

## HP Forum Archive 14

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### HP85 Emulator / Viper

Message #1 Posted by [Mark Myers](#) on 9 Feb 2004, 6:16 p.m.

We've several dozen programs for the HP-85A/B that are still being used in modern production. If possible, we'd like to try to port the code over to a PC based system with an emulator card for HP Basic. A few questions have arisen.

I'm not exactly sure if the language for the HP85 is Rocky Mountain Basic (RMB) and if so what revision level it may be?

There's information out there about a Viper card 1 & 2 (82300A and 82300C respectively) and a Hyper-Viper (82324). All the information I've found for these cards states that they support increasing revisions of RMB. I'm not sure what revision of RMB, if any, I'm using.

Has there been any recent work by nostalgic HP users to port HP80 series programs to a PC platform?

Is there any availability still on Viper cards or is that even a valid option for us?

Your recommendations are greatly appreciated

Mark Myers Caddock Electronics, Inc. [www.caddock.com](http://www.caddock.com)

### Re: HP85 Emulator / Viper

Message #2 Posted by [Eric Smith](#) on 9 Feb 2004, 8:07 p.m.,  
in response to message #1 by Mark Myers

The Corvallis division products use "Technical BASIC", which is not the same as Rocky Mountain BASIC. This is used in the Series-80 desktop machines (HP-83, 85, 86 and 87), the HP-71B and HP-75C/D handhelds, and the HP-9807A Integral PC (Unix-based portable). It has nothing to do with "HP BASIC" in the HP 49G and HP 49G+, though.

Still, it shouldn't be hard to port Series-80 programs to Rocky Mountain BASIC.

There was at least one vendor offering a BASIC interpreter compatibly with Rocky Mountain BASIC but running natively on PCs. This would probably be a much better option for you than the Viper cards.

**Re: HP85 Emulator / Viper**

*Message #3 Posted by **Mark Myers** on 10 Feb 2004, 10:27 a.m.,  
in response to message #2 by Eric Smith*

Excellent information Eric, thanks.

I think that porting to RMB may be the easiest part of this project. There are so many calls to outside controllers through BCD, IEEE, etc, that even a RMB ported code would have to be heavily edited for non-HP85 accessories.

With the time required for an accurate conversion, it looks like our best option is simply to rewrite in a modern language, for an established controller (NI-488), using the current "Technical Basic" source code as an outline.

Thanks for your help on this, it has allowed me to make an informed decision on the course of this project.

Mark Myers Caddock Electronics, Inc mark.myers@caddock.com

**Re: HP85 Emulator / Viper**

*Message #4 Posted by **J-F Garnier** on 10 Feb 2004, 6:39 a.m.,  
in response to message #1 by Mark Myers*

I don't know any HP-80 serie emulator, but you may consider my Emu71 which is a software emulator of the HP-71B. HP-71B Basic is quite close to HP-80 serie, with some exceptions like no CRT graphic capability and I/O through HP-IL only (you will need HPIL/HPIB converter to access HP-IB devices). So it will depend on what functions you are using on your HP-85.

J-F

<http://membres.lycos.fr/jeffcalc/emu71.html>

**Re: HP85 Emulator / Viper**

*Message #5 Posted by **Mark Myers** on 10 Feb 2004, 10:42 a.m.,  
in response to message #4 by J-F Garnier*

I wasn't able to follow your link, it appears from the U.S. that a 404 page error occurs? My french is a bit rusty

**Re: HP85 Emulator / Viper**

Message #6 Posted by **Valentin Albillo** on 10 Feb 2004, 9:18 a.m.,  
in response to message #1 by Mark Myers

Hi, Mark:

The ability to run your HP-85 programs on any card or emulator will depend very much in your programs' requirements. For instance, if your programs make use of any binary routines (such as the ones used to take control of the keyboard, improved screen handling, etc., which were very popular at the time, look for LOADBIN being used in your programs) and/or uses keywords residing in plug-in ROMs (such as the Matrix ROM, the I/O ROM, or the Plotter ROM), it will be far more difficult to run/emulate them, if at all possible.

However, there's always the possibility to port your programs to the PC by rewriting them from scratch. Any modern PC language (such as Visual Basic, C++, Pascal, or Delphi, or even Java) can be used to easily recreate the original functionality, with the added advantage of running many times faster. Also, the HP-85 had just 16/32 Kb RAM, so program sizes are reasonably small, at least by today standards.

Matter of fact, I had to port an HP-85 navigation program to the PC a few years ago. That program used the CRT screen to plot some trajectories and data, sent them to a graphics printer, and did some tape read/write operations. It also used a binary for keyboard and screen control. I did the port using Visual Basic 3.0 for Windows and it took me just two days to have a fully operational Windows 3.11 version running smoothly, with the added advantages of the Windows environment (copy, paste, much better graphics, etc).

So don't be afraid to try. If you don't feel like doing it yourself, perhaps you could search instead for some company or individual that can offer such a rewriting service.

Best regards from V.

*Edited: 10 Feb 2004, 9:27 a.m.*

**Re: HP85 Emulator / Viper**

Message #7 Posted by **Mark Myers** on 10 Feb 2004, 10:18 a.m.,  
in response to message #6 by Valentin Albillo

Manually recoding is pretty much the solution that we've resigned ourselves to. Our test and measurement systems heavily utilize GPIB, and BCD plug in cards, as well as Advanced Programming ROM's, Printer/Plotter ROM's, etc.

Our catalog of software for the HP-80 series machines is immense. Porting code is certain to be time consuming and the trial/error process tedious.

The easiest solution is to allow someone else to do the work and just plug in their card/software. The dream of seamless conversion was heavily doubted.

As with any project there's a break even point with writing your own software vs. buying even a high priced solution. If nothing practical is available then only one option remains.

And so the process begins.....

Mark Myers Caddock Electronics, Inc. [mark.myers@caddock.com](mailto:mark.myers@caddock.com)

**Re: HP85 Emulator / Viper**

*Message #8 Posted by **Daniel Diggelmann** on 12 Feb 2004, 3:20 p.m.,  
in response to message #7 by Mark Myers*

I just found this interesting page:

[http://ftp.agilent.com/pub/mpusup/pc/old/s80\\_over.html](http://ftp.agilent.com/pub/mpusup/pc/old/s80_over.html)

Cheers Daniel

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