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PERSONAL MICROCOMPUTER HC-85 (1985)

🗓 July 11, 2021 👤 Dan Florian Alx 📁 Articles, General knowledge ✏ 22 comments

Reading time: 4 minute

The HC-85 microcomputer was designed by **Prof. Adrian Petrescu and Francisc Iacob** from the Department of Computers at the Polytechnic Institute of Bucharest.

The technological preparation for the series production was made by **Tudorel Domocos**, Traian Mihu and

DONATE VIA PAYPAL

Did I help you?
I am very glad!
If you want, you
can thank me for
a coffee!

THE LATEST COMMENTS

AskAi on Dr. Phys. Eugen Pavel, Inventor of

Eugen Dobrovie, Sandu Anghel. The microcomputer belongs to the category of general purpose personal computers.

Its performance, software compatibility with the family **SINCLAIR**, low cost, portability, availability of user-oriented system and application software, gave it a use of wide interest, both in education and for home use by students, and people who wanted to become familiar with computer technology.

Technical characteristics of the HC-85

In the complete configuration HC-85 contained: central processing unit, built with Z80 microprocessor, 16 KB permanent EPROM memory and 48 KB main RAM memory, 40-key keyboard, with alphanumeric, control and functional meanings.

The display was made on black and white or color TV (PAL), RGB color monitor, and the storage of programs and data was done on audio cassette player.

By interfacing a dual unit of **5 1/4 "floppy disk** the performance and availability of the system have greatly increased. The inclusion of a **standard serial interfaces (IF1)** and connecting to an HC-85 personal computer network of up to 64 systems has greatly increased its range of applicability.

The serial interface was used for serial communications, for serial coupling with equipment that has a serial interface, and for connecting a printer to the HC-85.

In appearance, the HC85 computer was sold in 2 variants. The initial housings were metal, and the keys

(40+ reset) were plastic.

Below we present a **image of the motherboard of the initial version (with metal housing)**. In the first copies, **Soviet, ceramic (white) chips were used for ROM memory**.
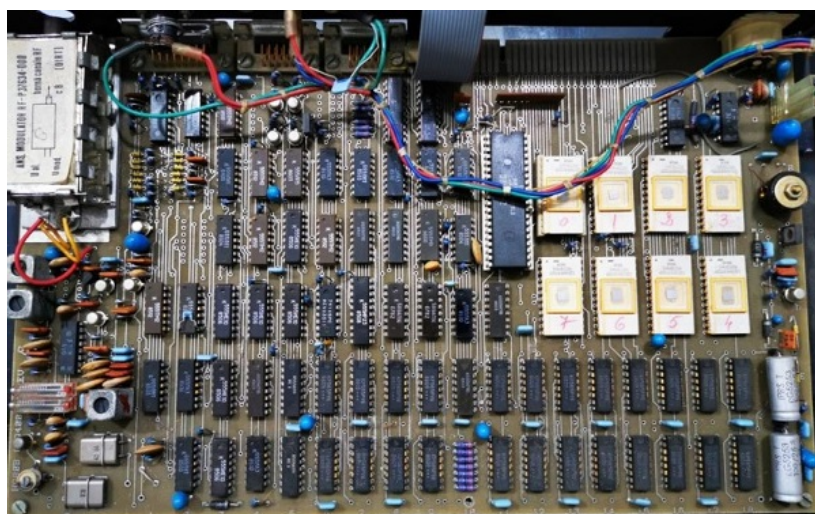
After a while, the design of the computer was changed: plastic case, 34 x 25 x 4 cm, 40 keys + reset. The plastic cases were of 2 colors: black and brown. This housing model has been preserved in later models, **HC90, HC91 and HC91 +**.

LATEST PUBLISHED ARTICLES

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For this variant, it was decided to use the chips produced by **Microelectronics - MMN2616**, plastic. Below we present a **image of the motherboard for this variant (with plastic housing)**.
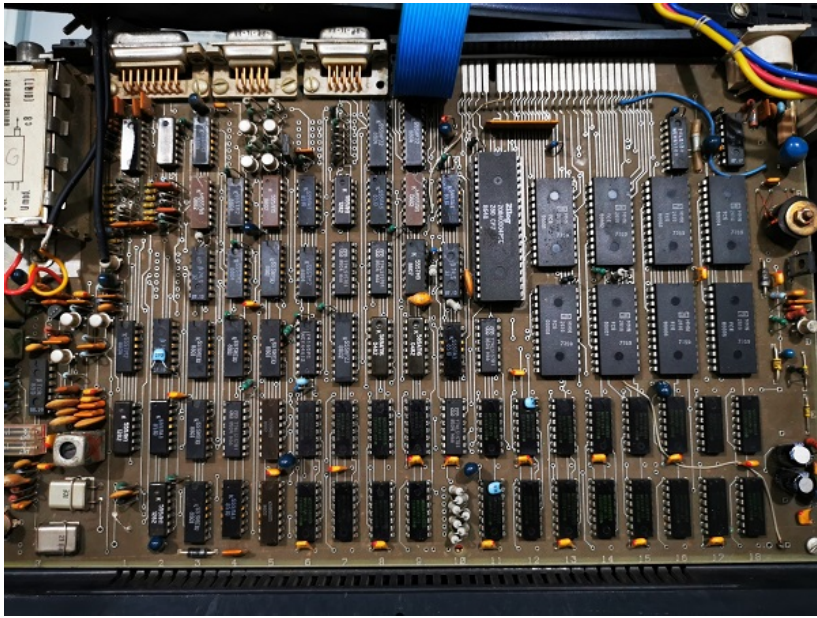
A version with an additional board, HC85 + IF1, was also sold. The IF1 interface is made on a different board, being connected to the motherboard through the extension connector.

ARTICLE ARCHIVE

The expansion of the HC 85 system with the IF1 interface has led to a considerable expansion of the applications of this computer. Below we present a **image of the IF1 board**.
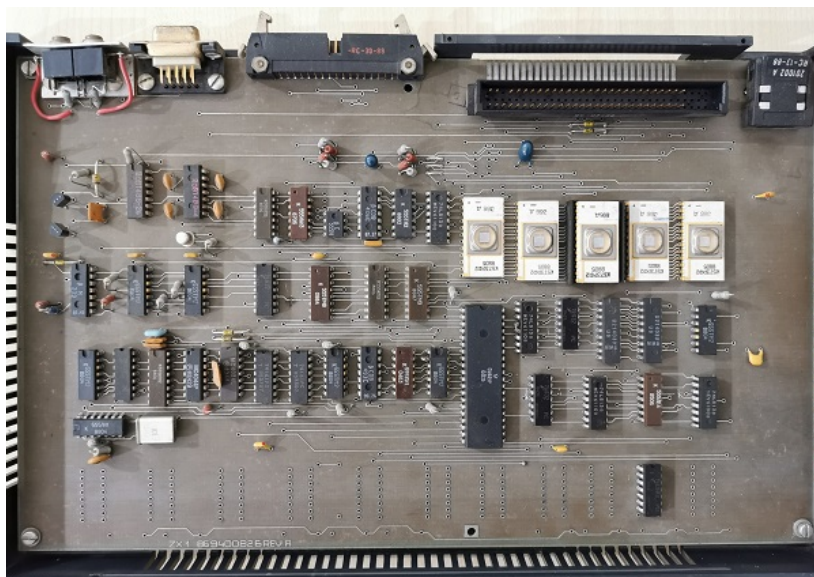
Programs running on the HC-85

HC-85 used its own hardware solutions, different from those found in Sinclair Spectrum but in terms of software compatibility has been maintained. The system and application software from the Sinclair Spectrum system could run smoothly on the HC85 system.

Among the existing programs for the SINCLAIR family that have been ported to HC85, we mention: The interpreter for the BASIC language, stored in EPROM, the interpreters / compilers for the languages

CATEGORIES

LOGO, Forth, FORTRAN, PASCAL, C; programs for: word processing (Tasword 2), spreadsheet application (VU-CALC), database (Data Base), 3D graphics (VU-3D), games and

The HC-85 microcomputer was accepted and desired by students, young people and adults for the variety of programs and the affordable price.

It inspired the creation of similar systems within research and development units, among which we mention in Cluj-Napoca the system **RESP**, in Brasov system **Cobra**, in Timisoara **TIM-S**, at ICE systems **HC-88/90**, followed by developments regarding the implementation of the CP / M operating system.

The computer can be seen at **Retro IT Museum in Arad**. Below, the room with Romanian computers and the collection of processors inside the museum.

Bibliography:

http://retroit.ro/

http://www.milisoft.ro/

https://ro.wikipedia.org/

Nicolae Tapus, Information Science and Technology in Romania, Romanian Academy, Romanian Academy Publishing House - Bucharest, 2018

Other educational materials about electronics and more ..

AMIC personal microcomputer (1984)

ROMANIAN COMPUTER   HC-85 COMPUTER   HC-85   HC85 + IF1
Z80 MICROPROCESSOR   MMN2616   SINCLAIR SPECTRUM

« DACICC-1 (Automatic Computing Device of the Cluj Computing Institute - 1963)

PRAE computer - 1980 »

RELATED ARTICLES
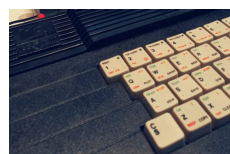
HC 88 / HC90 / HC91 / HC91 + / HC2000. HOME

PRAE COMPUTER – 1980
July 13, 2021   Dan

TAG CLOUD

2N2222   2N3055
ANTENNA YAGI
SEQUENTIAL IGNITION
AT89C2051
AT90S1200
AT90S2313   BC337
BC547   BC557
BD912   BS170
CD4011   CD4013
CD4017   CD4093
STABLE CIRCUIT
ZENER DIODE
ELECTRONICS BUCHAREST
AUDIO FREQUENCY GENERATOR
HD44780
IPRS BANEASA
ACOUSTIC ENCLOSURES
ELECTRONIC FIREFLIES
LM317   LM317T
LM324   LM335
LM358   LM555
LM741   LM3886
LM7805
DYNAMIC LIGHT
MAX038   MAX232
NE555
ORGAN OF LIGHTS
PIC16F84 </STRONG>

COMPUTER
SYSTEMS
PRODUCED AT
ICE

Florian Alx

July 14, 2021   Dan
Florian Alx

MICROCONTROLLER.

PIC16F628 </STRONG>
MICROCONTROLLER.

PIC16F877 </STRONG>
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22 COMMENTS

Cornel A. say:

July 11, 2021 at 11:01 am

Yeah Al that sounds pretty crap to me, Looks like BT aint
for me either

Respond

Cristian B. say:

July 11, 2021 at 11:02 am

In the 80's, having such a thing was a dream. The
production was tiny, the price was intentionally kept
prohibitive, and to buy anything with a keyboard was
subject to the approval of party and state bodies.
However, those of my generation have learned
programming on these computers. Who wanted, the
rest played Chuckie Egg, Video Pool, Rastan, Chronos,
Saboteur

Respond

Michael E. say:

July 11, 2021 at 11:34 am

There was no state policy on approvals! They just weren't in stock! But they were for sale in the publications of the time, such as Romania Libera.

Respond

Cristian B. say:
July 11, 2021 at 3:37 p.m.

Typewriters and printers had to be registered with the Militia. With fingerprint card. A printer could be attached to the computer, so it was the keyboard half of a typewriter.
It is just one of the many reasons why no computers were available for sale to individuals. No typewriters. Both devices could be used for subversive purposes. As illogical as it may seem.

Respond
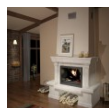
mirceacluj say:
July 11, 2021 at 2:09 p.m.

Everything is history now.

Respond

Cristian B. say:
July 11, 2021 at 3:41 p.m.

It wasn't until 1991 that I had a poor "JET" (short for "TV screen games"), produced at Electromagnetica.
Mounted in a case that was also used for office

telephone exchanges, with some black plastic masks where the receiver was supposed to be.

It had a fairly modern keyboard with a rubber membrane, but the keys needed some force to be pressed, and it made a sharp click when pressed. But at least they didn't fail. Made almost entirely with Russian TTLs, it is a bit flawed. Mine broke down once, after about a year of operation.

The image was off-center and elongated and the address of the lower RAM bench was a bit strange, the car seemed to be stuck on the reverse frame rate, I do not know why.

Because of this, some copy programs saved "whirling". The header, instead of producing a continuous tone, was somehow in the form of "salvos." But programs saved this way could be loaded onto a normal Spectrum.

Even when the code ran from the top 32 kB, or EPROM, the computer still seemed slower. It is said that the frequency would have been 2,5 MHz instead of 3,5 (stability problems?) I had the white version

http://retroit.ro/product/jet/

Respond

Konstantin M. say:
July 11, 2021 at 3:43 p.m.

You could copy Sunday games from TV. It was a special show. If you had a good cassette player or found games in Tehnium magazine, you had to type the "compiler" all day.

Respond

Cristian B. say:

July 11, 2021 at 5:26 p.m.

I remember when Tehnium published a program for calculating transformers, one piece at a time, how much space they had. It spread over 5-6 numbers.

Respond

Constantine M. say:

July 11, 2021 at 5:29 p.m.

Yes, they sometimes published in fragments, sometimes they didn't have much space... that ..nah, they had to put in the technological achievements of the party. They also praised an electronic engineer that you could not invent something yourself. You also needed an engineer next to you, but in general the publication was interesting.

Respond

Cristian B. say:

July 11, 2021 at 5:40 p.m.

I was a student in the 80's, when the above happened, I didn't know much about electronics or programming. Later, in college, I noticed a tendency to make fun of the magazine, telling myself that a lot of the published schemes were either "toys" or wrong, and that the magazine was "amateur." She was not very popular in

academia. I didn't get to see if that was the case, or not, times had already changed, after a number of accidental appearances, Tehnium completely ceased to exist. In those years, the publication was the only media outlet that addressed those hobbies. Now, it would be useless, there are thousands of sites, blogs, forums, etc. All this has made the time for specialized magazines come to an end.
But, yes, even today, it is good in some areas to have the "engineer" next to you... And not necessarily these things happen only in the technical field 🙂

Respond

MV say:

July 11, 2021 at 3:43 p.m.

The drawing sheet is missing from this documentation.

Respond

Nick C. say:

July 11, 2021 at 3:44 p.m.

I had COBRA, bought as a kit, from the students from Regie, I glued all the components on the motherboard and I assembled the turrets on the keys. The coolest thing was the troubleshooting at commissioning. I think it was around 1985. I still have him in a warehouse, my son taught him programming in Basic.

Respond

Marius M. say:

July 11, 2021 at 3:45 p.m.

Yes, it was my first achievement as a passionate electronics engineer.

Respond

GabrielJ. say:

July 11, 2021 at 3:46 p.m.

As far as I can remember, most of them used the Romanian clone of Z80, meaning MMN80, which worked somewhere around 3.3 MHz...

Respond

John I. say:

July 11, 2021 at 3:47 p.m.

With a pretty good approximation they were all more or less successful Zx-82 clones.

Respond

No T. say:

July 11, 2021 at 3:49 p.m.

I have, and I think it's still functional. The power supply is like an anvil!

Respond

Valerica Z. say:

July 11, 2021 at 6:01 p.m.

I think it appeared a little later or in a few copies in 1985....
I had barely heard of it then and took my "sinclair spectrum" from the FRG.

Respond

Vince S. say:

July 11, 2021 at 6:03 p.m.

In the complete configuration you also needed a TV, and a cassette player to load or download programs, games in particular, apart from circles and dashes I didn't do anything else with the hc...

Respond

Valerica Z. say:

July 11, 2021 at 6:04 p.m.

They were very helpful.
Both for builders and beginners in programming.

Respond

Costache E. say:

July 12, 2021 at 7:10 am

None of the factories producing electronic products and components produce.

Some exist by name, while others produce something else.
For example, the former Electromures produces signal lamps for the automotive industry, while Tehnoton produces stoves and street furniture.

Respond

Costache E. say:
July 12, 2021 at 7:57 am

It is interesting that a variant of Z80 was produced in Romania, as if at IPRS. Also memory chips, but also other logic integrated circuits. We could probably have even produced 386 or 486, so that the production lines existed. But IPRS fell into the hands of businessman Haissam, who bought the factory at a ridiculous price, lying that he owns a company. IPRS, still exists today, accumulating debts of millions of euros.

Respond

Cosmin D. say:
July 14, 2021 at 7:27 am

I had something similar. After 7 hours of typing, at a septic game, when I saved the tape, the power went out, I broke my nerves.

Respond

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