HP HP50G

HP 50g Graphing Calculator User Manual

Model: HP50G

1. INTRODUCTION

1.1 Product Overview

The HP 50g Graphing Calculator is a powerful and flexible tool designed for professionals and students in mathematics, science, and engineering. It features an SD card slot, 2.5 MB total memory (512 KB RAM, 2 MB Flash ROM), USB and RS232 connectivity, and a built-in intelligent editor. Its large, high-contrast display allows for clear viewing of formulas, calculations, and graphs. The calculator supports RPN (Reverse Polish Notation), Textbook, and Algebraic data entry modes, and includes over 2,300 built-in functions and an extensive equation library.
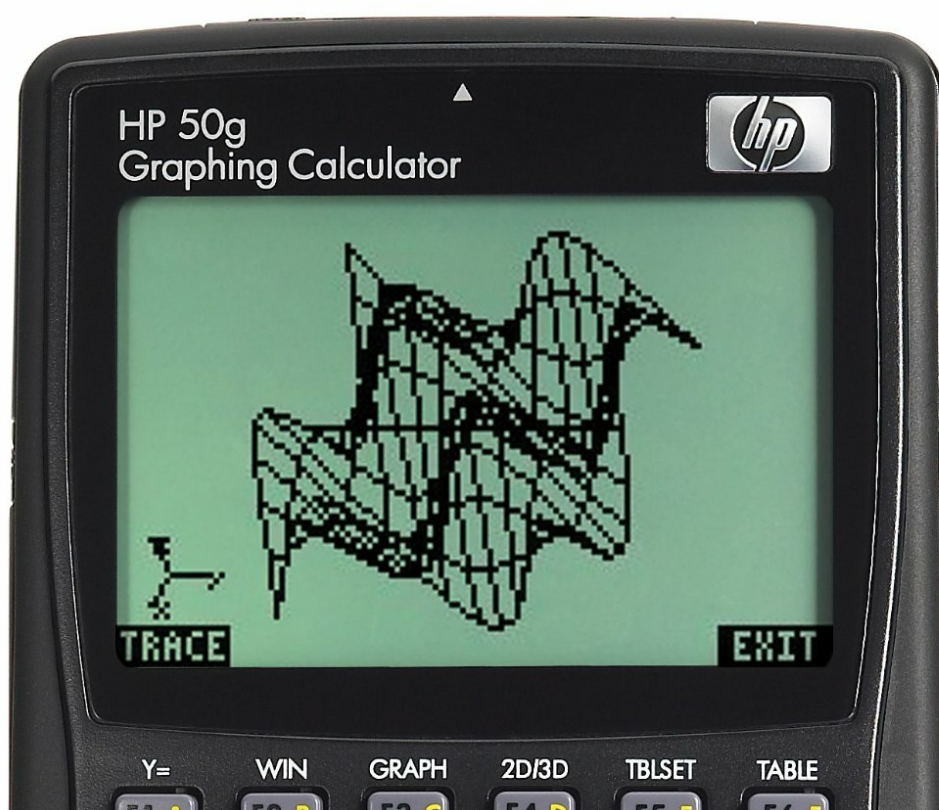
Figure 1.1: The HP 50g Graphing Calculator with a 3D graph on its display.

1.2 What's in the Box

Upon unboxing your HP 50g Graphing Calculator, verify that all the following items are included:

- HP 50g Graphing Calculator
- Batteries (4 AAA and 1 CR2032)
- User's Manual (printed quick start guide)
- CD (containing connectivity software and advanced user's guide)
- USB Cable
- Premium Pouch

2. SETUP

2.1 Battery Installation

The HP 50g requires four AAA batteries for primary power and one CR2032 coin cell battery for memory backup. It is recommended to install fresh batteries upon first use.

1. Locate the battery compartment on the back of the calculator.
2. Open the compartment cover.
3. Insert four AAA batteries, ensuring correct polarity (+/-).
4. Locate the CR2032 coin cell slot, typically near the AAA compartment. Insert the CR2032 battery with the positive side facing up.
5. Close the battery compartment cover securely.

Note: The use of rechargeable AAA batteries is not recommended by the manufacturer due to lower capacity and shorter low-battery warning times. However, if used, ensure they are fully charged.

2.2 SD Card Installation

The HP 50g features an SD card slot for expanded memory and data backup. Only standard SD cards (up to 2 GB) are compatible; SDHC cards are not supported.

Figure 2.1: Inserting an SD card into the HP 50g calculator.

1. Locate the SD card slot on the side or bottom of the calculator.
2. Insert a compatible SD card into the slot until it clicks into place.
3. It is recommended to format the SD card to FAT16 using the calculator's utility for optimal compatibility. Refer to the advanced user's guide for formatting instructions.

2.3 Initial Settings and Connectivity

To optimize the calculator's responsiveness and functionality, adjust the KEYTIME parameter and explore connectivity options.

- **KEYTIME Adjustment:** To prevent issues with rapidly entered repeating numbers, set the KEYTIME parameter. Press **[ALPHA] [ALPHA]**, then enter **1138** (or **500** for a faster response). Press the **right arrow key** (representing '->'), then type **KEYTIME**, and press **[ENTER]**.
- **USB Connection:** Use the provided USB cable to connect the HP 50g to a computer. Install the HP connectivity software (Conn4X) and the latest USB drivers from the HP website to enable data transfer and backup.
- **Infrared (IrDA) Transfer:** The calculator supports infrared data transfer for communication with other compatible devices.

Figure 2.2: Infrared data transfer between two HP 50g calculators.

- **Directory Management:** Organize your work by creating directories (folders) for different subjects or projects. Avoid saving all files in the HOME directory.
- **Customizing Settings:** Utilize the **MODE** menu and **FLAGS** to customize display, input, and calculation settings according to your preferences.

3. OPERATING INSTRUCTIONS

3.1 Data Entry Modes

The HP 50g offers three primary data entry modes:

- **RPN (Reverse Polish Notation):** An efficient entry method where operators follow their operands.
- **Algebraic:** Standard mathematical expression entry.
- **Textbook:** Displays expressions in a natural, textbook-like format.

You can switch between these modes via the calculator's settings menu.

3.2 Graphing Functions

The HP 50g supports a wide range of graphing capabilities:

- **2-D Plotting:** Function, polar, and parametric plots.
- **3-D Plotting:** Visualize three-dimensional functions.
- **Differential Equation Plots:** Graph solutions to differential equations.
- **Bar Plots:** For statistical data representation.

Figure 3.1: The HP 50g displaying a detailed 3D graph.

3.3 Using the Intelligent Editor

The intelligent editor allows for manipulation of expressions and objects:

- **Sub-expression Evaluation:** Isolate and evaluate parts of an expression.
- **Cut, Copy, Paste:** Standard editing functions for objects and text.

3.4 Key Functions and Libraries

Familiarize yourself with the calculator's keyboard and available libraries:

- **Keyboard Layout:** Many functions are directly accessible. Note that some functions, such as Greek letters, angle symbols, and factorial (!), are not explicitly labeled but are accessible via shift keys or menus.

- **APPS Key:** Press the **APPS** key to access a menu of applications, including the equation writer, matrix writer, math menu, equation library, and constants library.
- **PURGE Function:** To manage memory and prevent clutter, learn how to use the **PURGE** function to delete variables. This function is typically found within a sub-menu.

4. MAINTENANCE

4.1 Battery Replacement

Regularly check battery levels. Replace AAA batteries when the low-battery warning appears. The CR2032 backup battery should be replaced periodically to ensure memory retention.

- When replacing AAA batteries, it is advisable to connect the calculator to a powered USB port to maintain power and prevent data loss during the change.

4.2 Data Backup

Regularly back up your calculator's data to prevent loss of equations, programs, and settings. This can be done via:

- **SD Card:** Copy files and directories to an installed SD card. It is recommended to have at least two SD cards for redundancy.
- **Computer:** Use the HP connectivity software (Conn4X) and a USB cable to transfer data to your computer. This allows for comprehensive backups and easy restoration to the same or a new calculator.

4.3 Cleaning

To clean the calculator, use a soft, dry cloth. For stubborn marks, a slightly damp cloth with mild soap can be used, ensuring no liquid enters openings. Avoid abrasive cleaners or solvents.

5. TROUBLESHOOTING

5.1 Common Issues

- **Rapid Key Entry Not Registering:** If numbers entered quickly (e.g., '111') only register once, adjust the KEYTIME parameter as described in Section 2.3.
- **Data Loss:** If the calculator loses power or needs a reset, data may be lost. This emphasizes the importance of regular backups to an SD card or computer.
- **Calculator Freezes/Unresponsive:** Try performing a soft reset. If the issue persists, a hard reset may be necessary (refer to the advanced user's guide for instructions, as this may clear all data).

5.2 Firmware Updates

The HP 50g features a user-upgradeable system BIOS. Regularly check the official HP website for the latest firmware updates, drivers, and connectivity software to ensure optimal performance and access to new features or bug fixes.

6. SPECIFICATIONS

6.1 Technical Specifications

Feature	Specification
Manufacturer	Hewlett Packard
Brand	HP

Feature	Specification
Item Weight	9.6 ounces
Product Dimensions	7.2 x 1 x 3.5 inches
Item Model Number	HP50G
Batteries	4 AAA batteries required (plus 1 CR2032 for backup)
Color	Black Face
Material Type	Plastic
Number of Items	1
Lines Per Page	8
Processor	ARM-9 (de-clocked to 75 MHz)
Memory	512 KB RAM, 2 MB Flash ROM
Connectivity	USB, RS232, Infrared (IrDA)
Expansion	SD Card Slot (supports standard SD up to 2 GB)

7. WARRANTY AND SUPPORT

7.1 Legal Disclaimer

This product is covered by a 100% Money Back Guarantee. For specific warranty terms and conditions, please refer to the documentation included with your product or visit the official HP support website.

7.2 Customer Support

For further assistance, detailed user guides, software downloads, and troubleshooting resources, please visit the official HP support website. You can also find community forums and additional tutorials online by searching for 'HP 50g tutorials' on educational websites or video platforms.