UPDATE ON SWISSMICROS' PRODUCT LINE...

HHC2024   Nashville Sep 21/22, 2024

OVERVIEW

- DM42 Updated July '24
- DM41X Updated July '24
- DM32 Released August '24
  + DM32 Remote Function Calling Examples
- DM32 User Manual (book) Released September '24
- DM42n Announced September '24 (at IFA in Berlin)
- New web-based f/w update tool for DM1x models coming...
- Something else... coming soon...
    coming soon...

PRODUCT UPDATES IN JULY

- DM41X f/w v2.2 released on 22 July
  - Bug fixes for editor, special char rendering, misc. obscure issues
  - Improvements to help browser, louder screen-shot chirp
  - Support for HP-82242 "Blinky" IR module for the 41
- DM42 f/w v3.23 released on 25 July
  - Update to Free42 v3.1.8, parity with Free42 on other platforms
  - Improvements to help browser
  - Louder screen-shot chirp

DM32 V2.10 RELEASE IN AUGUST

- New SM DMCP5 Platform – Faster, USB-C, >445K RAM

- Debugger w/variable watch, step over/into Fn calls

- Multi-state support with remote function calls from other states
  - Solves program label limitation inherent in core 32SII design
  - Easy to use scheme to load 'libraries' and call remote functions

- Remote functions can also be used in calculator mode, effectively *adding new commands* to the DM32
  - e.g. – [XEQ] [XEQ] [pick HYPER] [S] to run hyperbolic SIN routine

DM32 STATE FILE – REVIEW

- ✖ Stores user data / config. settings
  - ✚ Stack, Variables, Flags, Modes, Equations, Programs
  - ✚ Simple, easy-to-grasp text basis (*.d32 files)
  - ✚ Maintain multiple state files and swap between them with ~10 keystrokes
  - ✚ Import/Export files via FAT (USB-Drive)
  - ✚ Comments supported (discard after #)

```
File
1. Load State
2. Save State
3. Load Clean State
4. Activate USB Disk
5. Show Disk Info
```

```
Load Calculator State            /STATE
<Parent>        DIR   NQUEENS.d32      698
crazy_int_o…    448   raulbug.d32      251
Gene 0602.d32   681   solarcompass…    909
ladder_2.d32    548   StateFail.d32    421
ladder_impe…    548
long_eq_err…    458
new.d32         216
normal.d32      837
```

```
# STACK
SY: 3
SZ: 3
ST: 2
SL: -0.342020143325668733044099614682260 1

# REGS
Ri: 34        # Indirect Register
RD: 55
RL: 17
RP: 3.14159265358979323846264338327950 3   #Pi
RV: 40389.1005527137793219853589962871 1
RZ: 99599

# FLAGS

# MODE
MTRIG: DEG
MFMT: FIX 2

# EQUATION LIST
EQNPTR: 1
EQN
 V = 0.25 \mul; \pi; \mul; D ^ 2 \mul; L   # Vol
 R = 2 \mul; C \mul; COS( T - A )
EQNEND

# PROGRAM
PTR: 0
PGM
  LBL T            # %T – What % of Y is X ?
  1/x
  %
  1/x
  RTN
PGMEND
```
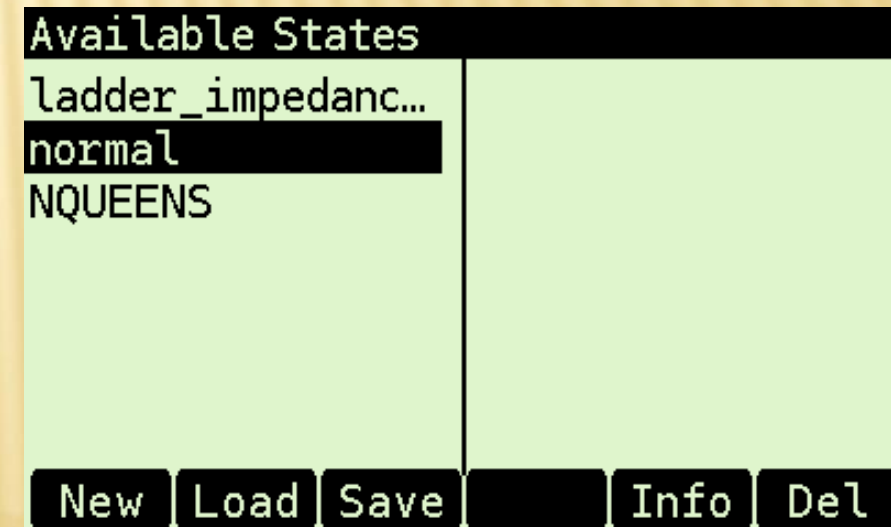
DM32 ENHANCEMENTS – AVAILABLE STATES

- Ability to load multiple States into memory simultaneously

- Uses normal State Files reviewed above (*.d32 files)

- Active States list toggled on/off via F4

- Swap among available states in 3-4 keys

- Stack and Global Registers shared

  + Pass data or pointers to data

- Load, Save, Delete, create New states

- Select state, press Enter to make active

- Limited only by available RAM

DM32 ENHANCEMENTS – INTERSTATE FN-CALLING

- Adds ability to call global label in another State File as subroutine
- Subroutines can be called from any Available State (F4 list)
- Use tested routines w/o having to copy code to new State File
- Allows building subroutine 'libraries', used by all your programs
- UI / UX
  - Program line "XEQ C:HYPER" to call routine C in HYPER.d32
  - Entered as [XEQ] [XEQ] (list of Available States will open to choose) [C]
- Stack and indirect global registers shared among all states

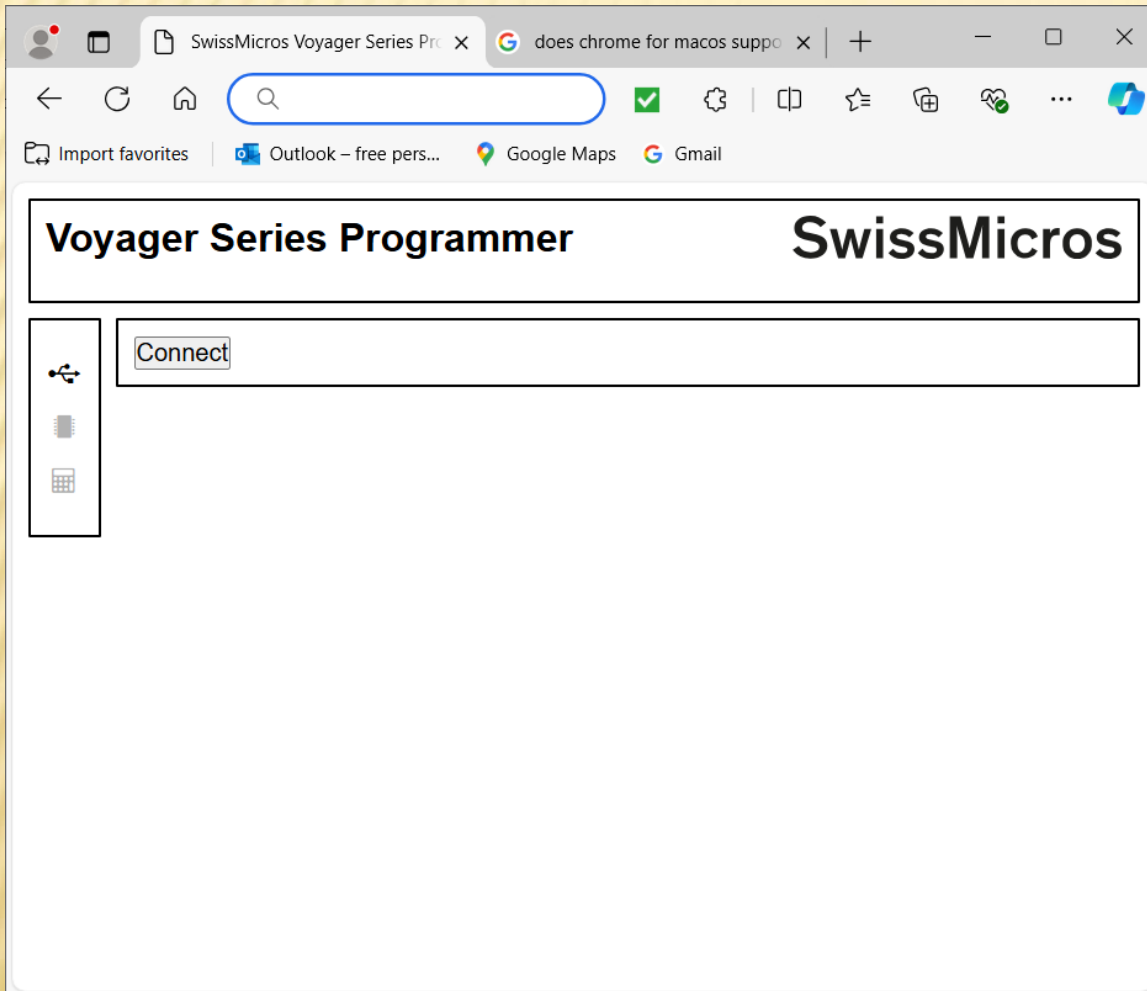# DM32 OWNER'S MANUAL, SWISSMICROS STYLE...

- Complete manual of *all* DM32 features and functions (original HP and SM extensions) - A manual you will want to read/use

- 336 pages, *Otabind* (lay-flat) binding, w/3 color* bookmarks

- Size: DIN A5 (148 × 210 mm or 5.8 × 8.25 in)

- High-quality paper with recycled brown card covers

- Cost is CHF 64 + ship (~~10~~ 8 copies to sell here at HHC for $50)

- Shout-out to Emy Amstein for a herculean effort to produce this truly beautiful piece of art

* Guess the colors ?

DM42N

- SwissMicros announced "DM42n" at IFA in Berlin early Sept

- Built on same DMCP5 platform as DM32

- Runs same DM42 application (different binary, same features)

- \> Twice as fast as DM42, USB-C (usb 2.0), 2 x QSPI Flash size

- Dramatically more available RAM
  - DM42 CAT MEM => 75,640 bytes (empty state file)
  - DM42n CAT MEM => 455,988 bytes (empty state file)

- Priced only 10 CHF higher at 259 CHF (sometimes choosing is easy)

NEW WEB-BASED F/W UPDATE TOOL FOR DM1X MODELS

✖ Easy to use web-tool for updating f/w and backup/restore of memory 'dumps' or states

✖ Drivers still required by chipset, but no need to use the .exe file
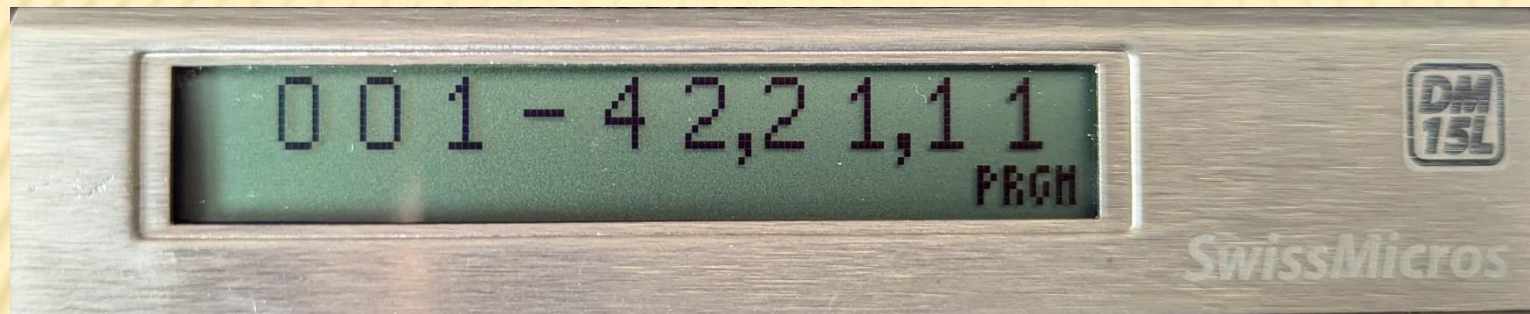
✖ Can be used on macOS in Chrome (uses Web Serial API)

AND NOW FOR SOMETHING NO ONE EXPECTED….

- HP-15c CE introduction stole a little DM15L thunder…
- DM-15L still offers largest user RAM, easy USB for state backup / restore, and SM Decoder web-tool
- LCD offers multiple font styles/weight & overall better display
- Price is roughly even with 15c CE
- So, what can still be improved, what is the HP-15C's weakest point???

NEW DM-15L F/W UPDATE COMING IN THE FALL

✖ What does this program line mean?

✖ You need to decode each key (row, column) to recreate the keys pressed to enter the command

✖ Limited character spaces and complex ROM /emulation interaction prevent simple solutions...

DM-15L IMPROVED DISPLAY (MOST BUT NOT ALL)

- New program mode adds 2-line view with opcodes above key codes

- 2-line view also available for normal calculator mode (X and Y Regs)

- Extra line also used to display Error message text

DM-15L FUNCTION PREVIEW / CANCEL

- 41C family feature to preview Fn name when holding down key (to confirm expected function) and then -> Null if you continue to hold a key is super handy and useful. We added this to the DM32, and liked it enough to add it to the DM15L as well
  - Complex as 15C does this already for 3 functions (who knows which?)
- Press / release - normal behavior
- Press / hold > 0.2 secs – preview Fn name while held down
- Press / hold > 2.0 secs – Displays "Null" and cancels operation

THANKS TO...

- Michael – for wanting more, dreaming larger and insisting on having fun
- David – for lonnnng days, brilliant solutions and significant patience!
- Emy – for help of all kinds and patiently laboring to keep us tech guys aware of arts and related things that really do matter
- Thomas Fänge and Meindert Kuipers for testing on the DM41X
- Thomas Fänge for details on the Blinky Module, enabling 41X support
- Joe, Gene, for continued work and testing (defense) on the DM32!
- Raul L. & Vincent Weber for DM32 testing and feedback (offense)

AND FINALLY....

Questions???