

SUC-SESSION

YOUR SPECTRUM - MAGAZIN



"Spectrum Vega" and "The recreated Spectrum"
Are these the new Super-Spectrums? Who are the men behind the new computers and what are the possibilities?

According to the actual SCENE+ issue: The history of Multicolour

Including big events calendar

FOR SUBSCRIBERS WITH SCENE+ DISC/TAPE

Find the newest and best programs delivered to your door

EDITORIAL

Dear Spectrum friends,
as suspected it was a difficult year. Not only that I had several months no spare time for Spectrum due to house building and moving to the new house. Also there is a lot to do with all the things around a new house. Unfortunately this still takes much time I usually spend on Spectrum and our club. There are so many things I didn't consider at first, mainly the outer areas like garden. Although it is very nice to have something new for your own, but I expected all a bit easier. Not enough with that, my Spectrum had some damage from age and movement, which led to a total disaster at the VCFE show in Munich where neither the Spectrum nor the IDE-interface in my MB02 worked properly and I couldn't show much to the audience. I'm so glad Ingo repaired it by now. But in this time I couldn't help Mirko with the SCENE+ discmagazine and I am quite glad he managed to produce an issue on his own. So we have much room for improvement, but we are happy producing this papermag and also one issue of our disc magazine this year. However, some versions of the disc magazine (+D and Opus) are still in production, but will be released soon. So this year wasn't lost at all and we got something. This time, papermag and diskmag are sent out separated, in future we want of course put it together again. For improving our performance we also want to split the work for the magazines on several shoulders. Therefore we made a big poll with all our readers, the users in the German SPC Forum and the World of Spectrum forum. Of course as usual from these hundreds of users, only a moderate amount voted, but the result was quite good. Many have offered help, thanks for that. See the article.

So finally after the year began with the bad news of the end of the SPC magazine, now finally the year ends with some good news. The SUC will continue and we will be better and more regularly. Another good news I like to announce in this bigger round: Club meeting in the south of Germany next year. How's that?

We wish you a lot of fun with this magazine and look out for what the future will bring.

Thomas

IMPRESSUM:

This magazine brought to you by the
Spectrum User Club Germany
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Website: www.speccy-scene.de
For subscriptions or any other reason use the contact form on our website.

NEWS FROM ALL OVER THE WORLD



Gamma-Discinterface

The Gamme Disc-interface was a German development based on the Beta Disc. Now it is recreated by Klaus-Peter Casper and the circuit schematics are online:

<http://www.casperonline.de/zx/index.html>

Spectrum at the Gamescom

Gamescom is the most important and biggest Computer- and Videogames fair in Europe. Since last year there is also a part for Retro-Fans and there was a call if somebody will also



represent the Spectrum there. Norbert Opitz followed the call and showed 3 Spectrums with add-ons. Applause!!!

Spectrum Filmstar

The Spectrum is still in demand, now also as actor in films. The Film „Kung Fury“ reminds a bit of the computer films of the 80s, but it is brand new and the Spectrum appears several times there. You can watch it on YouTube:

https://www.youtube.com/watch?v=bS5P_LAqiVg&feature=youtu.be



World of Spectrum Forum – Faster, better...

The year 2015 was not an easy one. The SPC magazine closed and in February suddenly the World of Spectrum site didn't work anymore. After a short period, most parts of the site worked again, but not the forum, which is probably the most important site for information exchange around the Spectrum. In June it was back again, and it seems a lot better. They made a real update, which was necessary as more and more users were using the forum and so the access went slower and slower. Of course it is great that more and more Spectrum friends come together in the forum, this is absolutely essential for the international information exchange of all Spectrum groups.

Rare Replay

At 04th August Rare released for Xbox One a game bundle to celebrate the success of the past 30 years. The biggest heroes celebrate in their new adventures and there are several Spectrum heroes who also are on the party. Maybe to most of the Spectrum users the company Rare is better known as ULTIMATE and therefore are in the game pack of 30 games also the following Spectrum titles: Jetpac, Lunar Jetman, Atic Atac, Sabre Wulf, Underwulde, Knight Lore and Gunfricht. Of course not all should now buy an Xbox One, but if you anyway have one, you can think about getting the game pack, 30 games for 30 Euro.

Spectrum Games with age verification

With the new Spectrum Vega were now also the inbuilt games approved for the usage through minors. 3 games from Jonathan Cauldwell didn't pass the test. Some of them were already shown also in our SCENE+ diskmagazine: In Homebrew you have to collect fruits which will be then distilled to alcohol. This shouldn't be seen by childs and youth, so no release for under 18. Fantastic Mr. Fruity is not allowed because of gambling. Allowed max. stake is 1 GBP, but in this game higher stakes are possible (it seems not important that in this game you cannot play with real money). Then there's Encyclopaedia Galactica, where the player is out to discover new life forms in unexplored regions of the galaxy and report on them for the eponymous tome. I can only assume that the amoebic lifeforms contained in the game were too close to those lifeforms who draw up the UK censorship laws for the game to be accepted...

READERS LETTERS

We start with the letter from Klaus Koch, who has answered to our poll and had a question about my person, which I hear over and over again:

...Incidentally, we are probably about the same age. You are still in business? The first million is not done yet?

Some people can not stop I wish you a good time .

Keep up the good work.

Greetings from Bochum

Klaus Koch

Hello Mr. Koch, about my person: I am 43 years old and not in any relationship to Thomas Eberle who once run the magazines "Computer Kontakt" or "Computer Flohmarkt". Accidentally we have the same name and are both from about the same area and both we have something to do with Sinclair.

The first million (debt of course) is not far away. I built a house, that's enough for now.

Claudius Rebhan sent us an e-mail with several questions, which I summarize here:

Hello Mr. Eberle!

I have a question regarding the Spectrum 20/20. Will it be on the market and when? What will it cost? Does it have comparable graphics and possibilities like the Amiga or is it just a poor copy? And I want to know about the colour resolution of the Spectrum +2. I have an answer from the forum. There was written: More colours are in 128K Mode possible. More colours and higher colour resolution (not higher pixel resolution). Is that correct?

You spoke about to improve old games. In which kind?

Some games with better graphics?

Do 128k games have bigger levels? Does it mean they load more levels at once or are the levels bigger. You told me that for example Prince of Persia is only available for 128K.

I heard the processor of the +2 is too slow to work in games with expanded graphics. Are there any thoughts about better Processor memory expansion?

Hallo Claudius,

there are now two new machines on the market: "The recreated ZX Spectrum" is not really a Spectrum, but just a bluetooth keyboard which should work with iPhone and Android smartphones and tablets. You can use this with an emulator app to play games and you can use a real rubber keyboard. But it is not computer at all.

The "ZX Spectrum VEGA" therefore is a Spectrum, but got just 8 keys and is only usable for playing games. Games are saved on memory card with the help of a PC.

Both machines cost about 150 Euro and are available online (although the ZX Vega is hard to get). A Spectrum 20/20 is not in production yet. I cannot tell anything about, there are just rumours. Maybe if Lotharek will really produce it, one day we will talk about..

Basically no Spectrum have more colours or higher resolution.

They all have the same graphic abilities. All 128k machines have several advantages compared to the 48k machines.

Things that can have a improvement in graphics are the bigger memory and the special memory administration. The Spectrum 48k have reservated area 16384 to 23296 for the screen memory. Everything that is written in this area will appear on the screen. For example if you type in POKE 16384,255 you will get a small line at the upper left corner. This is the same on the 128k machines, but these computers have a second area

like this starting at 49152. You can save graphics in this area and then simply switch from one screen memory to the other. So after switching on the screen will not appear the graphics About starting at 16384, but what is at 49152. With fast switching you can then get some effect which are not possible when drawing the pictures just with one screen memory, for example mixing colours or a higher resolution. The switching is faster than writing new datas in the screen memory and also faster than the human eye. The effects are based on optical illusion, wether the number of colours nor the screen resolution are really higher, but it can look like that. There are some demos using these effects, in games this is not possible. More about this is even described in Wikipedia http://en.wikipedia.org/wiki/ZX_Spectrum_graphic_modes

For the Spectrum appeared more than 20.000 commercial software programs on the market, followed by about the same number of Freeware that was released after 1993. Many demos, utilities but also games. Since 1985 the Spectrum 128k exists, but at the start the software support was low. Most games were running on 48k and 128k, the special 128k versions had basically a better sound. Then there was a good phase about 1990 in which nearly all good games were only for 128k. For example OCEAN released only 128k programs due to bigger memory. Then again the software houses had the idea to sell as much as possible and the games were again produced for 48k as well, but with a lot of levels to load (128k machines loaded all or more levels at once). With all the commercial programs, the main reason for making the 128k version was always the expanded memory, never the graphic possibilities (second screen area). So there was never a big difference between 48k version and 128k versions, except the sound and more levels loaded at once. In some cases a 48k version was not produced due to lack of memory (examples are Battle Command, Total Recall, Where time stood still, La Abadia del crimen to name just some). Later the possibilities of the Spectrum 128k finally found heavy use in demos. There you can see that the 128k is more than just an 48k with expanded memory.

The question is not only, which programs used the 128k possibilities in the past, but also what will come. Nobody can see the future, but maybe tomorrow will be released a program that shows more than we all ever expected, but only for 128k. It is not a question if he processor is too slow, the programming techniques changed a lot in the past 30 years. Many things that everybody thought is impossible on the Spectrum in the year 1983 are possible today. The Spectrum can still surprise us like it has done all the time. Also the new wave of multicolour games nobody expected and although this runs even on the 48k Spectrum, I await that more surprises will come from a 128k machine.

In my opinion the biggest advantage of the 128k Spectrum is

not the graphic, but the soundchip.

Already 20 years ago there were expansions with DMA processor that could transfer data (and therefore graphics) faster. In russia were even graphic cards available. But nothing of this has become standard today. I don't think we should try expanding the Spectrum with new parts to make it comparable with modern day machines. If we want that, we could buy a new computer in every computer shop. The fans of this retro computer want to be surprised by new ideas on the old hardware. There is no sense in making new things with new hardware. There are usable inventions like interfaces to transfer the tv signal better to modern day tv's. Also wireless joypads would be an idea, so you will not anymore pull out an interface by the too short joystick cable. More ideas would be new controllers (guitar, dancing mats, buzzer) for more gaming ideas or a Spectrum network to play multiplayer games (ethernet interface), but not new hardware to improve graphic or sound. It sounds ridiculous if the graphic card will have at the end more power than the Spectrum itself.

Klaus-Peter Casper wrote us regarding the poll:

Hello Thomas,

I would prefer getting the magazines on real disk (Betadisk) and paper (surely a question of the price). Further I would like to see less DMA games and therefore more user reviews, tinker instructions and technical informations that refer to the old 48k Spectrum. If the Spectromia in Wittenberg will be more advertised, I think another meeting is not necessary. I fear another show goes at expense of the existing shows. I hope we see each other in Wittenberg.

Regards, K.-Peter Casper

Hello Klaus,

thanks for your answer. At the moment we are mainly interested in the number of people who really want our magazine (and how many of them want it in english) and who wants the disk magazine as well. We don't want produce something that nobody wants.

There will be probably never a Beta version of the Scene+ magazine. I know only 2 Beta users and both of them have MB02 or +D as well. So there is simply not enough demand for a Beta disk version.

About the content of our magazine is this the result of the articles the people sent in. We are always happy about hardware related articles, but they are rare. I am not a hardware technician myself, so I can write about software or test some hardware. The hardware freaks among us have usually a lot to do and no time to write articles. The best chance to get very good hardware articles are translations. So

this is why we also asked who can help us with translations. Finally the number of those who are really interested and support us, decide the future of the magazine.

Gladly also Lothar missed us a lot:

Hello Thomas, sometimes I simply have to write you. I didn't hear from you now for a long time. Didn't I pay my subscription fee? Now after the SPC is gone, the SUC is the only remaining Spectrum Club. And the disks were always great. Maybe you just drop me a line back. I have another request: Shortly I am owner of a TCS Genie 16 Computer. Dieter Hucke and I have tried to work with it, but failed because to start the computer we need a 5,25 inch boot disk. Can you help? Thanks in advance and regards from the Eiffel, Lothar Ebelshäuser

Hello Lothar,

in fact I was too busy in building the house, so there was no time left to care for the Spectrum or the magazine. But we continue. In the meantime Mirko has finished one issue of the disc magazine without my help and sent out the TAP and MB02 versions. +D and Opus are still in the pipeline, so you don't have it yet. But at the end of this year the worst time should be over and with the coming year the magazine should appear in the usual rhythm (2-3 issues per year). I am sorry that I cannot help you with the TCS Genie. Maybe in our club are other users of the TCS Genie who read this and are willing to help. If there is somebody, please write to us and we can forward your answer to Lothar.

Dr. Wolfgang Schacht has a technical problem with this 3 inch drive:

**Hello Mr. Eberle,
many thanks for your previous fast answer to my request. I already exchanged the drive belt, which I bought from you. Unfortunately I have untighten a small screw which limits the stepper motor and now I cannot find the correct position where it was. What a pity. I will probably have to replace the 3 inch drive with a 3,5 inch drive.
Do you have such a drive, preferably in black colour, with the correct cables to connect to a Spectrum +3?
Best regards, Schacht**

Hello Mr. Schacht,

*only few drives work with the +3 and I don't have any of them in stock. They are very rare. Read this article:
http://www.secarica.ro/html/plus3_hardware.html#3and5inch-drive*

It is very well described. The cable shouldn't be a problem, but the described Chinon drives were already 10 years ago hard to

get, when I searched them last time and was able to get some. You can ask Leszek Chmielewski, retrozx@gmail.com I think he might have some.



VCFE 15.0 – VCFE 16.0 - two years gone by

The VCFE (Vintage Computer Festival Europe) is a venue in Munich for Retro-Computer and consoles and has a long tradition. As you might have guessed, this year was the 16th show. Main part is an exhibition with changing themes. In 2014 the theme was „Exots“ and in 2015 it was about the varied computers from the East. In the 80s and 90s Sinclair clones spread through the eastern countries, so we decided to book a stand and show our Spectrum, a Harlequin, the MB02 Diskinterface from Slovakia and the new DIVIDE IDE-Interface from czech republic (which is now not so brand new anymore, we have the 2013 version, but there is already a newer). The visitors had to rate the exhibitions and at the end of each venue the winner gets a price like an golden ananas or something. However, nobody is there for the price. Also not everything is about the main theme. The Telex machines some italian guys are running are always one of the winners, however, it is nice to see that they send and receive e-mails with their old machines, but to hear these noise pollution the whole day is ruining the nerves. My personal highlight were the arcade machines from the club „For Amusement only e.V.“. These guys not only restored the machines and showed them on the exhibition, they also reworked it so the machines work without inserting coins. Finally after 30 years I was able to play Asteroids on the Arcade machine without loosing all my pocket money. Thank you, thank you, therefore the guys get a

free advertisement here:

The club has a whole year exhibition and you can visit them here:

FLIPPER- UND ARCADEMUSEUM
SELIGENSTADT
Wilhelm-Leuschner-Str. 6
63500 Seligenstadt
Germany
Website: <http://for-amusement-only.de>



Our Spectrum stand had a lot of interest, not only from visitors from Germany, but also Italy, Serbia or Great Britain. The most interest the DIVIDE Interface gained as many know the Spectrum but not the interface to make it possible loading and playing easily a few thousand games from CF Card. Normally the MB02 is much more interesting than the DIVIDE, but on a show like this it might be too complicated to explain all the function of the MB02, while the DIVIDE is very easy to handle.

We were really surprised, not only that so many knew the Spectrum, but also that there was so much interest in what we are doing. I also brought some boxes of old stuff to sell at the car-boot-sale section and I sold nearly everything, even the Spectrum tapes I had. There was also a third part with speeches and workshops, but I had no time for it. Mirko visited one or two wor-shops and told me that it was very interesting.

Next to the usual main machines like Amiga and C-64, there was also a strong exhibition of KC Computers, these were computers made in GDR, not really Spectrums but similar. I also remember one computer from GDR that looked like a computer from the bridge of the Enterprise...fascinating.

In 2014 there came about 400 visitors on the two days. In 2015 there were even 500 visitors on the 3-days venue plus the about 50 exhibitors. The next VCFE rises on 30 April / 01. In May 2016 and will be subject "Something with the media - Computer as a vocation". We could imagine that our club and the first issues of our magazine made with the Spectrum DTP program. But unfortunately this will not happen, because I

know now that on April 30th 2016, I will not have time. Perhaps another steps into the breach, you can sign up on the website under www.vcfe.org te



Shock at the beginning of the year: The end of the SPC Magazine

With this message from the start of 2015 things became true, that many already feared: The SPC Magazine is gone.

Every end is also a beginning! In the age of internet, e-mail and bulletin boards, also we as the "Spectrum- und SAM Profi Club" have to think about new possibilities and ways. Mainly our club lives from the articles of the members. But these have become rare in the last years, of course reasons are the decreasing number of members and the dying of hardware. Therefore a really alive scene has been formed at <http://spc.tlienhard.com>. Many themes are treated and the advantage is, that you don't have to wait three months for corrections, reactions or improvements. People can react immediately. Therefore we have decided to stop our quarterly magazine. There will be further user meetings, new software and new hardware for our Sinclair computers and SAM, but we will change the way how we live our hobby. It will be more modern and customized to the habits and possibilities of our time.

So the since 1991 existing "Spectrum und SAM Profi Club" will not further existing in its current form, but comparable to the ZX-Team organized in the forum.

We want to thank all members for their years of loyalty and the many articles. Special thanks go to Leszek Chiemelowski, who created our magazine since 2009 with a lot of personal effort!

Of course we are sorry and we will miss the SPC magazine. But also this is for us an incentive to make our SUC-Magazine better, as it is now the only one known Spectrum magazine. The first step is made with our new design. Come on and help us that our magazine can represent the Spectrum worthy.

SCENE+ 71

This time subscribers get the SCENE+ separated from the SUC-Session. In this issue we included some programs about multicolour. Next to some great coloured games we have of course again interesting demos and a sound collection from the Forever-Party competition. Who don't know the SCENE+ disc magazine yet should know the following hint: Subscribe! Best way use the contact form on

www.speccy-scene.de

Available for +D, Opus
Discovery, MB02+ and TAP-
Download.



sinclair

ZX Spectrum Vega

A new Spectrum in 2014...when I heard this the second time I thought about nothing spectacular. Steadily we hear about spectrum compatible new projects in Russia, Spain or Italy. But this time it is different.

The team:

The management for the VEGA is really professional:

Sir Clive Sinclair – yes, the father of the Spectrum and therefore one of the most famous British born inventors of all time is on board. He is surely not involved in the technical design, but he supports the project also with his name.

Chris Smith – is a former ZX Spectrum games developer who is the world's leading expert on Sinclair Spectrum technology. Chris is also the author of the definitive technical book "The ZX Spectrum ULA: How to design a microcomputer".

Dr David Levy - is a British International Master of chess who is noted for his involvement with both computer chess and artificial intelligence. He is President of the International Computer Games Association and the founder of the Computer Olympiads as well as the Mind Sports Olympiads. David has also written more than 50 books on computer games, A.I., and robotics.

Paul Andrews – Is a producer and businessman who has worked extensively within the media industry, including games development companies and book publishing and distribution. He has been involved with retro computer games, as well as phone and console games for many years.

The machine

Of course there are different opinions. Many would like to see a new Spectrum, full compatible with full keyboard and new USB-Ports etc. However, the VEGA is more like a games console. The VEGA has only a few keys and it is easy to see that the whole machine is about bringing Spectrum games easily on your TV. There will be 1000 games build in the machine and more can be saved on SD Card in easy TAP or Z80 file format. All games made for the original Spectrums can be used, so 48k and 128k. The VEGA is a handheld to use as

games console and joyypad as well. However, they think about an external joystick port as well. It have not the size of a real Spectrum, it is much smaller.

The distribution

The whole thing started as a crowd founding campaign on Indiegogo (www.indiegogo.com/projects/sinclair-zx-spectrum-vega). This is a platform where inventors ask for the money to succeed with a project. Interested people will make a deal, such as getting one of the first machines signed by the developers or being invited to the startup – party. In just 2 days this campaign reached the goal of 100.000 GBP and so the project started with the production of the first 1000 machines. It is available only via the Indiegogo page. After the first batch, the plan is to produce another 3000 machines and then start to use other retail services. So the Spectrum might have another appearance in computer shops or supermarkets.

Mainly the VEGA is a project that shows the possibilities. If it succeeds the possibility is there that more projects follow. The Spectrum brand was once sold to Amstrad and Amstrad was taken over by Amstrad. The Team from Retro Computers bought the licence from Sky. Wether it was the licence only for the VEGA or for the whole Spectrum computers is unknown, but it shows what is possible with a professional project. The sucess is already seenable and there is a big possibility that more will follow.



The VEGA is made for two groups of interested people: Collectors, who simply what have a new Spectrum in their collection and Retro-Fans who want to play Spectrum games as easy as possible.

The risks:

As announced by the producer, the production already started. But still they are about 2 months beyond their own time schedule. Always something can go wrong, all who ordered a VEGA take the risk as well. If the company will fail, the money is lost. Who don't want take the risk, will now not get a VEGA. The market for a new Spectrum is obviously there, but many would have liked a real new invention, a proper keyboard, Ethernet and USB Ports etc. The market will now be splitted in those who are happy with just a games machine and those

who want more. At the end maybe a Super Spectrum will be announced, but the market will be too small. This would be sad.

Result:

The Spectrum was never thought to be a games machine. But soon it was also not usable for professional business needs but still succeeded as it was the ideal beginners machine though, or perhaps its easy structure. So many bedroom programmers started working on the Spectrum making it at the end to one of the computers for which more games exist than for nearly all others. Nowadays even the Spectrum game authors are programming on PC tools and the time might be right for a Spectrum without keys. But for all who want to impress the Drag&Drop youth with a simple Basic listing it is the wrong machine. The VEGA could be an easy second machine for travelling or for all those just love playing spectrum games. It is surely easier to handle than a Spectrum with several interfaces (and so you save the original hardware).

Te

Update: Since mid of 2015 the VEGA is on the market, although at first only the 1000 first investors from Indiegogo got one. Then they made a second batch with 3000 because of the big demand. Currently they are now selling through Amazon and other websites and as far as we know they produced another 10000. You can find a list of retailers at <http://retro-computers.co.uk/>



HARDWARE-CORNER

Spectrum +3 with TFT Display
from Joachim Geupel

Hi Thomas,.

You need a converter circuit board to connect the spectrum on a TFT monitor such as from Sintron, that i have.

The converter is called "CGA/VGA/YUV to CGA converter" priced 26.99 Euro + 5 Euro postage on eBay.

The connection is relatively easy:

A 5V adaptor with hollow plug, inner diameter 2, 1 mm. The voltage must be on the inner connection - mass is outside.

The CGA fitting is ideal, because

- (a) it is easy to access and (
- b) the pins are known.

Pinout:

Spectrum red - converter red (R)

Spectrum Green - converter green (G)

Spectrum Blue - Blue converter (B)

GND - Converter GND

composite sync - converter sync (S)

You soon get a little more detailed report by me, in which I will describe the operation of the Board.

There are still a few small problems, which should be explained - for example, the language default is Taiwan Chinese.

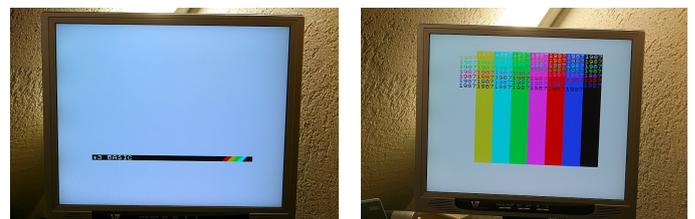
The image height and width must also be adjusted.

The sound is not passed through.

Figure 1 shows the startup screen of the interpreter, Figure 2 shows the test pattern, and Figure 3 shows the circuit that I have connected as an improvement.

Many greetings

Joachim



finally only sold the idea. At the end the Czechoslovakia „8-Bit-Company“ just produced 100 pieces of the MB02+. All was getting more professional, but equipping the circuit boards was further done by hand. About 50 of the MB02+ were sold in Czechoslovakia itself, the rest scattered all over the world, but most of them are sold to Germany.

Features of the MB02+

The real problem for Spectrum is that all producers of software wrote for the only medium that accomplished successfully on the market: Tape. No faster data storage became a real alternative and spread over a wide range. For most mass data storage the syntax of load operations has to be changed, really difficult if these instructions are written in assembly language. The MB02+ emulates the cassette operations, so loading from disc or cassette is equal. Switching to real tape can be done per software.

The DOS is generally very resourceful. A disc can be divided into 256 sub directories. Also there are fast seek operations, simply deleting and copy commands.

Furthermore a memory expansion up to 512 kB can be mounted. This storage can be used as a fast extra drive or can be useful for other gimmicks like multiple ROM switching.

The MB02+ loading is very fast (~ 40-50 kB / sec.). It works with high density (HD) discs with a capacity of 1,86 MB. The fast DMA chip, which is needed for that speed, is also used by cleverly hackers for other purposes. There are several demos with incredible graphic features or games were speeded up – for example Ghostbusters. An individual graphic mode was designed (MULTITECH), but it never has been enforced.

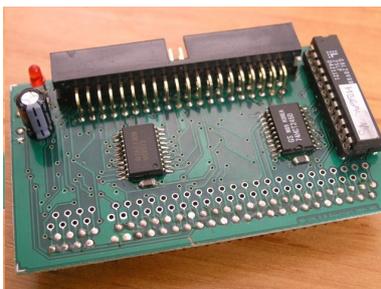
As the only disc interface on market at this time the MB02+ was upgraded and got an IDE extension some years later. So mounting of a CD-ROM or a hard disc was possible. Later with the modern IDE CompactFlash adapters and CompactFlash cards the spectrum is loading still with the normal cassette commands, but even today from CF cards.

Today's availability

The production of 8BC was already closed in 1998. Some remaining circuit boards are sold to hobbyists, one of them is Ingo Truppel, who manufactured MB02 out of this. Also Ingo

launched his own circuit layout and has produced and sold MB02+ with IDE interface. This production is sold out in the meantime, but with enough demands maybe it could be revived? All components

are available on the market, but this could change in future. For those who are interested please contact Ingo directly. The contact information are available via the club. te



SCENE+

How we do it

Hello Spectrum-friends,

I want to give you short view on our work so you know what we do.

There are indeed two magazines, the disk magazine SCENE + and the newsletter, which has evolved into a magazine called "SUC-Session". At the beginning we always start with the programs. For this purpose we search primarily the Internet, some authors also send in their programs. When we found a program, it's time to test it. Not every program makes it on the SCENE + disk, it must already be something special, a particular idea, great effects or simply something creepy fun. Once we have a list of these programs, they will be examined for the feasibility. At this point we often have the problem of TRD programs that we can not convert. If it is possible, then our Stefano will convert it. He is the absolute specialist. But just because a program is not TRD format, it is far from optimized for Opus or + D. The MB02 can indeed handle the same files as tapes do, so there are no problems. But at Disciple/+D and Opus Discovery, special floppy commands need to be inserted. Plus both need some space in the memory of the Spectrum, the +D does not need much, but the Opus for instance can not process a RAMTOP beneath 24500. We are always trying to change the program as little as possible. For Opus we have the program called NORAM that makes it possible processing programs with low RAMTOP. Mostly we try to avoid using NORAM e.g. by optimizing the basic loader. Using the example of the GEM CHASER program from the last issue I explain here:

In Basic is just LOAD

course is not
need
command
program
here. If
necessary,
short program-

byte of storage.
CLEAR

In Basic was a CLS and later a cCommand. Since the CLEAR sets not only the RAMTOP, but also clears the screen, the CLS command is obsolete and will be removed. We put all figures in Basic with VAL "number" to a formula that uses less memory. The number "0" is changed to NOT PI. The number 1 we changed to to SGN PI. These are also formulas that take less memory than just the number. Interesting is, that you can cut a number with lots of zeros. Eg 30,000 you can just convert into „3e4“. This means a number 3 followed by 4 zeros, but

"" here. This of
very useful, we
the floppy
d and
name

we always take a

name, each letter is a

In Basic was a CLS and later a

cCommand. Since the CLEAR sets not

only the RAMTOP, but also clears the screen, the CLS

command is obsolete and will be removed. We put all figures

in Basic with VAL "number" to a formula that uses less

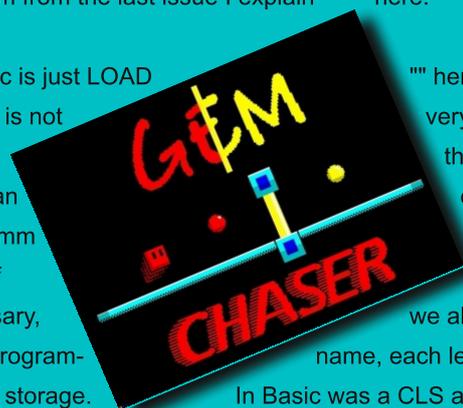
memory. The number "0" is changed to NOT PI. The number 1

we changed to to SGN PI. These are also formulas that take

less memory than just the number. Interesting is, that you can

cut a number with lots of zeros. Eg 30,000 you can just convert

into „3e4“. This means a number 3 followed by 4 zeros, but



With these tricks the Basic GEM CHASER came down from 285 to only 211 bytes, although floppy commands and file names were added.

In general we want to save space. In basic this is already necessary to allow the programs a higher RAMTOP and so ever be run on Opus, but overall we have to save memory since the Opus floppy only has 720k. A MB02 disk has 1.86 MB, a +D disk size is 780k, but only maximum 80 file names. So what we do pinciple is „packing“.

Some might know how to „zip“ a programm on Microsoft Windows, the most common method to save memory on PC. The Spectrum had this much earlier. The program that I often use is "Turbo Imploder". The Turbo Imploder is fast and gives mostly fabulous results. Only code files can be imploded. The file has to be loaded into memory and then we start the imploder. The program runs in video memory, so it will be loaded with LOAD "ti" CODE 16384 and started with RANDOMIZE USR 16384. You will be prompted for the starting address, the program length, and the current entry point. This entry point, we need to know before imploding, usually it is in Basic loader. If we enter no starting point, then no direct entry point is performed after unpack.

After the packing sequence, the new file data is on the screen and the new file can be saved. Quite often this saves half of the memory. Using special logarythms the program calculates a shorter code than before. A simple example: if there is a programm with many same numbers, such as

1,1,1,1,1,1,1,1, these are 8 numbers and so 8 bytes. But another way to save the

same information is a control signal, eg 255, then 8 for the information that the next number is 8 times in memory. Then a „1“ for the next character. The result is 255,8,1. Only 3 bytes. Unpacked the programm calculates it back to the eight times „1“. This is a very simple example for a packer, but the real packers of course work much more complicated. The saved code is always starting with RANDOMIZE USR „start address of the new code“. The file is unpacking first and then jumps automatically to the entry adress. The disadvantage is, that the unpacking may take a few seconds, the advantage is precisely the saved memory. Almost all demos are already packed, but game developers, who often develop the games on the PC and do not know memory problems anyway, use packers rarely.

A friend told me how he once ,back in times of communism, occupied the black and white television of the family. The father came in and asked "What will be today in television?".

The response of the son was : ' Pack Maker ". I do not wonder that the families tv set was occupied the whole evening, because although unpacking is possible in seconds, the packing takes a longer time, sometimes 10-20 minutes... for each file! Some games have 3 or 4 files, so you can really enjoy the evening with flickering pictures.

Of course there were already programs in which a very short loader starts in Basic, and then loads the rest with a special mc routine. We had to hack the loader and find the entry point in the machine code. Thanks to MB02, but also with the use of PC and emulator, hacking is still exciting, extremely less time consuming than before. Still, I'm glad if I do not have to hack or this work can be forwarded to Stefano or other hackers. It is always hard to read and understand a strange code, somtimes it's really driving me crazy. Most of these programs have also a too high RAMTOP, so I have to move whole programm parts. This is what I'm doing:

I simply load in a program file that is normally saved on adress 24000 to adress 25000 with LOAD "" CODE 25000. As simple as it is, the problem is solved yet, but the code is now 1000 bytes lower. Of course this code won't work, because all adresses would need a recalculation for 1000 bytes lower. But this is not necessary, because we will move this content back to where it belongs. Rather than to rewrite everything, I write a little routine in MC. In this example the programm has a lenght of 10 kB:

```
LD HL, 25000; where the file is loaded now
LD DE, 24000; where it should go
LD BC, 10000; Length
LDIR; Copy what in DE is the address on the HL shows, and
as many times as BC.
JP entry address
```

This little routine I'll put at the end of the code. The file is saved with this code (so now 14 Bytes longer) and when I call the machine code, I don't jump to the entry point of the programm, but to the additional code. The Basic now looks like this:

```
10 CLEAR VAL "25000"
20 LOAD "CODE" CODE
30 CLEAR VAL "24000"
40 RANDOMIZE USR 35001
```

The second CLEAR command is necessary sometimes. The Opus Discovery does not work if RAMTOP is too high, but I put the RAMTOP higher (lower number is higher RAMTOP) just when I don't need further load commands. In case of low ramtop Opus parameter are overwritten, but if if the game is



completely loaded, opus has nothing to do anymore and can be deactivated.

"Haha" you may call: „What if the program needs whole memory and I cannot move it to a higher address? This happens sometimes, but mostly when coders did simply save all memory although half of the memory is empty. Here again the packer will do his job. Whatever it does, I guarantee it will save more than the 1000 bytes I need. Then I do the same as above just with the packed file.

I hope this was a good view about our work. Although the Opus Discovery makes a lot of work with the RAMTOP, the +D is tricky too with the 80 files limitation. MB02 hardly has such problems and MB02 users get their disk usually at first place. Tape users get their tapes at last, because it takes a huge amount of time only to record and test the tapes. I hope that all cassettes users soon get a + D Diskinterface in the SINTECH shop, I can only recommend it. Only with a floppy disk drive, a disk magazine becomes a disk magazine.

As I already indicated, the hardest work is hacking. Anyone who feels to be a hacker can contact us always. We have a lot of great projects we never had time to do. Also TR-DOS conversion is something we are thinking about, once we see enough interest. Machine code loading routines for +D and Opus would be something really nice and would save us from the RAMTOP problem. Unfortunately we don't have the knowledge to do it. Who knows more about this can contact us, this can be also an article in our magazine.

That's what i like to do with my Spectrum, just let us know what you're doing mostly with yours. This is always nice to hear. We hope for getting lots of feedback.

Te

Multicolour history

Unfortunately there is no literature about this subject out there, so I investigated in my memory and through the Internet, and try to reconstruct how it came to Multicolour.

Multicolour simply means more colours than the Spectrum is usually able to show. There are two limitations:

- Spectrum has 8 colours, 7 of them in normal and brightened version. Black remains black. So these are 15 colours in all shades. Multicolour may mean to have just more than 15 colours.

- The second limitation relates to the colour resolution. The Spectrum can represent only 2 colours, a font colour and a background colour in a 8x8 character field. Multicolour can also mean to increase this resolution, so mostly in a range of 8 pixels (8x1) display 2 different colors (text and background colour).

First I'll investigate in showing more than 15 colours. This has been used so far only for demos. It is a field (eg 16 x 16 pixels) filled with alternating points and free pixels. The result is virtually a check pattern. If you fill this pattern with blue and yellow and then constantly changes the arrangement of the pixels, then colours are washed and green colour is created. To show this at larger areas, the 2nd screen memory is also a popular possibility at 128k units. It is based more on optical illusion than to real colour resolution, but it works.

Disadvantage is that the screen is flickering and that's actually not suitable for games. For great demonstration effects it has been used very often.

This leads us already to the second possibility: Change the colour resolution. In my opinion, the first time the effect occurred was in 1988 by Virgin Games in „Action Force II". The

programming team „Gang of Five" has created not only a great game, but simply incorporated this great effect. This is



a static image of a helicopter, but it's clearly seenable that the colour resolution is higher here than at all before.

Gang of Five opened the field and many puzzled out how to make that effect. In some demos static picture in Multicolour are shown, such as in Megalomania of Xterminator from Cologne. But when 1995 "COLOR DRAW" was published by NOP from Czech Republic (available in Germany via SINTECH) it was possible for anyone to make such images. It remained in static images and was a maximum of half the screen that could be used.

This status remained a long time until 2010 when the ULA book was published, and thus a new ULA development was encouraged. In emulators this is already often implemented, but not on the real Spectrum. Production of computer chips is still time and money consuming. The so-called ULA-Plus is increasing the colour resolution to 2 colours in a pixel row (8x1), but this would require no programming tricks or additional computing time since it is separated by the hardware. The ULA+ is best to look like the original ULA, so that you would only have to replace it. But this remained just a dream and a few games appeared which can be played on emulator though.

Then Andrew Owen had the bright idea of solving the multicolour problem with software technology. The idea was to show sprites in multicolour. In 2011 he brought „ZXodus“ as first program that could represent multicolour sprites. In the same year with "BUZZ SAW" a great and in history first game what uses multicolour effects not only as a static images. Now objects of the gameplay will be presented in multicolour.

Einar Saukas improved the idea of ZXodus and in 2012 we got "BI-FROST", an easy to use engine also for displaying animated multicolour sprites. It may use half of the screen and the colour resolution is 2 colours on 8x1 pixels, so as ULA+. With BI FROST the gate was finally opened and more and more games are created with multicolour technology. Now the Spectrum typic colour clash is at his end :).

In 2013 the new engine "NIRVANA" from Einar Saukas arrived the scene. The operation is similar to BIFROST, but the sprites can be distributed on the entire screen. Nirvana has no 8x1 pixel colour rows but only 2 rows are coloured in same colour, as you can always set the font and background colour for a pixel row of 2 x 8 pixels. This is a deterioration of colour resolution compared

to BI-FROST, but at least an improvement in contrast to the normal resolution fourfold. The author not longer calls it multicolor, he



invented the BI COLOUR.

Depending on the game, it may be varying, if it's better to use NIRVANA or BI-FROST ... you now have the choice and we will see what great programs future and our Scene+-disk will bring.

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The SUC Poll

Since the SPC Magazine is gone, our magazine did not appear for several months and also the union with a slovakian magazine did not happen (because of the lack of communication), we also asked ourselves where do we go. We forwarded the question as well to our members, but also to all Spectrum channels we know. Will the users who already subscribed continue? Is there also an interest of users who didn't subscribe before? When we want to make a restart, it should be a real one

Following was a call in the SPC Forum but also in the World of Spectrum forum named "To all who still want a paper magazine". Also sent the poll to all SUC members and all other user addresses we had. The result is really seeable. Marketing experts know that the usual rate of answers is below 4%, so we can be happy with 79 answers, but more interesting is the result.

As you all know, we are producing a disc magazine and a paper based magazine. The SPC closed their mag because the discussions went online. So the question if there is still need for a paper magazine can be clearly answered with "Yes". Even more approval, with 48 votes nearly 60% , we received for our already existing concept with disc and paper mag. A good bunch of voices is also interested in an English issue, 33 votes tell us to translate the mag (currently we have only 4 non-German-speaking subscribers). Although the poll was anonymous, we could easily see that many votes were made from users who are not subscribers at the moment. Some of them asked for a trial issue and I hope we can welcome them next issue as new subscribers.

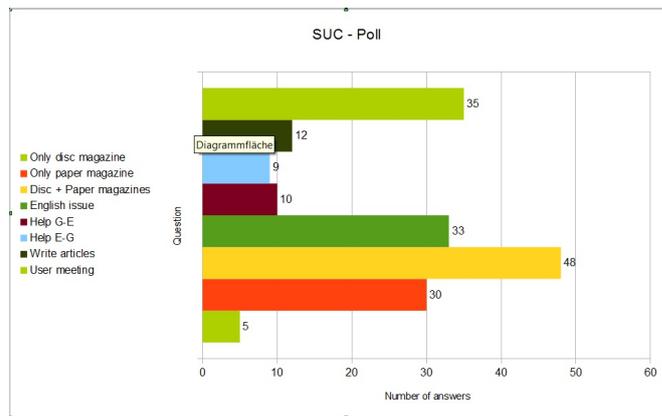
The offered help for writing or translating articles is very welcome. We want to produce the mag with the help of more people, so the work does not depend on just one or two persons. Therefore we have created a new concept which we will present in the next issue.

Finally also the question regarding a user meeting has been well received. We didn't have a Spectrum show with 33 active

participants for a long time. So this is the reason why we now start the plans for another user-meeting additionally to the Spectrumania in Wittenberg in 2016.

At all the poll made us very happy and gave us the confirmation we needed. We have already prepared the way. Now it is your turn to help us going this way.

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EVENT CALENDAR

This time it was important for us to give you an overview about all the coming events. More and more Spectrums are seen on events, that are not pure Spectrum-events. For sure to visit such an event is an enrichment of your hobby. Many events repeat every year, so if you miss one, look out for the next. We hope of course to get message from more international events in future.

- 11/14/2015** **HomeCon36**
Meeting of computer- and videogame fans in the Rhine-Main area.
10-22 Uhr , Alte Schule, Taubengasse 3 (Entry Haggasse), 63457 Hanau, Germany
<http://forum.homecon.org/index.php/Board/31-Anmeldung/>
- 11/14/2015** **Classic Videogames Live 6. Usertreffen**
All what is built untill 2000 is allowed. Kuchenheimer Str. 220, 53881 Euskirchen.
Entry 10 Euro. <http://www.classic-videogames.de/user-treffen/>
- 11/14/2015** **A Retro Gaming Night for Alli**
Play on a lot of classic computers and consoles. From 7 pm till midnight. Live Music with MJ Hibbet (Hey Hey 16k) and it is a charity event to raise fund for the Weston Park Hospital. So play and help. Ticket order needed:
<http://www.computinghistory.org.uk/det/39170/A-Retro-Gaming-Night-For-Alli-Saturday-14th-November-2015/>
- 11/15/2015** **London Gaming Market**
Retro-market with mainly commercial sellers. Royal National Hotel, Russell Square, London
- 11/19-22/15** **Hobby + Elektronik**
Fair with a lot of retro stalls near Stuttgart. <http://www.messe-stuttgart.de/hobby/>
- 11/21-22./2015:** **RETROPULSIV 6.0**
Retro Event for the friens of computers from the 70s and 80s. Hochschule Augsburg,
Further details: <http://www.hs-augsburg.de/retropulsiv/RETROpulsiv/Willkommen.html>
- 11/28-29/2015** **REVIVAL Winter Warmer 2015**
More than 50 computer and consoles plus 30 arcade machines invite you to play in Wolverhampton (UK)
<http://www.revivalretroevents.co.uk/index.php/news1/55-revival-mini-2015-28-29-nov>
- 12/11-13/2015** **JHCon Spectrum-Scene meeting in Czech Republic**
in Jindrichuv Hradek, only after registration. Write to: logout128@gmail.com
- 12/19/2015** **Clubdag Commodore/Amiga/MSX/Atari/Sinclair**
The HCC is an umbrella organization of many clubs in the Netherlands. There are also groups for retro computers and some of them make a common meeting which is regularly invaded by Spectrums.
Beginning is at 10 am, Kerkweg 21, 3603 CL Maarssen, Niederlande.
- 01/15-16/2016** **1. Retrobörse in Köln**
Car boot sale for computer and videogames in the Abenteuerhalle, Kalk www.retroboerse.de
- 01/23/2016** **HomeCon37**
Meeting of computer- and videogame fans in the Rhine-Main area.
Registrations will be surely possible after the Homecon36 (see above)

- 03/12/2016 [HomeCon38](#)
Meeting of computer- and videogame fans in the Rhine-Main area.
Registrations will be surely possible after the Homecon37 (see above)
- 04/02/2016 [3. Retrobörse in Mannheim](#)
Car boot sale for computer and console games, www.retroboerse.de
- 04/23/2016 [1. Retrobörse in Hamburg](#)
Car boot sale for computer and console games, www.retroboerse.de
- Mid of 03/2016 [Forever 17 – Defenders of the 8-Bit](#)
Probably the most important and biggest Demoparty in which the Spectrum is one of the main actors. Also C-64 and Atari 8-bit are regular in the competition. Everyone can send in demos, also if he/she will not attend on the party. Only partyguests are voting. The theme you can read in the headline. The exact date will be surely soon on the website <http://www.forever-party.net/>
- 03/11-13/2016 [20. ZX-Team Meeting](#)
Meeting of the ZX81 friends. Spectrum-Users are always welcome.
Rhön-Haus Mahlerts, Mahlertser Straße 2, 36145 Hofbieber-Mahlerts. Info <http://www.zx81.de>
- 04/30-05/01/2016 [Vintage Computer Festival Europe 16.0](#)
Really a very well visited venue in Munich. For all friends of Retro-Computing, new machines are not allowed. There are talks, lectures, workshops and competitions. Informations at www.vcfe.org
- 05/14/2016 [17. Retrobörse im Ruhrgebiet](#)
Car boot sale for computer and console games in Oberhausen, www.retroboerse.de
- 05/13-15/2016 [Spectrum-Days Clebronn 2016](#)
A pentecost weekend with Spectrum and friends, but possibly also with family. A near fun park, a wildlife park a lake and other leisure attractions makes it possible to offer a venue for the whole family, even if you wife (or husband) is not interested in Spectrum. It will be possible to book a room for sleeping in the same place where the venue will happen. So no curfew for coders. Date is not 100% sure yet, we inform all subscribers by e-mail as soon as it is safe.
- 06/18/2016 [HomeCon39](#)
Meeting of computer- and videogame fans in the Rhine-Main area.
Registrations will be surely possible after the Homecon38 (see above)
- 07/02-03/2016 [North East Retro Gaming Limited](#)
Arcade machines, pinball, computer & consoles to play with. Newcastle, UK. www.northeastretrogaming.com
- July 2016 [ZX Sumava 2016](#)
One week Spectrum camp for hardcore fans in a wooden hut. Possible to book with family.
Holiday in Czech Republic, why not. More exact date to follow.
- 08/17-21/2016 [GamesCom2016](#)
Worldwide biggest fair for computer- and videogames. As every time there will be also a retro area. In 2015 the Spectrum had a table there. Will someone be there also in 2016? www.gamescom.de
- 08/27-28/2016 [Spectrumania](#)
A "must be" for Spectrum friends in Germany. To make this pilgrimage once a year is a duty. The date is sure, for the place are still several options. We will inform you once the venue comes nearer.
- 09/10/2016 [18. Retrobörse im Ruhrgebiet](#)
Car boot sale for computer and console games in Bochum, www.retroboerse.de
- 09/17-18/2016 [Classic-Computing 2016](#)
The Classic Computing venue is celebrating the 10th anniversary with a big festival. All clubs and shops should be there who have anything to do with Retro. A real mega-event on 2000 m². We can't await. News will be surely published here: <http://forum.classic-computing.de/>
- October 2016 [Play Expo](#)
Biggest UK Gamers fair in Manchester with RetroGAMES Party. Exact date to follow.
<http://www.playexpo.net/>

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