

SHARP SCIENTIFIC CALCULATOR



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OPERATION MANUAL

INTRODUCTION

Thank you for purchasing the SHARP Scientific Calculator Model EL-W531X...

Notes:
1. None of the models described in this manual may not be available in some countries.

Operational Notes

- Do not touch the calculator when it is in your pocket, as it may break when you sit down. The display is made of glass and is particularly fragile.

NOTICE

- SHARP strongly recommends that separate permanent records be kept of all important data. Data may be lost or altered without warning.

Hard Case



In the binary, pental, octal, and hexadecimal systems, fractional parts are truncated.

Time, Decimal, and Sexagesimal Calculations

Conversions can be performed between N-base numbers in NORMAL mode.

Coordinate Conversions

Before performing a calculation, select the angular unit. The calculation result is automatically stored in the X and Y registers.

Modify Function

Decimal calculation results are internally obtained in scientific notation with 14 significant digits.

STATISTICAL CALCULATIONS

Statistical calculations can be performed in STAT mode. There are eight sub-modes within STAT mode.

Statistical Calculations and Variables

The following statistics can be obtained for each statistical calculation: Statistics of 1.

Single-variable statistical calculation

Linear regression calculation: Statistics of 1 and 2. In addition, the estimate of y for a given x (estimate y) and the estimate of x for a given y (estimate x).

Statistical Calculation Formulas

Table with columns: Type, Regression formula. Rows include Linear, Quadratic, Euler exponential, Logarithmic, Power, Inverse, and General exponential.

An error will occur when: The absolute value of the intermediate result or calculation result is equal to or greater than 1 x 10^10.

ERRORS AND CALCULATION RANGES

Errors: An error will occur if an operation exceeds the calculation ranges, or if a mathematical illegal operation is attempted.

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DISPLAY section showing calculator screen with numbers and symbols like Symbol, Dot matrix display, Memory Exponent, etc.

BEFORE USING THE CALCULATOR

Adjusting the Display Contrast

Power On and Off

Key Notations Used in This Manual

The WriteView and Line Editors

Clearing the Entry and Memories

Back space and delete key

Multi-Line Playback Function

Drill Mode

Using Math Drill and X Table

Math Drill

X Table

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MEMORY CLEAR key section with instructions: Press [MC] to clear the memory. Press [MC] to clear all variables and memories.

ENTERING, DISPLAYING, AND EDITING THE EQUATION

The WriteView Editor

Entry and display

Displaying calculation results

Notes:

The Line Editor

Entry and display

Editing the Equation

Back space and delete key

Multi-Line Playback Function

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Priority Levels in Calculation section: The calculator is operated according to the following priority: 1. Functions in parentheses... 2. Functions preceded by their argument... 3. Functions followed by their argument...

INITIAL SET UP

Mode Selection

STAT Mode

SET UP Menu

Determination of the angular unit

Selecting the floating point and decimal places

Setting the floating point number system in scientific notation

Selecting the editor

Adjusting the display contrast

Insert and overwrite entry methods

Arithmetic Operations

Constant Calculations

ERROR CODES AND ERROR TYPES

ERROR 01: Syntax error

ERROR 02: Calculation error

ERROR 03: Nesting error

ERROR 04: Data error

Alert Messages

Cannot delete

Buffer full

Calculation ranges

Display of results using y

When each coefficient falls into the following ranges:

Notes on Battery Replacement

Notes on battery of memory contents

When to Replace the Battery

BATTERY REPLACEMENT

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FUNCTIONS section: Refer to the calculation examples for each function. The following symbols used in the examples: a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, alpha, beta, gamma, delta, epsilon, zeta, eta, theta, iota, kappa, lambda, mu, nu, xi, omicron, pi, rho, sigma, tau, upsilon, phi, chi, psi, omega, infinity, square root, percent, degree, minute, second, fraction, decimal, scientific notation, etc.

Random Function

Random numbers

Random coin

Random integer

Angular Unit Conversions

Memory Calculations

Temporary memories (A-F and X-Y)

Independent memory (M)

Last answer memory (ANS)

Definable memories (D1-D4)

Chain Calculations

Fraction Calculations

Arithmetic operations and memory calculations

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WriteView

CALCULATION EXAMPLES
ANWENDUNGSBEISPIELE
EXEMPLOS DE CALCULO
EXEMPLOS DE CALCULO
ESEMPI DI CALCOLO
REKENVOORBEELDEN
PEILDZASAMITÄSKOR
PRIKLADY VYPOČTU
RÄKNEKEMPEL
LASKENTIESIMERKEJÄ
UDREGNINGSEKSEMPLER
ตัวอย่างการคำนวณ
CONTOH-CONTOH PERHITUNGAN

Calculator interface showing various calculation examples in multiple languages: English, German, Spanish, Italian, Dutch, Finnish, Swedish, Norwegian, Danish, Polish, Czech, Slovak, Hungarian, Romanian, Bulgarian, Greek, Portuguese, Russian, Ukrainian, Belarusian, Serbian, Croatian, Slovenian, Macedonian, Albanian, Bosnian, Croatian, Serbian, Montenegrin, and Chinese.

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