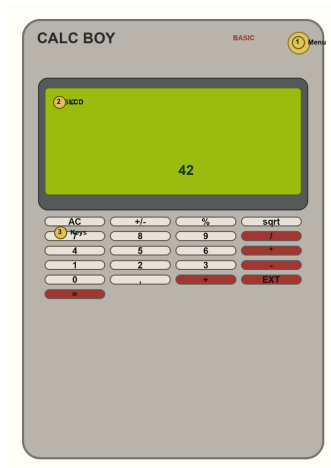


CALC BOY

User Manual



Version 3.1.0 - Generated from the current repository state.

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- Installation
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Introduction

CALC BOY is a handheld-console-style calculator. This manual teaches the everyday workflows, explains when to use each page, and shows the results you should expect.

Tip: The display is interactive. Tap it for history; long-press it to copy the current result.

Installation

- Open the live link in Safari or Chrome.
- Use Share or the browser menu and choose Add to Home Screen.
- Launch CALC BOY from the home screen. Installed mode opens the app fullscreen.

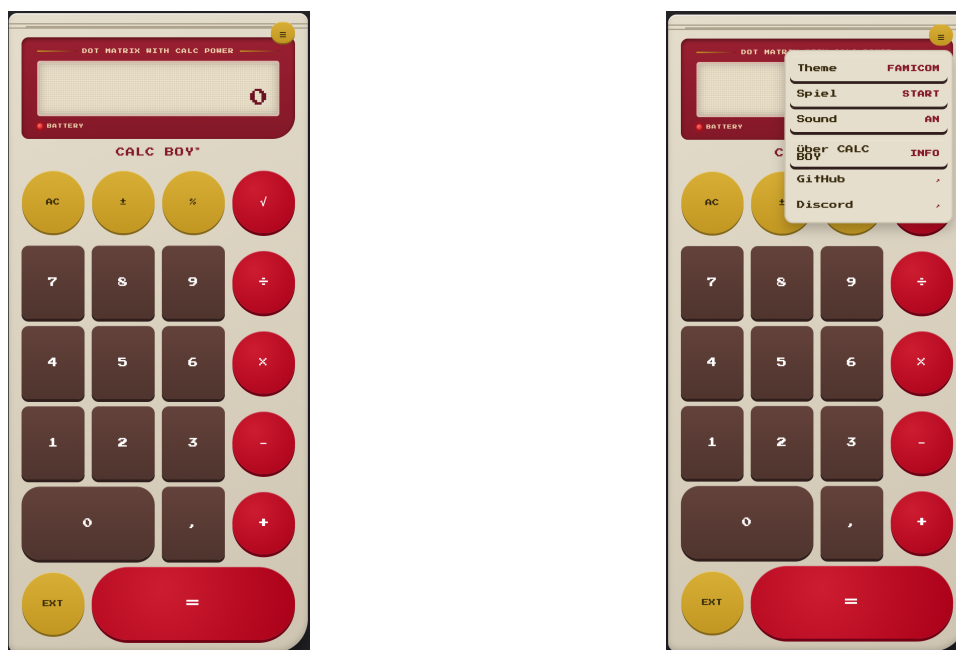
Offline Mode

After the first online launch, the browser keeps the app available for later. CALC BOY can then open without a connection as long as the site's stored data remains on the device.

Tip: After the first load, CALC BOY can open even without an internet connection.

Menu

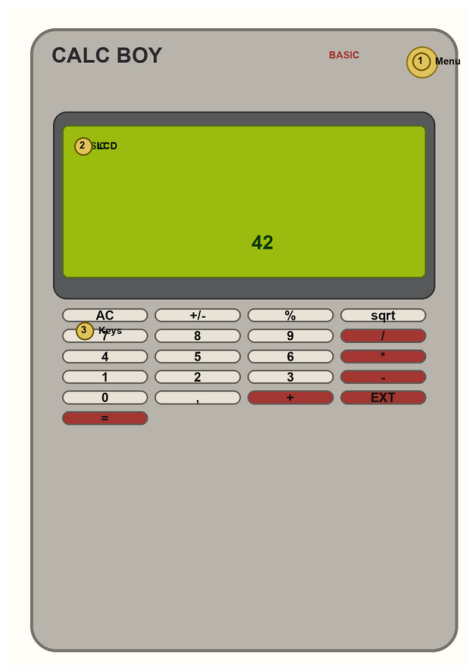
Use the round menu button in the top-right corner to open central settings and links.



Closed: The button remains available above the calculator.

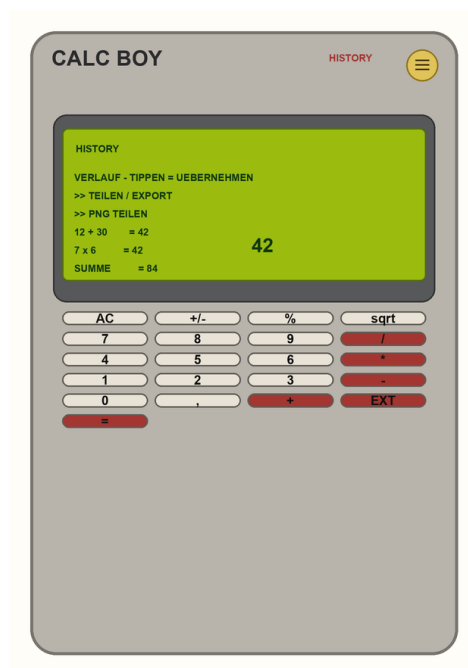
Open: Theme changes the look, Spiel opens the game selection, and Sound toggles key sounds. Über CALC BOY shows version and privacy information; GitHub and Discord open their respective external pages.

First calculation



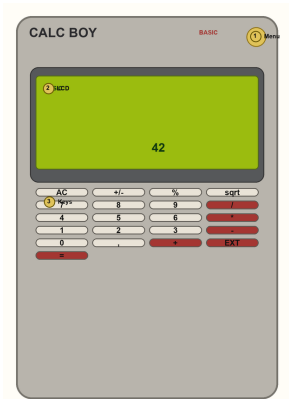
Example: $12 + 30 =$ shows 42 and adds the expression to history.

History, copy and share



The last ten successful calculations are saved. The history view also shows sum and average. Text and PNG export are available when the browser supports sharing or clipboard APIs.

BASIC



Standard calculator for everyday arithmetic, signs, square roots and smart percent calculations.

Workflow

- Step 1

Enter the first number, choose an operator, enter the second number, then press =.
- Step 2

Use AC to clear the current calculation. After ERROR, the next digit starts a new entry.
- Step 3

Tap the LCD to open history; long-press the LCD to copy the displayed result.

Good to know: The percent key is context-aware: with + or - it calculates a percentage of the first operand.

Examples

Smart percent

Input / action
100 + 10 % = 110; 100 - 10 %
Result
90

Square root

Input / action
144 sqrt
Result
12

Button reference

Key	Function	Key	Function
AC	Clears entry and active operation; in RPN it also clears the stack.	*	Multiplies two values.
+/-	Changes the sign of the displayed number.	1	Digit input.
%	Smart percent. Example: 100 + 10 % becomes 110.	2	Digit input.
sqrt	Calculates the square root; negative values show ERROR.	3	Digit input.
7	Digit input.	-	Subtracts the second value from the first.
8	Digit input.	0	Digit input.
9	Digit input.	,	Adds the decimal separator.
/	Divides the first value by the second; division by zero shows ERROR.	+	Adds two values.
4	Digit input.	EXT	Opens the extended scientific page.
5	Digit input.	=	Evaluates the current calculation; in RPN it pushes the value to the stack.
6	Digit input.		

EXT



Scientific and memory page with trigonometry, logarithms, powers, roots, factorial, pi and e.

Workflow

- Step 1** For direct functions such as sin, log, x^2 or $1/x$, enter a value and press the function key.
- Step 2** For x^y , enter the base, press x^y , enter the exponent, then press =.
- Step 3** Use DEG/RAD before trigonometry. DEG is saved and is the default unless changed.

Good to know: Factorial works only for whole numbers from 0 to 170.

Examples

DEG/RAD

Input / action

DEG: 30 sin -> 0.5; RAD: pi sin

Result

approximately 0

Memory

Input / action

42 M+, AC, MR

Result

42; 10 M- leaves 32 in memory

Powers

Input / action

2 x^y 8 =

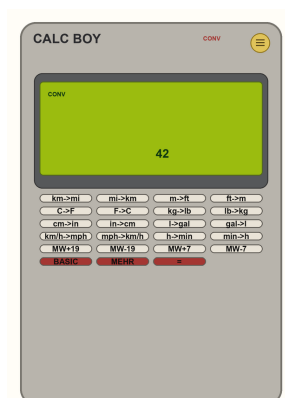
Result

256

Button reference

Key	Function	Key	Function
MC	Clears calculator memory.	x^2	Squares the displayed value.
MR	Recalls the saved memory value to the display.	x^3	Cubes the displayed value.
M+	Adds the displayed value to memory.	x^y	Binary power: enter base, press x^y , enter exponent, press =.
M-	Subtracts the displayed value from memory.	cbt	Calculates the cube root.
sin	Sine of the displayed value, using DEG or RAD mode.	$1/x$	Calculates the reciprocal; 0 shows ERROR.
cos	Cosine of the displayed value, using DEG or RAD mode.	n!	Calculates factorial for whole numbers from 0 to 170.
tan	Tangent of the displayed value, using DEG or RAD mode.	pi	Inserts pi.
DEG/RAD	Toggles saved angle mode for trigonometry.	e	Inserts Euler's number e.
log	Base-10 logarithm of the displayed value.	BASIC	Returns to the standard calculator page.
ln	Natural logarithm of the displayed value.	MEHR	Cycles EXT -> CONV -> FIN -> PRG -> PLOT -> FORM.
10^x	Calculates ten to the power of the displayed value.	=	Evaluates the current calculation; in RPN it pushes the value to the stack.
e^x	Calculates e to the power of the displayed value.		

CONV



One-tap converters for distance, temperature, mass, volume, speed, time and German VAT.

Workflow

- Step 1 Enter the source value and press the desired conversion key.
- Step 2 Use the matching reverse key if you need to convert back.
- Step 3 VAT keys treat the entered value as net or gross according to the key label.

Good to know: US gallons are used for litre/gallon conversion.

Examples

VAT

Input / action

100 MW+19 -> 119; 119 MW-19

Result

100

Temperature

Input / action

20 C->F -> 68; 68 F->C

Result

20

Speed

Input / action

100 km/h->mph

Result

62.137119224

Button reference

Key	Function	Key	Function
km->mi	Kilometres to miles.	km/h->mph	Kilometres per hour to miles per hour.
mi->km	Miles to kilometres.	mph->km/h	Miles per hour to kilometres per hour.
m->ft	Metres to feet.	h->min	Hours to minutes.
ft->m	Feet to metres.	min->h	Minutes to hours.
C->F	Celsius to Fahrenheit.	MW+19	Adds 19 percent German VAT to a net amount.
F->C	Fahrenheit to Celsius.	MW-19	Removes 19 percent German VAT from a gross amount.
kg->lb	Kilograms to pounds.	MW+7	Adds 7 percent German VAT to a net amount.
lb->kg	Pounds to kilograms.	MW-7	Removes 7 percent German VAT from a gross amount.
cm->in	Centimetres to inches.	BASIC	Returns to the standard calculator page.
in->cm	Inches to centimetres.	MEHR	Cycles EXT -> CONV -> FIN -> PRG -> PLOT -> FORM.
l->gal	Litres to US gallons.	=	Evaluates the current calculation; in RPN it pushes the value to the stack.
gal->l	US gallons to litres.		



Finance helpers for compound interest with monthly savings, interest amount, tips, bill splitting and manual currency conversion.

Workflow

- Step 1** Set K0, P%, years and monthly rate with SET keys. ENDWERT calculates the future value.
- Step 2** ZINSEN shows only the earned interest: future value minus start capital and deposits.
- Step 3** Set persons before / PERS. Set exchange rate before EUR->\$ or \$->EUR.

Good to know: Default values are K0 1000, P 3, years 10, monthly rate 50, persons 2 and exchange rate 1.08.

Examples

Compound interest

Input / action

SET K0=1000, SET P%=3, SET JAHRE=10, SET RATE/M=50,
ENDWERT

Result

8336.42449101

Interest only

Input / action

With the same values, ZINSEN

Result

1336.42449101

Bill split

Input / action

SET PERS=4, enter 80, / PERS

Result

20

Currency

Input / action

SET KURS=1.08, 100 EUR->\$ -> 108; 108 \$->EUR

Result

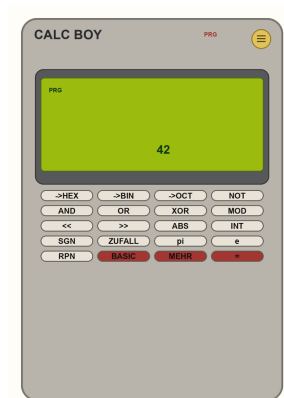
100

Important: Finance values remain stored until RESET or site data is cleared.

Button reference

Key	Function	Key	Function
SET K0	Stores start capital for compound interest.	TIP+20%	Adds 20 percent tip to the displayed amount.
SET P%	Stores yearly interest rate in percent.	SET PERS	Stores number of people for bill splitting.
SET JAHRE	Stores duration in years.	/ PERS	Divides the displayed amount by the stored number of people.
SET RATE/M	Stores the monthly savings amount.	SET KURS	Stores the manual exchange rate.
INFO	Shows stored parameters or variables.	EUR->\$	Converts euros to dollars with the stored rate.
ENDWERT	Calculates future value including start capital and monthly payments.	\$->EUR	Converts dollars to euros with the stored rate.
ZINSEN	Shows only earned interest.	BASIC	Returns to the standard calculator page.
RESET	Restores finance defaults.	MEHR	Cycles EXT -> CONV -> FIN -> PRG -> PLOT -> FORM.
TIP+10%	Adds 10 percent tip to the displayed amount.	=	Evaluates the current calculation; in RPN it pushes the value to the stack.
TIP+15%	Adds 15 percent tip to the displayed amount.		

PRG



Programmer functions, integer base display, bitwise operators, random number and RPN mode.

Workflow

- Step 1** HEX, BIN and OCT show the integer part of the display in the status line.
- Step 2** AND, OR, XOR, MOD, << and >> are binary operators: enter first value, operator, second value, =.
- Step 3** RPN changes = into push: enter a value, press =, enter the next value, then press an operator.

Good to know: Only the integer part of the number is used for bit operations and base display.

Examples

Base display

Input / action
255 ->HEX shows FF
Result
BIN shows 11111111

Binary operations

Input / action
5 AND 3 = 1; 5 OR 2 = 7; 9 MOD 4
Result
1

RPN

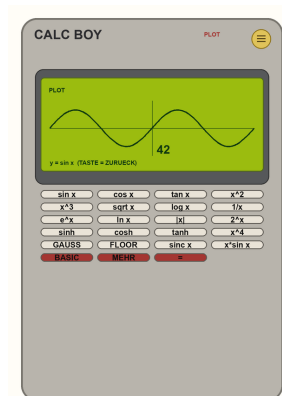
Input / action
RPN on: 12 =, 3 +
Result
15; AC clears the stack

Important: RPN changes how = behaves: it pushes a value onto the stack instead of finishing a normal calculation.

Button reference

Key	Function	Key	Function
->HEX	Shows the integer part in hexadecimal in the status line.	ABS	Absolute value.
->BIN	Shows the integer part in binary in the status line.	INT	Integer part without decimals.
->OCT	Shows the integer part in octal in the status line.	SGN	Sign of the number: -1, 0 or 1.
NOT	Bitwise NOT of the integer part.	ZUFALL	Random integer from 1 to 100.
AND	Bitwise AND for two integer operands.	pi	Inserts pi.
OR	Bitwise OR for two integer operands.	e	Inserts Euler's number e.
XOR	Bitwise XOR for two integer operands.	RPN	Toggles Reverse Polish Notation mode.
MOD	Integer remainder; modulo by 0 shows ERROR.	BASIC	Returns to the standard calculator page.
<<	Shifts the integer part left.	MEHR	Cycles EXT -> CONV -> FIN -> PRG -> PLOT -> FORM.
>>	Shifts the integer part right.	=	Evaluates the current calculation; in RPN it pushes the value to the stack.

PLOT



Draws 20 built-in function graphs as pixel plots on the LCD.

Workflow

- Step 1 Open PLOT and press a function key such as sin x, x^2 or GAUSS.
- Step 2 The graph replaces the LCD temporarily and scales itself automatically.
- Step 3 Press any other key or tap the display to close the graph.

Good to know: Asymptotes such as tan x or $1/x$ are clipped so the plot stays readable.

Examples

sin x

Input / action
PLOT -> sin x
Result
 $y = \sin x$

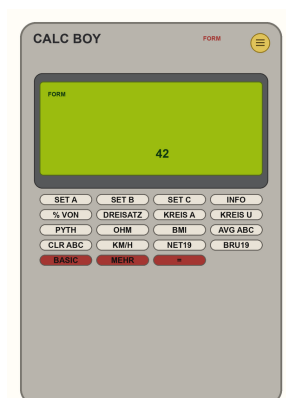
Compare

Input / action
PLOT -> x^2 or x^3
Result
automatic scaling

Button reference

Key	Function	Key	Function
sin x	Draws $y = \sin x$.	sinh	Draws hyperbolic sine.
cos x	Draws $y = \cos x$.	cosh	Draws hyperbolic cosine.
tan x	Draws $y = \tan x$ with clipping near asymptotes.	tanh	Draws hyperbolic tangent.
x^2	Draws $y = x^2$.	x^4	Draws $y = x^4$.
x^3	Draws $y = x^3$.	GAUSS	Draws the Gaussian bell curve $e^{(-x^2)}$.
sqrt x	Draws $y = \text{square root of } x$.	FLOOR	Draws the floor step function.
log x	Draws $y = \log_{10} x$.	sinc x	Draws $\sin x / x$, with value 1 at $x = 0$.
$1/x$	Calculates the reciprocal; 0 shows ERROR.	$x \cdot \sin x$	Draws $y = x \text{ times } \sin x$.
e^x	Draws $y = e^x$.	BASIC	Returns to the standard calculator page.
ln x	Draws $y = \ln x$.	MEHR	Cycles EXT -> CONV -> FIN -> PRG -> PLOT -> FORM.
x	Draws the absolute-value graph.	=	Evaluates the current calculation; in RPN it pushes the value to the stack.
2^x	Draws $y = 2^x$.		

FORM



Formula assistant based on three stored variables A, B and C.

Workflow

- Step 1** Enter a number and press SET A, SET B or SET C to store it.
- Step 2** Press INFO to check stored values. CLR ABC resets all variables to 0.
- Step 3** Press a formula key; the result appears on the display and is added to history.

Good to know: Formula keys use fixed roles: for example BMI uses A as kg and B as metres; speed uses A as kilometres and B as hours.

Examples

Percent

Input / action

SET A=20, SET B=150, % VON

Result

30

Pythagoras

Input / action

SET A=3, SET B=4, PYTH

Result

5

BMI

Input / action

SET A=80, SET B=1.8, BMI

Result

24.6913580247

Net/gross

Input / action

SET A=119, NET19 -> 100; SET A=100, BRU19

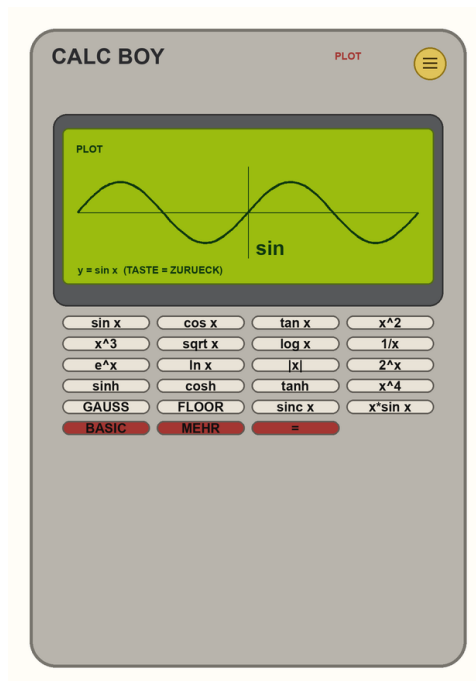
Result

119

Button reference

Key	Function	Key	Function
SET A	Stores the displayed value in variable A.	BMI	BMI with A as kg and B as metres.
SET B	Stores the displayed value in variable B.	AVG ABC	Average of A, B and C.
SET C	Stores the displayed value in variable C.	CLR ABC	Resets A, B and C to 0.
INFO	Shows stored parameters or variables.	KM/H	Speed: A kilometres divided by B hours.
% VON	Calculates A percent of B.	NET19	Net amount from a gross amount with 19 percent VAT.
DREISATZ	Calculates B times C divided by A.	BRU19	Gross amount from a net amount with 19 percent VAT.
KREIS A	Circle area with radius A.	BASIC	Returns to the standard calculator page.
KREIS U	Circle circumference with radius A.	MEHR	Cycles EXT -> CONV -> FIN -> PRG -> PLOT -> FORM.
PYTH	Pythagoras: square root of $A^2 + B^2$.	=	Evaluates the current calculation; in RPN it pushes the value to the stack.
OHM	Ohm helper: A times B.		

Plotting



Draws 20 built-in function graphs as pixel plots on the LCD.

Workflow

- Step 1 Open PLOT and press a function key such as sin x, x^2 or GAUSS.
- Step 2 The graph replaces the LCD temporarily and scales itself automatically.
- Step 3 Press any other key or tap the display to close the graph.

Examples

sin x

Input / action

PLOT -> sin x

Result

y = sin x

Compare

Input / action

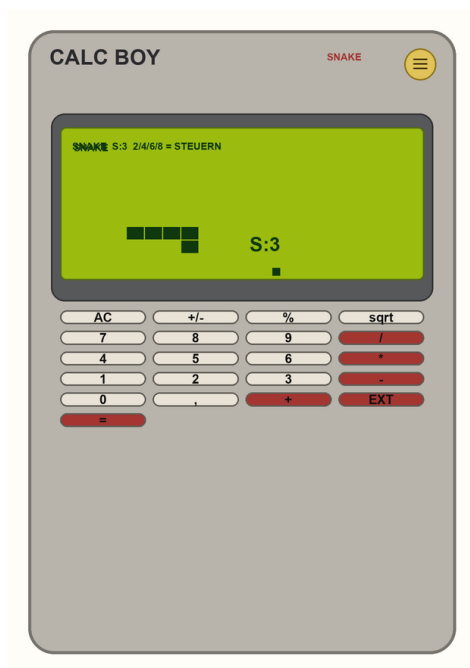
PLOT -> x^2 or x^3

Result

automatic scaling

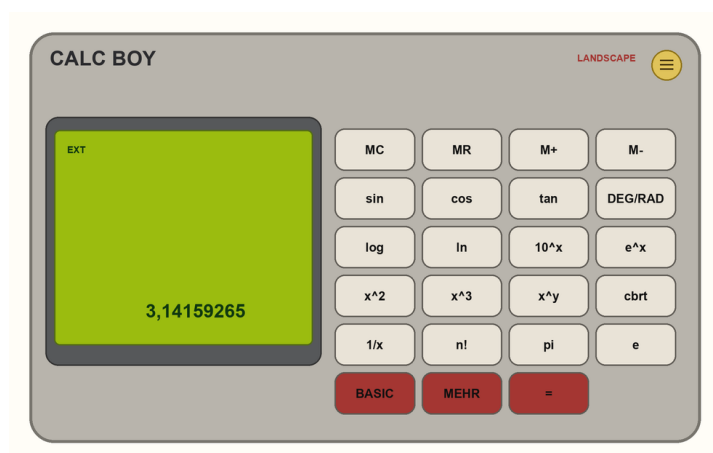
Tip: Press any non-plot key or tap the display to close the graph.

Games



Open the menu and choose Spiel to reach the game selection. Math Attack asks arithmetic questions for 30 seconds. Snake uses the number pad 2/4/6/8 or arrow keys and stores its own high score.

Landscape mode



In landscape, the scientific shortcut column is visible beside BASIC, giving quick access to sin, cos, tan, log, ln, powers, pi and e.

Keyboard

Key	Action
0-9	digits
, or .	decimal separator
+ - * /	basic operators
Enter or =	equals
Escape	AC
%	percent
r or w	square root
arrow keys	Snake direction and secret-code input

Storage and Privacy

Privacy: No usage data is sent to external analytics or font services.

All settings stay on your device. CALC BOY does not use analytics, does not load external fonts, and does not fetch live exchange rates.

theme, sound, angle mode, history, memory, finance parameters, exchange rate, persons, RPN mode, RPN stack, formula variables, game high scores, Virtual Boy unlock.

Limitations

Offline use requires a first launch from the website. Currency conversion uses the manually stored rate and does not fetch live rates. Programmer base conversion appears in the status line and does not replace the main display. Sharing, clipboard, vibration and battery display depend on browser support. The in-app interface is German.

Troubleshooting

If an old version appears after update, close and reopen the app twice. If sound does not play, tap once inside the app and check Sound in the menu. If sharing is unavailable, use clipboard copy or browser download fallback. To reset all data, delete website data for this domain.

Version Information

CALC BOY 3.1.0 - calcboy-v3.1.0 - GPL-3.0-or-later

Project information

Links, license and version at a glance.

Project website	https://schrotty74.github.io/CalcBoy/
GitHub repository	https://github.com/Schrotty74/CalcBoy
License	GPL-3.0-or-later
Report bugs / request features	https://github.com/Schrotty74/CalcBoy/issues
Current version	3.1.0

Good to know: Use the project website for the live app. The GitHub repository contains the source code and GPL-3.0-or-later license; use Issues for bug reports and feature requests.