HP Forum Archive 21

[Return to Index | Top of Index]

HP71B Maths Module

*Message #1 Posted by **John Abbott (S. Africa)** on 3 May 2012, 2:37 a.m.*

Are these rare and difficult to obtain? I have been looking for a while now, and have not seen any for sale.
Regards
John

Re: HP71B Maths Module

*Message #2 Posted by **Marcus von Cube, Germany** on 3 May 2012, 3:02 a.m.,*
in response to message #1 by John Abbott (S. Africa)

If you can't get hold of one, I've found a way to put the contained LEX file in RAM (you need a memory expansion of sufficient size, though). Link to article 908.

Re: HP71B Maths Module

*Message #3 Posted by **Maximilian Hohmann** on 3 May 2012, 3:11 a.m.,*
in response to message #1 by John Abbott (S. Africa)

Hello!

> Quote:
>
> Are these rare and difficult to obtain?

Yes, unfortunately. I have 4 HP-71Bs, but only one Math module. I don't know if this comes close to the overall statistics, but expect to pay more for a math module alone than for the calculator!

Regards, max

Re: HP71B Maths Module

*Message #4 Posted by **Walter B** on 3 May 2012, 5:13 a.m.,*
in response to message #1 by John Abbott (S. Africa)

Once upon a time there was a seller offering EPROMs with the contents of said module at TAS. I bought one and still have it - I may even find the seller's TAS-alias after some excavating, if you're interested.

Re: HP71B Maths Module

*Message #5 Posted by **John Abbott (S. Africa)** on 3 May 2012, 5:51 a.m.,*
in response to message #4 by Walter B

Thanks Walter, if you can find the details I would be interested.
Regards
John

Re: HP71B Maths Module

*Message #6 Posted by **Walter B** on 3 May 2012, 5:57 a.m.,*
in response to message #5 by John Abbott (S. Africa)

John,

please contact me per forum mail and provide a valid email address, so I can send you the information.

To Andrés Rodriguez (Was: Re: HP71B Maths Module)

*Message #7 Posted by **Walter B** on 3 May 2012, 11:10 a.m.,*
in response to message #6 by Walter B

Please check your server. It's impossible to send you even the shortest mail.

Re: To Andrés Rodriguez (Was: Re: HP71B Maths Module)

*Message #8 Posted by **Andrés C. Rodríguez (Argentina)** on 3 May 2012, 12:08 p.m.,*
in response to message #7 by Walter B

OK, will TRY AGAIN, thanks!

Re: HP71B Maths Module

*Message #9 Posted by **Valentin Albillo** on 3 May 2012, 5:32 a.m.,*
in response to message #1 by John Abbott (S. Africa)

> Quote:
>
> Are these rare and difficult to obtain? I have been looking for a while now, and have not seen any for sale.
> Regards
> John

Somewhat rare indeed, though matter of fact I own four.

The first one I bought at the time of its release back in the 80's. The rest came serendipitously bundled with a batch of 71Bs some UK gentleman was selling by the truckload. I bought three from him at some ridiculously low price and every machine included both a 4K RAM module and the Math ROM, in perfectly good shape. Alas, I guess that batch is long sold out.

That said, I heartily recommend you do whatever it takes to get a Math ROM (sorry, I'm not selling) as it's the most essential add-on for the HP-71B if you're into math, engineering, business, or whatever. One of the most well-rounded pieces of math software ever made, all in 32K of fast, optimized assembly language.

If in doubt, have a look at any of my articles here:

HP-related Articles by Valentin Albillo

most especially both **Math ROM Baker's Dozen** ones. They'll make a convert out of you ! ... :D

These two posts to this site are also "mandatory" reading as they show just how immensely capable the Math ROM functionalities are and how easy and natural they are to use :D ...

HP-71B Math ROM (The turtle and the hare)

The turtle and the hare: the harder 2nd part

On a final note, I use the HP-71B + Math ROM a lot each and every day (in their emulated form for convenience), both for serious work and for leisure. The leisure part is solving Project Euler challenges in a few lines of code using it instead of the usual C/C++/C#, Java, Python, Haskell, etc. So far, so good.

Regards from V.

Re: HP71B Maths Module

*Message #10 Posted by **John Abbott (S. Africa)** on 3 May 2012, 6:00 a.m.,*
in response to message #9 by Valentin Albillo

Thanks for the responses, truly great people on the forum.
Marcus, unfortunately I don't have a HP-IL card etc. But thanks for the link.
Thanks Valentin, I have previously read all your articles and find them, and your previous challenges fascinating. Yes I am into Math, Engineering, Stats and physics and while the HP71 is a great machine, the Math Rom is a must as I see it. So I will keep looking.
Regards
John

Re: HP71B Maths Module

*Message #11 Posted by **Valentin Albillo** on 3 May 2012, 7:33 a.m.,*
in response to message #10 by John Abbott (S. Africa)

> Quote:
>
> Thanks Valentin, I have previously read all your articles and find them, and your previous challenges fascinating. Yes I am into Math, Engineering, Stats and physics and while the HP71 is a great machine, the Math Rom is a must as I see it. So I will keep looking.

Thanks to you for your kind words and interest in my humble HP-related productions and I wish you the best of lucks in getting the Math ROM. When you eventually do, which I'm sure you will, you can try it with the following textbook-like problem, which is solved quickly and effortlessly:

"The region R between the spheres of radius 4 and 5 is filled with a material whose density is given by $D(x,y,z)=1+x^2+y^2$.

Find the mass of this region."

My quick-'n'-dirty 4-line **HP-71B** + **Math ROM** solution is:

```
10 DEF FNF(Z,F,R)=(1+(R*SIN(F))^2)*R*R*SIN(F)
20 DEF FNG(X,Y)=INTEGRAL(4,5,P,FNF(X,Y,IVAR))
30 DEF FNH(X)=INTEGRAL(0,PI,P,FNG(X,IVAR))
40 RADIANS @ P=1E-7 @ DISP INTEGRAL(0,2*PI,P,FNH(IVAR))
```

```
>RUN
      3775.77549092

>CALL IDENTIFY(IVALUE,S$) @ S$

     18028/15*Pi
```

where **IDENTIFY** is the parameterless invocation of my *constant recognition* subprogram as featured in one of my articles, namely ***Boldly Going - Identifying Constants*** downloadable from the link I previously gave.

So, as you can see, a complicated triple-integral problem is numerically solved in just 4 lines of simple Math ROM code, plus full *symbolic* recognition available as well if needed. What more can one ask for ? ... :D

Regards from V.

Re: HP71B Maths Module

*Message #12 Posted by **Marcus von Cube, Germany** on 3 May 2012, 12:04 p.m.,*
in response to message #10 by John Abbott (S. Africa)

> Quote:
>
> Marcus, unfortunately I don't have a HP-IL card etc. But thanks for the link.

If your 71B is equipped with HP-IL then the PIL Box by J. F. Garnier (http://www.jeffcalc.hp41.eu/hpil/index.html) may help you out. It's a USB to HP-IL interface allowing access to emulated disk drives on the PC.

Re: HP71B Maths Module

*Message #13 Posted by **Hans Holzach** on 3 May 2012, 3:33 p.m.,*
in response to message #1 by John Abbott (S. Africa)

john,

i have two of these but need only one. the one i'd let go is working fine (just tested it a few minutes ago), but its case was cracked when i got it, and i had to use some superglue to fix the damage. it's not a collector's piece, but if you are more interested in the performance of the module than in the looks, then you might be interested (no manual, no box, btw.). wouldn't cost you a fortune, but it is very likely that shipping would be more than the module!

best regards, hans

Re: HP71B Maths Module

*Message #14 Posted by **John Abbott (S. Africa)** on 4 May 2012, 2:14 a.m.,*
in response to message #13 by Hans Holzach

Hi Hans, I have sent you an e-mail.
Regards
John

Re: HP71B Maths Module

*Message #15 Posted by **Paul Dale** on 4 May 2012, 4:27 a.m.,*
in response to message #13 by Hans Holzach

If anyone else has a spare, I might be interested....

My 71B is lonely without this essential extra.

- Pauli

Re: HP71B Maths Module

*Message #16 Posted by **Marcus von Cube, Germany** on 4 May 2012, 5:49 a.m.,*
in response to message #15 by Paul Dale

Don't you have enough RAM and HP-IL gear to download the LEX file to it?

Re: HP71B Maths Module

*Message #17 Posted by **Paul Dale** on 4 May 2012, 5:56 a.m.,*
in response to message #16 by Marcus von Cube, Germany

I have no HP-IL gear at all and only two 4k RAM modules. So no, that isn't an option for me :-(

Part of the reason the FRAM71 project is so interesting.

- Pauli

Re: HP71B Maths Module

*Message #18 Posted by **Valentin Albillo** on 4 May 2012, 6:14 a.m.,*
in response to message #15 by Paul Dale

> Quote:
>
> My 71B is lonely without this essential extra.

The saddest thing is, the Hp-71B was meant to include **full complex number support** built-in right from the get go, as well as other advanced Math ROM functionalities, which would have been absolutely *great*. Just for instance, try entering this as a program line with **no** Math ROM plugged in:

```
10 A=(2,3)*(3,4)+SIN((-3,-7)/(3*A+5,2*A-6))
```

and see that you actually *can*, without a syntax error ever appearing.

Most regrettably, instead of including such wonderful math capabilities some jerk insisted on implementing instead the utterly useless "CALC mode", which took large portions of available ROM space, as well as the equally utterly useless IEEE support, which did the same.

The final outcome of such tomfoolery was that there was no space left to include complex support, matrix support, etc., so they were committed to an expensive separate Math ROM which eventually became a rarity, greatly crippling the HP-71B in the process.

As far as I'm concerned, an HP-71B can be considered a *real* HP-71B if and only if it's got the Math ROM plugged in (or somehow accessible in RAM), else it's just a sore *"Crippled HP-71B"* of sorts. XD

Best regards from V.

Re: HP71B Maths Module

*Message #19 Posted by **Paul Dale** on 4 May 2012, 6:24 a.m.,*
in response to message #18 by Valentin Albillo

> Quote:

> Most regrettably, instead of including such wonderful math capabilities some jerk insisted on implementing instead the utterly useless "CALC mode", which took large portions of available ROM space, as well as the equally utterly useless IEEE support, which did the same.

I certainly agree about the CALC mode. However, the IEEE standard is actually very good and provides almost exactly the features you need to write numeric programs properly. Dr Kahan had his very adept fingers in this pie too.

Now I've just got to find a maths module.

- Pauli

Re: HP71B Maths Module

*Message #20 Posted by **Olivier De Smet** on 4 May 2012, 7:20 a.m.,*
in response to message #19 by Paul Dale

Same for me, I finally have an HP71B (thanks again A. G.) but no math rom ... but an HPIL module .... so I will look for a PIL box sooner or later

Re: HP71B Maths Module

*Message #21 Posted by **Marcus von Cube, Germany** on 4 May 2012, 8:17 a.m.,*
in response to message #20 by Olivier De Smet

Olivier, you will need about 32K RAM to spare. The MATH.LEX file isn't a tiny(*) piece of code. ;-)

(*) Compared to what compiled C code would need it's pretty compact.

Re: HP71B Maths Module

*Message #22 Posted by **Valentin Albillo** on 4 May 2012, 8:58 a.m.,*
in response to message #21 by Marcus von Cube, Germany

> Quote:
>
> The MATH.LEX file isn't a tiny(*) piece of code. ;-)
>
> (*) Compared to what compiled C code would need it's pretty compact.

Not only is it pretty compact but, most astonishingly, essentially **bug-free**, which considering the tons of complicated code and vast diversity of algorithms implemented (made even more convoluted by the dreaded IEEE conformity), is all the more amazing.

I do consider it a marvelous piece of software though of course there are aspects which deserve some criticism, mostly having to do with some strange omissions among the complex-number and matrix function set, I addressed some of them in my **Math ROM Baker's Dozen** articles.

Best regards from V.

Re: HP71B Maths Module

*Message #23 Posted by **james summers** on 4 May 2012, 4:59 p.m.,*
in response to message #21 by Marcus von Cube, Germany

Marcus

Is that just under 32K of RAM, that is, would it fit on a 32K RAM module? If so, guess I will need to add a PIL box to my list of things to get!

Cheers

James

Re: HP71B Maths Module

*Message #24 Posted by **Marcus von Cube, Germany** on 5 May 2012, 4:56 a.m.,*
in response to message #23 by james summers

James, go for it! The ROM is nothing more than a (read only) container for the LEX file. A RAM of equivalent size will certainly suffice and will even leave some room because the ROM isn't fully used.

Re: HP71B Maths Module

*Message #25 Posted by **Garth Wilson** on 4 May 2012, 10:50 p.m.,*
in response to message #18 by Valentin Albillo

Quote:

> some jerk insisted on implementing instead the utterly useless "CALC mode"

Very well put!

Re: HP71B Maths Module

*Message #26 Posted by **Valentin Albillo** on 7 May 2012, 4:48 a.m.,*
in response to message #25 by Garth Wilson

> Quote:
>
> Very well put!

Thanks !

When I think of the many priceless Kb of main RAM they wasted on that useless, ridiculous gimmick implemented only to please some moron(s) that insisted on a "calc mode" for what was essentially the most powerful handheld computer of the time, badly crippling its advanced math capabilities, I really see red.

If they wanted a "calc mode", whose utility is more that questionable on such a machine, they could've included an immediate RPN mode, say, which would have taken less than 1 Kb of assembler code to implement and would provide decent calculator capability.

If they really, really wanted a convoluted, useless algebraic "calc mode", they could've implemented it as part of an external ROM which interested users (if any) could buy.

Bur removing complex-number and/or matrix capabilities from the mainframe to make room for that crap is utterly unforgivable. Probably either another "triumph" of moronic marketing versus sound engineering or some jerks' ego trip to prove that they could do it.

Best regards from V.

[Return to Index | Top of Index]