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**Intro:**
This is a small 'walkthrough' for **SpeedUI**, the modular and speedy user interface replacement for the HP-48 G series. Please note that this walkthrough shows visual components of different versions of SpeedUI. The actual displays may differ slightly depending on the version and SpeedUI components installed.

After installation, you will first see the new stack interface.

It has some enhancements over the most stack displays.
It displays the amount of memory left and indicates the ports status.
If you have a GX, it will show the bank count. That is, how many banks of 128K you have on your card.
It supports SysRPL object display and editing.
For more details, please check the [stack display status area description](#).

To modify some of the various options, just call the SpeedUI stack display configuration utility, **SETUPU**.
Valid keys are ▲ / ▼ for moving the highlight, ▸ or ▼ for selecting/deselecting an item, ON or CANCEL to cancel any changes and exit the setup utility. Pressing **ENTER** sets the chosen stack display modes, and exits the utility. Please note that SETUPU is deprecated, and should not be used anymore.
The central setup tool is **SETUPD** in UF.LIB, where all relevant UI settings can be made. Fast font and header switching is available through the QSM.

The 4567-level stack has EQ-Stk ability, also called 'pretty print', including fast scrolling for wider and/or higher expressions. The fast scroller can be invoked either right from the stack by pressing ▸+▲, or while in the interactive stack by pressing ◀. Active keys are ▲ ▼ ◀ ▶, and ON or CANCEL. The fast scroller will lit up the busy and both shift annunciators at the same time while running (▲ ▶)
This feature has been adapted from the JAVA stack display environment. Most SpeedUI components support the Universal Font Library (UFL), but will work with the built-in fonts, too. However only ULLIB needs an UFL lib containing at least FNT1 to run.

The 4567-level stack has System RPL display and editing capability.
For the SysRPL environment to work, you need to have JAZZ 6.8+ installed.
(This feature has been adapted from the JAVA stack display environment)
Please note: Pretty Print and SysRPL display support are only available in the "full" version of UI.LIB.
In the lite version of ULLIB (from 14.01 on), Pretty Print and SysRPL support have been removed (therefore lite;-)
Now consider you have just created the EXAMPLES directory by pressing TEACH, and recalled the directory to the stack by pressing EXAM. Did you notice how fast the object was recalled to the stack?

(The ML Decompiler has been adapted from the JAVA stack display environment)

Then press Q to start the SpeedUI editor. The editor will start next to immediately, _much_ faster than the built-in editor! Press the cursor keys to experience the scrolling speed! All keyboard actions are much faster than in the built-in editor. This includes cursor movement, scrolling, skipping text, deleting text, and everything else.

Now press NXT to activate the new 2nd menu page. Move the cursor to the start of the line consisting of 'j Sigma- OBJ-> DROP n', then press MARK. Then, press Q once, followed by pressing COPY once. These steps have copied the text between and including 'j' and 'n' to the clipboard. The clipboard can hold as many text passages as memory permits. Pressing PASTE will insert the latest clipboard entry into the currently edited text at the current cursor position. The LIFO flag determines whether the latest pasted clipboard entry will be deleted from the clipboard or not.

Now press CLK to start the clipboard browser. Here you can manage the clipboard contents.

Press ON or CANCEL to exit the clipboard browser.
Now press %CAT% to start the command catalog (The CAT menu key is available if CMD.LIB is installed).

The command catalog has a hotkey search feature, which lets you quickly jump to a command with a specific starting letter. Hotkey jumps are performed almost instantly if the SpeedUI CHOOSE replacement library is installed.

Press $ then the letter S to instantly jump to the first keyword starting with that letter. Pressing ENTER will echo the currently selected keyword to the editline at the current cursor position. Press ON or CANCEL to exit the command catalog without echoing.

While in the catalog, you can press PARM to start the parameter browser, which will show you all possible parameter combinations for a given keyword. Press ON, CANCEL or EXIT to exit the parameter browser.
SpeedUI adds some new display and input options to certain UI elements, like CHOOSE boxes or the full screen browser, and greatly enhances the available input options, like direct BINT entry, or automatic ALPHA lock when pressing certain delimiter keys.

To enable or disable the various options, just call the SpeedUI general configuration utility, SETUPB, either by pressing the backarrow key during a warmstart, or by name (if UF.LIB is installed).

Valid keys are ▲ / ▼ for moving the highlight, ◀ or ▶ for selecting/deselecting an item, ON or CANCEL to cancel any changes and exit the setup utility.

Pressing ENTER sets the chosen stack display modes, and exits the utility.

SpeedUI adds the ability to create and use input forms with five item rows instead of the usual four rows. The new general SpeedUI configuration input form (SETUPD in UF.LIB) serves as an example. This new feature will also work with the built-in form engine, as long as the SpeedUI shared library CF.LIB is installed.

The menu button MORE opens an input form which allows setting of various delays. Another press of the menu button MORE opens a choose box which allows to change settings like 1000's separator, oval menu display, and symbolc matrix display.

The picture to the right shows a CHOOSE box with 'more-to-come' indicators set to slider, and font set to medium size.

The picture to the far right shows the same CHOOSE box with font set to small size.

The comparison of the plot type choose boxes also shows the difference very clearly. Using the SpeedUI small font option, up to two more items can be seen at the same time.

The picture to the far right shows the same CHOOSE box with font set to small size.
The MODES menu is another example for the seamless integrated SpeedUI extensions. CHOOSE/Option fields yield a CHOOSE box using the selected font size and indicator.

Press ON or CANCEL to return to the MODES main screen.

If you have B3.LIB and FC.LIB installed, the normal flag browser will be replaced by my super fast flag catalog.

My flag catalog can also display the user flag settings, of course. System flags have a predefined description. Descriptions for User flags can be added within the Flag Catalog.

If you have B2.LIB installed, the normal character set browser will be replaced by my super fast charset catalog, which can display 128 chars at a time, has two charset pages, and features the same character echoing functionality as the built-in character set browser.

If you have EA.LIB installed, the normal MatrixWriter will be replaced by my super fast MatrixWriter, which can display up to seven item rows and up to six columns at a time. The new MatrixWriter starts using the same font size setting as for CHOOSE boxes, however font size can be switched between small and medium size while in the MatrixWriter.
If you have B3.LIB installed, the normal Memory Browser will be replaced by my super fast MemBrowser, which can display up to seven item rows at a time.
The new MemBrowser uses the same font size setting as for CHOOSE boxes.
MemBrowser features delete confirmation, and direct toggling between fast and detail item view.

Older versions (prior to 8.01) of B3.LIB worked with a fixed ‘char count per row’ constant for both medium and small fonts for historical reasons. All newer versions don't have this limitation.
Now full screen and windowed CHOOSE boxes of any width can display the maximum possible character count per row.

The picture to the right shows the SpeedUI Memory browser in full screen mode, font set to small size, and detailed view.

The picture to the far right shows the same display with the new dynamic char count adjustment.

The comparison of the right and the far right choose window shows the difference very clearly. All new B3.LIB versions will show much more information on the same row where possible, avoiding unnecessary short truncated displays as the previous versions did.
If you have UI.LIB installed, you'll have the option to create and manipulate system binary integers (BINTs) directly on the stack like ordinary numbers.

Additionally, there is a new sub-menu in the menu. Press , then , then to get into the BINTS menu. The functions in this menu let you convert a value between reals, user binary integers, and system binary integers.

Direct keyword help is available by pressing .

If you have UI.LIB installed, a new feature called Quick Start Menu (QSM) is available, which adds shortcuts to (suitable prepared) libraries, their main (or a customized) application by pressing or ENTER, or the chosen libs main menu by pressing the key. Use the key to toggle stack font size. Use the key to toggle stack header lines between full 2-line status, reduced 1-line status, and no status. Using the reduced 1-line status will allow up to 8 visible stack and edit levels, switching off the status area will allow up to 9 visible stack and edit lines.

The 2 entries 'CmdCat' and 'SpeedUI Edit Menu' are always available, the entry 'SpeedUI Setup' will be available when UF.LIB is installed. 'SpeedUI Setup' will always be the last list entry, so the user can reach it with the same number of key strokes. The other entries will be added dynamically when the appropriate libraries are installed. Each menu entry is defined by the individual library. Currently there are five external libraries (except CF, UF, and UI) customized by the author of SpeedUI which support the QSM mechanism: The Periodic Table Lib, the Input Form Builder, the MessageBrowser, the 3D TicTacToe game, and the author's GX version of the Zengrange HP-41CV emulator. The QSM can be invoked by pressing .
Pressing the *FNT* or *HDR* menu key once will exit the QSM, and then show a menu with the *FNT* and *THL* menu keys only. Each press of one of these keys will switch to the next font, in increasing font size order, or change the header line count between 0 and 2. The placement of the font/headerline togger in the QSM is meant as a keyboard shortcut. You can also use the UI.LIB library menu keywords *TFNT* or *THL* directly, or use the *FNT* or *THL* menu keys.

The small font will show very much information at the same time, up to 7 stack levels, and up to 33 chars per line. The other font sizes will show up to 6, 5, or 4 stack levels at 23 chars per line, respectively.

And when the header lines are switched off, at least one stack level more will be visible.

And this is the edit mode in each of the font sizes.
If you have the SpeedBrowser (SBC.LIB or SBUC.LIB) installed, you'll have the option to browse the Equation Library using the small font.

SpeedBrowser is much faster than the built-in full-screen browser.
There are two different versions of SpeedBrowser included here: SBC.LIB, which mimics the full screen browser 1:1, and SBUC.LIB, the ultra compact version, which is only 1.4KB in size. SBUC acts as a wrapper or translator for the Choose engine. When using SBUC, the Equation Library and all other programs which use the full screen browser will then show up using full screen Choose. Most key strokes are as before, except for shift+ENTER, which is not available in Choose so far.

If you have JAZZ v6.8+ and RPL.TAB installed, you'll get a SysRPL and ML display and editing environment.

You can choose to use either the SpeedUI editor (left pic) or TED (right pic), the editor supplied with JAZZ.

Please note that using the SysRPL environment uses much temporary memory due to the entries table (RPL.TAB). Also note that the SysRPL environment support is still in beta stage.
(This feature has been adapted from the JAVA stack display)
Please note: Pretty Print and SysRPL display support are only available in the "full" version of UI.LIB.
In the lite version of UI.LIB (from 14.01 on), Pretty Print and SysRPL support have been removed (therefore lite;-)

If you have the standalone version of RainEQ installed, expressions will be created and edited using the RainEQ editor environment.
Stack display status area:

Here's an example for a status area with all indicators lit, and time and date display.

The format is `mmmmmm G Rxx HLT 12345 USR A P [1] [##]`

- **m**  up to 6 digits of available memory (integer)
- **G**  or R for GRAD or RAD. If empty: DEG
- **Rxx**  POLAR or SPHERICAL mode. If empty: RECT
- **HLT**  HALT indicator. If on, there may be a suspended environment.
- **1-5**  State of first five USER flags. Lit when set.
- **USR**  1US, USR. Indicate USER mode state. Empty when NOT in USER mode.
- **A (ALG)**  Algebraic entry mode
- **P (PRG)**  Program entry mode

- **[1]**  Port 1 indicator. [1] means Port 1 is read-only.
- **<1>**  Port 1 indicator. <1> means Port 1 is read-write.
- **<-1**  Port 1 indicator. <-1 means Port 1 is merged.
- **[2]**  Port 2 indicator. [2] means Port 2 is read-only (S only).
- **<2>**  Port 2 indicator. <2> means Port 2 is read-write (S only).
- **<-2**  Port 2 indicator. <-2 means Port 2 is merged (S only).
- **[##]**  Port 2 indicator. ## indicates number of banks (G only).
- **<##>**  Port 2 indicator. <##> means Port 2 is read-write (G only).

Any questions or suggestions? Feel free to contact me. Have fun.

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