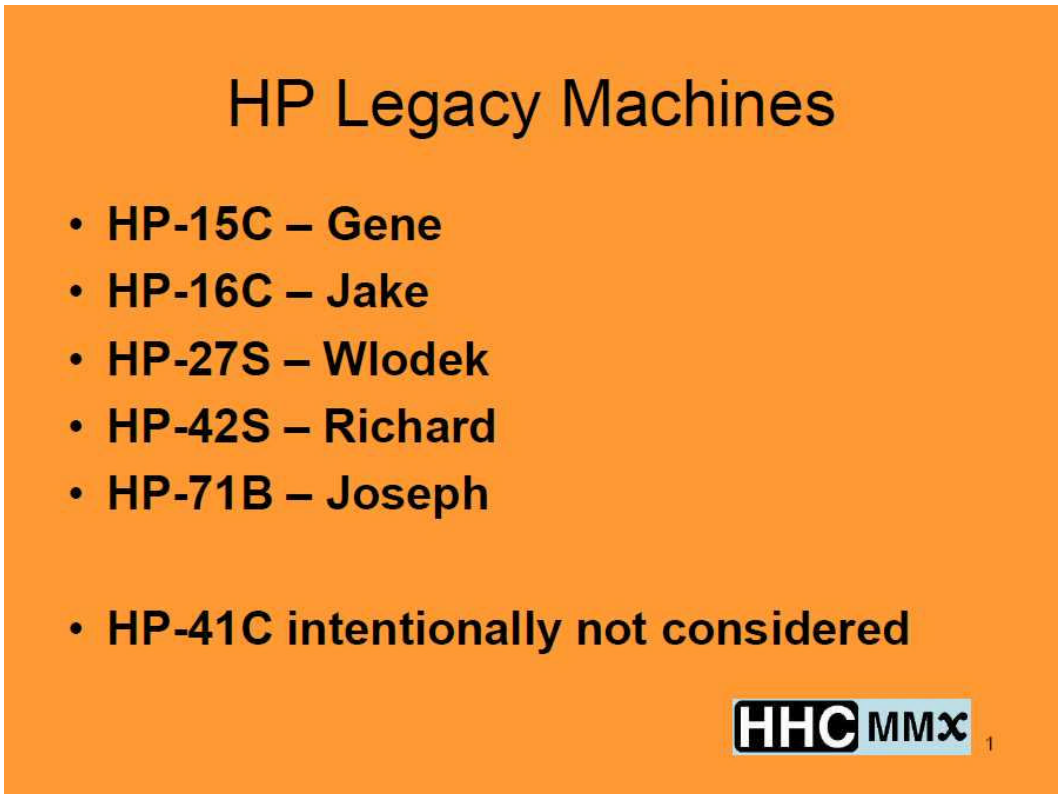
HHC MMX Legacy Machine Survey

Richard J. Nelson

Watching the registered HHC MMX attendee Registrations I became concerned with the number of formal speakers. A few months after the conference was announced I became concerned that it would be a worthwhile event – at least to my standards. I received inputs like, "We will be happy with the increased fellowship time," and "We don't need artificially created talks." As it turned out we didn't have time for several presentations and demonstrations so "all is well that ends well." Being responsible for the technical program I reviewed the last five years of conference comments to determine what unresolved topic might be a useful topic to add to the program.

We have been educated by HP at previous conferences in the real world of HP calculator design and the constraints they have in terms of the technology and resources available to them for producing new machines. A color display, for example, doesn't seem to offer a real advantage for a normal calculator. Most HHC attendees will remember the early issues of the present HP calculator epoch in terms of not having the Saturn microprocessor available for future models. Some of HP's machines are emulations of this processor.

The idea that a present model could be "reprogrammed" to have it behave like a past model is a very old idea and many past talks has used this idea. In fact the new 20b and 30b machines are actually designed to be "repurposed" and a demonstration of how this is done was given at the Conference as one of Tim's presentations. From a resource and investment perspective it would be quick and easy for HP to bring back an older legacy machine model, and I proposed to the Committee that we, all five of us, present our favorite model with its pros and cons. We would then pass around a survey to the attendees to be able to provide some hard data on this topic. The Survey is copied as Appendix A. The opening Power Point slide is copied below.



The purpose of this document is to provide the results of the HHC MMX survey. It should be pointed out that even though the survey presentation was the very first talk there are always multiple demands on an attendee's time. As a result some questions were not answered or intentionally skipped. For this reason certain results won't seem to "add up." Survey tally numbers are shaded and in brackets.

I numbered the surveys 1 to 38 for reference. There were five "missing" surveys (43 registered attendees) but a couple of people came only on Sunday and in the confusion of packing up a couple of people could have forgotten to turn in their surveys.

The first question was intended to set the scene for the usage background of the responder.

0. Which machine(s) have you owned or used? . . . . . ☐ 15C ☐ 16C ☐ 27S ☐ 42S ☐ 71B

Zero boxes checked - [8].

One box checked: 15 – [4], 16 – [1], 42 – [1].

Two boxes checked: 15, 42 – [2], 16, 71 – [1], 42, 71 – [3], 16, 42 – [1], 27, 71 [1],

Three boxes checked: 15, 16, 42 – [3], 16, 42, 71 – [1], 16, 27, 71 – [1], 15, 16, 71 – [3].

Four boxes checked: 15, 16, 42, 71 – [3]

Five boxes checked: - [6].

Tally of machines owned or used by model: 15 - [14], 16 - [15], 27S - [3], 42S - [15], 71 - [14],

The total machines owned by the 38 respondents are 61.

The next survey sentence was for information only but three people put a model number after it.

Which calculator would you like HP to bring back because you would find it the most useful?

Three people wrote model numbers at the end of this sentence, one each for HP-15C, HP-16C, & 41CX.

The next question is intended to determine the most popular model.

1. Which machine should be brought back FIRST? . . . . ☐ 15C ☐ 16C ☐ 27S ☐ 42S ☐ 71B

15 – [29], 42 – [7], 16 – [1], 27 – [1]

2. What price would be willing to pay for your FIRST choice? $ _____

The HP-15C FIRST choice pricing ranged from $ 35 to $ 120. If a range was given the average was recorded. The average of all the survey prices is: $ 72.22. Below is the tally.

$ 35 – [2]	$ 60 – [2]	$ 95 – [1]
$ 40 – [3]	$ 75 – [4]	$ 100 – [8]
$ 50 – [2]	$ 80 – [3]	$ 120 – [2]

The HP-42S FIRST choice pricing ranged from $ 75 to $ 120. If a range was given the average was recorded. The average of all the survey prices is: $94.00. Below is the tally.

$ 75 – [2]	$ 100 – [2]	$ 120 – [1]

The single HP-16C FIRST choice pricing wasn't provided.

The single HP-27S FIRST choice pricing was $ 75.00.

3. Which machine should be brought back SECOND?. . ☐ 15C ☐ 16C ☐ 27S ☐ 42S ☐ 71B

42 – [12], 16 – [8], 15 – [4], 71 – [4], 27 – [1]

4. What price would be willing to pay for your SECOND choice? $ _____

The HP-42S SECOND choice pricing ranged from $ 60 to $ 150. If a range was given the average was recorded. The average of all the survey prices is: $95.42. Below is the tally.

$ 60 – [1]	$ 90 – [2]	$ 120 – [2]
$ 65 – [1]	$ 100 – [3]	$ 150 – [1]
$ 75 – [2]		

The HP-16C SECOND choice pricing ranged from $ 40 to $ 120. If a range was given the average was recorded. The average of all the survey prices is: $84.38. Below is the tally.

$ 40 – [1]	$ 75 – [1]	$ 100 – [3]
$ 60 – [1]	$ 80 – [1]	$ 120 – [1]

The HP-15C SECOND choice pricing ranged from $ 50 to $ 75. If a range was given the average was recorded. The average of all the survey prices is: $84.38. Below is the tally.

$ 50 – [1]	$ 75 – [3]

The HP-71B SECOND choice pricing ranged from $ 50 to $ 200.00. If a range was given the average was recorded. The average of all the survey prices is: $ 133.33. Below is the tally.

$ 50 – [1]	$ 150 – [1]	$ 200 – [1]

The single HP-27S SECOND choice pricing was $ 120.00.

5. Which machine should brought back THIRD?. . . . . ☐ 15C ☐ 16C ☐ 27S ☐ 42S ☐ 71B

42 – [6], 16 – [5], 27 – [5], 71 – [4], 15 – [1]

6. What price would be willing to pay for your THIRD choice? $ _____

The HP-42S THIRD choice pricing ranged from $ 40 to $ 150. If a range was given the average was recorded. The average of all the survey prices is: $ 97.00. Below is the tally.

$ 40 – [1]	$ 100 – [1]	$ 150 – [1]
$ 75 – [1]	$ 120 – [1]	

The HP-16C THIRD choice pricing ranged from $ 40 to $ 120. If a range was given the average was recorded. The average of all the survey prices is: $ 97.00. Below is the tally.

$ 40 – [1]	$ 100 – [1]	$ 150 – [1]

$ 75 – [1] $ 120 – [1]

The HP-27S THIRD choice pricing ranged from $ 40 to $ 60. If a range was given the average was recorded. The average of all the survey prices is: $ 50.00. Below is the tally.

$ 40 – [1] $ 50 – [2] $ 60 – [1]

The HP-71B THIRD choice pricing ranged from $ 75 to $ 150. If a range was given the average was recorded. The average of all the survey prices is: $ 131.25. Below is the tally.

$ 75 – [1] $ 150 – [3]

The single HP-15C THIRD choice pricing was $ 75.00.

7, 8, & 9. What is the primary disadvantage of your FIRST, SECOND, & THIRD choice? _____

The responses to these three questions didn't provide any additional information other than the obvious older model shortcomings of too small display, too short display, too little memory, and no I/O.

10. Feel free to provide any comments you may have on this concept. Your name is optional.

All survey responses are copied here.

1. Correct bad bugs, increase memory, increased speed is assumed.

2. The HP-15C is only viable machine; others would require substantial new engineering. The HP-16C has too small a market.

3. Prices in Europe are the same.

7. I want an HP-16C but market is better for the HP-15C and HP-42S.

8. It may be cheaper to do a modern machine; A 71B with blue tooth, USB, and a big multiline display.

9. Put functionality into an HP-35s package, R⇄P, conversion on primary keys.

14. The HP-15C and HP-16C are special and powerful with programs to bridge from your mind to Excel for calculations.

18. The HP-15C and HP-16C should have minimal cost based on the HP-12C+.

19. There was a reason these were discontinued. Sadly these reasons still exist in the world at large. A "collectors edition" might still be profitable.

20. Add memory, dot matrix, off line storage.

21. The HP-15C would probably sell the best. Kill the 35s, add 25s mode and you would clean house. The HP-41S would be great, but if going that far put all modules in memory, add printers (new), etc.

22. I won't buy unless it is 41, 15, or 48 layout with 41prefeered 5:1. I bought a 300s, horrible keyboard layout makes it useless.

24. The HP-15C does provide what an engineer really needs for a calculator (Solve, Integrate, Complex). Lack of memory is not so much of an issue since large problems since a computer is usually used. The HP-15C is good for quick and dirty calculations.

28. The HP-15C and HP-16C had nice aesthetics

30. If memory is added I/O is a must. Scientific calculators **require** clocks.

31. all professional machines I/O, and USB with power is great. However, for the HP-15C I don't think I/O is a make or break feature. It's good enough as a stand-alone device and this means it could be used in exams. This is a good advantage.

33. The HP-15C would be great nearly as is with more memory and alpha. While I like the HP-42S I really would prefer a new RPN model with a number of improvements, along the lines of the many concepts presented at MoHP.

26. I still think better than exhuming an old machine is to put the functionality into present day devices that people are actually using – such as cellphones, ipods, gps, whatever.

37. Bring in a new model with legacy functions and quality.

38. Please do it!

Conclusions and Observations

It is very clear that the HHC MMX respondents wanted the HP-15C at $75 to be the first legacy machine if HP were to undertake such a project.

The HP-42S at $95 is a fairly close second.

The relative rating of each of the five models is tallied giving three points for first choice, two points for second choice, and one point for third choice. The average of the three choices and prices is also given.

HP-15C 96 points	HP-15C $ 78
HP-42S 51 points	HP-42S $ 95
HP-16C 22 points	HP-16C $ 88
HP-27S 10 points	HP-27S $ 82
HP-71B 4 points	HP-71B $ 120

The HP-71B didn't seem well represented. Perhaps this is explained because it would require extensive tooling and the respondents felt that the additional engineering wouldn't allow this model to ever see the light of day again as a legacy machine. The respondents checked 61 boxes of the machines that they owned or used. Of these boxes 14 were for the HP-71B, the same number as for the HP-15C. This most accurate of all HP calculators could be a candidate to seriously consider.

Wlodek made a similar survey a month ago at HPCC in London with similar results. The HP-15C was by far the most popular legacy model with the HP-42S coming in second.

Appendix A – Attendee Survey to document Legacy Interest

HHC MMX HP Legacy Machine Survey

If HP were to make a production run of a Legacy machine using current technology we may assume that it would be faster and have more memory. The advantage of a legacy machine is it's near zero development cost. Assuming that you are interested;

0. Which machine(s) have you owned or used? . . . . . ☐ 15C ☐ 16C ☐ 27S ☐ 42S ☐ 71B

Which calculator would you like HP to bring back because you would find it the most useful?

1. Which machine should be brought back FIRST? . . . . . ☐ 15C ☐ 16C ☐ 27S ☐ 42S ☐ 71B

2. What price would be willing to pay for your FIRST choice? $ _____

3. Which machine should be brought back SECOND?. . . . . ☐ 15C ☐ 16C ☐ 27S ☐ 42S ☐ 71B

4. What price would be willing to pay for your SECOND choice? $ _____

5. Which machine should brought back THIRD?. . . . . ☐ 15C ☐ 16C ☐ 27S ☐ 42S ☐ 71B

6. What price would be willing to pay for your THIRD choice? $ _____

7. What is the primary disadvantage of your FIRST choice? _____

_____

8. What is the primary disadvantage of your SECOND choice? _____

_____

9. What is the primary disadvantage of your THIRD choice? _____

_____

10. Feel free to provide any comments you may have on this concept. Your name is optional.

_____

_____

_____

_____

_____

_____