with **▲** or **▼**, and set the desired number with **▲** or **▼**.



- 3) Press **SET** after setting is completed.



- Set the aperture value between the maximum and minimum aperture of your lens.

## 4. Turn the timer control function ON.

- 1) Press **MENU** to return to the menu screen.




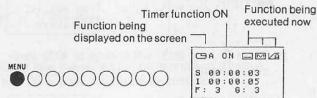
- 2) Press **ON/OFF**, and **CA** will change to **CA** (execution status).





- This function does not operate when the main switch is set to " " mark (full auto position).

## 5. Start the timer.

- 1) On the menu screen, press  to return to the timer execution screen.





- 2) Press  to select timer A or B.

- 3) Press  to start the timer.  
At this time, "ON" in the upper screen changes to "RUN".



### Notes

- Starting the timer is possible only when the timer execution screen is displayed.  
If the shutter button is pressed instead of , normal photography will take place.
- To stop the timer, press .

- Set the AF mode to "SERVO" or "MANUAL".  
The timer does not operate in the "ONE SHOT" mode.  
If "SERVO" is selected, autofocus starts five seconds before release.
- The film winding mode is automatically set to continuous.
- When the flash is used, the flash charge starts one minute before shutter release.
- During Timer B execution, the camera is set to bulb automatically.
- During timer control execution, do not operate the camera, Keyboard Unit or Interface Unit, otherwise, malfunction or timer reset may occur.
- During timer control execution, cover the viewfinder to prevent stray light using the viewfinder cover.

### Notes for Timer A



- Timer A is not executed if the camera is set to Depth of Field AE (EOS 650 only) or Bulb.
- If the interval time is shorter than the required time for making exposures of one group, the shutter is released continuously without interval.
- When used with the multiple exposure function (EOS 620 only), the camera stops automatically regardless of the number set on the Technical Back E with the timer control function.

## 10. Imprint Data Correction Function


Data set in the data imprint function is once stored in the Technical Back E and imprinted upon film rewind. With the Imprint Data Correction Function, verification and correction can be done before imprinting.

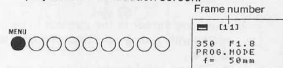
- The Keyboard Unit E facilitates easy data correction. See page 49.

### [Procedure for data correction with the Technical Back E only]

1. Press  to display the menu screen, and move the cursor to  mark.



2. Press  again, and the imprint data is displayed on the execution screen.



### 3. Correct the data.

- 1) Select the frame to be corrected by pressing

▲ or ▼.



- 2) Press **SET** to call up the set screen.



- 3) Move the cursor to the position to be corrected with ▲ or ▼, and then change it with

- Please refer to the table on page 41 about letters and numbers.



- 4) After completing correction, press **SET** to return to the execution screen.



- Imprint data correction can be done only to the next to the last frame because automatic rewind starts when the film end is reached.

## 11. NOTE Note Setting Function

With this function, you can set four notes up to 30 characters using numbers, letters and symbols. These notes can be imprinted with the data imprint function (P. 11) or stored in the Technical Back E with the exposure data via the data storage function (P. 21).

- The Keyboard Unit E facilitates easy note setting. See page 48.

### [Operation for setting notes only with the Technical Back E.]

1. Press **MENU** to display the menu screen, and move the cursor to **NOTE**.

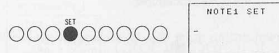


2. Press **MENU** and NOTE 1 is displayed on the execution screen.



3. Set the note.

- 1) Press **SET** to call up the set screen.



- 2) Each time ▲ or ▼ is pressed, numbers, symbols and letters are displayed in the following sequence. Select the desired number or character.



0-9 : ; < = > ? @ A-Z [ ¥ ]  
^ ! " # \$ % & / ( ) \* + , -  
· /

- For a blank, press **START/STOP**.

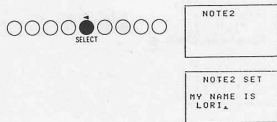
- 3) Press to move the cursor right.  
Up to 30 characters can be input following the same procedures.



- 4) When input is complete, press to return to the execution screen.



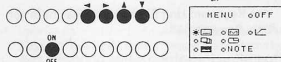
- 5) Press , and NOTE 2 execution screen will be displayed.  
Input the note following the same procedures as in steps 1 through 4.
- 6) Input NOTE 3 and NOTE 4.



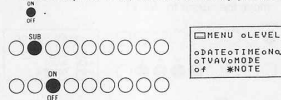
### [Imprinting notes]

Note imprinting is done in the data imprint function (see page 11).

- 1) Move the cursor to mark on the menu screen and turn it on by pressing .



- 2) Press to call up the sub menu screen. To select imprint data, turn NOTE on by pressing .



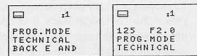
- 3) Press , and the note is displayed on the execution screen. (see page 19.)



- 4) Each time is pressed, NOTE 1 (2, 3, or 4) appears on the center screen, and (2, 3, or 4) appears instead of the mark on the upper screen corresponding to the note. Select the desired note.



- If only NOTE is selected on the sub menu screen as the imprint data, all 30 characters can be imprinted on the film. When other data is selected in addition to NOTE, the imprinted note length shortens by 10 characters.



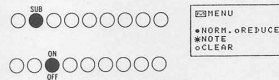
### [Storing notes]

Note storage is done in the data storage function. (See page 21.)

- 1) Move the cursor to mark on the menu screen and turn it on by pressing .

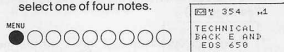


- 2) Press to call up the sub menu screen. Verify that the standard storage capacity is selected, move the cursor to NOTE, and press to turn it on (execution status).



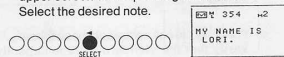
## 12. Turning the Technical Back E Off

- 4) When **MENU** is pressed again, the execution screen with note is displayed and you can select one of four notes.



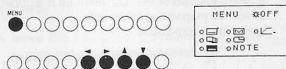
Each time **SELECT** is pressed, NOTE 1, 2, 3, or 4 appears sequentially on the screen, and **M1** (2, 3, or 4) appears instead of **E2** mark on the upper screen corresponding to the note.

Select the desired note.

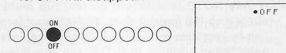


- After release, NOTE is turned OFF automatically.

- 1) Press **MENU** to display the menu screen, and move the cursor to **OFF** on the upper screen.



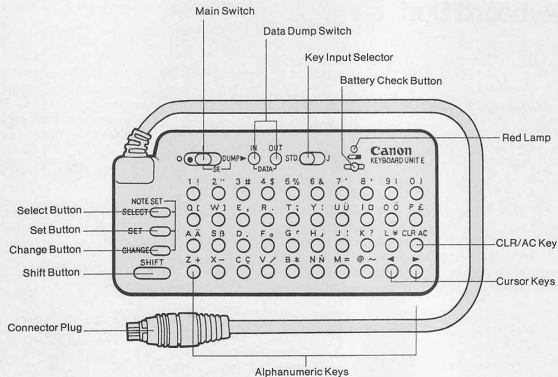
- 2) Press **ON/OFF**, and all other symbol marks except for **OFF** will disappear.



- To display the menu screen again, press **ON/OFF**.
- When the Technical Back E is not used for approximately 30 seconds, the display will disappear due to the SE (Save-Energy) function. To restart, press one of nine buttons to display the screen and then press **ON/OFF**. The menu screen will appear.

## Keyboard Unit **E**

## Nomenclature



## Functions

- Note Input Function**

The Keyboard Unit E features a complete alphanumeric keyboard with symbols that make data (note) input simple in English, French, German and Spanish.

- Note Exchange Function**

The Technical Back E can be exchanged notes with the four notes stored in the Keyboard Unit E. This makes it possible to use up to eight notes.

- Data Correct Function**

Connecting the Keyboard Unit E to the Technical Back E makes it easy to correct imprint data.

- Data Dump Function**

When storage capacity in the Technical Back E becomes full, the data dump function allows you to store new data. The dumped data can be returned to the Technical Back E.

### Battery Loading

The Keyboard Unit E uses two lithium 3 V, CR 2025 batteries. These batteries provide power for the Keyboard Unit E and memory backup.

- An insulating sheet is placed in the battery chamber during assembly. Using a phillips-

head screwdriver, remove the retaining screw to take off the battery chamber cover. Take the insulating sheet out of the battery chamber. Reload the batteries and be sure their terminals face in the directions indicated by the diagram inside the battery chamber.

- The Keyboard Unit E batteries can also provide power for the Technical Back E.

To check the battery, press the battery check button with the main switch turned on. If the red lamp lights up, the battery power is sufficient. If it blinks, replace both batteries with new ones. When using the Keyboard Unit E in low temperatures ( $-10^{\circ}\text{C}$ ,  $14^{\circ}\text{F}$ ) be sure to install new batteries.

When battery power is exhausted, the exposure data and notes stored in the Keyboard Unit E are cleared, and the unit will not function.

- Replace the batteries with the main switch off.
- The Keyboard Unit E has a built-in SE (Save-Energy) function that automatically turns off power when it is not used for approximately 16 minutes. To restart, turn the main switch OFF and then back it to ON.



## 1. Note Input Function

(1) Connect the Keyboard Unit E to the Technical Back E.

- 1) Remove the connection terminal cap from the Technical Back E.
- 2) Insert the connector plug into the connection terminal.

- Be sure to insert the plug so that the side with two grooves faces toward you.

(2) Turn the main switch ON.

(3) Press **[SELECT]** to display the note execution screen.

The display changes to the note execution screen regardless of the screen being displayed.

Press **[SELECT]** again to choose a note from NOTE 1 — NOTE 4.



(4) Press **[SET]** to call up the note set screen.



(5) Switch the key input selector to STD.

(6) Input the note by pressing the alphanumeric keys.



- After character input, the cursor moves to the right.
- To input the green symbols and characters to the right of each key, hold **[SHIFT]**, then press the button corresponding to that character.
- To clear a character, press CLR/AC key.
- To clear all characters on the screen, press CLR/AC key while holding **[SHIFT]**.

(7) When note setting has completed, press **[SET]** to return to the execution screen.



## 2. Note Exchange Function

(1) Display the note execution screen.



(2) Press **[CHANGE]** on the Keyboard Unit E.

It takes about 3 seconds to exchange notes. During exchange, "BUSY" is displayed on the LCD panel. After exchange has completed, the red lamp lights for about one second for verification, then the exchanged note will be displayed.

- At the first exchange after battery loading, nothing will be displayed since there are no notes stored in the Keyboard Unit E.
- Note exchange is possible on the execution screen only.
- Four notes are exchanged together.

## 3. Data Correct Function

(1) With the Technical Back E, display the execution screen for the imprint data correction function. Then search for the frame to be corrected using **[UP]** or **[DOWN]** on the Technical Back E.



(2) Press **[SET]** on the Keyboard Unit E to shift to the set screen. Move the cursor to the position to be corrected with the Keyboard Unit E cursor keys.



(3) Enter the data using the alphanumeric keys on the keyboard.



(4) After setting has completed, press **[SET]**.

(1) Set the main switch on the Keyboard Unit E to DUMP position.

(2) Press DATA IN, or DATA OUT button.

**DATA IN:** Data is dumped from the Technical Back E to the Keyboard Unit E.

**DATA OUT:** Data is dumped from the Keyboard Unit E to the Technical Back E.

It takes approximately 35 seconds to complete the data dump function. "BUSY" is displayed on the screen during this function. After data dump, the red lamp lights for about one second, and the display returns to the previous screen.

- If the Technical Back E is storing data, it cannot accept data being dumped from the Keyboard Unit E. In this case, clear the data or dump to a personal computer using the Interface Unit TB.

However, any data stored in the Keyboard Unit is cleared when data is dumped from the Technical Back E to the Keyboard Unit E.

### Technical Back E

**Cameras used with:** EOS 620 and EOS 650

**Camera Mount:** Interchangeable back using back cover mounting pin

**Type:** Fully automatic data back with built-in electronic exposure data storage function and auto date function

### Data Imprint Function

**Data Types:** (1) Date (Year/month/day, Month/day/year, Day/month/year), (2) Time (hour/minute/second), (3) Shutter speed, aperture value, (4) Focal length, (5) Shooting mode, (6) 4-digit serial number, film cartridge number or frame number, (7) Any desired notes, (8) Off, Any combination of three data types in (1) — (7) can be imprinted.

**Data Length:** Up to 30 characters per frame

**Data Imprint Position:** One row at the bottom of the frame.

**Character Shape and Size:** Characters are imprinted in a 5 × 7 dot matrix. Character height on the negative is 0.75 mm.

**Data Imprint System:** Data is temporarily stored in RAM upon exposure, then imprinted on the film during rewind at a rate synchronized with the speed of film travel. Characters are

formed by an optical system that focuses light on the back side of the film from a seven-dot vertical row of red LEDs.

**Imprint Data Correction:** Possible up until rewind.

**Data Imprint Confirmation:** Confirmation mark is displayed in the LCD panel for one or two seconds.

**Imprint Exposure Level Selection:** (1) Automatically set to one of eight levels according to DX code. Manually set when color or black and white film is selected. (2) Can be increased (+1 or +2).

### Data Storage Function

**Data Types:** Based on exposure control signals from the camera. (1) Shutter speed, (2) Aperture value, (3) Metering mode, (4) Shooting mode, (5) Flash photography mode, (6) Number of frames exposed (the frame counter number on the camera), (7) Focal length of lens (the focal length used for exposure), (8) Name of lens used (focal length, full aperture value, (9) ISO film speed, (10) Amount of exposure compensation, (11) Auto exposure bracketing used or not, (12) Multiple exposure used or not, and the number of exposures, (13) Exposure warning occurred or not, (14) Second cur-

tain synchro used or not, (15) Auto film counter (4-digit serial number, coupled to exposure), (16) Date (year, month, day), (17) Time (hour, minute, second), in 24-hour increments, (18) Note (up to 30 characters) The data for (8), (11), (12), (13) and (14) are displayed on the monitor by connection to a personal computer through the Interface Unit TB.

**Storage Modes and Capacity:** Capacity-8 K byte RAM

- Modes— [1] Normal mode—361 frames (10 rolls of 36-exp film; stores 18 types of data 13 types are displayed on the LCD panel)
- [2] Reduced mode—824 frames (22 rolls of 36-exp film; stores only seven types of data (1), (2), (4), (5), (6), (7), (15))
- [3] Provided with decreasing digital remaining-memory indicator. "full" is displayed when remaining capacity drops to zero.

**Display of Stored Data:** Data are displayed in the LCD panel.

**Clearing Stored Data:** Data are cleared by pressing the clear button.

## Program Setting Function

**Input Method:** Program AE line graphs are displayed in the LCD panel. Two program AE line graphs can be entered.

**AE Control:** Shutter speed and aperture values are automatically set according to the program and sent to the camera based on the camera's metering value.

**Coupling with Full Aperture Value:** During program AE line graph input, any aperture can be input from f/1.0 to f/32. With program AE control, the display automatically switches to line graph input for full aperture value of the lens being used.

**Use with Flash:** With flash photography, the program line graphs are disregarded upon flash charge completion.

## Auto Exposure Bracketing Function (AEB)

**Type:** Exposure compensation automatically set based on exposure value set by the camera or the Technical Back E.

**Compensation Step:** Set from -2.0 to +2.0 steps, in 0.25-step increments.

**Number of Exposures:** Set from 2 to 9.

**Photography Sequence:** Negative steps correspond to compensation from overexposure to underexposure and positive steps correspond to compensation from underexposure to overexposure.

**Compensation Factors:** The relationship between exposure parameters altered for compensation and the camera shooting mode are shown below.

| Camera mode          | Shutter speed | Aperture value |
|----------------------|---------------|----------------|
| Shutter-priority AE  | —             | ○              |
| Aperture-priority AE | ○             | —              |
| Depth of field AE    | ○             | —              |
| Program AE           | ○             | ○              |
| Manual               | ○             | —              |

**Use of AEB with Flash:** Not possible. AEB function is automatically cancelled upon charge completion.

## Timer Control Function

**Modes:** (1) Timer A-for self/interval timer photography;  
(2) Timer B-for self/long release photography

**Timer Settings: (1) Timer A**

| Item set                           | Setting                      |
|------------------------------------|------------------------------|
| 1. Self timer                      | 1 sec—99 hr, 59 min, 59 sec. |
| 2. Interval timer                  | 1 sec—99 hr, 59 min, 59 sec. |
| 3. Number of exposures at one time | 1—9 exposures                |
| 4. Number of repetitions           | 1—99                         |

**Timer Settings: (2) Timer B**

| Item set                     | Setting                      |
|------------------------------|------------------------------|
| 1. Self timer                | 1 sec—99 hr, 59 min, 59 sec. |
| 2. Long release timer (bulb) | 1 sec—99 hr, 59 min, 59 sec. |
| 3. Aperture value (manual)   | f/1.0 to f/32                |

**Operation:** Timer control starts when the start button is pressed. With Timer B, bulb is set automatically regardless of the camera mode.

**SW-1 output:** During self timer and interval timer operation, the SW-1 signal emits one minute prior to release.

**AF ON output:** During self timer and interval timer operation, the AF ON signal emits five seconds prior to release.

**External Data Display:** Dot matrix display on the LCD panel.

## Power Supply

**Sources:** (1) Main power; Supplied from camera body

(2) Backup power; Supplied by one CR 2025 button-type lithium battery (used for clock operation and memory backup.)

**Battery Life:** About one year. (Operation is not possible without backup battery.)

**Signal Pins:** (1) Signal transfer with camera body; eight pins  
(2) Signal transfer with interface unit; six-pin connector and connection cord

(3) Signal transfer with the keyboard unit; six-pin connector and connection cord

**Safety Feature:** Safety cover for buttons

**Dimensions and Weight:** 147.7 (W) × 58.4 (H) × 29.7 (D) mm

(5-13/16" × 2-5/16" × 1-3/16")

115 g (4-1/16 oz.) including backup battery

**Assured Temperature Range:** -20° to +45°C (-4°F to 113°F)

## Keyboard Unit E

**Type:** 10-key portable alphanumeric keyboard

**Product used with:** Technical Back E

**Function:** Used to input comments for Technical Back E imprint and storage.

**Key Types:** (1) Alphanumeric keys and characters-37 (including space key), (2) Shift key (for switching between alphanumerics and other characters), (3) Left/right cursor key, (4) Clear and all-clear key.

**Keyboard layout:** Layout of alphanumeric keys conforms to JIS standard (with capital letters only). Keys for other characters are not arranged according to any particular standard.

**Memory:** Storage capacity up to four 30-character notes. These can be input to the Technical Back E with the Change key.

## Data Dump Function

**Function:** This function is used when the Technical Back E is equipped with expansion RAM for data storage.

**Technical Back E:** After selecting the dump mode, data stored in the Technical Back E is transferred to the Keyboard Unit E by a special switch.

**Keyboard Unit E:** After selecting the dump mode, data stored in the Keyboard Unit E is transferred to the Technical back E by a special switch.

**Dump Verification:** Dump confirmation lamp (LED) lights for one second.

## Power Supply

**Type:** Two CR2025 lithium batteries (6 V)

**Battery Check:** By pushing the battery check button; Three-level display 1) OK—Lamp (red LED) lights. 2) Replacement warning—Lamp flashes. 3) Battery exhausted—Lamp doesn't light.

**Power Supply to the Technical Back E:** Supplied through the Keyboard Unit E connection, enabling operation of both the Technical Back E and Keyboard Unit E. (Except for the clock function, power to the Technical Back E is supplied either from the camera or the Keyboard Unit E.)

**Battery Life:** (1) With continuous operation—10 hours  
(2) Unused/storage life—1 year (backup life)

**Display:** Technical Back E LCD panel Signal Pins/Cord: Six pins-cord (310 mm (12-13/16") with plug.

**Dimensions and weight:** 117.5 (W) × 11 (H) × 59 (D) mm (4-5/8" × 7/16" × 2-5/16") 85 g (30 oz.) with batteries

**Assured Temperature Range:** -20°C to +45°C (-4°F to 113°F)

## Data Imprint Function

### MENU Screen



### SUB MENU Contents



### Note Setting Function (using Keyboard Unit E)

### Program Setting Function



Selection of notes 1 — 4 is possible with 5 when NOTE is ON.

### MENU Screen



### SUB MENU Screen



### SET Screen



### EXECUTION Screen



# MENU Screen



## Auto Exposure Bracketing (AEB) Function

①



④



## Timer Control Function

①



⑤



⑤



④



⑨



④



⑨

## Imprint Data Correction Function

①

## Data Storage Function

### SUB MENU Contents



②



⑤



⑤



⑤



⑤

Selection of notes 1 — 4 is possible with ⑤ when NOTE is ON.

## Pre-exposure Operations

## Post-exposure Operations

