♦MoHPC♠   *The Museum of HP Calculators*

HP Forum Archive 14

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How many calcs do you have. (curious)

Message #1 Posted by Marc on 2 Dec 2003, 11:48 a.m.

I do have 3 HP48GX, 1 48G+, 2 32SII, and a 17 Bii.

Re: How many calcs do you have. (curious)

Message #2 Posted by Valentin Albillo on 2 Dec 2003, 11:57 a.m.,
in response to message #1 by Marc

Hi, Marc:

```
    Hewlett-Packard ...........  23
    SHARP ....................  45
    Tandy Radio Shack .........   4
    Casio ....................    1
    Assorted .................  10
    Slide rules ..............    1
                              ----
            Grand Total ...  84
```

Best regards from V.

Re: How many calcs do you have. (curious)

Message #3 Posted by Nick on 2 Dec 2003, 12:34 p.m.,
in response to message #2 by Valentin Albillo

Hello Valentin: I'm curious about the Sharp calculators you have. How do they compare to HP calculators? What models do you consider the better ones?
Thanks, Nick

Re: How many calcs do you have. (curious)

Message #4 Posted by [Gianmaria](#) on 3 Dec 2003, 1:42 a.m.,
in response to message #3 by Nick

Some of my HP calculators are pictured here: http://www.hpcalculators.net but many others aren't, I'm still too busy (or too lazy :-) to add more pictures. However the best I have is the HP-9100A, I like sometime to switch it on and play "Moon rocket lander", the software had been loaded from magnetic card more than one year ago and is forever present in the magnetic core memory (a true continuous memory!)

SHARP vs. HP comparisons [LONG]

Message #5 Posted by [Valentin Albillo](#) on 3 Dec 2003, 6:19 a.m.,
in response to message #3 by Nick

Hi, Nick:

Nick posted:

"I'm curious about the Sharp calculators you have. How do they compare to HP calculators?"

All the models I have but one are what they used to call "pocket computers" as opposed to "pocket calculators". As such, they usually are much faster than HP's, have much larger RAM, are programmable in an [advanced version of BASIC](#), have full I/O capabilities (even the smallest models), and boast larger, dot-matrix, alphanumeric and graphics displays, sometimes 2-line or 4-line, and support keyboard redefinition and assignment of program entry points and arbitrary definitions or sequences of characters to keys.

All can be programmed in [machine language](#) by using PEEK, POKE and CALL, all have 12-digit accuracy, all can recall the executed command line for re-executing it or edition at the touch of a key, all can insert the last result in the middle of a new computation, or continue an already executed expression.

IMHO, the main operational difference between "pocket computers" and "pocket calculators" at this level of price and size, is, briefly, that "pocket calculators" have very extensive preprogrammed capabilities but essentially poor programming capabilities (small RAM, slow, low-level language) while "pocket computers" have larger RAM, faster speed and high-level language, but less preprogrammed features, *unless* they are specialized models, which effectively provide the best of both worlds.

These specialized SHARP models, akin to the Voyager series, have been fine-tuned for such fields as business & finance (a la [HP-12C](#)), statistics, matrix operations (a la [HP-15C](#)), [CASL and statistics](#), and computer science (a la [HP-16C](#)), among other applications and fields. They do have the same advanced BASIC with the same base capabilities, but extended with their specialized functions set (say, IRR computation in the finance model), fully integrated with the BASIC language so you can use them in your own programs.

Some models also feature a separate "calculator mode", where you can use the machine as a typical algebraic calculator, albeit with a larger function set (hyperbolic, statistics, matrix operations).

Considering all the facts, it's difficult to see why HP models are usually considered 'the very best'. Take, for instance, the comparison between two financial models, the HP-12C and the SHARP PC-1421 (aka EL-5510 in the US).

- Both are more or less the same size, with the 1421 being slightly longer (6.7" vs. 5.1") but less wide (2.8" vs. 3.1") and also 50% thinner (0.4" vs. 0.6"), both weight more or less the same (5 oz. vs. 4 oz.), but the 1421 has a shiny, full metallic body with a slight golden tint.

- The 1421 has a fully alphanumeric, dot-matrix, 16-char LCD display, vs. the HP-12C's numeric-only, 12-char, segmented LCD.

- The HP-12C's keyboard is better, but that doesn't mean the 1421's is bad, quite on the contrary it's perfectly usable and long-term reliable as well.

- The SHARP-1421 is programmable in an advanced version of BASIC, including long variable names, two-dimensional arrays, string arrays, I/O commands including printing and serial I/O, multi-statement lines, easy program editing with insertion, deletion, and editing of whole lines, and can use up to 4 Kb for programs and data.

  Further, all BASIC commands and statements are internally tokenized, so that "INPUT", for instance, takes only 1 byte (not 5), which helps save RAM and improves speed. All financial statements and functions can be used in BASIC programs. Besides, it can be programmed in machine language if need be, or desired, or just for fun, without any add-ins. You can enter several programs at once and assing their entry points to specific shifted keys on the keyboard for immediate execution.

  On the other hand, the HP-12C is programmable in RPN keystroke language, no insertion or deletion of lines, no advanced programming features at all, not even subroutines (!). Programs can be 99 bytes long, and that's all. Machine language programming is out of the question, and not only can't you assign programs to keys, but it doesn't even have labels to mark their entry points.

- The SHARP-1421 is fully alphanumeric, and has a full QWERTY keyboard, including lowercase characters. The HP-12C has no alphanumerics whatsoever, so that even program steps have to be displayed as numeric keycodes, and neither inputs nor results can be labeled at all.

- The SHARP-1421 has complete I/O capabilities, can be connected to a printer, to a mini-tape recorder, and to arbitrary serial I/O devices, with full support from dedicated BASIC commands. The HP-12C has no I/O whatsoever, not even printing, which some business users could probably have a use for.

- The SHARP-1421 is *much* faster than the HP-12C, more than 20 times faster. Like the HP-12C it also has continuous memory, and like the HP-12C, it uses standard batteries (CR-2032) which last very long.

Considering all these facts, it's easy to see that the SHARP-1421 is, by far, the most powerful and arguably better handheld for business applications, capable of running very long and complex financial programs dealing with large amounts of data at great speeds, while labeling all inputs and outputs and

storing them on tape, sending them to a printer, or to a serial device.

Similar comparisons could be made between other HP models and their SHARP counterparts.

"¿What models do you consider the better one?"

It depends on whether you're considering them just for collecting purposes, only to use them, or both. Obviously, the very first models are much less powerful than the later ones, but they *were* the very best at their time, so the comparison would be unfair. Anyway, here's a commented selection of the ones I consider best:

- Specialized for business applications: the SHARP PC-1421 (EL-5510) is an incredible machine, the very best bar none.

- Specialized for statistics: the SHARP PC-1425 is to statistics what the 1421 is to business, another incredible machine with powerful statistic functions and data gathering and analysis features integrated with its BASIC language and up to 32 Kb RAM.

- Specialized for number-crunching: the SHARP PC-1475, it has a large 2-line x 24-char alphanumeric display, very fast built-in matrix commands and statements including inverse, determinant and system solving plus a convenient matrix editor to enter and edit them, up to 128 Kb RAM for BASIC programs and data, a separate calculator mode & keyboard, a very comprehensive array of math functions, plus it features double precision for variables and results, up to 20 decimal digits.

- General purpose: the SHARP PC-1262 is incredibly small (HP-15C size), metallic, has the same BASIC and I/O capabilities, 10 Kb RAM, 40 Kb ROM, 2-line x 24 char alphanumeric display, full QWERTY keyboard, comprehensive help menus, very fast.

- General purpose, large screen: the SHARP PC-1350 and PC-1360 do have a large 4-line x 24-char, fully alphanumeric and graphic display, including specific graphic BASIC commands and statements. They admit up to 20 Kb and 64 Kb RAM, respectively, by using small RAM cards in various sizes, which keep the programs intact even when removed from the machine. This allows you to have a series of long, complex programs and data stored on cards and swap them in and out of the machine in mere seconds. And to top it all, you can interface them to RS-232 devices large and small.

  For me, it is the most pleasurable machine to write programs in without using paper, because of its large display, which can show many statements at a time, plus full QWERTY keyboard. You can do amazing graphics and menus with it easily.

There are many, many other models worth mentioning, such as the ultra-capable, 2-processor, 80 Kb RAM PC-1600, the incredibly built-in library and ultra-fast speed of the 544 Kb RAM (!), 4x40 display PC-E500, the specific models for machine language programming such as the PC-E220, the superbly beautiful earlier models (like the PC-1211 pocket computer and the EL-5100 and EL-5101 (left) advanced calculators, which surely are the most beautiful advanced calculators in the world), etc, but this post would get even more unreasonably long, so let's stop here :-)

Best regards from V.