

Users and HP-41 Batteries – A bit of HP-41 History

Richard J. Nelson

I have had the incredible experience of being very close to the Hewlett Packard Calculator User Community since its beginning. Many of the very early users are still active and interested in HP Calculators today, some 37 years later. Because of my interest and involvement in nearly all aspects of HP calculators – design, support, analysis, research, marketing, evaluation, and organizing the HP calculator user community - I have had the opportunity and privilege to have HP staff and users alike share their experiences with me.

One prominent HP User who was eventually hired by HP, and still works for HP, is William C. Wickes. I am now retired, and I am unpacking over 15,000 pounds of HP documents. These include well over 100,000 pages of letters and notes. I will not get to these for some time, but as I unpack the many hundreds of boxes of books, brochures, and owner's manuals, I am finding a few documents that catch my attention, especially if they are related to the HP-41 on its 30th anniversary. This snippet is one of these. It is a scanned letter from Bill to HP just a little over a month after the HP-41C was announced. This is before email and the Internet. I don't remember the source of the red underlining.

Bill had purchased an HP-41C Calculator and he was concerned about the claims of battery life being made by HP. If you have met Bill you will recognize how up set he is and how constrained he is in this letter – he is obviously very concerned that HP is not living up to his high expectations of quality and professionalism.

While the letter is specifically about battery life 30 years ago it represents basic issues HP calculator users are concerned with today – reliable use of their machines under a diverse set of user situations.

HP is a different company today, yet the user issues remain unchanged. We expect a company of quality to be better and more sensitive than its “me too” competitors. Simply put, we want to be recognized.

The history of the HP-41 external power connection is well known, and you may get most of the details from Geoff's HP calculator restoration book to be seen at HHC 2009.

One of the objectives of an HHC Conference is to express and document our concerns and to have HP remember them - and consider them when they design new products. The old adage, “If it isn't broke, don't fix it” expresses what we desire.

I have watched many management teams of HP Calculators come and go. I have seen many new products grow from idea to product, and the HP-41 is a prime example. In the many decades of seeing this activity up close and personal I feel compelled repeat an observation I made many years ago.

HP users are constant in their needs; it is HP that is always changing in its perception of those needs.

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Hewlett-Packard
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Gentlemen:

As a serious user of programmable calculators, and as a previously loyal and contented consumer of Hewlett-Packard products (HP-45, -65, and -67), I am appalled at the double blunder HP has committed in the design of the battery system for the HP-41C and its card reader. The first blunder consists of the choice of expensive, non-rechargeable batteries that are devastated by the card reader; the second is HP's egregious failure to warn its dealers and customers of this effect.

The HP-41C is vaunted as a calculator which requires so little battery power that rechargeable batteries are unnecessary. The card reader is quite properly advertised as a powerful device to expand the capability of the calculator. Certainly, no serious programmer would consider buying the HP-41C without the card reader. I have read the owner's handbooks for the calculator and the card reader; I have talked to dealers; I attended a special seminar on the HP-41C given by HP, at its Rockville headquarters, for the local PPC chapter. In none of these was there any mention whatsoever of the effect of the card reader on battery life. At the seminar, I asked Mark Williams, the HP representative presenting the talk, about this question: he estimated that "moderate card reader use might reduce battery life to about 6 months." I was therefore astonished when after about 2½ weeks of comparatively limited card reader use, the reader failed due to low battery power. By "comparatively limited", I refer to the fact that I haven't even begun serious use of the calculator since the lack of memory modules makes it impossible even to use most of my HP-67 programs. I estimate a total card reader use of less than 200 tracks. My astonishment was increased by my subsequent telephone conversation with an HP applications engineer who assured me that such performance was consistent with her use of the HP-41C. Other PPC members apparently share my sense of betrayal as they find themselves owners of calculators with an unexpectedly voracious appetite for those tiny little batteries with the full-size price.

Disregarding the surprising lack of thought implied in the design of such a system, I believe that it is not an exaggeration to suggest that Hewlett-Packard has been guilty of a serious misrepresentation in its total failure to publicize the complete facts describing HP-41C battery performance. To remedy this situation, and perhaps to regain some of its customers' confidence, I suggest that Hewlett-Packard take the following steps:

1. HP should immediately issue a statement describing the exact effects of card reader use on HP-41C battery life, including estimates of the number of tracks that can be read with a single set of batteries, and a warning that the estimates of 9-12 months battery life are misleading and irrelevant for card reader users (and furthermore that the BAT annunciator is useless, since it does not warn of impending card reader failure). This statement should be made through all HP dealers and representatives, and included in Keynotes and in the Corvallis Division Column in the PPC Journal. The written articles should contain a serious apology, and should not be written in the usual self-congratulatory hype characteristic of Keynote articles.
2. Also in the Keynotes and PPC Journal articles, HP should provide the necessary information for users who wish to construct their own external power supplies, in the absence of a proper HP-constructed AC adapter. Such information should contain a description of the required voltages and currents for external batteries and/or AC converters, plus any necessary warnings concerning the use of the side plug on the calculator with or without the internal N cells. If possible, HP should make available the (male) plugs that fit the HP-41C.
3. For long-term solutions, HP should develop a rechargeable battery pack that will fit in the calculator in place of the N-cell package. Operation capability similar to that of the HP-67 would be quite acceptable. HP should also hasten to assure us that the forthcoming AC adapter mentioned in the owner's manuals will be capable of driving the card reader without depleting the batteries (otherwise, what is the point of having the adapter, one wonders). I suspect that it won't, since the manual describes the adapter as for "use with the batteries," implying a low current capacity. The rechargeable system would be provided at cost to HP-41C card reader owners who purchased their devices before the publication of the statement described in paragraph 1 above, a way of compensating for the misrepresentation.

Such steps may be unusual and certainly unprecedented for Hewlett-Packard, which has a deserved reputation for carefully designed products and conscientious customer support. However, in my experience, Hewlett-Packard has never before done its customers a disservice of comparable magnitude. I am confident, by virtue of that reputation, that Hewlett-Packard will take some measures similar to what I suggest, if they have not already begun to do so.

Sincerely,

William C Wickes

William C. Wickes
Assistant Professor of Physics

WCW:res

cc: PPC