

SpeedUI

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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 **OFF** 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 UFLIB , 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 **OFF**. 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 UFLIB 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 UFLIB .

In the lite version of UFLIB (from 14.01 on) , Pretty Print and SysRPL support have been removed (therefore lite;-)

```

063626 <1><01>
[ HOME ]
0: 45
1: 78
2: 123
3: 45677
4: "SpeedUI"
5: "for HP-48G+/GX"
IOPAR CST

```

```

███ STACK DISPLAY CONFIG MENU ███
Alg. Font      Medium
EQ View        ON
Use TED        OFF
SysRPL Mode    OFF
Enhanced Stack ON
                                CANCEL OK

```

```



051579 <1><01>
[ HOME ]
0: 45
1: N
2: ∫ SIN(X)+2·cos(X-1)dX
3: 0
4: √X
IOPAR CST

```

```

053023 ←1 <01>
E20E50
[ HOME ]
0: % 45
1: % 78
2: % 123
3: % 45677
4: $ "SpeedUI"
5: $ "for HP-48G+/GX"
EXAM IOPAR CST

```

Now consider you have just created the EXAMPLES directory by pressing TEACH, and recalled the directory to the stack by pressing  . Did you notice how fast the object was recalled to the stack?

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

```

033645 <I><O1>
[ HOME ]
1: DIR
  VARNAME PRGS
  DIR
  VARNAME MEDIAN
  * RCLZ DUP SIZE
  OBJ-> DROP -> s n m *
EXAM | IOPAR | CST |

```

Then press  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.

```

027394 P <I><O1>
[ HOME ]
DROP -> s n m * 'ΣDAT' TR...
j Σ- OBJ-> DROP n
->LIST 50 %TILE j
ROLLO NEXT m ->ARRY
s STOΣ
<SKIP|SKIP> <DEL|DEL> INS | ↑STK


```

Now press  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 . Then, press  once, followed by pressing  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  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.



```

027394 P <I><O1>
[ HOME ]
DROP -> s n m * 'ΣDAT' TR...
j Σ- OBJ-> DROP n
->LIST 50 %TILE j
ROLLO NEXT m ->ARRY
s STOΣ
MARK | COPY PASTE | VCLP LIFO | CAT

```

Now press  to start the clipboard browser.

Here you can manage the clipboard contents.

Press  or  to exit the clipboard browser.

```

DELETED SELECTED ITEM(S) ?
"j Σ- OBJ-> DROP n"
"NEXT"
✓CHK | CANCEL | OK

```

Now press  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 **α** 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  to exit the command catalog without echoing.

While in the catalog, you can press  to start the parameter browser,

which will show you all possible parameter combinations for a given keyword.

Press **ON** ,  or  to exit the parameter browser.



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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 **OFF** to cancel any changes and exit the setup utility.

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

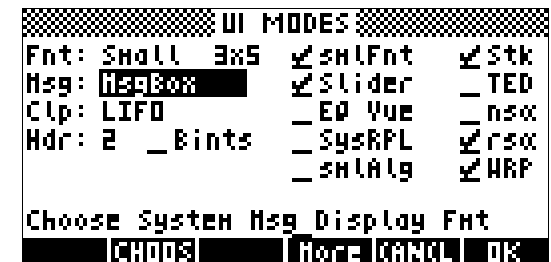


SpeedUI adds the ability to create and use input forms with five item rows instead of the usual four rows. The new general SpeedUI configuration input form (SETUPD in UF.LIB) serves as an example.

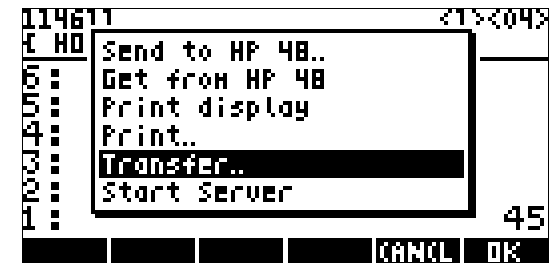
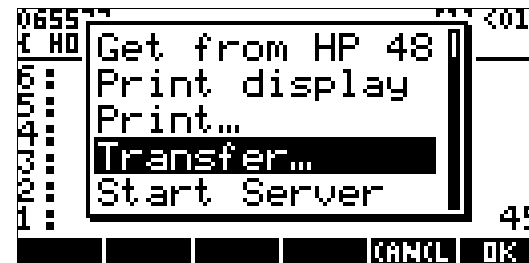
This new feature will also work with the built-in form engine, as long as the SpeedUI shared library CFLIB is installed.

The menu button **☰** opens an input form which allows setting of various delays.

Another press of the menu button **☰** opens a choose box which allows to change settings like 1000's separator, oval menu display, and symbolc matrix display.



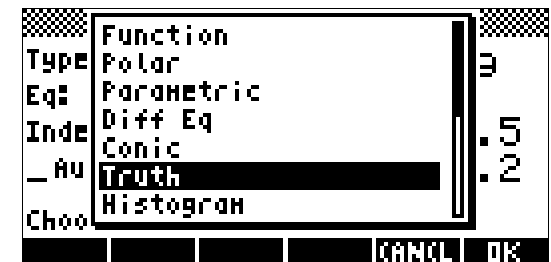
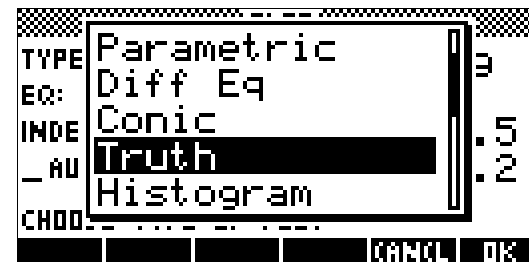
The picture to the right shows a CHOOSE box with 'more-to-come' indicators set to slider, and font set to medium size.



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

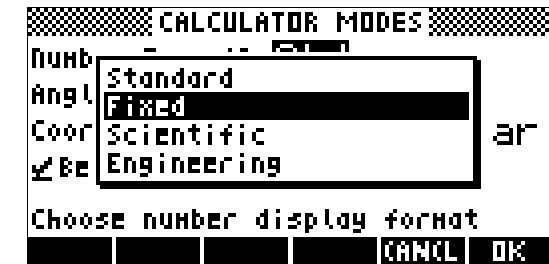
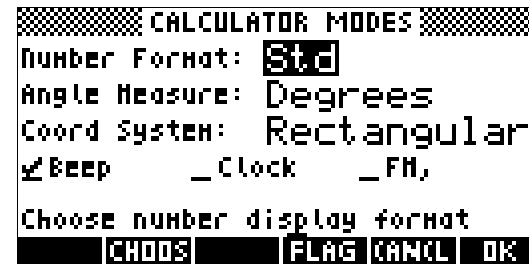
The comparison of the plot type choose boxes also shows the difference very clearly. Using the SpeedUI small font option, up to two more items can be seen at the same time.

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



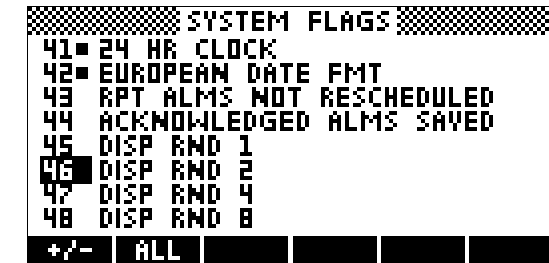
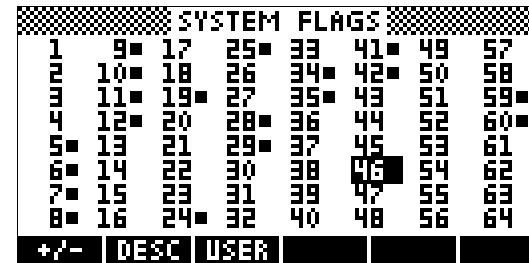
The MODES menu is another example for the seamless integrated SpeedUI extensions. CHOOSE/Option fields yield a CHOOSE box using the selected font size and indicator.

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

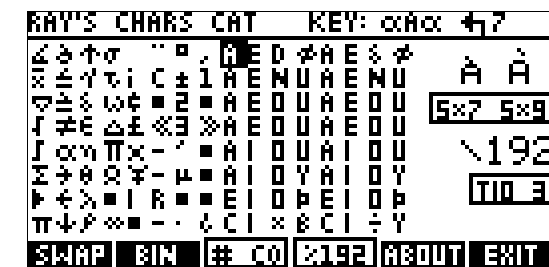
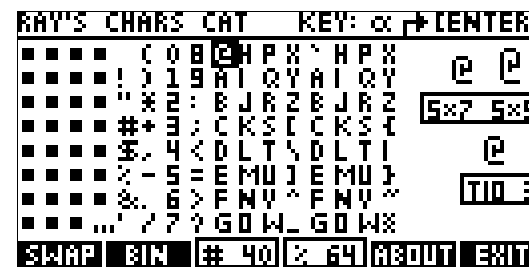


If you have B3.LIB and FC.LIB installed, the normal flag browser will be replaced by my super fast flag catalog.

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.

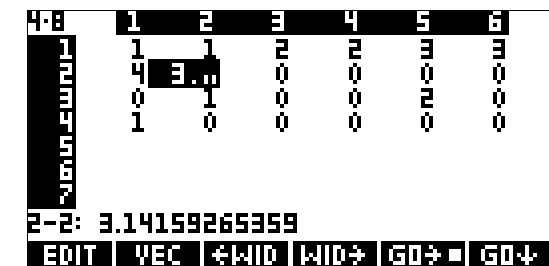
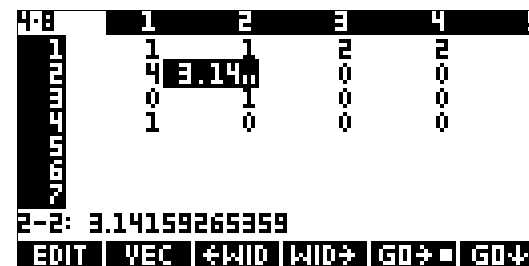


If you have B2.LIB installed, the normal character set browser will be replaced by my super fast charset catalog, which can display 128 chars at a time, has two charset pages, and features the same character echoing functionality as the built-in character set browser.



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.

```

OBJECTS IN { HOME }
PRG41
HP41XROM
HP41KEYS
✓HP41REGS
HP41STACK
✓HP41PAR
NON
EDIT CHOO ✓CHK NEW COPY MOVE

```

```

OBJECTS IN { HOME }
PRG41
HP41
HP41 PURGE SELECTED VAR(S) ?
✓HP41 HP41REGS
HP41 ✓HP41PAR
HP41
✓HP41PAR
NON
ALL NONE ✓CHK CANCEL OK

```

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.

```

OBJECTS IN { HOME }
M11: [ 1 2 3 4 5 ...
MPOP: XLIB 182 1
PPAR: { (-6.5,-3.1...
HP41START: HP41MODE
PG1404: ⌘ 1404 PGL...
FCL1.S: "LBL 'COUNT'...
ABC.S: "LBL 'ABC' ...
RCL PURG SIZE FAST CANCEL OK

```

```

OBJECTS IN { HOME }
M11: [ 1 2 3 4 5 6 7 8 9 10...
MPOP: XLIB 182 1
PPAR: { (-6.5,-3.1) (6.5,3.2) X ...
HP41START: HP41MODE
PG1404: ⌘ 1404 PGLIB⌘
FCL1.S: "LBL 'COUNT' PRBUF AD...
ABC.S: "LBL 'ABC' BEEP X<Y IS...
RCL PURG SIZE FAST CANCEL OK

```

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.

```

OBJECTS IN { HOME }
ABC.S: "LBL 'ABC' ...
PRG41: DIR= COUNT...
HP41XROM: DIR=END=
HP41KEYS: LIBRARY ...
HP41REGS: LIBRARY ...
HP41STACK: LIBRARY...
HP41PAR: { PRG41 H...
RCL PURG SIZE FAST CANCEL OK

```

```

OBJECTS IN { HOME }
ABC.S: "LBL 'ABC' BEEP X<Y IS...
PRG41: DIR= COUNT LIBRARY DA...
HP41XROM: DIR=END=
HP41KEYS: LIBRARY DATA
HP41REGS: LIBRARY DATA
HP41STACK: LIBRARY DATA
HP41PAR: { PRG41 HP41XROM H...
RCL PURG SIZE FAST CANCEL OK

```

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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 **MTH** menu.

Press **MTH**, then **NXT**, then **BI** 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 **→** + **▼**.

```

066401          [1] <01>
P HOME }
          45
          # 20h
          <20h>
PROB  FFT  CMPL CONS  BINTS

```

```

→I:  %|hxs  → #
→R:  #|hxs  → %
→H:  %|#    → hxs

```

→I →R →H

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 **Q** or ENTER, or the chosen libs main menu by pressing the **Q** key. Use the **Q** key to toggle stack font size. Use the **Q** 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 **→** + **←**.

```

1218P1          <1> <04>
C HD
6:  1.CmdCat
5:  2.Periodic Table
4:  3.SpeedUI Edit Menu
3:  4.SpeedUI Setup
2:  5.Input Form Builder
1:  6.HP41CV Emulator
          45
MENU  FMT>  HDR>  CANCL  OK

```


Pressing the  or  menu key once will exit the QSM, and then show a menu with the  and  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 toggler 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  or  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.

```
011871 <I>
{HOME}
-----
5:
4:
3:
2:
1:
"SpeedUI"
"for HP-48G+/GX"
-----
TFNT THL
```

```
111957 <I>
{HOME}
-----
5: 45
4: 78
3: 123
2: 45677
1: "SpeedUI"
"for HP-48G+/GX"
-----
TFNT THL
```

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

```
013428 <I>
{HOME}
-----
5: 78
4: 123
3: 45677
2: "SpeedUI"
1: "for HP-48G+/GX"
-----
TFNT THL
```

```
112965 <I>
{HOME}
-----
4: 123
3: 45677
2: "SpeedUI"
1: "for HP-48G+/GX"
-----
TFNT THL
```

And this is the edit mode in each of the font sizes.

```
091590 F <I>
{HOME}
-----
* APLY
  + a p
  + 1 CF a DUP SIZE DUP ..
== THEN 1 SF 1 + SWAP OBJ+
OBJ+ DROP 1 + ROLL ELSE DROP2
a OBJ+ END DUP OBJ+ DROP *
SWAP OVER 2 + ROLLD +LIST 1 p
-----
<SKIP> <SKIP> <DEL> <DEL> INS <STK>
```

```
084277 F <I>
{HOME}
-----
* APLY
  * + a p
  * 1 CF a DU...
DUP SIZE IF 1 ==
THEN 1 SF 1 + SWAP
OBJ+ OBJ+ DROP 1 +
-----
<SKIP> <SKIP> <DEL> <DEL> INS <STK>
```

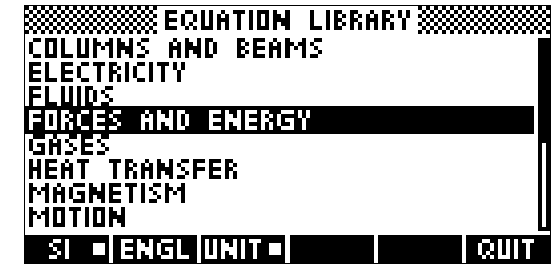
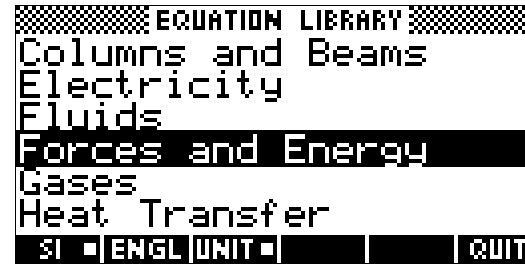
```
079967 F <I>
{HOME}
-----
* APLY
  * + a p
  * 1 CF a DU...
DUP SIZE IF 1 ==
THEN 1 SF 1 + SWAP
-----
<SKIP> <SKIP> <DEL> <DEL> INS <STK>
```

```
075805 F <I>
{HOME}
-----
* APLY
  * + a p
  * 1 CF a DU...
DUP SIZE IF 1 ==
-----
<SKIP> <SKIP> <DEL> <DEL> INS <STK>
```

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;-)

```
011895 P #1 <01>
[ HOME ]
::
  TakeOver
  # 402
  UNCOERCE
  InitMenu%
+ ;
MARK COPY PASTE VCLP LIFO CAT
```

```
{
  {
    { "RPL"
      {
        TakeOver
        # 402
        UNCOERCE
        InitMenu%
      }
    }
  }
}
```

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.

```
017618 GR22 HLT12345 USRAP <1><01>
.. HOME PRG41 1 30.09.07 04:17:53
```

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).

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

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