

## Casio fx-5800P

# Casio fx-5800P Calculator Highway Design and Measurement Procedures Manual

Comprehensive Guide for the Casio fx-5800P Programmable Scientific Calculator

## INTRODUCTION

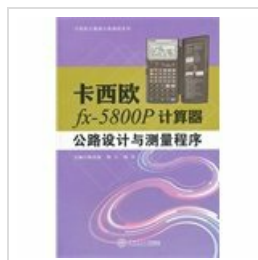
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This manual provides essential instructions for operating the Casio fx-5800P programmable scientific calculator, with a focus on applications relevant to highway design and measurement procedures. While this guide offers general operational principles, users are encouraged to consult the detailed "Casio fx-5800P calculator highway design and measurement procedures" book for in-depth methodologies and specific program examples.

The Casio fx-5800P is designed for advanced calculations, including those required in engineering, surveying, and construction, making it an invaluable tool for professionals and students alike.

## PRODUCT OVERVIEW

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*Image: Cover of the "Casio fx-5800P calculator highway design and measurement procedures" book. This book serves as a comprehensive guide for advanced applications of the calculator.*

The Casio fx-5800P is a powerful programmable scientific calculator featuring a dot matrix display, natural textbook display, and a wide range of functions. It supports formula memory, program functions, and statistical calculations, which are crucial for complex engineering tasks.

## SETUP

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## 1. Initial Power On

Press the **ON** button to power on the calculator. If the display does not appear, ensure batteries are correctly installed or sufficiently charged.

## 2. Battery Installation/Replacement

1. Turn the calculator off.
2. Slide the battery cover off the back of the unit.
3. Insert new batteries (e.g., AAA size, quantity as specified in the calculator's original manual) ensuring correct polarity (+/-).
4. Replace the battery cover.
5. Press the **ON** button. If the display is dim, adjust contrast.

## 3. Display Contrast Adjustment

To adjust display contrast, press **SHIFT** then **MODE/SETUP**. Navigate to 'Contrast' and use the arrow keys (< / >) to adjust. Press **AC** to exit.

## 4. Initializing Settings

It is recommended to initialize the calculator settings upon first use or after battery replacement. Press **SHIFT** then **CLR** (Clear). Select 'All' (option 3) and confirm by pressing **=**. This clears all memory and returns settings to factory defaults.

# OPERATING INSTRUCTIONS

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## 1. Basic Calculations

Enter numbers and operations as you would write them. For example, to calculate  $15 + 20$ , press **1 5 + 2 0 =**.

## 2. Mode Selection

Press **MODE/SETUP** to select calculation modes. Common modes include:

- **COMP**: Basic arithmetic, functions.
- **STAT**: Statistical calculations.
- **EQN**: Equation solving.
- **BASE-N**: Base-n calculations.
- **PROG**: Program execution and editing.

For highway design, you will frequently use **COMP** mode for general calculations and **PROG** mode for executing custom programs related to curve calculations, earthwork volumes, and coordinate geometry.

## 3. Using Memory Functions

The calculator has multiple memory registers. To store a value, enter the value, then press **STO** followed by the desired memory variable (e.g., **A**, **B**, **X**, **Y**). To recall a value, press **RCL** followed by the memory variable.

## 4. Programming Functions (PROG Mode)

The fx-5800P allows users to write and store programs. This is particularly useful for repetitive calculations in highway design, such as spiral curve computations or vertical curve offsets.

1. Enter **PROG** mode.

2. Select 'EDIT' to create or modify a program.
3. Use the calculator's key functions to input program steps. Refer to the "Casio fx-5800P calculator highway design and measurement procedures" book for specific program listings and algorithms relevant to highway engineering.
4. After inputting, save the program.
5. To run a program, select 'RUN' in **PROG** mode and choose the desired program.

## 5. Coordinate Geometry and Surveying Applications

The calculator's advanced functions can be utilized for coordinate geometry (COGO) calculations. This includes:

- Point-to-point distance and bearing calculations.
- Intersection calculations (line-line, line-arc).
- Area computations from coordinates.
- Traverse adjustments.

These applications are fundamental in highway alignment and site layout. Detailed procedures and formulas are extensively covered in specialized guides like the aforementioned book.

## MAINTENANCE

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### 1. Cleaning the Calculator

Wipe the calculator with a soft, dry cloth. For stubborn dirt, slightly dampen the cloth with water and a mild detergent, then wipe dry immediately. Avoid using strong solvents, alcohol, or abrasive cleaners.

### 2. Storage

Store the calculator in a cool, dry place away from direct sunlight, extreme temperatures, and high humidity. Use the protective hard case (if provided) to prevent scratches and damage to the keys and display.

### 3. Battery Care

If the calculator will not be used for an extended period, remove the batteries to prevent leakage and potential damage to the internal components.

## TROUBLESHOOTING

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- **Display is blank or dim:**  
Check battery power. Replace batteries if necessary. Adjust display contrast (refer to Setup section).
- **Calculator does not respond to key presses:**  
Try pressing the **RESET** button (usually a small recessed button on the back, requiring a thin object like a paperclip). This will clear all memory. If the issue persists, replace batteries.
- **"Math ERROR" or "Syntax ERROR":**  
Review your input for incorrect mathematical operations (e.g., division by zero, square root of a negative number) or incorrect syntax (e.g., unmatched parentheses, incorrect function arguments). Press **AC** to clear the error and re-enter the calculation.
- **Incorrect calculation results:**  
Check the current mode (e.g., Degree/Radian, Fix/Sci/Norm display settings). Ensure all variables and constants are correctly entered. Initialize the calculator settings to factory defaults if problems

persist.

## SPECIFICATIONS

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### Casio fx-5800P Calculator (General)

- **Display:** Dot matrix, Natural Textbook Display
- **Power Source:** Battery (e.g., AAA x 1)
- **Functions:** Over 600 functions, including scientific, statistical, equation solving, and programming.
- **Memory:** Formula memory, program memory, independent memory, answer memory.
- **Dimensions:** (Approximate) 163 x 81.5 x 15.1 mm
- **Weight:** (Approximate) 150g

### "Casio fx-5800P calculator highway design and measurement procedures" Book

Specification	Detail
Publisher	China Press
Language	Chinese
ISBN-10	756233532X
ISBN-13	978-7562335320

## WARRANTY INFORMATION

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Warranty information for the Casio fx-5800P calculator is typically provided with the original product packaging and purchase documentation. Please refer to the warranty card or manufacturer's website for details regarding coverage, terms, and conditions. This manual, being a guide for the calculator, does not include specific warranty details for the calculator itself.

## SUPPORT

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For technical support regarding the Casio fx-5800P calculator, please visit the official Casio website or contact their customer service department. For questions related to the content of the "Casio fx-5800P calculator highway design and measurement procedures" book, please refer to the publisher, China Press, or the authors as indicated within the book.

- **Casio Official Website:** [www.casio.com](http://www.casio.com) (Check for regional support pages)
- **Publisher (China Press):** Refer to the book for contact information.