

HP85 I/O rom Image specifier error 52

Date ▼ (/g/hpseries80/topic/656022?p=Created,,,20,1,0,0::RecentPostDate%2FSticky,,,20,2,120,656022)



02/02/16 🔗 (<https://groups.io/g/hpseries80/message/728>)

Hi Martin,

I cannot fault the basic code and data as it works fine on the 85A without I/O rom and the 86B with the I/O. (if I can port the 86 version to the emulator somehow I can confirm the 87 emulators sound).

I conclude at this point its an 85 I/O rom IMAGE command issue. (did I make it clear the I/O rom is not required to run the program its just an issue I noticed with the emulator)

Is there a list of how many different I/O rom's/images for the 85 there are/were? Maybe I can compare findings and find a version that works?

(my really old records only show a version 0.00 & 1.00)

Cheers,

Ash

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 Ash

Hi Martin,

I appreciate you having a looking at this old fun stuff BTW.

I'll do a long recap from the beginning as I remember and provide sample code shortly if required.

I now have two problems (maybe three??) I guess, as you will see, the first was not being able to get the code to run on both versions of the HP85 (A/B) on emulator 3.1. It runs from tape as originally written on both Emulator 1.0 & 3.1, but I had a problem with the disk version going back to the tape by default on Emulator 1.0 (problem 1) so when I had noticed version 3.1 of the Emulator was out I thought I'd give it a go when time permitted.

I took what files ran on the original Emulator copied them to the 3.1

Got all the same results as expected on the 3.1 except when I switched to the 85B I got the Error 52 (problem 2).

This was when I noticed it was maybe ROM related so asked my first question, Error 52 IMAGE when switching machines. (I use Everett's emulator as I don't have 85's only the 86B boxed up in the attic currently, as I remember it still runs fine on the 86B I never pull the ROMS & have most of them installed).

Everett kindly reminded me that I may need to re parse the program with ROM's before running. As we had seen a similar problem a while back with the AP rom.

However this leads me to (problem 3) how to easily enter the whole program back into the other model machine with I/O rom. I thought saving it on the 85A with GETSAV binary was the best way and simply reading it back in on the 85B with SAVE command. Well the SAVE worked as it should but GET gives an error Say WHAT? dialog "Write to ROM! PC=0010634 ROM=0000000 VAL=016" (this is one for Everett one day I think -sorry Everett!).

Since then, I have gone back to the original tape version on version 1.0 Emulator & loaded the I/O rom and it fails with the IMAGE error also! So I have constancy after all on the emulators and from what you have said the real machine fails this also?

I'll dig a little deeper with I/O rom issues as some IMAGE issues were worked around by enclosing specifiers / in "," comas and " quotes.

Does anyone have a copy of an SSB later than October 1986?

Thanks all

Ash

---In hpseries80@..., <Martin.Hepperle@...> wrote :

ah, good point ... what's the problem? Ask Sherlock?

Maybe Ash could post a complete test program listing in ASCII format which I can feed into the hardware for comparison with the emulator.

Confused,

Martin

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Martin.Hepperle@...

01/29/16 [🔗 \(https://groups.io/g/hpseries80/message/705\)](https://groups.io/g/hpseries80/message/705)

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Everett Kaser (/g/hpseries80/profile/@everettkaser)

01/29/16 [🔗 \(https://groups.io/g/hpseries80/message/704\)](https://groups.io/g/hpseries80/message/704)

ash_chook@... wrote...

Could you perform the same tests on Everett's emulator? I'm not sure we get the same results

And I thought the problem was with using the AProm's GET\$ function in an IMAGE statement... As in Ash's earlier post:

```
Example code here if someone would like to confirm works or fails on
real HP85? (don't forget to plug some data in ;>))
2030 IMAGE 6D,X,12A,6D,3D
2040 FOR I = 1 TO 10 @ DISP USING 2030 ; I , GET$(H1$(I)),H2(I),H3(I) @ NEXT I
```

This builds a table 10 lines of three columns with some data nothing fancy.

This requires the AProm, and the IO and/or MS ROMs may be needed and/or affect the outcome. This gives an ERROR 54 IMAGE on line 2040 in the emulator, what about on the HP-85 itself?

And ASH: Can you give example lines of the data you'd feed into this?

Everett

```
=====
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```

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Ash

01/29/16 [🔗 \(https://groups.io/g/hpseries80/message/703\)](https://groups.io/g/hpseries80/message/703)

Hi Martin,

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Ash

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Martin.Hepperle@...

01/29/16 [🔗 \(https://groups.io/g/hpseries80/message/702\)](https://groups.io/g/hpseries80/message/702)

Yesterday evening I did some test with my HP 85A hardware.

I tried to find out whether GET/SAVE behave differently when additional ROMs are present or not.

This is what I did:

Hardware: HP-85, HP-IB interface, no ROM drawer

-
- switch the HP-85 ON
 - insert a tape which contains the GETSAV binary
 - create a program "TEST" (I am a creative guy!)

```
10 DIM A$(16)
20 CREATE "DATA",5
30 A$="This is a string"
40 X=PI
50 ASSIGN #1 TO "DATA"
60 FOR I=1 TO 10
70 PRINT# 1 ; X,A$
80 NEXT I
90 ASSIGN 1 TO *
100 END
```

- store the program to tape

```
STORE "TEST"
```

- save the program also in TEXT form to the tape

```
LOADBIN "GETSAV"
SAVE "TEST_T"
```

RUN ... the program

=> creates the data file DATA

- the tape now contains
- "TEST" the tokenized binary version
"TEST_T" ... the text version
"DATA" the data file (5 records of 23)

- switch the HP-85 OFF

-
- insert ROM drawer with
 - Printer/Plotter
 - Mass Storage needed for Amigo disk access
 - Matrix
 - Program Development
 - I/O
 - Advanced Programming

- start HPDRIVE software on PC with HP-IB card to simulate a 9895 disk

-
- switch the HP-85 ON

- copy the tokenized program from tape to disk
COPY "TEST:T" TO "TEST:D700"
- copy the data file
COPY "DATA:T" TO "DATA:D700"
- copy the program in TEXT format
COPY "TEST_T:T" TO "TEST_T:D700"

- prepare to GET program
LOADBIN "GETSAV:D700"

- interestingly the following resulted in Error 67 : FILE NAME
(I had thought it would use the default drive :D700)
GET "TEST_T"
while the next command worked
GET "TEST_T:D700"

In some cases, GET (and SAVE?) want the "fully qualified path" name.
At a later stage the GET "TEST_T" command worked and loaded the text from the default drive :D700.
Maybe a previous access to the tape was the reason that the GET complained with FILE NAME. I am not sure whether there is the concept of a default drive (the last accessed drive?).
Not a real problem, though.

- now modify the program to read and display the data
...
20 ! CREATE "DATA",5
...
70 READ# 1 ; X,A\$
75 DISP X;A\$
...

RUN
Reads data and displays as expected. No data type error.

LOAD "TEST_T:T"
also loads the text version properly from the tape

The following results in Error 67 : FILE NAME
GET "TEST_T"
while
GET "TEST_T:T"
works as expected.
Nothing to complain to HP Customer Service.

Conclusion

The GET/SAVE mechanism is working well to transfer programs between machines with different ROM configurations. I do not own other HP-Series 80 machines, but it should also work with the 86/87/9915. Data files can simply be copied anyway. This is the expected behavior.

Martin

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ash_chook@... wrote...

Another thing I noticed that you may confirm (if you have time) is related to a tape based program saved using getsav binary gives me a Data Type error when run off disk. The program is loaded from tape runs fine, ie opens a file reads items from record example
Read# 1, I ; E\$,H2(I),H3(I)

Basic steps: 85A with AP rom only, Load program tested to work from tape into memory loadbin getsav and save program back to tape as DATA file. Add mass storage rom to 85A so you can copy data file to from tape to disk. loadbin getsav and get program from data file on disk, store program back to disk (optional)
load/run program it errors as above.

As I remember?? the save command supposed to save program as text strings, un-tokenized?? Get reads the text lines parsing as it goes checking for syntax. No errors are detected ie commented lines on printer or in program I can see but program errors?? As Julius used to say "Why is it so?" "Atmospheric Pressure?" ;)

I suspect the tape MS rom READ# is different to the MS rom for disk?

Correct, the GET will re-parse everything with whatever ROMs are currently present, so the MS ROM will take over the READ# keyword, and as a result, the IMAGE code, too. And I guarantee that code is going to be different from the internal tape ROM code. But whether it's a problem... ??? :-)

Regarding the IMAGE code and runtime vrs. parsetime, the image is parsed for 'correctness' so far as the parsing code can see, but errors can still happen at runtime, kind of like setting a variable to 0 and then dividing with it, the code looks fine to the parser, but the runtime code says, "No go, Charlie!"

Everett

=====
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Everett Kaser (/g/hpseries80/profile/@everettkaser)

01/28/16 <https://groups.io/g/hpseries80/message/700>

ash_chook@... wrote...

Sorry I forgot to mention you need the AP rom.
Also sorry to hear you have not 85 do you have the bit? Not fixable?

It may or may not be fixable, haven't a clue. My 85 is dead, dead.
My 87 RUNS, but the display is blank (problem with the display
driver hardware, probably a cap, but who knows? My 86 still works,
fortunately, which helped when expanding my emulator to handle the
86/87 emulation.

BTW- I have had the same program working on an HP86B with I/O,
AP roms so it may be just an 85 I/O rom issue in the emulator??

Very possibly. MANY bugs in the 85 were fixed for the 86/87.

I did find an old SSB 1986 that listed I/O issues regarding IMAGE
command not sure there related.

Very possibly, but maybe not. Who knows? The only way to know
whether it's an emulator problem or a ROM bug is to have someone try
the exact same thing on a REAL HP-85 with the exact same mix of ROMs.

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Ash

01/28/16 <https://groups.io/g/hpseries80/message/698>

Hi Everett,
Sorry I forgot to mention you need the AP rom.
Also sorry to hear you have not 85 do you have the bit? Not fixable?

Glad your grey matter works better that mine most of the time :) It was ME! but "Your the dirty rat that killed my brother see, (aka program) see, so now
ya going to get it" (Channeling back James Cagney.;>) rat-tat-tat-tat!

BTW- I have had the same program working on an HP86B with I/O, AP roms
so it may be just an 85 I/O rom issue in the emulator??
I did find an old SSB 1986 that listed I/O issues regarding IMAGE command not sure there related.

I have bounced another maybe similar problem to Martin for confirmation re Tape MS code and Disk MS rom.

Feel free to set me straight when you can I'm not easily offended ;>).

Regards,

Ash

---In hpseries80@..., <everett@...> wrote :

ash_chook@... (mailto:ash_chook@...) wrote...

> I have some old code which I have been running on Everett's HP85
> 3.1 emulator. (Great job BTW Everett if your out there, lot of
> old memories flooding back.)

Thanks.

> Its worked fine on the 85A but not the 85B. The error generated is
> Error 52 on Line 2040 IMAGE (see below). I noticed that one of the
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> the B. So I added the I/O rom to the 85A and bingo the error
> generated again. Looking through the Standard instruction set for
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> this error happens on a real 85? Anyone seen this before?

> Example code here if someone would like to confirm works or fails
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I no longer have a working real HP-85, but this is VERY VERY familiar from some time in the past few years. The GET\$ in the IMAGE is the trigger, but I can't quite put my finger on that trigger. Memory stinks...

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> 2040 FOR I = 1 TO 10 @ DISP USING 2030 ; I , GET\$(H1\$(I)),H2(I),H3(I) @ NEXT I

> Would this be an I/O rom code issue as I cannot see a line fault?
> (I've been looking for my old SSB's but even if I found them it
> may not be listed anyway.

It ALMOST seems, from wisps of memory, that it was SOMEHOW tied into the ADVANCED PROGRAMMING ROM. Do you have that ROM loaded? Hang on just a sec... [running HP85.EXE...] [trying some stuff...]

The GET\$ command is in the AP ROM, so it HAS to be loaded.

Ah. Found the previous discussion on this topic, and it was YOU! "You dirty rat!" (Channeling James Cagney...) It's not exactly what you were asking before, but it's almost the identical code. The discussion should be find-able here:

<https://groups.yahoo.com/neo/groups/hpseries80/conversations/topics/532> (<https://groups.yahoo.com/neo/groups/hpseries80/conversations/topics/532>)

It was almost exactly a year ago, late Jan to early Feb, 2015. You'll need to expand that discussion to find the pertinent posts, as the discussions covers several subjects. The pertinent posts were on Feb 4, 2015. It doesn't address this specific problem, so I know it's not an ANSWER, but at least it's a salve for my memory itch. :-)

Anyway, the AP ROM must be in to test the above stuff, AND it may be affected by the Mass Storage ROM which also takes over the PRINT# keyword and thus affects the IMAGE processing.

Everett

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Ash

01/28/16 [🔗 \(https://groups.io/g/hpseries80/message/697\)](https://groups.io/g/hpseries80/message/697)

Hi Martin,

Thanks for testing on an original machine.

Another thing I noticed that you may confirm (if you have time) is related to a tape based program saved using getsav binary gives me a Data Type error when run off disk. The program is loaded from tape runs fine, ie opens a file reads items from record example Read# 1, I ; E\$,H2(I),H3(I)

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Happy if you can set me straight.

Kind Regards,

Ash

---In hpseries80@..., <Martin.Hepperle@...> wrote :

The problem appears as soon as the I/O ROM is added to the clean emulator (w/o any ROMs). The funny thing is that on the real hardware this problem is not present..

Could it be that the I/O ROM Image is different from the real thing?

Or could the IMAGE statement parser rely on some error condition which is not 100% modeled in the Emulator?

Martin

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Martin.Hepperle@...

01/21/16 [🔗 \(https://groups.io/g/hpseries80/message/696\)](https://groups.io/g/hpseries80/message/696)

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Everett Kaser (/g/hpseries80/profile/@everettkaser)

01/21/16 [🔗 \(https://groups.io/g/hpseries80/message/695\)](https://groups.io/g/hpseries80/message/695)

Martin.Hepperle@... wrote...

my experience is that the IMAGE Statement is one of the very few things that do not work in the emulator. Interestingly the IMAGE Statement also does not work in Olivier de Smet's Emulator, so there may be a common implementation problem.

On the real Hardware the statement works, of course.

Another thing that does not work is the FORTH ROM, which hooks into the system Input loop - maybe this is the problem.

Good information, thanks! Unfortunately (for this problem), I'm smack-dab in the middle of writting a new game, so I can't afford to look into this right now.

However, the issue with the FORTH ROM, at least, MAY have to do with the keyboard emulation code. On the real Series 80 machines, the software had easy access to the keyboard controller and could read the read-time state of the everything, and that's hard to emulate in a Windows environment (not impossible, just hard :-). I wouldn't be surprised if that's where that weakness lies.

The IMAGE statement, though... that's weird. I'm not INTIMATELY familiar with the I/O and MS ROMs and the IMAGE processing code, so I can't guess, at this point (without digging into it) what the problem might be and how hard or easy it might be to fix.

Maybe in a couple of months, when my current project wraps up...

Everett

=====
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Everett Kaser (/g/hpseries80/profile/@everettkaser)

01/21/16 [🔗 \(https://groups.io/g/hpseries80/message/694\)](https://groups.io/g/hpseries80/message/694)

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On the real Hardware the statement works, of course.

The Emulator is a great tool to quickly develop programs (I often use the "paste from text file" feature) and this is one of the few things that are not working properly.

Another thing that does not work is the FORTH ROM, which hooks into the system Input loop - maybe this is the problem.

On the other hand you can create your programs without the IMAGE statement and later implement it on the real hardware, if you have got one.

Regards,

Martin

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 Ash

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```


This builds a table 10 lines of three columns with some data nothing fancy.

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 Next Topic (</g/hpseries80/topic/656024?p=,,,20,0,0,0::RecentPostDate%2FSticky,,,20,2,120,656024>)