Vapourware Condensed

or

Persistently Pursuing a Vision with Transient Aid

or

Proof that 7 500 000 000 Are Little

Presentation at the Allschwil Meeting 2022

Walter Bonin

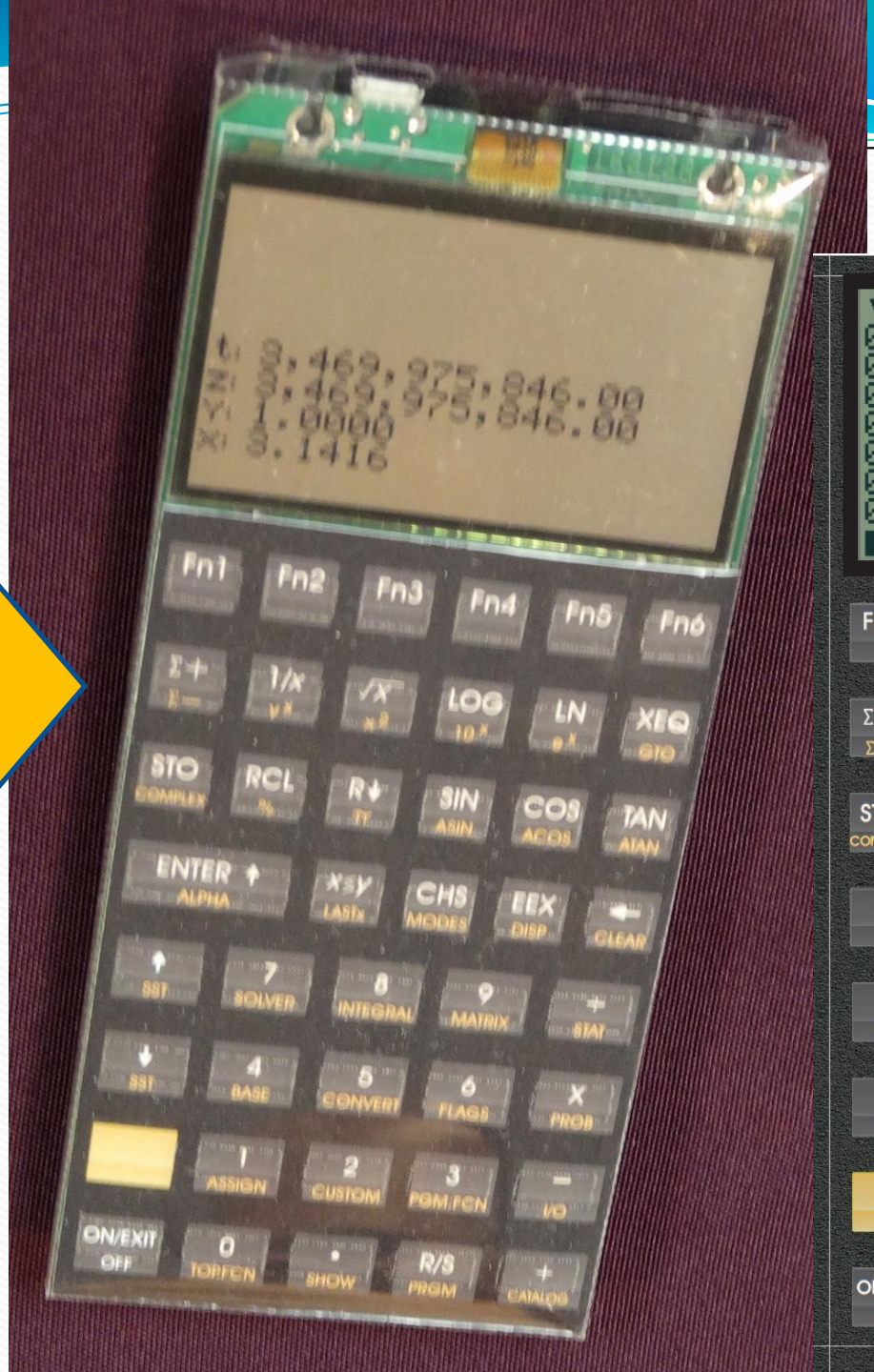
FAdCbAd9 .h
HEWLETT·PACKARD
HEWLETT PACKARD
21S
STAT/MATH
123,456,789.012
HEWLETT PACKARD
42S
RPN SCIENTIFIC
x: 812.6000
2011
WP 34S
RPN SCIENTIFIC
34S 3.02197
PAUL, UJALtE

WP 34S
RPN SCIENTIFIC
1,234
56.7
BEG
360 RPN
WP 31S
RPN SCIENTIFIC
F-1(p)
0.172
INPUT
2014

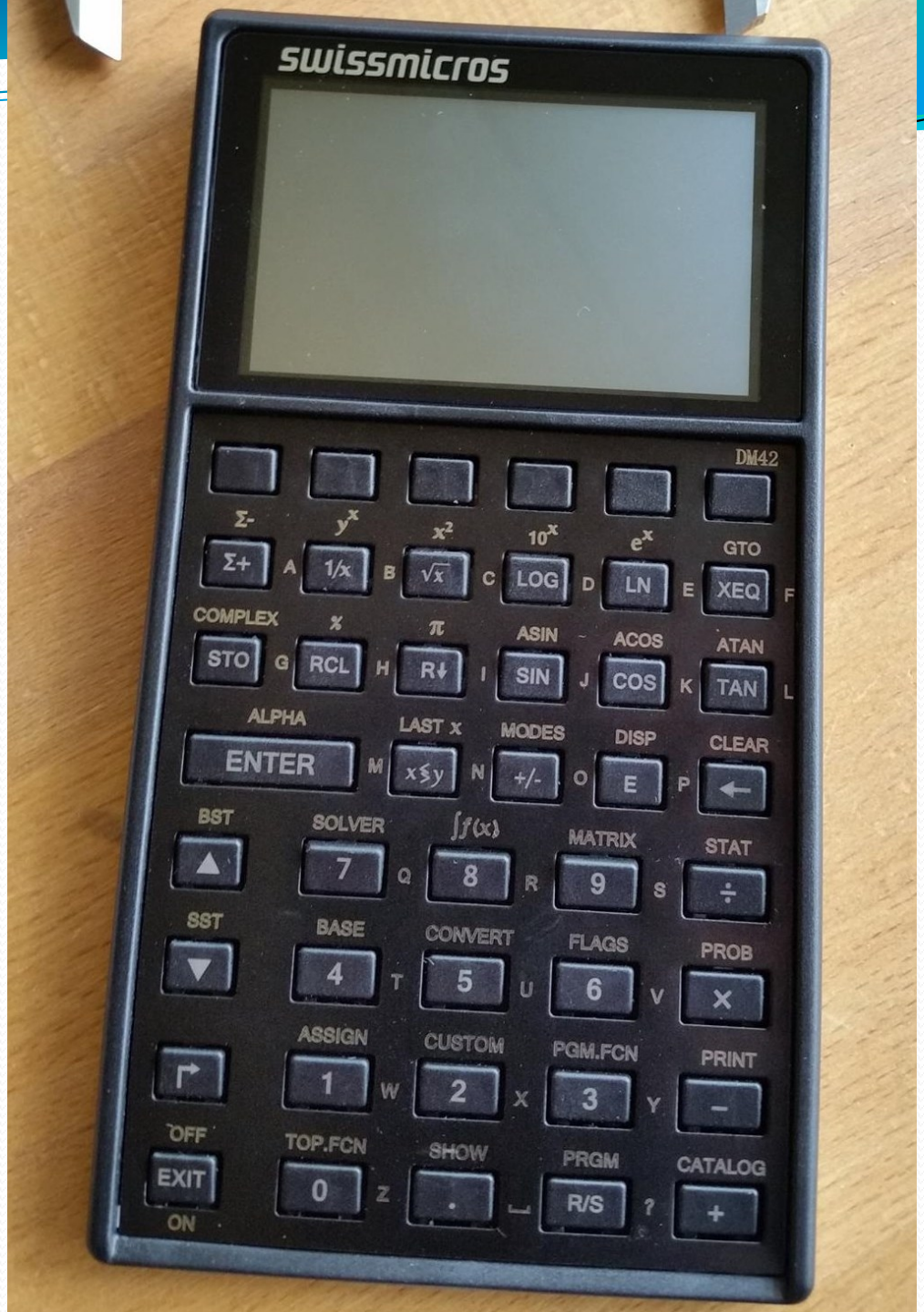
WP 34S
RPN SCIENTIFIC
2012
...
WP 34S
RPN SCIENTIFIC

2014/15

A Mylar Reptile.
Design by Eric Smith & Richard Ottosen, picture by Jake Schwartz at HHC 2015



2016/17


swissmicros
DM42
Σ+
1/x
√x
LOG
LN
XEQ
STO
RCL
R↓
SIN
COS
TAN
ENTER
+/-
E
CLEAR
SOLVER
MATRIX
STAT
7
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FLAGS
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ASSIGN
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PGM.FCN
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TOP.FCN
SHOW
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CATALOG
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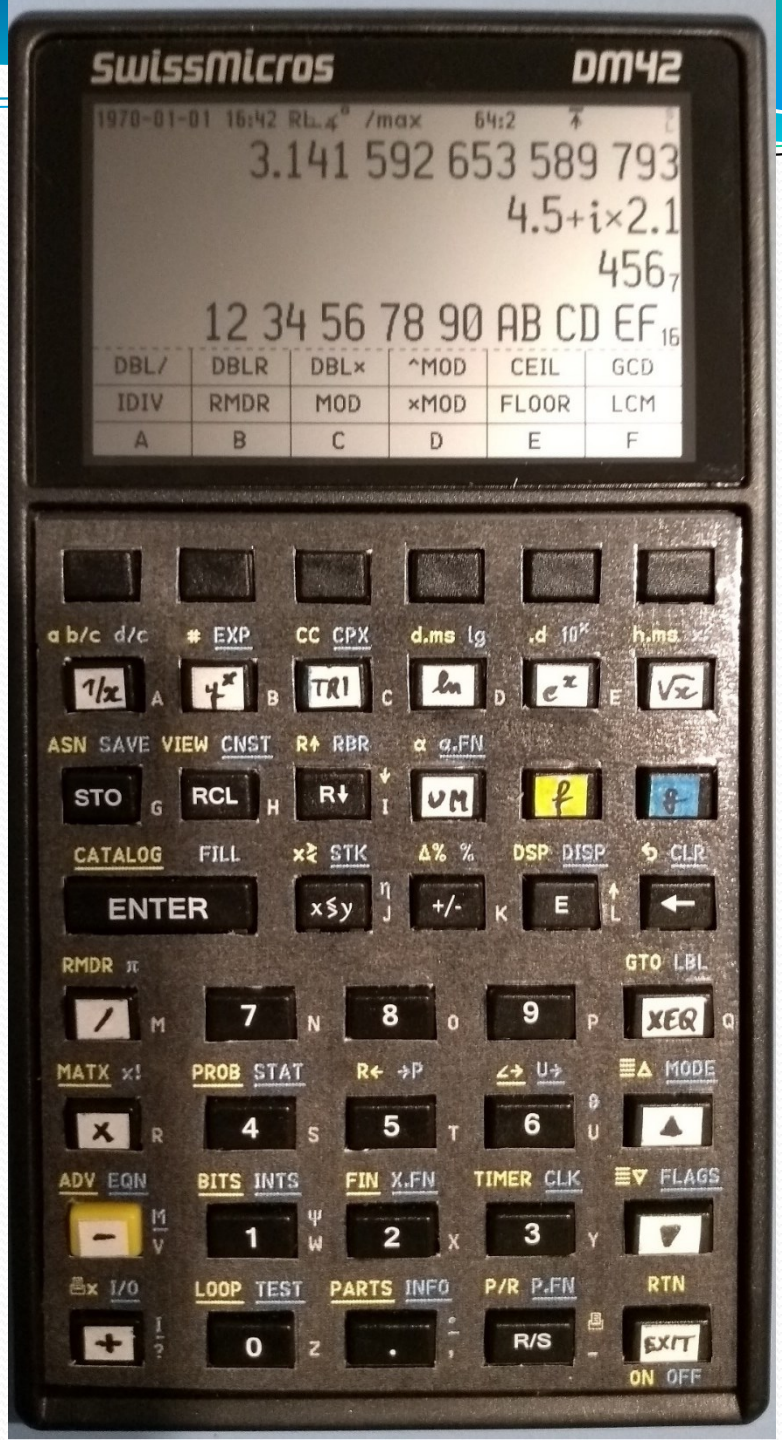
+

2018



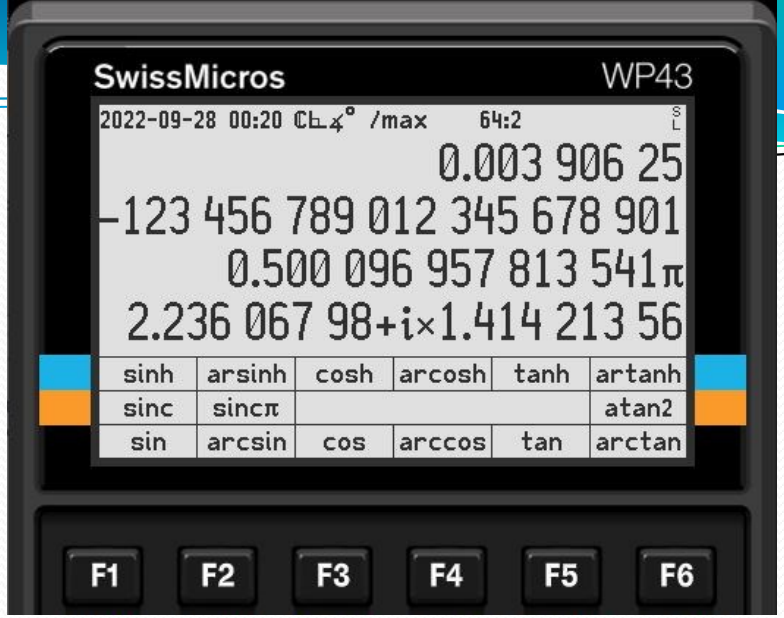
And a simulator became available for the community (remember Allschwil 2018)

2020

2022

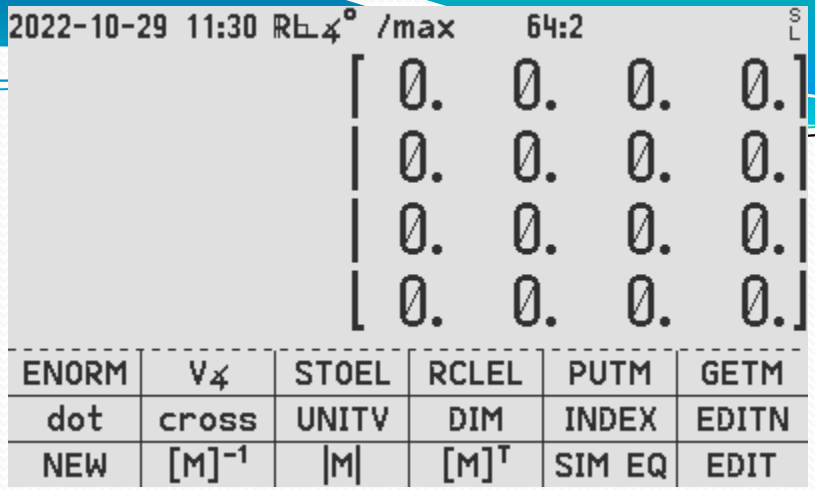
Here

we go !

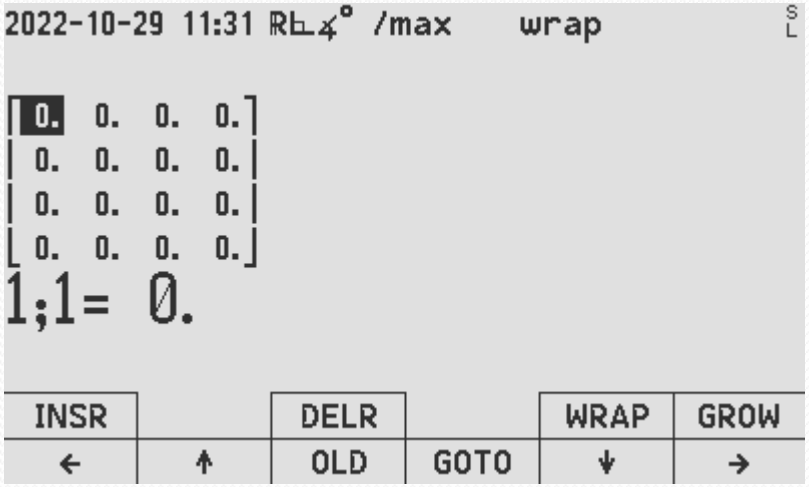


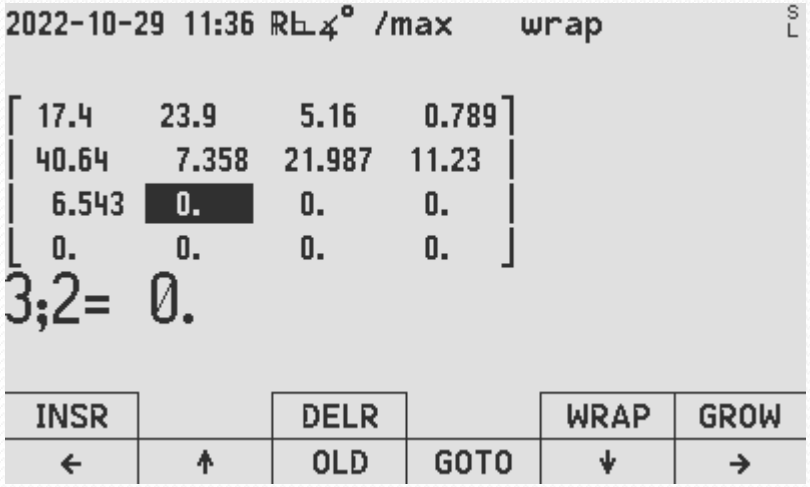
WP43 = ***WP 34S*** but no display limitations anymore,
plus

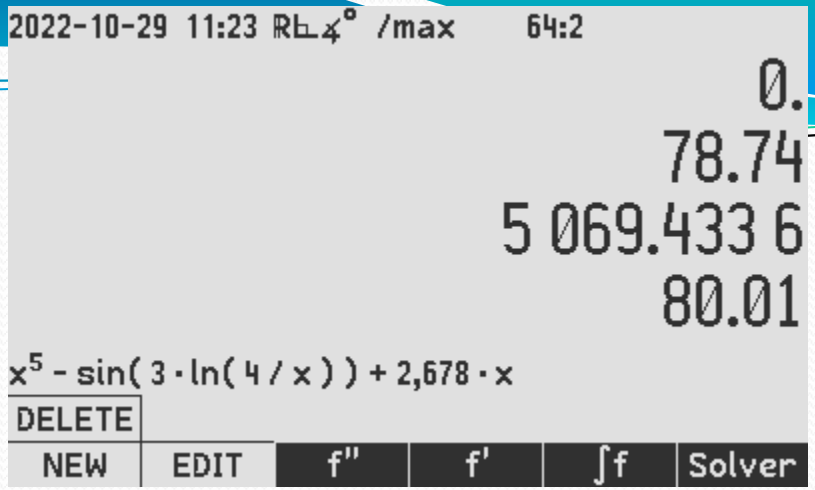
- ✓ 1st calculator with ***direct access to up to 18 softkeys*** at once
- ✓ ***Extended matrix operations*** incl. ***Matrix Editor***
- ✓ Operations on ***equations*** incl. full fledge ***Equation Editor***
- ✓ ***Assessing curve fits by plots and computed parameter errors***
- ✓ Supporting ***frequency histograms***
- ✓ First calculator supporting ***measuring system analysis (MSA)***



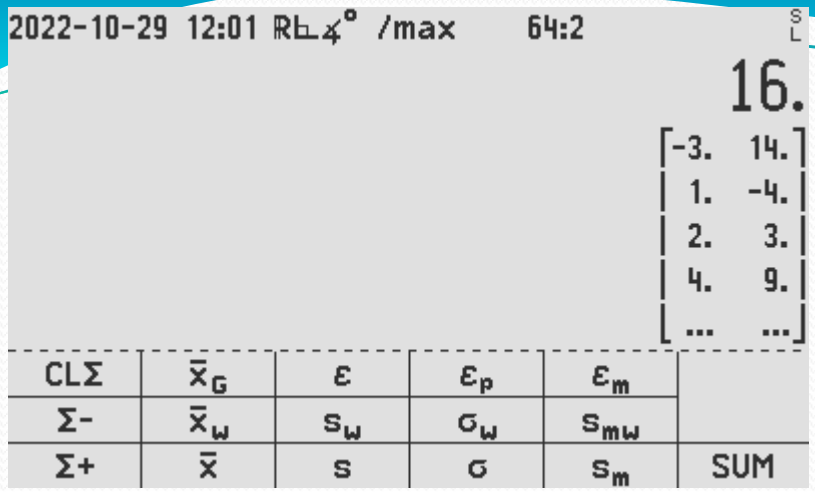
- ✓ ***Extended matrix operations*** incl. ***Matrix Editor***

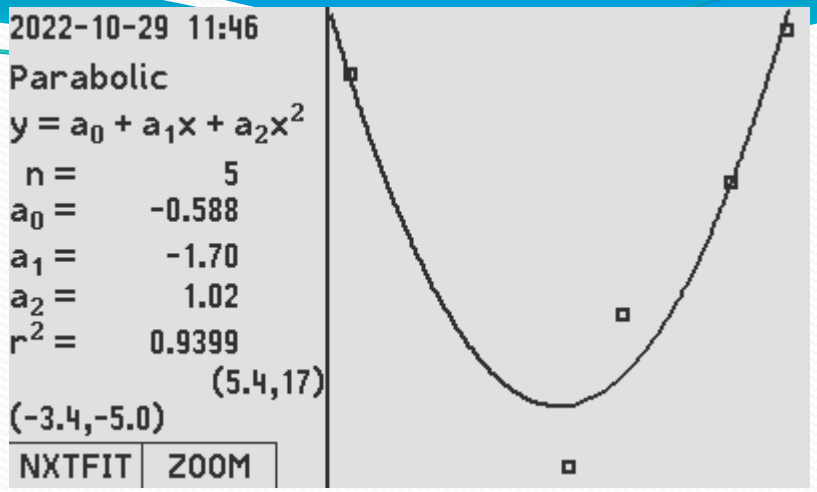




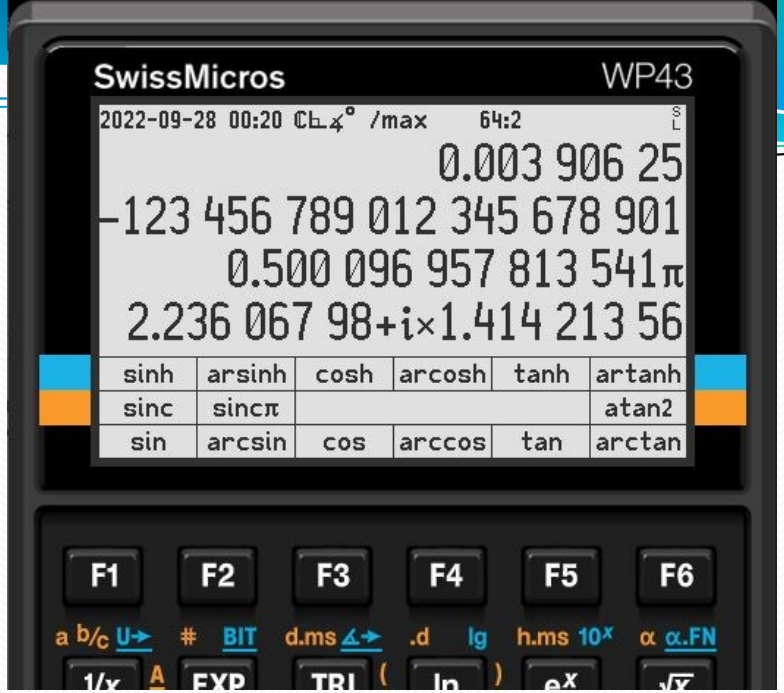


- ✓ Operations on ***equations*** incl. full fledge ***Equation Editor***



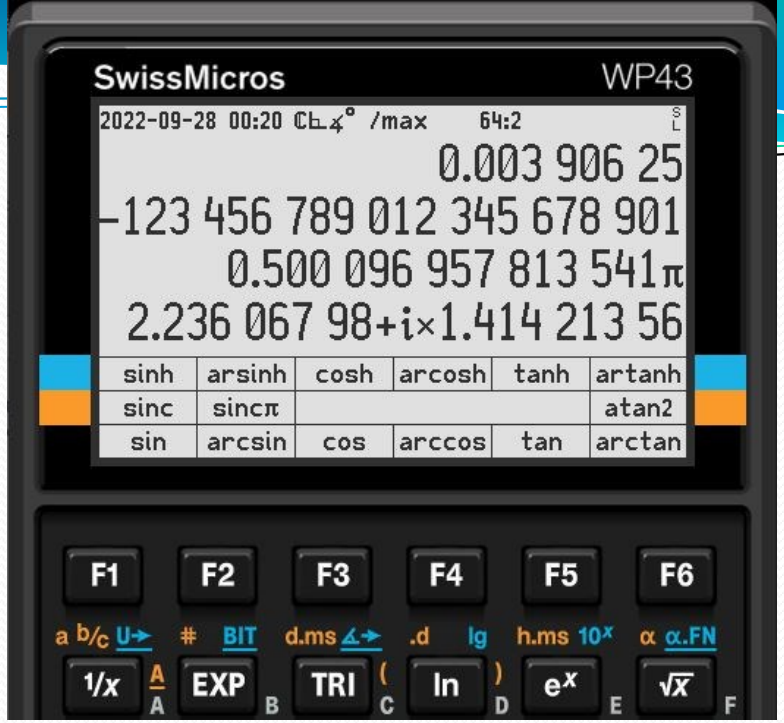


- ✓ ***Assessing curve fits by plots and computed parameter errors***



***WP 34S* plus**

- ✓ State-of-the-art display **!**
- ✓ Real keys (no stickers)
- ✓ Lasting hardware supply (by *SwissMicros* instead of *HP*)
- ✓ Rugged stainless steel design
- ✓ Standard *USB-B* interface
- ✓ You can customise your keyboard layout by ASSIGNing for ***user mode***
- ✓ Hardware provisions for overlays

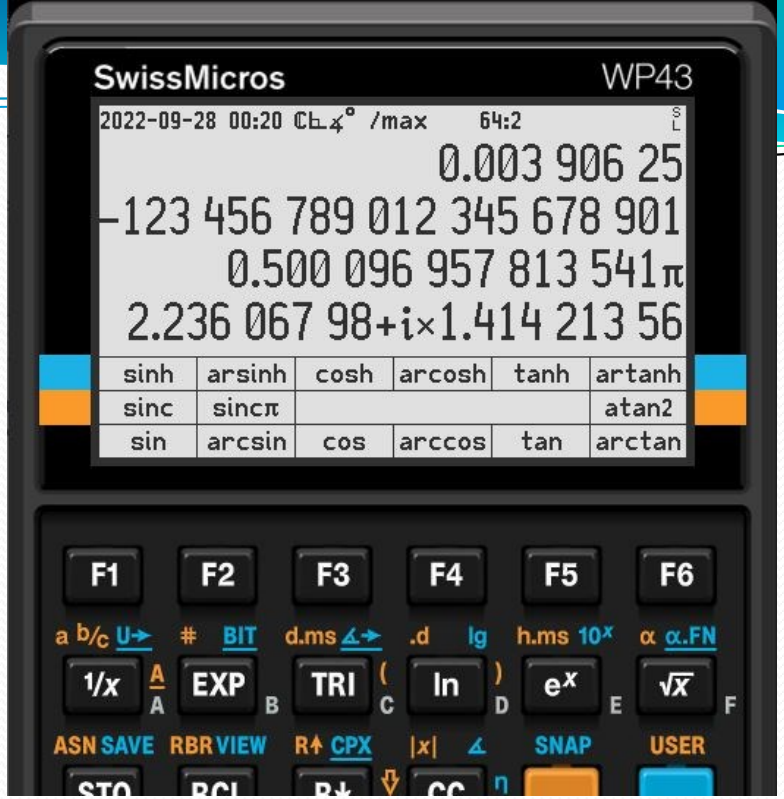


plus

- ✓ Permanent 34-digit precision (≥ 39 digits under the hood)
- ✓ *Data types*:
  - ✓ ***Real numbers*** up to $\pm 10^{6145}$ (smaller limits can be set)
  - ✓ ***Infinite integers*** up to $\pm 10^{1001}$
  - ✓ ***Finite integers*** up to $\pm 2^{64}$ (i.e. 64 bits)
  - ✓ ***Complex numbers***
  - ✓ ***Strings*** of up to 196 characters
  - ✓ ***Matrices*** as many and big as memory allows
  - ✓ ***Dates*** and ***times***

How to feed your *WP43*

Input	Display	Meaning
12345.678901 EXIT	12 345.678 901	*Real numbers*, see pp. 85ff
12 E 345 ENTER↑	$12.\times10^{345}$	
901.23.4567 ENTER↑	> 901 $^{23}/_{4\,567}$	*Fraction*, see pp. 137ff
270 [→∠] →MUL π	1.5π	*Angle* shown in *multiples of* π
123.45678901 d.ms	123°46' 7.89"	Sexagesimal *angle*; see pp. 140ff also for other angular formats supported
1234567890 ENTER↑	1 234 567 890	*Integers* of various bases and lengths, see pp. 150ff
1234567890 # H	$12\ 34\ 56\ 78\ 90_{16}$	
10100110111 # 2	$101\ 0011\ 0111_{2}$	
12.3 CC 4.56 +/- EXIT	12.3−i×4.56	*Complex numbers* in rectangular or polar notation; mantissa plus exponent format is settable as well; see pp. 165ff
	12.3∠−4.56°	
1.0203045 .d	0001-02-03	*Date*, see pp. 198f
1.2345678901 h.ms	1:23:45.678 901	Sexagesimal *time*, see pp. 201f



- ✓ 88 functions accessible by ≤ 2 keystrokes
- ✓ 251 functions accessible by ≤ 3 keystrokes
- ✓ Some 680 functions in total
- ✓ ≤ 1000 user defined variables, each can contain any object
- ✓ Up to 10 000 steps addressable per program – 32 local flags and ≤ 100 local registers can be dedicated to each routine
- ✓ Store and recall calculator configurations
- ✓ Battery-fail-safe on-board backup in flash memory

And your choice of 4 or 8 stack registers,

… of course, as with ***WP 34S*** and ***WP 31S*** since 2011.

Enjoy !

Releasing the pilots *WP43 v0.23.1*

- **Hardware by *SwissMicros***

  Michael Steinmann (CH), David J. (CZ), and Emy Amstein (CH)

- **Software, user interface, specs and documentation by the *WP43 authors***

  Core team: *Ben Titmus* (since 2021, GB), *Jaco Mostert* (s. 2020, SA), *Martin Lorang* (s. 2017, F), *Mihail* (s. 2021, J), *Paul Dale* (AUS), and *Walter Bonin* (D)

  Contributions by *Friedrich Mütschele* (‘20 –’20, D), *Gert Menke* (‘18 –’20, D), *Gianluca Puggelli* (’19 –‘21, I), and *Harald Overbeek* (‘19 –‘20, NL)

  Project start: 2012

Releasing the pilots *WP43 v0.23.1*

- Finally, we have won the marathon against THE BOOK, q.e.d.!

- What is not implemented yet but will come soon:
  - DELITM
  - READP and WRITEP
  - Printing via IR

- What will come a bit later:
  - PCB upgrade by *SwissMicros* in parallel to *DM32*

Releasing the pilots *WP43 v0.23.1*

Thanks for your attention!

Questions?

Criticism?

Wishes?