ENGLISH

SHARP

SCIENTIFIC CALCULATOR

EL-509TS EL-531TG EL-531TH MODEL EL-531TS

OPERATION MANUAL

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INTRODUCTION

About the **calculation examples (including some formulas and tables)**, refer to the reverse side of this English manual. **Refer to the number on the right of each title on the manual for use.**
After reading this manual, store it in a convenient location for future reference.
Note: Some of the models described in this manual may not be available in some countries.

Operational Notes

- Do not carry the calculator around in your back pocket, as it may break when you sit down. The display is made of glass and is particularly fragile.
- Keep the calculator away from extreme heat such as on a car dashboard or near a heater, and avoid exposing it to excessively humid or dusty environments.
- Since this product is not waterproof, do not use it or store it where fluids, for example water, can splash onto it. Raindrops, water spray, juice, coffee, steam, perspiration, etc. will also cause malfunction.
- Clean with a soft, dry cloth. Do not use solvents or a wet cloth. Avoid using a rough cloth or anything else that may cause scratches.
- Do not drop it or apply excessive force.
- Never dispose of batteries in a fire.
- Keep batteries out of the reach of children.
- This product, including accessories, may change due to upgrading without prior notice.

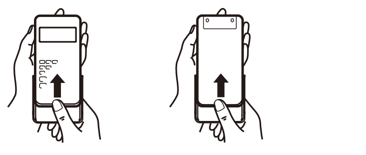
NOTICE

- SHARP strongly recommends that separate permanent written records be kept of all important data. Data may be lost or altered in virtually any electronic memory product under certain circumstances. Therefore, SHARP assumes no responsibility for data lost or otherwise rendered unusable whether as a result of improper use, repairs, defects, battery replacement, use after the specified battery life has expired, or any other cause.
- SHARP will not be liable nor responsible for any incidental or consequential economic or property damage caused by misuse and/or malfunctions of this product and its peripherals, unless such liability is acknowledged by law.

♦ Press the RESET switch (on the front), with the tip of a ball-point pen or similar object, only in the following cases. Do not use an object with a breakable or sharp tip. Note that pressing the RESET switch erases all data stored in memory.
- When using for the first time
- After replacing the battery
- To clear all memory contents
- When an abnormal condition occurs and all keys are inoperative.

If service should be required on this calculator, use only a SHARP servicing dealer, SHARP approved service facility, or SHARP repair service where available.

Hard Case



DISPLAY

- During actual use, not all symbols are displayed at the same time.
- Certain inactive symbols may appear visible when viewed from a far off angle.
- Only the symbols required for the usage under instruction are shown in the display and calculation examples.

←/→ : Appears when the entire equation cannot be displayed. Press [◀]/[▶] to see the remaining (hidden) section.

▲/▼ : Indicates that data can be visible above/below the screen. These indications may appear when menu, multi-line playback, and statistics data are displayed. Press [▲]/[▼] to scroll up/down the view.

2ndF : Appears when [2ndF] is pressed, indicating that the functions shown in orange are enabled.

HYP : Indicates that [hyp] has been pressed and the hyperbolic functions are enabled. If [2ndF][arc hyp] are pressed, the symbols "**2ndF HYP**" appear, indicating that inverse hyperbolic functions are enabled.

ALPHA: Indicates that [ALPHA] (STATVAR), [STO] or [RCL] has been pressed, and entry (recall) of memory contents and recall of statistics can be performed.

FIX/SCI/ENG: Indicates the notation used to display a value and changes by SET UP menu.

DEG/RAD/GRAD: Indicates angular units and changes each time [DRG] is pressed.

STAT : Appears when statistics mode is selected.

M : Indicates that a numerical value is stored in the independent memory.

BEFORE USING THE CALCULATOR

Key Notation Used in this Manual

In this manual, key operations are described as follows:

e^x F [ln]
To specify e^x : [2ndF] [e^x]
To specify ln : [ln]
To specify F : [ALPHA] [F]

Functions that are printed in orange above the key require [2ndF] to be pressed first before the key. When you specify the memory, press [ALPHA] first. Numbers for input value are not shown as keys, but as ordinary numbers.

Power On and Off

Press [ON/C] to turn the calculator on, and [2ndF] [OFF] to turn it off.

Clearing the Entry and Memories

Clearing methods are described in the table as follows:

Clearing operation	Entry (Display)	M*1	A-F, X,Y*2 ANS*3	STAT*4 STATVAR*5
[ON/C]	○	×	×	×
[2ndF] [CA]	○	×	○	○
[2ndF] [M-CLR] [0] [0] *6	○	○	○	○
[2ndF] [M-CLR] [1] [0] *7	○	○	○	○
RESET switch	○	○	○	○

○ : Clear × : Retain
*1 Independent memory M.
*2 Temporary memory A-F, X and Y.
*3 Last answer memory.
*4 Statistical data (entered data).
*5 $\bar{x}$, sx, σx, n, Σx, Σx^2, $\bar{y}$, sy, σy, Σy, Σy^2, Σxy, r, a, b, c.
*6 All variables are cleared. See 'About the Memory clear key' for details.
*7 This key combination functions the same as the RESET switch. See 'About the Memory clear key' for details.

[About the Memory clear key]
Press [2ndF] [M-CLR] to display the menu.

MEM RESET
0 1

- To clear all variables (M, A-F, X, Y, ANS, STATVAR), press [0] [0] or [0] [ENT].
- To RESET the calculator, press [1] [0] or [1] [ENT]. The RESET operation will erase all data stored in memory, and restore the calculator's default setting.

Entering and Correcting the Equation

[Cursor keys]
- Press [◀] or [▶] to move the cursor. You can also return to the equation after getting an answer by pressing [▶] ([◀]). See the next section for using the [▲] and [▼] keys.
- In the SET UP menu and other locations, use the [◀] or [▶] key to move the flashing cursor, then press [ENT] ([=] key). If you need to scroll up/down the view, use the [▲] or [▼] key.

[Insert mode and Overwrite mode in the Equation display]
- This calculator has two editing modes: insert mode (default), and overwrite mode. Pressing [2ndF] [INS] switches between the two modes. A triangular cursor indicates that an entry will be inserted at the cursor, while the rectangular cursor indicates to overwrite preexisting data as you make entries.
- To insert a number in the insert mode, move the cursor to the place immediately after where you wish to insert, then make a desired entry. In the overwrite mode, data under the cursor will be overwritten by the number you enter.
- This mode setting will be retained until the next RESET operation is executed.

[Deletion key]
- To delete a number/function, move the cursor to the number/function you wish to delete, then press [DEL]. If the cursor is located at the right end of an equation, the [DEL] key will function as a back space key.

Multi-line Playback function 【1】

This calculator is equipped with a function to recall previous equations in the normal mode. Equations also include calculation ending instructions such as "=" and a maximum of 142 characters can be stored in memory. When the memory is full, stored equations are deleted in the order of the oldest first. Pressing [▲] will display the previous equation and the answer. Further pressing [▲] will display preceding equations (after returning to the previous equation, press [▼] to view equations in order). In addition, [2ndF] [▲] can be used to jump to the oldest equation.
- To edit an equation after recalling it, press [▶] ([◀]).
- To edit the displayed equation, press [▶] ([◀]) immediately after obtaining a calculation answer.
- The multi-line memory is cleared by the following operations: [2ndF] [CA], [2ndF] [OFF] (including the Automatic Power Off feature), mode change, memory clear ([2ndF] [M-CLR]), RESET, [2ndF] [RANDOM], [ALPHA] ([RCL]) [ANS], constant calculation, chain calculation, angle unit conversion, coordinate conversion, N-base conversion, numerical value storage to the temporary memories and independent memory, and input/deletion of statistical data.

Priority Levels in Calculation

This calculator performs operations according to the following priority:
① Fractions (1⌐4, etc.) ② Functions preceded by their argument (x^{-1}, x^2, n!, etc.) ③ Y^x, $\sqrt[x]{\ }$ ④ Implied multiplication of a memory value (2Y, etc.) ⑤ Functions followed by their argument (sin, cos, etc.) ⑥ Implied multiplication of a function (2sin30, etc.) ⑦ $_nC_r$, $_nP_r$ ⑧ ×, ÷ ⑨ +, – ⑩ AND ⑪ OR, XOR, XNOR ⑫ =, M+, M–, ⇒M, ▶DEG, ▶RAD, ▶GRAD, DATA, CD, →rθ, →xy and other calculation ending instructions
- If parentheses are used, parenthesized calculations have precedence over any other calculations.

INITIAL SET UP

Mode Selection

Normal mode (NORMAL): [MODE] [0]
Used to perform arithmetic operations and function calculations.

Statistics mode (STAT): [MODE] [1]
Used to perform statistical calculations.

When executing mode selection, temporary memories, statistical variables, statistical data and last answer memory will be cleared even when reselecting the same mode.

HOME Key

Press [HOME] to return to NORMAL mode from other modes.
Note: Equations and values currently being entered will disappear, in the same way as when the mode is changed.

SET UP menu

Press [SET UP] to display the SET UP menu.

FSE TAB
0

- A menu item can be selected by:
  - moving the flashing cursor by using [▶] [◀], then press [ENT] ([=] key), or
  - pressing the number key corresponding to the menu item number.
- If ▲ or ▼ is displayed on the screen, press [▲] or [▼] to view the previous/next menu screen.
- Press [ON/C] to exit the SET UP menu.

[Selecting the Display Notation and Decimal Places]
The calculator has four display notation systems (Floating point, Fixed decimal point, Scientific notation and Engineering notation) for displaying calculation results.
- When the FIX, SCI, or ENG symbol is displayed, the number of decimal places (TAB) can be set to any value between 0 and 9. Displayed values will be reduced to the corresponding number of digits.
- If a floating point number does not fit in the specified range, the calculator will display the result using the scientific notation (exponential notation) system. See 'Setting the Floating Point Numbers System in Scientific Notation' for details.
- Press [SET UP], followed by [0], to display the following submenu:

▾FIX SCI ENG → [▼] ▴NORM1 NORM2
0 1 2 3 4

[Setting the Floating Point Numbers System in Scientific Notation]
The calculator has two settings for displaying a floating point number: NORM1 (default setting) and NORM2. In each display setting, a number is automatically displayed in scientific notation outside a preset range:
- NORM1: 0.000000001 ≤ |x| ≤ 9999999999
- NORM2: 0.01 ≤ |x| ≤ 9999999999

100000÷3=		
[Floating point (NORM1)]	[ON/C] 100000 [÷] 3 [=]	33'333.33333
→[Fixed decimal point]	[SET UP] [0] [0]	33'333.33333
[TAB set to 2]	[SET UP] [1] 2	33'333.33
→[SCIentific notation]	[SET UP] [0] [1]	3.33×10^04
→[ENGineering notation]	[SET UP] [0] [2]	33.33×10^03
→[Floating point (NORM1)]	[SET UP] [0] [3]	33'333.33333
3÷1000=		
[Floating point (NORM1)]	[ON/C] 3 [÷] 1000 [=]	0.003
→[Floating point (NORM2)]	[SET UP] [0] [4]	3. ×10^-03
→[Floating point (NORM1)]	[SET UP] [0] [3]	0.003

Determination of the Angular Unit

In this calculator, the following three angular units (degrees, radians, and grads) can be specified.

DEG (°) → Press [DRG] → **RAD** (rad) → **GRAD** (g) → DEG

SCIENTIFIC CALCULATIONS

- Press [MODE] [0] to select the normal mode.
- In each example, press [ON/C] to clear the display. And if the FIX, SCI, or ENG indicator is displayed, clear the indicator by selecting 'NORM1' from the SET UP menu.

Arithmetic Operations 【2】

- The closing parenthesis [)] just before [=] or [M+] may be omitted.

Constant Calculations 【3】

- In constant calculations, the addend becomes a constant. Subtraction and division are performed in the same manner. For multiplication, the multiplicand becomes a constant.
- When performing calculations using constants, constants will be displayed as K.

Functions 【4】

- Refer to the calculation examples of each function.
- Before starting calculations, specify the angular unit.

Random Function

The Random function has four settings for use in the normal or statistics mode. (This function cannot be selected while using the N-Base function.) Press [ON/C] to exit.
- The generated pseudo-random number series is stored in memory Y. Each random number is based on a number series.

[Random Numbers]
A pseudo-random number, with three significant digits from 0 up to 0.999, can be generated by pressing [2ndF] [RANDOM] [0] [ENT]. To generate the next random number, press [ENT].

[Random Dice]
To simulate a die-rolling, a random integer between 1 and 6 can be generated by pressing [2ndF] [RANDOM] [1] [ENT]. To generate the next random dice number, press [ENT].

[Random Coin]
To simulate a coin flip, 0 (head) or 1 (tail) can be randomly generated by pressing [2ndF] [RANDOM] [2] [ENT]. To generate the next random coin number, press [ENT].

[Random Integer]
An integer between 0 and 99 can be generated randomly by pressing [2ndF] [RANDOM] [3] [ENT]. To generate the next random integer number, press [ENT].

Angular Unit Conversions 【5】

Each time [2ndF] [DRG▶] are pressed, the angular unit changes in sequence.

Memory Calculations 【6】

This calculator has 8 temporary memories (A-F, X and Y), one independent memory (M) and one last answer memory (ANS). The independent memory and temporary memories are only available in the normal mode.

[Temporary memories (A-F, X and Y)]
Press [STO] and a corresponding variable key to store a value in memory.
Press [RCL] and a corresponding variable key to recall a value from the memory.
To place a variable in an equation, press [ALPHA], followed by a desired variable key.

[Independent memory (M)]
In addition to all the features of temporary memories, a value can be added to or subtracted from an existing memory value.
Press [ON/C] [STO] [M] to clear the independent memory (M).

[Last answer memory (ANS)]
The calculation result obtained by pressing [=] or any other calculation ending instruction is automatically stored in the last answer memory.

Note:
- Calculation results from the functions indicated below are automatically stored in memories X or Y. For this reason, when using these functions, be careful with the use of memories X and Y.
  - Random function ....Y memory
  - →rθ, →xy.............................X memory (r or x), Y memory (θ or y)
- Temporary memories and last answer memory are cleared even when the same mode is reselected.
- Use of [RCL] or [ALPHA] will recall the value stored in memory using up to 14 digits.

Chain Calculations 【7】

- This calculator allows the previous calculation result to be used in the following calculation.
- The previous calculation result will not be recalled after entering multiple instructions.
- In the case of utilizing postfix functions (√, sin, etc.), you can perform a chain calculation even when the previous calculation result is cleared by the use of the [ON/C] key.

Fraction Calculations 【8】

This calculator performs arithmetic operations and memory calculations using fractions, and conversion between a decimal number and a fraction.
- If the number of digits to be displayed is greater than 10, the number is converted to and displayed as a decimal number.

Binary, Pental, Octal, Decimal, and Hexadecimal Operations (N-Base) 【9】

This calculator can perform conversions between numbers expressed in binary, pental, octal, decimal and hexadecimal systems. It can also perform the four basic arithmetic operations, calculations with parentheses and memory calculations using binary, pental, octal, decimal, and hexadecimal numbers. In addition, the calculator can carry out the logical operations AND, OR, NOT, NEG, XOR and XNOR on binary, pental, octal and hexadecimal numbers.
Conversion to each system is performed by the following keys:

[2ndF] [➡BIN]: Converts to the binary system. "b" appears.
[2ndF] [➡PEN]: Converts to the pental system. "P" appears.
[2ndF] [➡OCT]: Converts to the octal system. "o" appears.
[2ndF] [➡HEX]: Converts to the hexadecimal system. "H" appears.
[2ndF] [➡DEC]: Converts to the decimal system. "b", "P", "o", and "H" disappear from the display.

Conversion is performed on the displayed value when these keys are pressed.

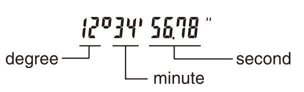
Note: In this calculator, the hexadecimal numbers A – F are entered by pressing [y^x], [√], [x^2], [x^3], [log], and [ln], and displayed as follows:

A → A, B → b, C → C, D → d, E → E, F → F

In the binary, pental, octal, and hexadecimal systems, fractional parts cannot be entered. When a decimal number having a fractional part is converted into a binary, pental, octal, or hexadecimal number, the fractional part will be truncated. Likewise, when the result of a binary, pental, octal, or hexadecimal calculation includes a fractional part, the fractional part will be truncated. In the binary, pental, octal, and hexadecimal systems, negative numbers are displayed as a complement.

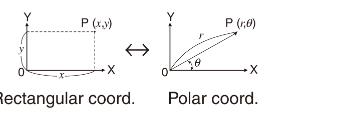
Time, Decimal and Sexagesimal Calculations 【10】

Conversion between decimal and sexagesimal numbers can be performed. In addition, the four basic arithmetic operations and memory calculations can be carried out using the sexagesimal system.
Notation for sexagesimal is as follows:



Coordinate Conversions 【11】

- Before performing a calculation, select the angular unit.



Rectangular coord. Polar coord.

- The calculation result is automatically stored in memories X and Y.
  Value of r or x: X memory
  Value of θ or y: Y memory

Modify Function 【12】

In this calculator, calculation results are internally obtained in scientific notation with up to 14 digits for the mantissa. However, since calculation results are displayed in the form designated by the display notation and the number of decimal places indicated, the internal calculation result may differ from that shown in the display. By using the modify function, the internal value is converted to match that of the display, so that the displayed value can be used without change in subsequent operations.

STATISTICAL CALCULATIONS 【13】

Statistical calculations are performed in the statistics mode. Press [MODE] [1] to select the statistics mode. This calculator performs the seven statistical calculations indicated below. After selecting the statistics mode, select the desired sub-mode by pressing the number key corresponding to your choice.
When changing to the statistical sub-mode, press the corresponding number key after performing the operation to select the statistics mode (press [MODE] [1]).

[0] (SD) : Single-variable statistics
[1] (LINE) : Linear regression calculation
[2] (QUAD) : Quadratic regression calculation
[3] (EXP) : Exponential regression calculation
[4] (LOG) : Logarithmic regression calculation
[5] (PWR) : Power regression calculation
[6] (INV) : Inverse regression calculation

The following statistics can be obtained for each statistical calculation (refer to the table below):

Single-variable statistical calculation

Statistics of ①

Linear regression calculation

Statistics of ① and ② and, in addition, estimate of y for a given x (estimate y') and estimate of x for a given y (estimate x')

Exponential regression, Logarithmic regression, Power regression, and Inverse regression calculation

Statistics of ① and ②. In addition, estimate of y for a given x and estimate of x for a given y. (Since the calculator converts each formula into a linear regression formula before actual calculation takes place, it obtains all statistics, except coefficients a and b, from converted data rather than entered data.)

Quadratic regression calculation

Statistics of ① and ② and coefficients a, b, c in the quadratic regression formula ($y = a + bx + cx^2$). (For quadratic regression calculations, no correlation coefficient (r) can be obtained.) When there are two x' values, press [2ndF] [←→].
When performing calculations using a, b and c, only one numeric value can be held.

①	$\bar{x}$	Mean of samples (x data)
	sx	Sample standard deviation (x data)
	σx	Population standard deviation (x data)
	n	Number of samples
	Σx	Sum of samples (x data)
	Σx^2	Sum of squares of samples (x data)
②	$\bar{y}$	Mean of samples (y data)
	sy	Sample standard deviation (y data)
	σy	Population standard deviation (y data)
	Σy	Sum of samples (y data)
	Σy^2	Sum of squares of samples (y data)
	Σxy	Sum of products of samples (x, y)
	r	Correlation coefficient
	a	Coefficient of regression equation
	b	Coefficient of regression equation
	c	Coefficient of quadratic regression equation

- Use [ALPHA] and [RCL] to perform a STAT variable calculation.

Data Entry and Correction 【14】

Entered data are kept in memory until [2ndF] [CA] are pressed or mode selection. Before entering new data, clear the memory contents.

[Data Entry]
Single-variable data
Data [DATA]
Data [(x,y)] *frequency* [DATA] (To enter multiples of the same data)
Two-variable data
Data x [(x,y)] *Data y* [DATA]
Data x [(x,y)] *Data y* [(x,y)] *frequency* [DATA] (To enter multiples of the same data x and y.)
- Up to 100 data items can be entered. With the single-variable data, a data item without frequency assignment is counted as one data item, while an item assigned with frequency is stored as a set of two data items. With the two-variable data, a set of data items without frequency assignment is counted as two data items, while a set of items assigned with frequency is stored as a set of three data items.

[Data Correction]
Correction prior to pressing [DATA] immediately after a data entry:
Delete incorrect data with [ON/C], then enter the correct data.
Correction after pressing [DATA]:
Use [▲] [▼] to display the data previously entered.
Press [▼] to display data items in ascending (oldest first) order. To reverse the display order to descending (latest first), press the [▲] key.
Each item is displayed with '*Xn*=', '*Yn*=', or '*Nn*=' (n is the sequential number of the data set).
Display the data item to modify, input the correct value, then press [DATA]. Using [(x,y)], you can correct the values of the data set all at once.
- When ▲ or ▼ appears, more data items can be browsed by pressing [▲] or [▼].
- To delete a data set, display an item of the data set to delete, then press [2ndF] [CD]. The data set will be deleted.
- To add a new data set, press [ON/C] and input the values, then press [DATA].

Statistical Calculation Formulas 【15】

Type	Regression formula
Linear	$y = a + bx$
Exponential	$y = a \bullet e^{bx}$
Logarithmic	$y = a + b \bullet \ln x$
Power	$y = a \bullet x^b$
Inverse	$y = a + b\frac{1}{x}$
Quadratic	$y = a + bx + cx^2$

In the statistical calculation formulas, an error will occur when:
- The absolute value of the intermediate result or calculation result is equal to or greater than 1×10^{100}.
- The denominator is zero.
- An attempt is made to take the square root of a negative number.
- No solution exists in the quadratic regression calculation.

ERROR AND CALCULATION RANGES

Errors

An error will occur if an operation exceeds the calculation ranges, or if a mathematically illegal operation is attempted. When an error occurs, pressing [◀] (or [▶]) automatically moves the cursor back to the place in the equation where the error occurred. Edit the equation or press [ON/C] to clear the equation.

Error Codes and Error Types

Syntax error (Error 1):
- An attempt was made to perform an invalid operation.
  Ex. 2 [2ndF] [→rθ]

Calculation error (Error 2):
- The absolute value of an intermediate or final calculation result equals or exceeds 10^{100}.
- An attempt was made to divide by 0 (or an intermediate calculation resulted in zero).
- The calculation ranges were exceeded while performing calculations.

Depth error (Error 3):
- The available number of buffers was exceeded. (There are 10 buffers* for numeric values and 24 buffers for calculation instructions).
  *5 buffers in STAT mode.
- Data items exceeded 100 in the statistics mode.

Equation too long (Error 4):
- The equation exceeded its maximum input buffer (142 characters). An equation must be shorter than 142 characters.

Calculation Ranges 【16】

- **Within the ranges specified, this calculator is accurate to ±1 of the least significant digit of the mantissa. However, a calculation error increases in continuous calculations due to accumulation of each calculation error. (This is the same for y^x, $\sqrt[x]{\ }$, n!, e^x, ln, etc., where continuous calculations are performed internally.)**
  Additionally, a calculation error will accumulate and become larger in the vicinity of inflection points and singular points of functions.
- Calculation ranges
  $\pm 10^{-99} \sim \pm 9.999999999 \times 10^{99}$ and 0.

If the absolute value of an entry or a final or intermediate result of a calculation is less than 10^{-99}, the value is considered to be 0 in calculations and in the display.

BATTERY REPLACEMENT

Notes on Battery Replacement

Improper handling of batteries can cause electrolyte leakage or explosion. Be sure to observe the following handling rules:
- Make sure the new battery is the correct type.
- When installing, orient the battery properly as indicated in the calculator.
- The battery is factory-installed before shipment, and may be exhausted before it reaches the service life stated in the specifications.

Notes on erasure of memory contents
When the battery is replaced, the memory contents are erased. Erasure can also occur if the calculator is defective or when it is repaired. Make a note of all important memory contents in case accidental erasure occurs.

When to Replace the Battery

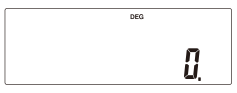
[EL-509TS/531TH/531TS] If the display has poor contrast,the battery require replacement.
[EL-531TG] If the display has poor contrast or nothing appears on the display even when [ON/C] is pressed in dim lighting, it is time to replace the battery.

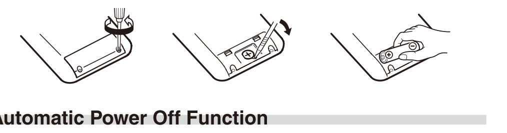
Cautions

- Fluid from a leaking battery accidentally entering an eye could result in serious injury. Should this occur, wash with clean water and immediately consult a doctor.
- Should fluid from a leaking battery come in contact with your skin or clothes, immediately wash with clean water.
- If the product is not to be used for some time, to avoid damage to the unit from leaking batteries, remove them and store in a safe place.
- Do not leave exhausted batteries inside the product.
- Keep batteries out of the reach of children.
- Exhausted batteries left in the calculator may leak and damage the calculator.
- Explosion risk may be caused by incorrect handling.
- Do not throw batteries into a fire as they may explode.

Replacement Procedure

1. Turn the power off by pressing [2ndF] [OFF].
2. Remove two screws. (Fig 1)
3. Lift the battery cover to remove.
4. **[EL-509TS/531TG/531TS]** Remove the used battery by prying it out with a ball-point pen or other similar pointed device. (Fig. 2)
   [EL-531TH] Remove the used battery.
5. **[EL-509TS/531TG/531TS]** Install one new battery. Make sure the "+" side is facing up.
   [EL-531TH] Install one new battery. First insert the "⊖" side toward the spring. (Fig. 3)
6. Replace the cover and screws.
7. Press the RESET switch (on the front) with the tip of a ball-point pen or similar object.
- Make sure that the display appears as shown below. If the display does not appear as shown, remove the battery, reinstall it and check the display once again.





(Fig. 1) (Fig. 2) (Fig. 3)

Automatic Power Off Function

This calculator will turn itself off to save battery power if no key is pressed for approximately 10 minutes.

SPECIFICATIONS

Calculations:	Scientific calculations, statistical calculations, etc.
Internal calculations:	Mantissas of up to 14 digits
Pending operations:	24 calculations 10 numeric values (5 numeric values in STAT mode)
Power source:	**[EL-509TS/531TS]** 1.5V ⎓ (DC): Alkaline battery (LR44 or equivalent) × 1 **[EL-531TG]** Built-in solar cells 1.5V ⎓ (DC): Backup battery (Alkaline battery (LR44 or equivalent) × 1) **[EL-531TH]** 1.5V ⎓ (DC): Heavy duty manganese battery (size AAA or R03) × 1
Operating time: (varies according to use and other factors)	**[EL-509TS/531TS]** Approx. 5000 hours **[EL-531TH]** Approx. 17000 hours when continuously displaying 55555 at 25°C (77°F). **[EL-531TG]** Approx. 5000 hours when continuously displaying 55555 at 25°C (77°F), using the alkaline battery only
Operating temperature:	0°C–40°C (32°F–104°F)
External dimensions:	80 mm (W) × 161 mm (D) × 15 mm (H) 3-5/32" (W) × 6-11/32" (D) × 19/32" (H)
Weight:	**[EL-509TS/531TS]** Approx. 105 g (0.24 lb) (including battery) **[EL-531TG]** Approx. 110 g (0.25 lb) (including battery) **[EL-531TH]** Approx. 115 g (0.26 lb) (including battery)
Accessories:	Battery × 1 (installed), operation manual and hard case

FOR MORE INFORMATION ABOUT SCIENTIFIC CALCULATOR

Visit our Web site.
http://sharp-world.com/calculator/

SHARP
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EL-509TS
EL-531TG
EL-531TH
EL-531TS

CALCULATION EXAMPLES
ANWENDUNGSBEISPIELE
EXEMPLES DE CALCUL
EJEMPLOS DE CÁLCULO
EXEMPLOS DE CÁLCULO
ESEMPI DI CALCOLO
REKENVOORBEELDEN
PÉLDASZÁMÍTÁSOK
PŘÍKLADY VÝPOČTŮ
RÄKNEEXEMPEL
LASKENTAESIMERKKEJÄ
ПРИМЕРЫ ВЫЧИСЛЕНИЙ
UDREGNINGSEKSEMPLER

【1】 ▲ ▼

①3(5+2)=	ON/C 3 (5 + 2) =	***21.***
②3×5+2=	3 × 5 + 2 =	***17.***
③3×5+3×2=	3 × 5 + 3 × 2 =	***21.***
→ ①	2ndF ▲	***21.***
→ ②	▼	***17.***
→ ③	▼	***21.***
→ ②	▲	***17.***

【2】 + − × ÷ ( ) +/− Exp

45+285÷3=	ON/C 45 + 285 ÷ 3 =	***140.***
$\frac{18+6}{15-8}$=	(18 + 6) ÷ (15 − 8 =	***3.428571429***
42×(−5)+120=	42 × +/− 5 + 120 =	***−90.***
	*1 (5 +/−) *1	
(5×10³)÷(4×10⁻³)=	5 Exp 3 ÷ 4 Exp +/− 3 =	***1'250'000.***

【3】

34+57=	34 + 57 =	***91.***
45+57=	45 =	***102.***
79−59=	79 − 59 =	***20.***
56−59=	56 =	***−3.***
56÷8=	56 ÷ 8 =	***7.***
92÷8=	92 =	***11.5***
68×25=	68 × 25 =	***1'700.***
68×40=	40 =	***2'720.***

【4】 sin cos tan $\sin^{-1}$ $\cos^{-1}$ $\tan^{-1}$ π DRG hyp arc hyp ln log e^x 10^x x^{-1} x^2 x^3 $\sqrt{}$ y^x $\sqrt[x]{}$ $\sqrt[3]{}$ n! $_nP_r$ $_nC_r$ %

sin60[°]=	ON/C sin 60 =	***0.866025403***
$\cos\frac{\pi}{4}$[rad]=	DRG cos (π ÷ 4) =	***0.707106781***
$\tan^{-1}1$=[g]	DRG 2ndF $\tan^{-1}$ 1 = DRG	***50.***
(cosh 1.5 + sinh 1.5)² =	ON/C (hyp cos 1.5 + hyp sin 1.5) x^2 =	***20.08553692***
$\tanh^{-1}\frac{5}{7}$=	2ndF arc hyp tan (5 ÷ 7) =	***0.895879734***
ln 20 =	ln 20 =	***2.995732274***
log 50 =	log 50 =	***1.698970004***
e^3 =	2ndF e^x 3 =	***20.08553692***
$10^{1.7}$ =	2ndF 10^x 1.7 =	***50.11872336***
$\frac{1}{6}+\frac{1}{7}$=	6 2ndF x^{-1} + 7 2ndF x^{-1} =	***0.309523809***
$8^{-2}-3^4\times5^2$ =	8 y^x +/− 2 − 3 y^x 4 × 5 x^2 =	***−2'024.984375***
$(12^3)^{\frac{1}{4}}$=	12 y^x 3 y^x 4 2ndF x^{-1} =	***6.447419591***
8^3 =	8 x^3 =	***512.***
$\sqrt{49}-\sqrt[4]{81}$ =	$\sqrt{}$ 49 − 4 2ndF $\sqrt[x]{}$ 81 =	***4.***
$\sqrt[3]{27}$ =	2ndF $\sqrt[3]{}$ 27 =	***3.***
4! =	4 2ndF n! =	***24.***
$_{10}P_3$ =	10 2ndF $_nP_r$ 3 =	***720.***
$_5C_2$ =	5 2ndF $_nC_r$ 2 =	***10.***
500×25%=	500 × 25 2ndF %	***125.***
120÷400=?%	120 ÷ 400 2ndF %	***30.***
500+(500×25%)=	500 + 25 2ndF %	***625.***
400−(400×30%)=	400 − 30 2ndF %	***280.***

【5】 DRG▶

90°→ [rad]	ON/C 90 2ndF DRG▶	***1.570796327***
→ [g]	2ndF DRG▶	***100.***
→ [°]	2ndF DRG▶	***90.***
$\sin^{-1}$0.8 = [°]	2ndF $\sin^{-1}$ 0.8 =	***53.13010235***
→ [rad]	2ndF DRG▶	***0.927295218***
→ [g]	2ndF DRG▶	***59.03344706***
→ [°]	2ndF DRG▶	***53.13010235***

- The range of the results of inverse trigonometric functions
- Der Ergebnisbereich für inverse trigonemetrische Funktionen
- Plage des résultats des fonctions trigonométriques inverses
- El rango de los resultados de funciones trigonométricas inversas
- Gama dos resultados das trigonométricas inversas
- La gamma dei risultati di funzioni trigonometriche inverse
- Het bereik van de resultaten van inverse trigonometrie
- Az inverz trigonometriai funkciók eredmény-tartománya
- Rozsah výsledků inverzních trigonometrických funkcí
- Omfång för resultaten av omvända trigonometriska funktioner
- Käänteisten trigonometristen funktioiden tulosten alue
- Диапазон результатов обратных тригонометрических функций
- Område for resultater af omvendte trigonometriske funktioner

	$\theta = \sin^{-1}x, \theta = \tan^{-1}x$	$\theta = \cos^{-1}x$
DEG	$-90 \le \theta \le 90$	$0 \le \theta \le 180$
RAD	$-\frac{\pi}{2} \le \theta \le \frac{\pi}{2}$	$0 \le \theta \le \pi$
GRAD	$-100 \le \theta \le 100$	$0 \le \theta \le 200$

【6】 ALPHA RCL STO M+ M− ANS

A=56	ON/C 56 STO A	***56.***
B=68	68 STO B	***68.***
A÷2+B×4=	ALPHA A ÷ 2 + ALPHA B × 4 =	***300.***
	ON/C 8 × 2 STO M	***16.***
24÷(8×2)=	24 ÷ ALPHA M =	***1.5***
(8×2)×5=	ALPHA M × 5 =	***80.***
	ON/C STO M	***0.***
$150×3:M_1	150 × 3 M+	***450.***
+)$250:$M_2$ =M_1+250	250 M+	***250.***
−)M_2×5%	RCL M × 5 2ndF %	***35.***
M	2ndF M− RCL M	***665.***
$1= ¥110	110 STO Y	***110.***
¥26,510=$?	26510 ÷ RCL Y =	***241.***
$2,750=¥?	2750 × RCL Y =	***302'500.***
r = 3cm	3 STO Y	***3.***
πr^2 = ?	π ALPHA Y x^2 =	***28.27433388***
(r → Y)		
$\frac{24}{4+6}$ = 2.4...(A)	24 ÷ (4 + 6) =	***2.4***
3×(A)+60÷(A)=	3 × ALPHA ANS + 60 ÷ ALPHA ANS =	***32.2***

【7】

6+4=ANS	ON/C 6 + 4 =	***10.***
ANS+5	+ 5 =	***15.***
8×2=ANS	8 × 2 =	***16.***
ANS^2	x^2 =	***256.***
44+37=ANS	44 + 37 =	***81.***
√ANS=	$\sqrt{}$ =	***9.***

【8】 $a^b/_c$ d/c

$3\frac{1}{2}+\frac{4}{3}=[a^b_c]$	ON/C 3 $a^b/_c$ 1 $a^b/_c$ 2 + 4 $a^b/_c$ 3 =	***4 ⌜ 5 ⌜ 6****
→[a.xxx]	$a^b/_c$	***4.833333333***
→[d/c]	2ndF d/c	***29 ⌜ 6***
$10^{\frac{2}{3}}$ =	2ndF 10^x 2 $a^b/_c$ 3 =	***4.641588834***
$(\frac{7}{5})^5$ =	7 $a^b/_c$ 5 y^x 5 =	***16807 ⌜ 3125***
$(\frac{1}{8})^{\frac{1}{3}}$ =	1 $a^b/_c$ 8 y^x 1 $a^b/_c$ 3 =	***1 ⌜ 2***
$\sqrt{\frac{64}{225}}$ =	$\sqrt{}$ 64 $a^b/_c$ 225 =	***8 ⌜ 15***
$\frac{2^3}{3^4}$ =	(2 y^x 3) $a^b/_c$ (3 y^x 4) =	***8 ⌜ 81***
$\frac{1.2}{2.3}$ =	1.2 $a^b/_c$ 2.3 =	***12 ⌜ 23***
$\frac{1°2'3"}{2}$ =	1 °'" 2 °'" 3 $a^b/_c$ 2 =	***0°31'1.5"***
$\frac{1\times10^3}{2\times10^3}$ =	1 Exp 3 $a^b/_c$ 2 Exp 3 =	***1 ⌜ 2***
A = 7	ON/C 7 STO A	***7.***
$\frac{4}{A}$ =	4 $a^b/_c$ ALPHA A =	***4 ⌜ 7***
$1.25+\frac{2}{5}$ = [a.xxx]	1.25 + 2 $a^b/_c$ 5 = $a^b/_c$	***1.65*** ***1 ⌜ 13 ⌜ 20***
1.65	ON/C 1.65 =	***1.65***
→[a^b_c]	$a^b/_c$	***1 ⌜ 13 ⌜ 20***
→[d/c]	2ndF d/c	***33 ⌜ 20***
→[a.xxx]	$a^b/_c$	***1.65***

* $4 \lrcorner 5 \lrcorner 6 = 4\frac{5}{6}$

【9】 ◂BIN ◂PEN ◂OCT ◂HEX ◂DEC NEG NOT AND OR XOR XNOR

DEC(25)→BIN	ON/C 2ndF ◂DEC 25 2ndF ◂BIN	***11001*** b
HEX(1AC)	2ndF ◂HEX 1AC	
→BIN	2ndF ◂BIN	***110101100*** b
→PEN	2ndF ◂PEN	***3203*** P
→OCT	2ndF ◂OCT	***654*** O
→DEC	2ndF ◂DEC	***428.***
BIN(1010−100)	2ndF ◂BIN (1010 − 100)	
×11 =	× 11 =	***10010*** b
BIN(111)→NEG	NEG 111 =	***1111111001*** b
HEX(1FF)+	2ndF ◂HEX 1FF 2ndF ◂OCT +	
OCT(512)=	512 =	***1511*** O
HEX(?)	2ndF ◂HEX	***349*** H
2FEC−	ON/C STO M 2ndF ◂HEX 2FEC −	
2C9E=(A)	2C9E M+	***34E*** H
+)2000−	2000 −	
1901=(B)	1901 M+	***6FF*** H
(C)	RCL M	***A4d*** H
1011 AND	ON/C 2ndF ◂BIN 1011 AND	
101 = (BIN)	101 =	***1*** b
5A OR C3 = (HEX)	2ndF ◂HEX 5A OR C3 =	***db*** H
NOT 10110 = (BIN)	2ndF ◂BIN NOT 10110 =	***1111101001*** b
24 XOR 4 = (OCT)	2ndF ◂OCT 24 XOR 4 =	***20*** O
B3 XNOR	2ndF ◂HEX B3 XNOR	
2D = (HEX)	2D =	***FFFFFFFF61*** H
→DEC	2ndF ◂DEC	***−159.***

【10】 D°M'S ↔DEG

12°39'18.05" → [10]	ON/C 12 D°M'S 39 D°M'S 18.05 2ndF ↔DEG	***12.65501389***
123.678 → [60]	123.678 2ndF ↔DEG	***123°40'40.8"***
3h30m45s + 6h45m36s = [60]	3 D°M'S 30 D°M'S 45 + 6 D°M'S 45 D°M'S 36 =	***10°16'21"***
1234°56'12" + 0°0'34.567" = [60]	1234 D°M'S 56 D°M'S 12 + 0 D°M'S 0 D°M'S 34.567 =	***1234°56'47"***
3h45m − 1.69h = [60]	3 D°M'S 45 − 1.69 = 2ndF ↔DEG	***2°3'36"***
sin62°12'24" = [10]	sin 62 D°M'S 12 D°M'S 24 =	***0.884635235***

【11】 →rθ →xy , ←·→

$\begin{cases} x=6 \\ y=4 \end{cases} \rightarrow \begin{cases} r= \\ \theta=[°] \end{cases}$	ON/C 6 2ndF , 4 2ndF →rθ [r] 2ndF ←·→ [θ] 2ndF ←·→ [r]	***7.211102551*** ***33.69006753*** ***7.211102551***
$\begin{cases} r=14 \\ \theta=36[°] \end{cases} \rightarrow \begin{cases} x= \\ y= \end{cases}$	14 2ndF , 36 2ndF →xy [x] 2ndF ←·→ [y] 2ndF ←·→ [x]	***11.32623792*** ***8.228993532*** ***11.32623792***

【12】 MDF SET UP

5÷9=ANS	ON/C SET UP 0 0 SET UP 1 1	
ANS×9=	5 ÷ 9 =	***0.6***
[FIX,TAB=1]	× 9 = *1	***5.0***
	5 ÷ 9 = 2ndF MDF	***0.6***
	× 9 = *2	***5.4***
	SET UP 0 3	

*1 5.5555555555555×10^{-1}×9
*2 0.6×9

【13】 DATA (x,y) $\bar{x}$ Sx σx n Σx Σx^2 $\bar{y}$ Sy σy Σy Σy^2 Σxy r a b c x′ y′ ←·→

DATA: 95, 80, 80, 75, 75, 50

	MODE 1 0	***0.***
	95 DATA	***1.***
	80 DATA	***2.***
	DATA	***3.***
	75 (x,y) 3 DATA	***4.***
	50 DATA	***5.***
$\bar{x}$=	RCL $\bar{x}$	***75.71428571***
σx=	RCL σx	***12.37179148***
n=	RCL n	***7.***
Σx=	RCL Σx	***530.***
Σx^2=	RCL Σx^2	***41'200.***
sx=	RCL Sx	***13.3630621***
sx^2=	x^2 =	***178.5714286***
$\frac{(95-\bar{x})}{sx}\times10+50$=	(95 − ALPHA $\bar{x}$) ÷ ALPHA Sx × 10 + 50 =	***64.43210706***

x	y		
2	5	MODE 1 1	***0.***
2	5	2 (x,y) 5 DATA	***1.***
12	24	DATA	***2.***
21	40	12 (x,y) 24 DATA	***3.***
21	40	21 (x,y) 40 (x,y) 3 DATA	***4.***
21	40	15 (x,y) 25 DATA	***5.***
15	25	RCL a	***1.050261097***
		RCL b	***1.826044386***
		RCL r	***0.995176343***
		RCL Sx	***8.541216597***
		RCL Sy	***15.67223812***
x=3 → y'=?		3 2ndF y′	***6.528394256***
y=46 → x'=?		46 2ndF x′	***24.61590706***

x	y		
12	41	MODE 1 2	***0.***
8	13	12 (x,y) 41 DATA	***1.***
5	2	8 (x,y) 13 DATA	***2.***
23	200	5 (x,y) 2 DATA	***3.***
15	71	23 (x,y) 200 DATA	***4.***
		15 (x,y) 71 DATA	***5.***
		RCL a	***5.357506761***
		RCL b	***−3.120289663***
		RCL c	***0.503334057***
x=10→y'=?		10 2ndF y′	***24.4880159***
y=22→x'=?		22 2ndF x′	***9.63201409***
		2ndF ←·→	***−3.432772026***
		2ndF ←·→	***9.63201409***

【14】 DATA ▲ ▼

DATA: 30, 40, 40, 50

	MODE 1 0	***0.***
	30 DATA	***1.***
	40 (x,y) 2 DATA	***2.***
	50 DATA	***3.***

↓

DATA: 30, 45, 45, 60

	▼ ▼ ▼	
	45 (x,y) 3 DATA	*X2 =* ***45.***
	▼	*N2 =* ***3.***
	▼ 60 DATA	*X3 =* ***60.***

【15】

$$\bar{x}=\frac{\Sigma x}{n} \qquad \sigma x=\sqrt{\frac{\Sigma x^2-n\bar{x}^2}{n}}$$

$$sx=\sqrt{\frac{\Sigma x^2-n\bar{x}^2}{n-1}}$$

$$\Sigma x = x_1 + x_2 + \cdots + x_n$$
$$\Sigma x^2 = x_1^2 + x_2^2 + \cdots + x_n^2$$

$$\bar{y}=\frac{\Sigma y}{n} \qquad \sigma y=\sqrt{\frac{\Sigma y^2-n\bar{y}^2}{n}}$$

$$sy=\sqrt{\frac{\Sigma y^2-n\bar{y}^2}{n-1}}$$

$$\Sigma xy = x_1y_1 + x_2y_2 + \cdots + x_ny_n$$
$$\Sigma y = y_1 + y_2 + \cdots + y_n$$
$$\Sigma y^2 = y_1^2 + y_2^2 + \cdots + y_n^2$$

【16】

Function / Funktion / Fonction / Función / Função / Funzioni / Functie / Függvény / Funkce / Funktion / Funktio / Функция / Funktion	Dynamic range / zulässiger Bereich / Plage dynamique / Rango dinámico / Gama dinâmica / Campi dinamici / Rekencapaciteit / Megengedett számítási tartomány / Dynamický rozsah / Definitionsområde / Dynaaminen ala / Динамический диапазон / Dynamikområde
sin x, cos x, tan x	DEG: $\lvert x \rvert < 10^{10}$ ($\tan x : \lvert x \rvert \neq 90(2n-1)$)* RAD: $\lvert x \rvert < \frac{\pi}{180}\times10^{10}$ ($\tan x : \lvert x \rvert \neq \frac{\pi}{2}(2n-1)$)* GRAD: $\lvert x \rvert < \frac{10}{9}\times10^{10}$ ($\tan x : \lvert x \rvert \neq 100(2n-1)$)*
$\sin^{-1}x$, $\cos^{-1}x$	$\lvert x \rvert \le 1$
$\tan^{-1}x$, $\sqrt[3]{x}$	$\lvert x \rvert < 10^{100}$
ln x, log x	$10^{-99} \le x < 10^{100}$
y^x	• $y > 0$: $-10^{100} < x \log y < 100$ • $y = 0$: $0 < x < 10^{100}$ • $y < 0$: $x = n$ ($0 < \lvert x \rvert < 1 : \frac{1}{x} = 2n-1, x \neq 0$)*, $-10^{100} < x \log \lvert y \rvert < 100$
$\sqrt[x]{y}$	• $y > 0$: $-10^{100} < \frac{1}{x} \log y < 100$ ($x \neq 0$) • $y = 0$: $0 < x < 10^{100}$ • $y < 0$: $x = 2n-1$ ($0 < \lvert x \rvert < 1 : \frac{1}{x} = n, x \neq 0$)*, $-10^{100} < \frac{1}{x} \log \lvert y \rvert < 100$
e^x	$-10^{100} < x \le 230.2585092$
10^x	$-10^{100} < x < 100$
sinh x, cosh x, tanh x	$\lvert x \rvert \le 230.2585092$
$\sinh^{-1}x$	$\lvert x \rvert < 10^{50}$
$\cosh^{-1}x$	$1 \le x < 10^{50}$
$\tanh^{-1}x$	$\lvert x \rvert < 1$
x^2	$\lvert x \rvert < 10^{50}$
x^3	$\lvert x \rvert < 2.15443469\times10^{33}$
$\sqrt{x}$	$0 \le x < 10^{100}$
x^{-1}	$\lvert x \rvert < 10^{100}$ ($x \neq 0$)
n!	$0 \le n \le 69$*
$_nP_r$	$0 \le r \le n \le 9999999999$* $\frac{n!}{(n-r)!} < 10^{100}$
$_nC_r$	$0 \le r \le n \le 9999999999$* $0 \le r \le 69$ $\frac{n!}{(n-r)!} < 10^{100}$
↔DEG, D°M'S	0°0'0.00001" ≤ $\lvert x \rvert$ < 10000°
x, y → r, θ	$\sqrt{x^2+y^2} < 10^{100}$
r, θ → x, y	$0 \le r < 10^{100}$ DEG: $\lvert \theta \rvert < 10^{10}$ RAD: $\lvert \theta \rvert < \frac{\pi}{180}\times10^{10}$ GRAD : $\lvert \theta \rvert < \frac{10}{9}\times10^{10}$
DRG ▶	DEG→RAD, GRAD→DEG: $\lvert x \rvert < 10^{100}$ RAD→GRAD: $\lvert x \rvert < \frac{\pi}{2}\times10^{98}$

→DEC	DEC	: $\lvert x \rvert \le 9999999999$
→BIN	BIN	: $1000000000 \le x \le 1111111111$ $0 \le x \le 111111111$
→PEN	PEN	: $2222222223 \le x \le 4444444444$ $0 \le x \le 2222222222$
→OCT	OCT	: $4000000000 \le x \le 7777777777$ $0 \le x \le 3777777777$
→HEX	HEX	: FDABF41C01 ≤ x ≤ FFFFFFFFFF $0 \le x \le$ 2540BE3FF
AND OR XOR XNOR		
NOT	BIN	: $1000000000 \le x \le 1111111111$ $0 \le x \le 111111111$
	PEN	: $2222222223 \le x \le 4444444444$ $0 \le x \le 2222222221$
	OCT	: $4000000000 \le x \le 7777777777$ $0 \le x \le 3777777777$
	HEX	: FDABF41C01 ≤ x ≤ FFFFFFFFFF $0 \le x \le$ 2540BE3FE
NEG	BIN	: $1000000001 \le x \le 1111111111$ $0 \le x \le 111111111$
	PEN	: $2222222223 \le x \le 4444444444$ $0 \le x \le 2222222222$
	OCT	: $4000000001 \le x \le 7777777777$ $0 \le x \le 3777777777$
	HEX	: FDABF41C01 ≤ x ≤ FFFFFFFFFF $0 \le x \le$ 2540BE3FF

* n, r: integer / ganze Zahlen / entier / entero / inteiro / intero / geheel getal / egész számok / celé číslo / heltal / kokonaisluku / целые / heltal

For Australia / New Zealand only :
For warranty information please see www.sharp.net.au

For Australia only:

THIS PRODUCT CONTAINS BUTTON BATTERIES. KEEP BATTERIES OUT OF REACH OF CHILDREN.

For EU only:

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http://www.moravia-europe.eu

Information on the Disposal of this Equipment and its Batteries

IF YOU WISH TO DISPOSE OF THIS EQUIPMENT OR ITS BATTERIES, DO NOT USE THE ORDINARY WASTE BIN ! DO NOT PUT THEM INTO A FIREPLACE !

1. In the European Union

Used electrical and electronic equipment and batteries must be collected and treated SEPARATELY in accordance with law. This ensures an environment-friendly treatment, promotes recycling of materials, and minimizes final disposal of waste. Each household should participate ! ILLEGAL DISPOSAL can be harmful to human health and the environment due to contained hazardous substances ! THIS SYMBOL appears on electrical and electronic equipment and batteries (or the packaging) to remind you of that ! If 'Hg' or 'Pb' appears below it, this means that the battery contains traces of mercury (Hg) or lead (Pb), respectively.

Take USED EQUIPMENT to a local, usually municipal, collection facility, where available. Before that, remove batteries. Take USED BATTERIES to a battery collection facility; usually a place where new batteries are sold. Ask there for a collection box for used batteries. If in doubt, contact your dealer or local authorities and ask for the correct method of disposal.

2. In other Countries outside the EU

If you wish to discard this product, please contact your local authorities and ask for the correct method of disposal.

ENGLISH

Informationen zur Entsorgung dieses Gerätes und der Batterien

WENN DIESES GERÄT ODER DIE BATTERIEN ENTSORGT WERDEN SOLLEN, DÜRFEN SIE NICHT ZUM HAUSMÜLL GEGEBEN WERDEN !

1. In der Europäischen Union

Gebrauchte elektrische und elektronische Geräte und Batterien müssen laut Gesetz GETRENNT gesammelt und entsorgt werden. So werden die umweltfreundliche Abfallbehandlung und das Recycling von Stoffen sichergestellt und die Rest-Abfallmengen minimiert. Jeder Haushalt sollte dies unterstützen. Die ORDNUNGSWIDRIGE ENTSORGUNG schadet wegen der schädlichen Stoffe darin der Gesundheit und der Umwelt ! DIESES ZEICHEN auf Gerät, Batterie oder Verpackung soll Sie darauf hinweisen ! Wenn darunter noch 'Hg' oder 'Pb' steht, bedeutet dies, dass Spuren von Quecksilber (Hg) or Blei (Pb) in der Batterie vorhanden sind.

Bringen Sie GEBRAUCHTE ELEKTRISCHE UND ELEKTRONISCHE GERÄTE zur einer örtlichen, meist kommunalen Sammelstelle, soweit vorhanden. Entnehmen Sie zuvor die Batterien. Bringen Sie VERBRAUCHTE BATTERIEN zu einer Batterie-Sammelstelle; zumeist dort, wo neue Batterien verkauft werden. Fragen Sie dort nach einem Sammelbehälter für verbrauchte Batterien. Wenden Sie sich im Zweifel an Ihren Händler oder Ihre örtlichen Behörden, um Auskunft über die richtige Entsorgung zu erhalten.

2. In anderen Ländern außerhalb der EU

Bitte erkundigen Sie sich bei Ihrer Gemeindeverwaltung nach dem ordnungsgemäßen Verfahren zur Entsorgung dieses Geräts.

DEUTSCH

Hulladék-elhelyezési tájékoztató a berendezés és az elemek selejtezése esetére

HA KI SZERETNÉ SELEJTEZNI A KÉSZÜLÉKET VAGY A KÉSZÜLÉK ELEMEIT, NE A KÖZÖNSÉGES SZEMETESKUKÁT HASZNÁLJA ! NE DOBJA TŰZBE !

1. Az Európai Unióban

A használt elektromos és elektronikus berendezéseket és elemeket a törvényi szabályozásnak megfelelően KÜLÖN kell gyűjteni és ártalmatlanítani. Így biztosítható a környezetbarát kezelés, az alkotórészek újrahasznosítása, és a visszamaradó hulladék mennyiségének csökkentése. Minden háztartásnak részt kell vennie az újrahasznosításban ! Az ILLEGÁLIS ELHELYEZÉS ártalmas lehet az egészségre és veszélyt jelenthet a környezet számára a készülékekben található veszélyes anyagok miatt ! EZ A JELZÉS elektromos és elektronikai készülékeken és elemeken (vagy csomagolásukon) található meg és a megfelelő hulladék elhelyezésre emlékeztet. Ha 'Hg' vagy 'Pb' jelölés látható a szimbólum alatt, az azt jelenti, hogy az elem/akkumulátor kis mennyiségben higanyt (Hg) vagy ólmot (Pb) tartalmaz.

A HASZNÁLT KÉSZÜLÉKET vigye a helyi, általában önkormányzati begyűjtőhelyre. Az elemeket előzetesen távolítsa el a készülékből. Vigye a HASZNÁLT ELEMEKET egy elem gyűjtőhelyre; ez általában olyan helyeken található, ahol új elemeket forgalmaznak. A gyűjtőhelyen keresse az elhasznált elemek gyűjtőkonténerét. A helyes hulladék-elhelyezési módszer megismerése érdekében forduljon kereskedőjéhez vagy a helyi hatóságokhoz.

2. Az EU-n kívüli egyéb országokban

Ha a terméket ki szeretné selejtezni, kérjük, forduljon az önkormányzathoz, és érdeklődjön a helyes hulladék-elhelyezési módszerről.

MAGYAR

Informace o nakládání s tímto zařízením a jeho bateriemi

CHCETE-LI SE ZBAVIT TOHOTO ZAŘÍZENÍ NEBO JEHO BATERIÍ, NEPOUŽÍVEJTE BĚŽNÝ ODPADKOVÝ KOŠ ! NEVHAZUJTE JE DO OHNIŠTĚ!

1. V zemích Evropské unie

Použitá elektrická a elektronická zařízení a baterie musí být shromažďovány a musí s nimi být nakládáno ZVLÁŠŤ v souladu se zákonem. To zajistí nakládání-v souladu s životním prostředím, podpoří recyklaci materiálů a minimalizuje likvidaci odpadu. Každá domácnost by se měla zapojit ! ILEGÁLNÍ NAKLÁDÁNÍ S ODPADEM může být, vzhledem k obsahu nebezpečných sloučenin, škodlivé pro lidské zdraví a životní prostředí! TENTO SYMBOL je na elektrických a elektronických zařízeních a bateriích (nebo obalech) pro připomenutí ! Pokud je pod ním 'Hg' nebo 'Pb', znamená to, že baterie obsahuje stopy rtuti (Hg) popřípadě olova (Pb).

Odevzdejte POUŽITÉ ZAŘÍZENÍ do místního, obvykle obecního podniku zabývajícího se sběrem odpadu, pokud je k dispozici. Předtím odstraňte baterie. POUŽITÉ BATERIJE odneste do sběrného místa baterií obvykle v místech, kde jsou baterie prodávány. Požádejte o box na použité baterie. Pokud si nejste jistí, kontaktujte obchodníka nebo místní úřady a požádejte je o radu se správným nakládáním s odpadem.

2. V ostatních zemích mimo Evropskou unii

Chcete-li tento výrobek zlikvidovat, obraťte se na místní správní orgány, které vás seznámí s vhodnou metodou likvidace.

ČESKY

Information om avfallshantering av denna utrustning och dess batterier

OM DU ÖNSKAR AVFALLSHANTERA DENNA UTRUSTNING ELLER DESS BATTERIER, ANVÄND INTE ORDINARIE SOPTUNNA! KASTA INTE UTRUSTNINGEN ELLER DESS BATTERIER I ÖPPEN ELD!

1. EU-länder

Elektrisk och elektronisk utrustning samt batterier måste samlas in och avfallshanteras SEPARAT i enighet med gällande lagstiftning. Detta garanterar en miljövänlig hantering och återvinning av produkten och dess batterier, samt minimerar det slutliga avfallet. Varje hushåll bör hjälpa till! OLAGLIG AVFALLSHANTERING kan vara skadligt för människan och miljön på grund av farliga substanser! DENNA SYMBOL finns på elektrisk och elektronisk utrustning och batterier eller förpackning för att påminna om detta! Om texten " Hg" eller " Pb" finns nedanför, betyder detta att batteriet innehåller spår av kvicksilver (Hg) eller bly (Pb).

Ta UTRUSTNINGEN till en lokal, oftast kommunal återvinningsstation. Ta först ut batterierna. Uttjänta batterier lämnas i särskilda batteribehållare. Sådana behållare finns på alla återvinningsstationer eller i butiker där batterier säljs. Är du osäker, kontakta din återförsäljare eller kommunens miljökontor för information om korrekt avfallshantering.

2. Länder utanför EU

Kontakta de lokala myndigheterna och ta reda på gällande sorterings- och återvinningsföreskrifter om du behöver göra dig av med denna produkt.

SVENSKA

Tietoa tämän tuotteen ja sen paristojen hävittämisestä

JOS HALUAT HÄVITTÄÄ TÄMÄN TUOTTEEN TAI SEN PARISTOT, ÄLÄ HEITÄ SEKAJÄTTEIDEN JOUKKOON! EI SAA HÄVITTÄÄ POLTTAMALLA !

1. Euroopan unionissa

Käytetty elektroniikka, elektroniikkatarvikkeet ja paristot tulee kerätä ja lajitella ERIKSEEN lain määrittelemällä tavalla. Tämä takia ympäristöystävällisen jätteenkäsittelyn, parantaa materiaalien kierrätystä ja minimoi loppujätteen määrän. Jokaisen kotitalouden tulisi osallistua! LAITON HÄVITTÄMINEN voi olla haitallista terveydelle ja ympäristölle vaarallisten aineiden johdosta! TÄMÄ SYMBOLI elektroniikkatarvikkeissa ja paristoissa (tai pakkauksessa) on muistuttamassa sinua tästä! Jos alla on merkintä 'Hg' tai 'Pb', tämä tarkoittaa, että paristo sisältää jäämiä elohopeasta (Hg) tai lyijystä (Pb).

Vie KÄYTETTY ELEKTRONIIKKA paikalliseen, usein kunnan omistuksessa olevaan, jätteen käsittelylaitokseen. Ennen viemistä, poista paristot. Vie KÄYTETYT PARISTOT paristojen keräykseen; usein sijoitettu lähelle paristojen myyntipisteitä. Tiedustele keräyslaatikoa käytetyille paristoille. Mikäli olet epävarma, ota yhteyttä myyjälaitokseen tai paikallisviranomaiseen ja kysy neuvoa oikeasta tavasta hävittämiselle.

2. Muissa maissa EU:n ulkopuolella

Jos haluat hävittää tuotteen, ota yhteys paikallisiin viranomaisiin ja pyydä ohjeita tuotteen asianmukaiseen hävittämiseen.

SUOMI