Recent HP Calculator "Changes"

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Introduction

I have been an "HP Watcher" since the very early 1970's. As a young electronics engineer I used HP test equipment, and I followed the HP oscilloscope vs. Tektronix oscilloscope "debate." Most engineers of the time "believed" that Tek scopes had the best triggering circuitry. Technical specifications aside it is often the belief of the customer that dominates the sale. If you believe that one product is better you will give it favor.

HP created the scientific (and business) calculator market in January 1972 (May 1973) and I became a "believer" when I received the first of its kind in July of that year[1]. Two years later a programmable model was offered and I became "a programmer." My only formal exposure to programming was a college Fortran programming course that required a room sized computer.

In June 1974 I started a calculator club and I have been an HP Calculator writer, editor, and publisher ever since. The calculator club (PPC) publications have faded into the sunset[2] and now the most common media of HP calculator user expression is the Internet[3] and the HP Handheld Conferences[4], HHCs. HHCs provide an annual snapshot of the accomplishments of the Hewlett Packard User Community, HPUC, in late September or early October. Users write papers and give presentations on all topics related to calculators and their usage. This conference material is also readily available from Jake Schwartz.

One of the most popular topics of interest to all of HP's calculator users is understanding the latest machines and wondering (and talking/writing) about what the future holds. Serious "HP watchers" will study what HP does, and listen to what HP people say about their products and policies. Legacy HP users will remember the "old days" when HP envisioned, designed, manufactured, and shipped their machines from a single location in the U.S. New, and much younger, users wonder what HP's reputation is really all about. The current HP Calculator Division[5], first described by GM Fred Valdez in 2002, operates under a new business model. Wing Kin Cheung took over after Fred retired in mid 2007.

The calculator market is under pressure from other products in the form of convergence and the last two years have produced rumors of R&D layoffs at other companies such as Casio and TI. Are technology advances causing the demise of the scientific, business, and graphing calculator? Will the current economic turndown speed this "end of life" process?

Did You Notice?

I will attempt to provide some insight and basis for exploring what HP is doing by reviewing HP's activities, new product announcements, and what they had to say/show at the recent Consumer Electronics

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1. *Described in substantial historical detail in "Remembering the HP-35A" at:*
   http://holyjoe.net/hhc2007/Remembering%20The%20HP35A.pdf

2, *All of PPC's publications have been scanned and organized on CD's by Jake Schwartz that are available at:*
   http://www.pahhc.org/ppccdrom.htm

3. *The primary (general) websites for the calculator Hewlett Packard User Community, HPUC, are:*
   a. *The HP Museum for older machines and a current dialog: http://www.hpmuseum.org*
   b. *The premier source of software for and information about the HP 50, HP 49, HP 48, and HP 28 RPN programmable graphic calculators and the HP 38G, HP 39, and HP 40 programmable graphic calculators, with 6963 files by 2096 authors and 2909 screenshots totaling 659.62MB http://www.hpcalc.org*
   c. *Usenet news group comp.sys.hp48*

4. *HHC 2000 to 2008 Conference websites http://holyjoe.net/hhc/*

5. *A Division, as defined by HP, has its own and profit and loss responsibility.*

Show. This is not a product review of the last seven months, but more of a "did you notice?" kind of review of five very recent HP "events."

1. HP's Connecting Your World – Berlin Germany

HP uses these kinds of large scale events to talk about their successes of the previous year, and showcase their plans for the coming year - they invite journalists from all over the world. This is a corporate event.

"June 10, 2008 - At the 'Connecting Your World' event in Berlin, HP is showcasing how it is advancing the latest trends in technology design, the mobile lifestyle and solutions for the home. The three-day event includes executive keynote addresses, industry panels and sessions, and demonstrations of new products and innovations that keep people connected."

Six new calculator products, as shown in figure 1, were announced in June 2008[6]. Our "review" starts here.

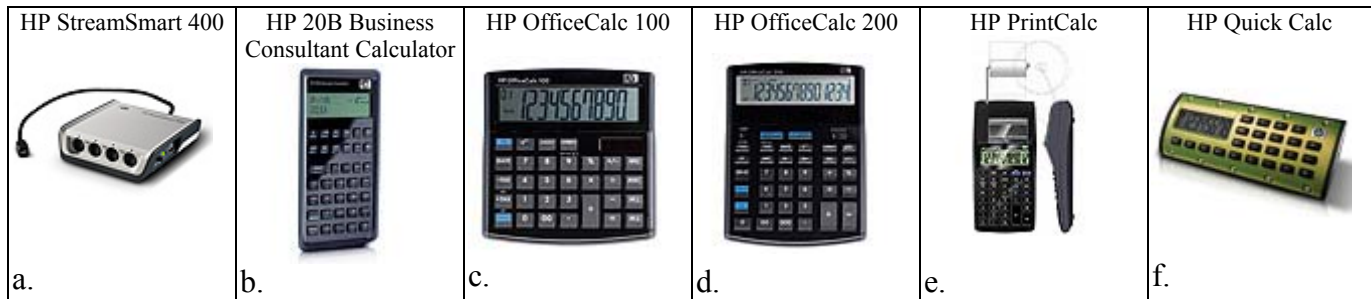| HP StreamSmart 400	HP 20B Business Consultant Calculator	HP OfficeCalc 100	HP OfficeCalc 200	HP PrintCalc	HP Quick Calc
a.	b.	c.	d.	e.	f.

Fig. 1 – Six calculators announced at the HP Connecting Your World Event on June 10, 2008 in Berlin Germany.

a. **StreamSmart 400:** This is no surprise as we have had progress reports of the Data Streamer at two previous HHC's. The name was changed to HP StreamSmart 400. Notice that all of the "new" products have names that break from the traditional HP model numbering scheme. The new convention seems to be as follows:

   (1) All names begin with HP.
   (2) Next comes a product category more clearly seen in d – e above.
   (3) The name is stylized with the category as a word starting with an upper case letter followed by Calc – if it is a calculator.
   (4) A model number. Is the model number 400 because there are 4 channels?

b. **HP20b:** This a brand new, exclusively HP designed, calculator that pushes the technology envelope with two means of I/O[7]. In order for HP to offer the HP20b at the low cost of $40 other aspects of the keyboard and display had to be compromised. The styling of the sloped keys, raised keyboard edge, and over all appearance more closely resembles HP archetype calculator case design.

c. **OfficeCalc 100:** This is a low end general purpose calculator that is suitable for the purpose suggested by its name. Why is HP making this type of calculator? One speculation at the time was that HP was trying to squeeze as much out of the calculator business as possible – not accurate. More on this later.

d. **OfficeCalc 200:** This is similar to the HP OfficeCalc 100, but has a larger number capacity, 14 digit display vs. a 10 digit display.

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6. *The six new calculator product announcements may be found at:*
   http://www.hp.com/hpinfo/newsroom/press_kits/2008/connecting/calculators.html

7. *An over view of the HP20b and its unique ability of being re-programmed at the FLASH ROM level, "Interfacing To The HP20b", may be found at:* **http://holyjoe.net/hhc2008/Interfacing%20to%20the%20HP20b%20V3.pdf**

e. **PrintCalc:** An HP portable printer? Does this mean that HP believes that battery powered printers are still useful? I don't have one to test, but I will bet that the logic system (the data sheet is incorrect) is the same as the Quick Calc and OfficeCalc 100 & 200. See the text in the next paragraph.

f. **Quick Calc 10:** This general purpose four function calculator has a magnet on the back so that it may be stuck to your refrigerator. Called the "math bar" by some young users[8] it uses arithmetic logic in spite of what the HP data sheets says. "**Entry-system logic**   Algebraic" This model naming scheme breaks from what I described above because it was "in process" during the time the new system was being defined. There probably should not be a space between Quick and Calc. Another guideline for a calculator's name/model number is (officially) what ever is on the calculator itself. There is a space between the two words on the calculator itself. The model number of HP 10 is also on the back of the calculator. Every good rule set must have an exception and the Quick Calc illustrates this.

Each HHC 2008 attendee received a Quick Calc. Sam Kim of HP said that the original design used Allen screws for the ten screws (five along the top and bottom of the machine). They were too expensive, however, for the final design to meet the cost target. Someone should research a source for Allen Hex Key screws and order a bunch for people to customize their machines. The quick Calc really looks cool with Allen Hex Key screws. Is there hope for an RPN version? See the Conclusion.

2. HHC 2008

September 27 & 28 in Corvallis Oregon. This HPUC event has been facility hosted by HP for the last two Conferences. HP has been very honest and forthcoming in discussing its products and policies. At HHC 2008 everyone received HP20b and Quick Calc calculators. A significant point related to the Conference is that HP was advertising two open software positions[9] and we have learned that they have filled one of these positions with a Conference attendee. You may see him in figure 47[9]. Even with the economic slowdown the second position is still open as of this writing in February 2009.

3. Consumer Electronics Show, CES

January 7-11 2008, Las Vegas Nevada. This was another HP Corporate Event and three new calculators were announced[10]; the HP OfficeCalc 300, HP EasyCalc 100, and HP SmartCalc 300s.

CES is a really great show because you are exposed to thousands (2,700) of consumer electronics manufact-urers during the four exhibit days. Most importantly this means that you get first hand exposure and information on competing products.

A process that I often use is to first check out HP's Calculator booth, go visit the rest of the show, and then check back with the HP folks better informed to be able ask lots of questions based on what I had seen.

Fig. 2 – HP CES 2009 calculator booth show case.   *JGS*

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8. *Jake Schwartz has three middle school aged children and he keeps his HHC 2008 HP gift of the Quick Calc on the refrigerator. His kids call it the" math bar" because it resembles a candy bar.*

9. *See the Conference Report including a copy of the Software Design Engineer position description in Appendix G, page 31.* **http://holyjoe.net/hhc2008/Conference%20Report.pdf**

10. *HP CES press announcement"* **http://www.hp.com/hpinfo/newsroom/press/2009/090106xa.html**

One CES vendor was demonstrating a new more efficient packaging method to eliminate the tough thick clamshell plastic packaging used for HP's calculators. Returning to the calculator booth I asked about HP's packaging. I was told that they are in the process (in two steps) of converting their packaging and they had samples to show. Figure two shows the two step packaging examples. The intermediate version is on the left.

Figure two also shows a plastic holder on the counter top with a new shirt pocket "slim Jim" z-fold (P/N 4AA2-027BENUS, December 2008) color brochure of all of HP's 19 current calculator products. See figures three and four.

I talked to Enrique Ortiz, HP Business Development regional Manager Latin America, and he gave me an HP calendar poster (in Spanish). He had given me the first one he printed at CES 2008 last year. The 17" x 22" poster is shown in figure six. It features the Quick Calc, Print Calc 100, Office Calc 100, Office Calc 200, HP50g, HP 17bii, & HP 20b. Also note that the new product model designations are not strictly followed. This year I showed him the 2009 Calendar of HP Personal calculators[11].

Fig. 3 – New four page z-fold Product guide.

Note Categories ——→

(19 Products)	Basic Math	Advanced Math & Science	Engineering	Business & Finance	General use	Office and Retail	On-the-go
10bll				•		•	
20b Business Consultant				•			
12c series (2)				•			
17bll+				•			
10s	•						
SmartCalc 300s	•						
35s	•	•					
39gs/40gs (2)	•						
48gll	•		•				
50g	•		•				
StreamSmart 400	•						
Quick Calc	•				•		•
EasyCalc 100	•				•		•
OfficeCalc 100/200/300(3)	•				•	•	
PrintCalc 100	•				•	•	

Fig. 4 – Table (panel 6) showing all of HP's calculator products.

I also noticed a new and simpler HP logo. Note that the phrase "invent" and the surrounding blue rectangle are no longer used.

Fig. 5 – New HP Logo.

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11. See "2009 Calendar of HP Personal Calculators" details at: **http://holyjoe.net/hhc2008/hhcnews.htm**
For calendar photos see: *http://pahhc.org/2009/Calendar.htm*

Examine figures three and four again. Did you notice a major change in HP's calculator product line? Hint; the marketing tag line in figure three. Hint: The categories shown in figure four.

4. You Tube Interview

This is related to and probably should be part of the CES event. Gene Vicino was interviewed during the CES Show and you my watch the short video here.

http://www.youtube.com/watch?v=dYUrXii-Cy0&feature=channel_page

Pay close attention to what and how he describes the three CES announced new products[12]. I will comment more on this later.

5. New HP posters

HP has just published two new posters. See figures seven and eight. The calculator poster shows the HP 12C platinum, HP 20b Business Consultant, HP 35s Scientific Calculator, HP 39gs Graphing Calculator, HP StreamSmart 400, HP OfficeCalc 100, and the HP Quick Calc.

Fig. 6 – Latin America HP calculator calendar.

Are you starting to notice the now not-so-subtle changes that the HP Calculator division is experiencing under Wing's leadership? The two posters say it all.
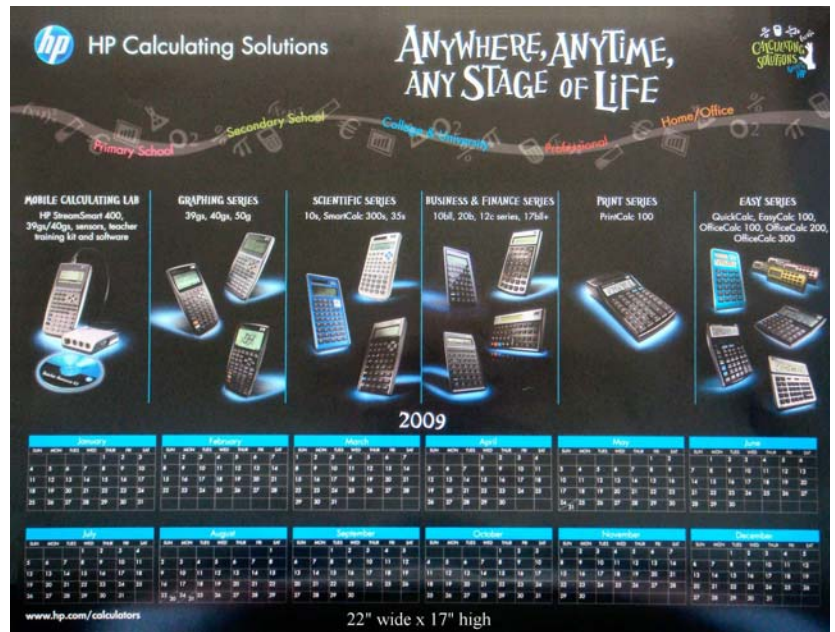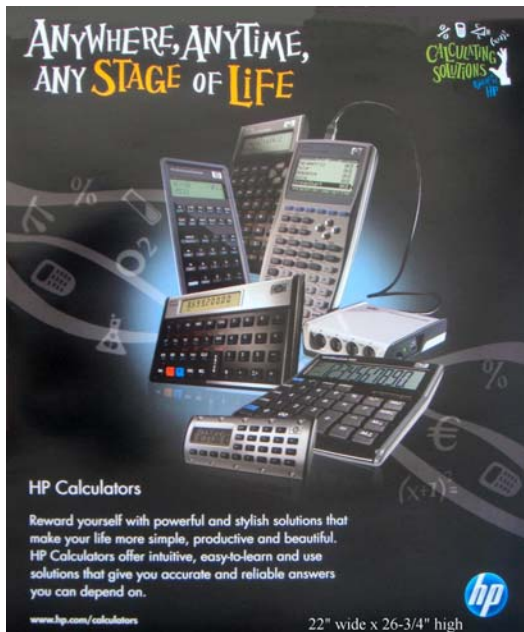

Fig. 7 - New (late January) HP Calc. poster.   Fig. 8 – HP 2009 Calendar poster. Study very closely.

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12. *Solar powered? What does this mean? There are three obvious ways to make a solar powered calculator. (1) Add a solar cell (often ineffective) to the calculator with a battery. (2) Add a solar cell and "electronically" switch between the solar cell and the battery. (3) Add a solar cell and use a rechargeable battery. A battery is needed to protect memory when the calculator is "off" or there is inadequate light. An "effectiveness test" for a solar "powered" calculator is to remove the battery and see if the calculator works in normal room light. We removed the battery on one of the new products, not the OfficeCalc 300 (the problem was the display security and access to the battery compartment) and it worked just fine with just the show floor lighting.*

Observations

Wing took over the HP Calculator Division (a division has its own profit and loss responsibility) in September 2007 and we met him in Rancho Bernardo (San Diego) at HHC 2007. He appears in our HHC 2007 Conference photo[13].

Large companies like HP tend to be very conservative because of their "deep pockets." They carefully plan what they say and do because the stakes are very high. The largeness also means that there is an inherently slow response to major (planning/planned) changes. I see some of the changes I am describing to be major changes.

Over all you can see that HP is broadening their calculator line for all stages of life - officially: "any stage of life." This puts them more in the same category as Casio, TI, and Sharp. Nine products have been introduced in the last seven months. Two of these (HP 20b, & StreamSmart 400) have obviously been in development for a long time, probably before Wing took over.

Did you notice in the video that HP Gene Vicino mentioned the stages of life with respect to the new CES announced machines? Look across the top of the calendar poster. Since a calendar denotes the passage of time it makes sense that the "Any Stage" tag line be matched up with a life stage of people from student to the home/office.

Also note the new grouping of their 19 products in figures four and eight. All of these event observations point out the increased marketing effort that HP is making – even in a lean and mean calculator division that now exists.

Conclusions

News reports and HPUC rumors have abounded during the last two years that Casio[14] and TI have cut back on their R&D staff. HP has hired previous TI people. The calculator market is more and more being described as a mature/saturated market by analysts. The HP Calculator Division is hiring and slowly growing.

HPUC legacy users complain about rebranding and worry that HP is not as strongly committed to the calculator business because of an apparent lack of leadership with new visionary designs. The HP 20b is a good recent example of visionary leadership. Is this a sign post to the future?

I believe that the five recent events examined here provide an increasingly clear image that even in the present down graded economy HP is going forward when others seem to be hesitating. The apparent popularity of the Quick Calc even provides hope of a low end (low cost), very basic, RPN calculator.

With this in mind, and an HHC 2009 Committee selected (same as last year), this year is starting off to be even more interesting than most. These events should also provide an inspiration for an HHC 2009 theme. Stay tuned.

Richard J. Nelson
February 6, 2009

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13. *See the HHC 2007 Conference photo at:* ***http://holyjoe.net/hhc2007/*** *Wing is the third from the right behind Annie.*

14. *See a specific news report regarding Casio that explains why at:* ***http://holyjoe.net/hhc2008/Casio%20To%20Phase%20Out%20Calculators.pdf***