Casio FX-991ESPLUS-2WDTV

Casio FX-991ES Plus-2nd Edition Scientific Calculator User Manual

Model: FX-991ESPLUS-2WDTV

INTRODUCTION

This manual provides detailed instructions for the proper use and maintenance of your Casio FX-991ES Plus-2nd Edition Scientific Calculator. Designed for students and professionals, this calculator offers a wide range of functions to support various mathematical and scientific computations.

Key features of your calculator include:

- Natural Textbook Display for easy-to-understand input and output.
- 417 built-in functions, including basic arithmetic, trigonometry, statistics, and advanced calculations.
- 10-digit mantissa + 2-digit exponential display for precise results.
- Colour-coded keypad for intuitive key differentiation.
- Durable slide-on hard case for protection.

SETUP

Initial Power On

The calculator is powered by both solar energy and a battery. Under normal lighting conditions, the solar panel assists in operation. To turn on the calculator, press the **[ON]** button located on the upper right side of the keypad.
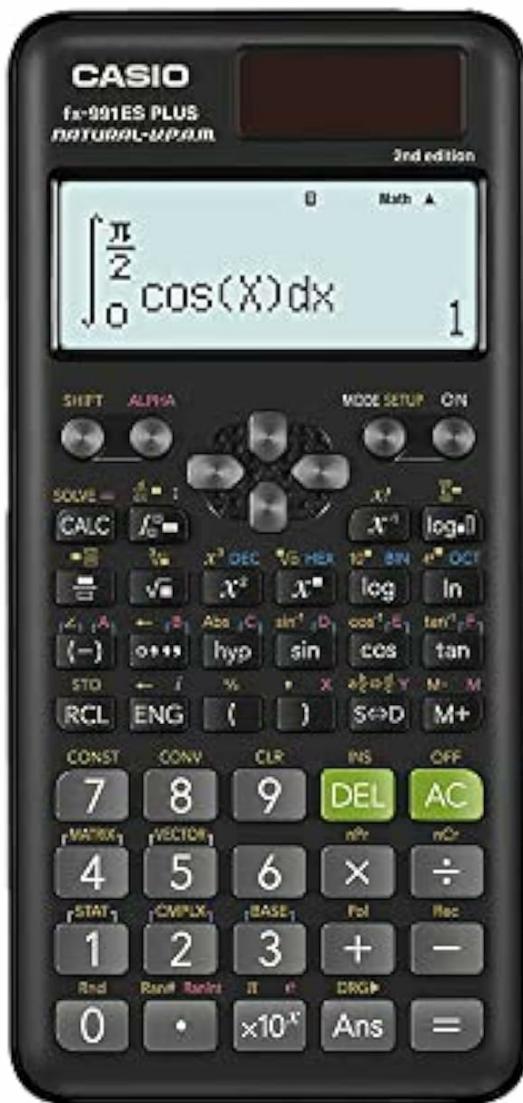
Figure 1: Front view of the calculator with its display showing a mathematical expression.

Display Adjustment

The calculator features a high-resolution display. If the display contrast needs adjustment, refer to the 'MODE SETUP' menu. Press **[SHIFT]** then **[MODE SETUP]**, navigate to 'Contrast' and adjust using the arrow keys.

Figure 2: Close-up view of the calculator's Natural Textbook Display.

OPERATING INSTRUCTIONS

Basic Arithmetic Operations

Enter numbers and use the **[+]**, **[-]**, **[×]**, **[÷]** keys for addition, subtraction, multiplication, and division. Press **[=]** to get the result.

Scientific Functions

The calculator supports a wide array of scientific functions. For trigonometric functions (sin, cos, tan), press the respective key. For inverse functions ($\sin^{-1}$, $\cos^{-1}$, $\tan^{-1}$), press **[SHIFT]** followed by the function key.

- **Logarithms:** Use **[log]** for base 10 logarithm and **[ln]** for natural logarithm.
- **Powers and Roots:** Use **[x²]** for squares, **[√]** for square roots, and **[xʸ]** for general powers.

Advanced Functions

The FX-991ES Plus-2nd Edition offers advanced features for complex calculations:

- **Equation Solver:** Access the equation solver through the **[MODE]** menu to solve linear, quadratic, and cubic equations.
- **Matrix and Vector Calculations:** Perform operations on matrices and vectors by entering the **[MODE]** and selecting the appropriate mode.
- **Statistical Calculations:** Use the STAT mode for statistical analysis, including standard deviation, regression, and more.

Figure 3: Detailed view of the calculator's keypad layout.

MAINTENANCE

Cleaning

To clean the calculator, wipe it with a soft, dry cloth. Do not use abrasive cleaners, solvents, or harsh chemicals, as these may damage the casing or internal components.

Battery Replacement

The calculator uses a single button-cell battery (CR2032 or equivalent) as a backup power source. If the display becomes dim or calculations are inconsistent, the battery may need replacement. To replace the battery:

1. Turn off the calculator.
2. Carefully remove the screws on the back panel to access the battery compartment.
3. Remove the old battery and insert a new one, ensuring correct polarity.
4. Securely replace the back panel and screws.

Figure 4: Rear view of the calculator, indicating battery compartment access.

TROUBLESHOOTING

Common Issues and Solutions

- **Calculator does not turn on:** Ensure sufficient light for the solar panel. If not, the battery may be depleted. Replace

the battery as described in the Maintenance section.

- **Display shows 'ERROR':** This indicates a mathematical error (e.g., division by zero, invalid input). Check your input and calculation method. Press **[AC]** to clear the error.

- **Incorrect results:** Verify that the correct mode (e.g., DEG, RAD, GRAD for angles) is selected. Resetting the calculator to its default settings can resolve many issues. To reset, press **[SHIFT]** then **[CLR]**, select 'All', and confirm.

SPECIFICATIONS

Technical Details

Feature	Detail
Model Number	FX-991ESPLUS-2WDTV
Functions	417
Display Type	Natural Textbook Display (10-digit mantissa + 2-digit exponential)
Power Source	Solar and Battery Powered
Dimensions (LxWxH)	16.2 x 7.7 x 1.1 Centimeters
Item Weight	95 g
Material	Plastic
Included Components	1 Scientific Calculator

WARRANTY AND SUPPORT

Warranty Information

Your Casio FX-991ES Plus-2nd Edition Scientific Calculator comes with a 3-year manufacturer's warranty. This warranty covers defects in materials and workmanship under normal use. Please retain your proof of purchase for warranty claims.

Customer Support

For technical assistance, troubleshooting not covered in this manual, or warranty service, please contact Casio customer support. Refer to the official Casio website for the most current contact information and support resources.