Paul Wiselius (2024)
An interesting career as a chess programmer
Ron Nelson (re)visited - Part 2

In this second and final part about Ron Nelson I bring the rest of his posts on Hiarcs. Some of them are inside stories about his years at Fidelity, for example the work on the Designer 2265 and on the talking chess computers, Chesster Challenger and Kishon Chesster. Also about his work at Excalibur, interspersed with some interesting "History Trivia".

In part 1 Ronald C. Nelson told his personal story, which also proved that he not only created the programs for the early (weakly playing) Fidelity chess computers, but also for Excalibur's showpiece, the Grandmaster. A well-playing chess computer on tournament size, and in the official board colours as they were customary in the USA.

He wrote the Grandmaster program in close collaboration with grandmaster Larry Kaufman. Later, when the H8 processor was phased out, he transferred this program to a 6502-like processor. This had less working memory (RAM), which meant that he could no longer apply some advanced techniques which required more RAM. He also removed "thinking in the opponent's time", which meant that direct responses to an expected move were no longer possible. These program versions are included in the Phantom Force robot, the Alexandra and other closely related models.

But after that he focused mainly on the "low-end" chess computer market, and he took nine months to develop programs for cheap (and therefore more limited) processors. The average recreational chess players were well served with this, they got a favourably priced opponent that was user-friendly and that they could also beat every now and then. Good examples of these are the LCD Computer Chess, King Arthur, Saber IV and the Chess Station. Later also the Igor II (model nr 711E-2), which looks deceptively similar to the original Igor.

See YouTube, Excalibur Igor sound effects:
**https://www.youtube.com/watch?v=6y4vfsSMJ_8&t=13s.**

About the first Fidelity Chess Challengers
But now first his experiences at Fidelity. The production of the world's first chess computer. Some digressions may be a bit technical (even for me), but then you can skip them to look further to the interesting historical facts....

About the reverse algebraic notation of the Chess Challenger 1
RN (Ron Nelson): You mentioned the reverse algebraic notation. Here is the story. I made a sketch of how I wanted Chess Challenger to look. It is on my Facebook page. But it was a standalone unit next to a standard chess board. Fidelity's mechanical designer (very talented, eventually started his own successful company) built it as one unit and put the coordinate graphics (1 – 8, A – H) on the edges. I didn't care since in the USA we used P-K4, QxQ notation. When Sid (Samole) showed it in Europe, NO ONE said anything. I am sure he did not show it to any European rated players. So that is how it went into production. I stand corrected. I looked closely at the prototype photo, it had the correct notation, I think...
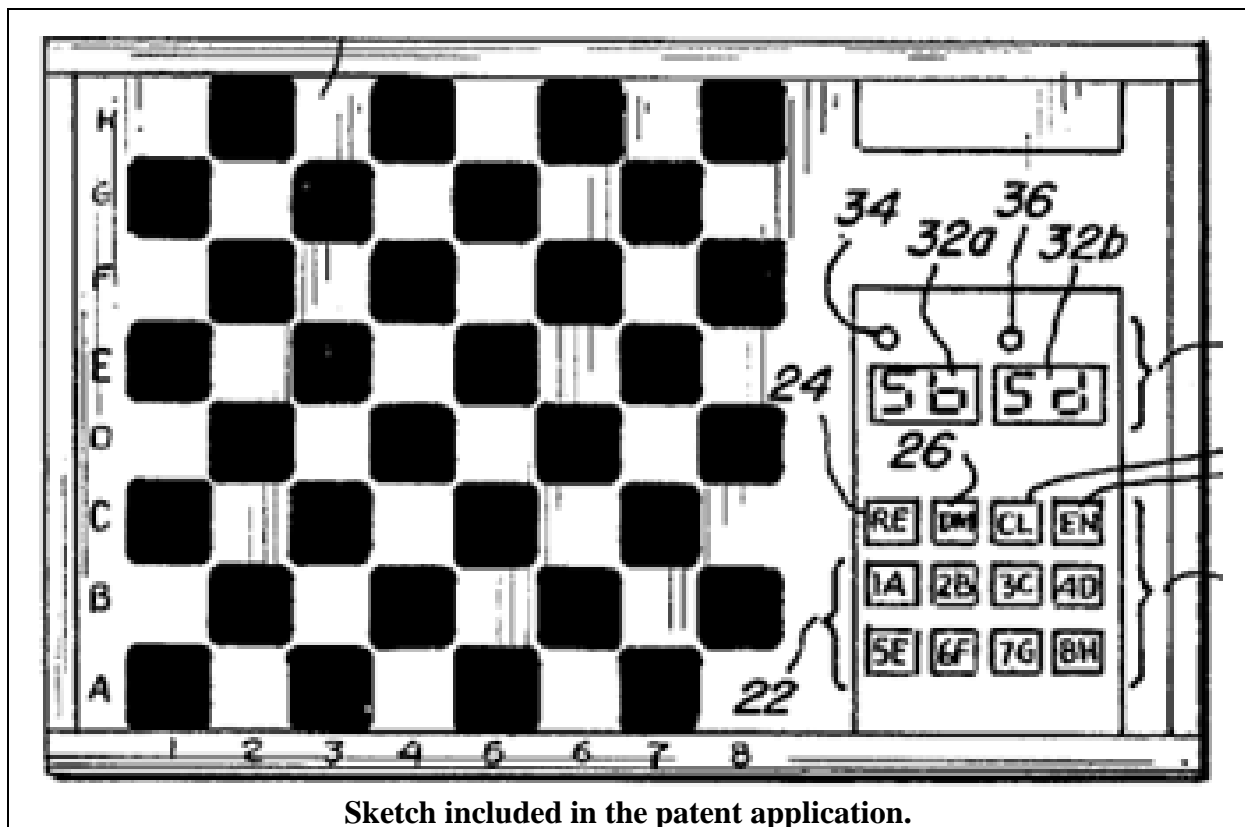
Sketch included in the patent application.

(**PW (Paul Wiselius)**: see sketch, not so…).

RN: Wow...40 years ago. When Sid got back he said he had excellent feedback. When the mechanical designer went to cost the unit, it was very costly. So he made the ingenious cost effective housing we have come to know. It was then the notation was fixed to the label by his graphics. But I did not care since I had never used algebraic notation in my tournament game playing during my high school years.

Fidelity Electronics Chess Challenger 1, the world's first commercial chess computer.

RN: So I built the first 1,000 Chess Challengers. Fidelity Electronics, Ltd, was in a building on Diversey Ave on the Northside of Chicago, and had the hearing aid import company and the Bio-medical (VA sole customer) business in it. And Sid gave me a sales office to use, once he hired me away from my job at Zenith Radio Corporation where I designed IF amplifier circuits for color televisions. The CES (Chicago Electronics Show, where the prototype was demonstrated) was a success, we had orders, and he came into my office, and said he had just rented the building across the street, and the Chess Challengers would be produced there, and I was to run the production line.

Jim Clovis, the technician and handy man from Fidelity's main building, bought & installed in my building a larger production wave solder machine than he used for the bio-medical low volume productions. He trained a guy "off the street" to run it and told me good luck and went back to his building. I taught people to stuff circuit boards, then wave soldered, then assembled, tested and packed. So I opened the building (in the morning) and closed it at the end of the day. I built them...and taught "techs" to repair the ones that didn't work. Fortunately they sold and Sid went for 10,000 pieces and hired Bob Heekin, an experienced electronics production manager to continue real organized production and handle the people problems. Then Sid rented another building down on the next street for me and I started [designing] Chess Challenger 3, Chess Challenger 10 and Checker Challenger and hired 2 engineers and a programmer to help with Bridge, Checkers and Chess.

(**PW:** it is not clear whether 1000 CC1s were built, or whether some of the first 1000 motherboards were also used for the CC3).

RN: The Chess Challenger hardware PCB was a disaster. The Tech at some university who layed out the PCB (Printed Circuit Board) for Fidelity's Bio Medical division had no clue about PCB layout. God bless the guy, he hand wired the prototype Chess Challenger. Hand wired...and it worked. I worked on electronics at Zenith in the 45Mhz IF group. I learned about good PCB layout. So there was no way I was letting us go beyond the first 1,000 PCB's. I talked to Fidelity's talented mechanical designer to see if he would do it with my advice and explained the black tape we used at Zenith. He looked into it and said they use blue and red translucent tape for double side PCB's. So I showed how to layout ground and power first, with heavy traces and ground copper area. He did it and it was beautiful, and reliable. Those were the PCB's used in the next production. I am not sure when I finished, but I started working on the Chess Challenger 3 in my office while in the production building the automated resistors machine was stuffing PCB's. I don't know if the CC3 ROMs started with the new good PCB or not. But there were only 1,000 of those horrible PCB's.

The "invention" of the touch sensory chess board.

RN: One of the biggest mistakes in my career was not amending my US Patent with my newly "invented" touch chess board. Invented, ha ha... A salesman walked into my office in Chicago and said: "We have this new telephone keyboard that is flat." I said: "Can you make it larger and 8x8? He said he would check. Weeks later he walked in with a sample, and so was born the Sensory Chess Challenger 8, the first chess computer with a pressure-sensitive board.

**Pictured left: Programmer David (Dave) Kittinger,
during the 1983 Micro World Championships in Budapest.**
(Photo was taken by Tom Fürstenberg)

David Kittinger didn't come, the Spracklens did.

RN: While Dave Kittinger was still in Alaska, I came upon his MyChess program. I liked how it used it's knights in it's playing style, and saw he was a strong chess player and was programming in Z80.

(**PW:** the Z80 is the microprocessor that was also used in the Chess Challengers).

RN: I told Sid Samole we should talk with him. He may have relocated to California by the time we contacted him. But we did, and we flew him to Miami and Sid Samole made a deal with him and they shook hands on it. I took him to lunch afterwards and we discussed technical details. He called a week later to say he was sorry but he had to break his gentleman's agreement since he was going to instead work for the Hong Kong Novag company. Months later, after Chafitz & Applied Concepts had "screwed" the Spracklens, Kathy called Sid Samole. And that's how it happened.

(**PW**: At Chafitz & Applied Concepts, the first chess computers with programs by Dan and Kathe Spracklen had been released, the Sargon 2.5, 3.0 and 3.5. The Sensory Chess Challenger 9 was the first commercial Fidelity model with a program by the Spracklens).
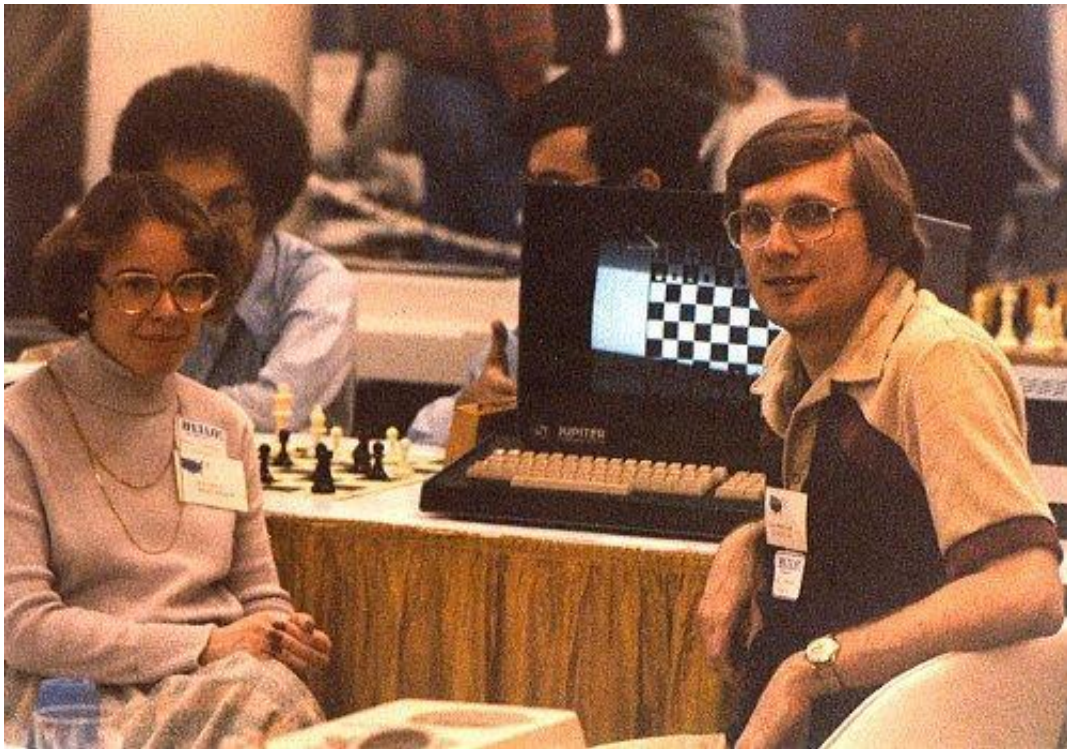
In the foreground: Kathe and Dan Spracklen at the 9th ACM North American Computer Chess Championship, Washington, DC in 1978.
Photo was taken by Monroe Newborn.

About the Spracklens program code
(**PW**: For the the Sensory 9 a new program was written, now for the better 6502 micro-processor instead of the Z80).
RN: Hmm, Chess Engines...Look at the published Z80 Sargon code. When the 6502 code was demoed at Fidelity, Dan couldn't stop saying how fast it was. There was a dramatic software design change. All static eval and fast search. When I finally saw the source code I cried. It was the most unprofessional program I had ever seen. Because of the Apple II development limitation all comments were skipped. All labels brief. Only Dan could maintain and add code. But Dan explained it was the Attack Bitmaps that was the major improvement. In 1981 at the California ACM Computer Chess Tournament, Kathy introduced me to their friend Ken Thompson. I asked him about his Belle hardware chess machine, and he was quick to explain how the Hardware Attack Bitmaps worked. I realized that attack bitmap approach was now in a Chess Challenger, but in software. I used the Belle Attack Map generation on my H8 program.

World Micro Computer Chess Championship 1981

RN: In 1981 I was at the WMCCC in Travemünde, Germany with Dan & Kathy. After one of the Commercial Group games Dan "played" with Chess Champion Mark V, he came back upset and taken aback. Mark Taylor had the chutzpah to tell him he had a bug in his (Dan's) code and where it was. When Dan got home he confirmed it.

RN: (In response to a comment about the timeline on released chess computers by English collector Mike Watters:) Thanks that will help. It brings back memories.
- Poppy, [this was in 1983 the Fidelity Sensory 8 with] an external look and name change, asked for by our manager at our Germany office we opened. His name was Peter Reckwitz, I recall, and he tragically died a few years later after being hit by a car in front of his house.
- Sensory Challenger 12 Model SC12 year 1984.
I did the I/O programming and UI design for the Sensory 9. and sent development units to the Spracklens. The next year I designed it into a wooden housing, and Kathy said she wanted to design the User Interface. I said ok go for it. When it was finished & masked, I was at an internal sales meeting. No one could figure out how to start a new game. Sid turned to me with a questioning look. I showed him how to do it (multiple key presses as I recall) and explained about Kathy. He said, don't let them do it again. **I think that was the one game we made where you better not throw away the Instruction Manual!**

(**PW**: this is probably also about the Super 9, with an indeed completely illogical key sequence for "New Game": [button RE, field D8 and button CL]. With the SC12, the key sequence is even more illogical: RE, field A6 and CL).
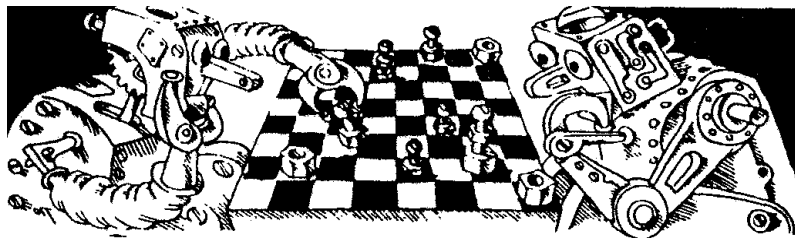
Fidelity and fast hardware

RN: I believe I always had the fastest chess micro-computer hardware. There was speed by design and then there was over-clocking. My first over-clocking was for the World Computer Chess Tournament in Linz, Austria, possibly an ACM tournament. Basically, I built the Chess Challenger Champion into a refrigerator. The colder the electronics the more you can over-clock it. If one looks at pictures, the Chess Challenger Champion looks like it is in 5 wood housings all stacked on top of each other. As I recall the only other time I did the refrigerator chess computer design was a unit entered in the World Micro-Computer Chess Tournament in Spain. If I recall correctly, I over-clocked for the 2100 rated Par Excellence. 5 MHz 65C02 processors were not quite yet available.

So I ran the processors hot, by putting a diode in the base of the 5 volt regulator. This caused a 5.7 volt power on the 4Mhz processor, which since it was CMOS allowed it to be sped up to 5 Mhz. We started production that way, but soon the 65c02 chip manufacturer was able to offer tested 5 MHz chips at 5 volts.

My other speed up trick this time was by design, and it was to have fast and slow memory. I had the Spracklens partition their code into fast and slow. Both were programmed into slow ROM, but then on power-up, they transferred their fast small engine into very fast static RAM. The large block of slow end game code, for example, just ran out of slow ROM.
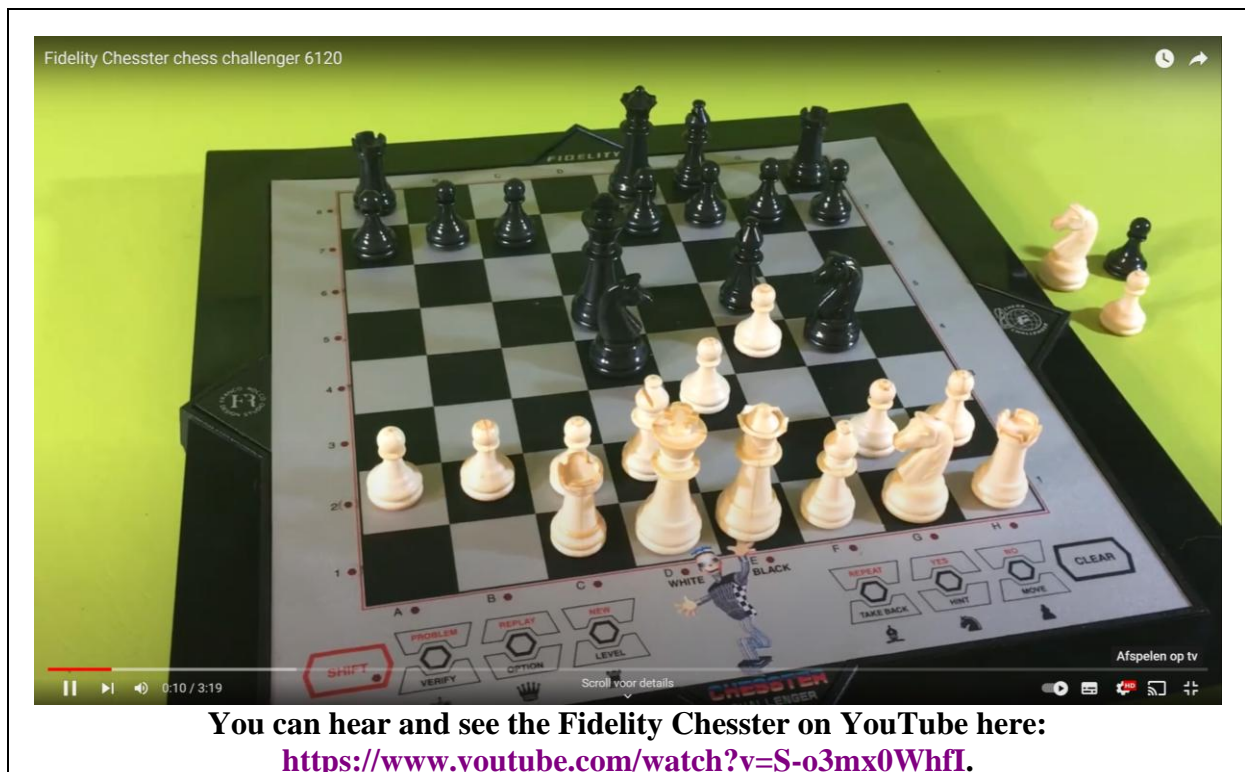
About Talking Chess Computers

RN: I have seen a few questioning postings on Chesster, which I will address. But first I wanted to talk about the start of Talking Chess Computers. In early 1979, in one of my Design Electronics magazines, I read about a Talking Calculator for the blind. The article explained how Dr. Forrest Mozer had invented a voice compression algorithm and had the algorithm designed into a dedicated chip. I told Sid Samole and he contacted Dr. Mozer and arranged a meeting with him at UC Berkley in California. We had a wonderful meeting, and worked out a deal with him and TeleSensory Systems to buy the voice chip. The voice data was in an external ROM and I worked on making the chess voice vocabulary, sent it to Dr. Mozer, who used his equipment to create the ROM data and sent it to me for testing and masking. I also eventually did the same in French, Spanish & German.

FIDELITY

RN: Texas Instruments was working and introducing their own talking product, Speak & Spell, at about this same time. Dr. Mozer's compression was done in the Time Domain and Texas Instruments was done in the Frequency Domain. This explained why TI's was a little more human sounding compared to Dr. Mozer's Cylon Robotic voice. If you are interested in a detailed reading on the Talking Calculator here is a link:
http://www.vintagecalculators.com/html/development_of_the_tsi_speech-.html

RN: Fast forward to 1989: Kathy wanted to develop something along the educational lines for computer chess. So she started creating a script of what could be said during a game of chess. I received her script and we had a marketing meeting, where I presented the idea. It was liked but they wanted more personality with perhaps a wisecracker persona. Names were thrown out and Chesster was a favorite. All during the discussion, Teri Everett (the first Chess Challenger sales person hired after the CES in 1976), who is a doodler, showed the impish figure she had doodled on her note pad. It was the graphic we used for Chesster Challenger.


You can hear and see the Fidelity Chesster on YouTube here:
https://www.youtube.com/watch?v=S-o3mx0WhfI.

RN: Off topic: Teri was very capable and was Sid Samole's protégé. When Hegener & Glaser bought Fidelity, she was passed over to run the company (perhaps because she was a woman) a big mistake in my opinion.

(**PW**: maybe Nelson would have preferred to keep her at Excalibur?).
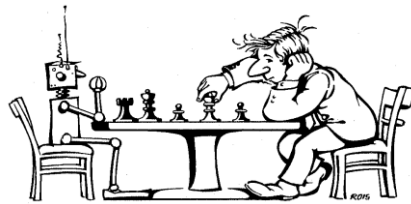
RN: For the voice system, I again went back to Dr. Mozer. He had started a company called Sensory, Inc, which was now run by his son Todd. But instead of a chip, they now offered a 65c02 software solution. That was an ideal solution for me, so all was in place but….H&G bought Fidelity. Kathy told me she would not work for a company who called their product The Devil (Mephisto)… And Saitek made Kathy & Dan an offer to work on a SPARC CPU to compete in the World Micro Chess Computer Tournament and win back their title. So no Kathy to do the voice programming.
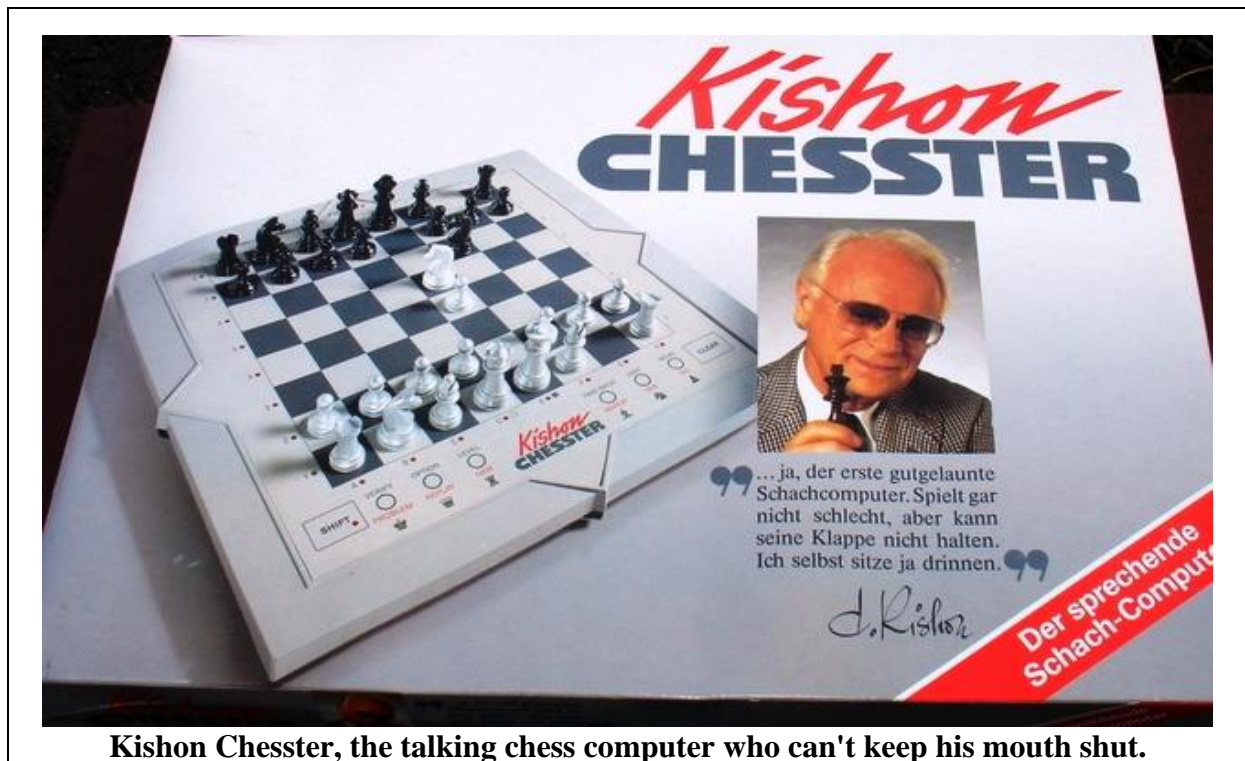

Kishon Chesster, the talking chess computer who can't keep his mouth shut.

RN: So Sid asked me if I could do it. Of course I said yes, and it was my first project into my 12 month contract. It was not easy, as I had mentioned the Spracklen 6502 code had very few comments, so it was not easy designing a voice system that melded into a chess engine. I came up with a clever software scheme where the voice events were coded in line with the code, and not arranged in tables. The scheme was designed for 4 languages. I finished the English and I believe it went into production. Then I started the French & Spanish, but H&G wanted Kishon to do the German translation and actual recording. While still in development, Helmut Weigel, from H&G, came over to the USA to start testing the German portion. I had designed an Apple development system to display all voice as text. So he spent a number of days with me testing and modifying the German voice design.

RN: Helmut liked the development system and wanted to continue testing back in Germany. So I was commissioned to build a second unit and bring it to Munich. I did, and my trip to Germany led me to two projects for H&G, which I want to write about in a separate post. Helmut Weigel was also the product developer for Tiny Chess, Fidelity imported from H&G. Helmut and I talked about that product, since I was impressed by it. He told me he hired a software company (or two I think) in Belgium to write the software for the single chip.

(**PW**: This contained a program by Eric van Riet Paap).


| **Helmut Weigel** | **Eric van Riet Paap** |
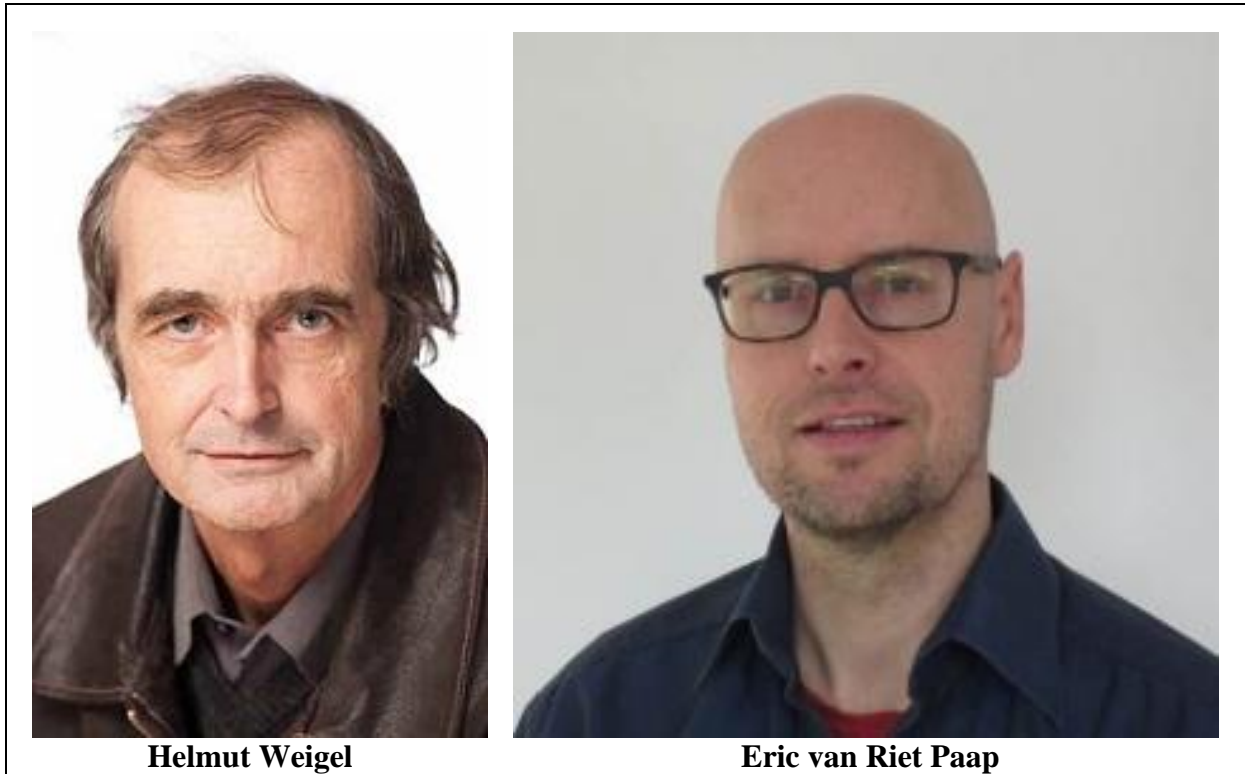
RN: One of my last projects at Fidelity/H&G was Little Chesster. The goal was to cost reduce the Chesster Challenger. The LCD was eliminated, a single chip MCU with external Rom & Ram was used. A three chip solution which allowed a single sided PCB for further cost savings. The engine & voice code of Chesster was preserved but some of the voice data was removed since it wasn't used.

(**PW**: The Little Chesster was also released by Radio Shack as the 1900L).

And then Ron Nelson joins Excalibur Electronics....
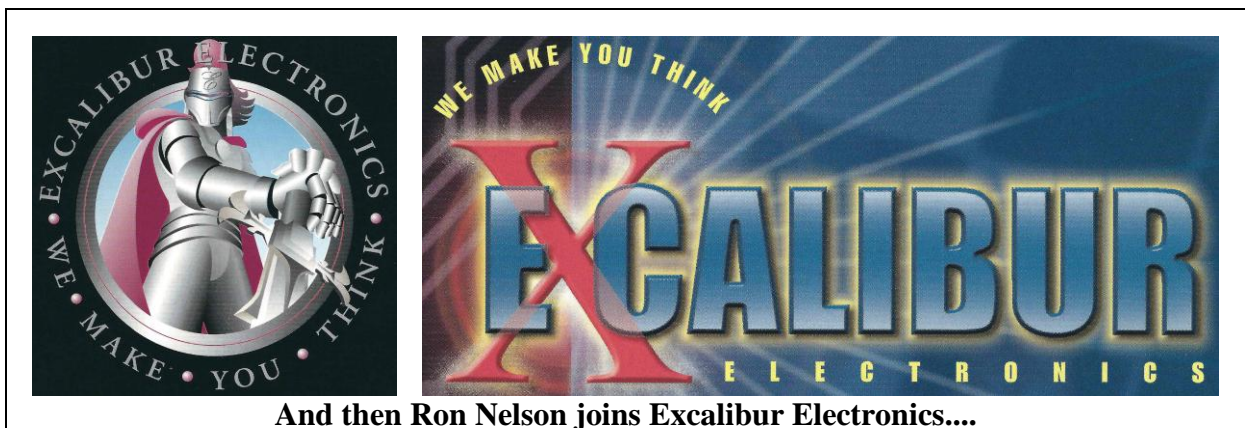
RN: Fast forward to 1996, where I am working for Excalibur Electronics. I had finished my H8 chess engine and used it on my Mirage moving chess piece robot design. But we wanted a talking product too. So I worked on my own compression algorithm. I had done my Master's Thesis in grad school on a computer voice recognition technique, so I enjoyed getting back into computer voice "research". So now I had full control, from the studio recording, to the compression and decompression of the voice by computer. The first product I used my system on was Ivan The Terrible. I also added sound effects to the product, giving it yet another dimension of entertainment. This was done using the H8 processor. When I switched over to the Sunplus/GeneralPlus 65c02 single chip BLOBs, the chips were even more efficient since they had some voice hardware built into the chip.
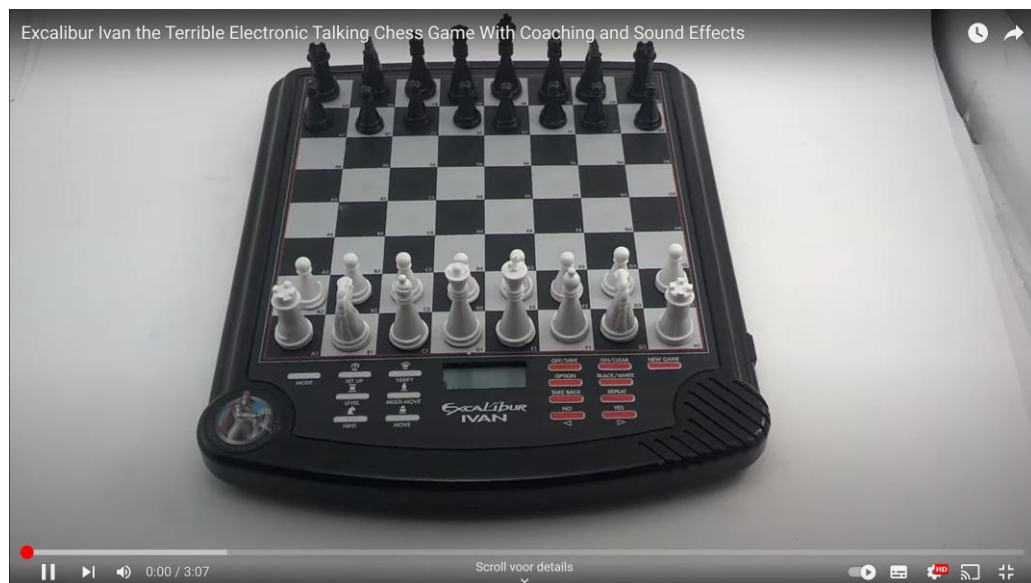

No fewer than 3 versions of the Excalibur Ivan The Terrible have appeared.
**Here is a version on YouTube:**
https://www.youtube.com/watch?v=B2tD9G_KRCM&t=26s.

RN: The **Alexandra The Great** product was one of my interesting Talking Chess Computers. Alexandra [Kosteniuk], an up and coming young woman Chess Master, had a manager who called us to see if we could work together, thus promoting Alexandra to the world. We did, and she went into a local sound studio with me and did all the recordings. The recordings were In English, and also in Russian. They were Russian and the manager had an import company in Russia, so he wanted a Russian version to import into Russia. As I recall we did ship into Russia but not large numbers, since payment in Rubles was problematic.

RN: What was cool, was that I didn't use any human voices or studio for the French & Spanish (can't remember if I ever did German). (**PW:** so yes 😊). I used the latest Text To Speech (TTS) systems that were starting to appear online. I eventually used the English TTS voice later, to eliminate Alexandra's voice when our relationship ended.
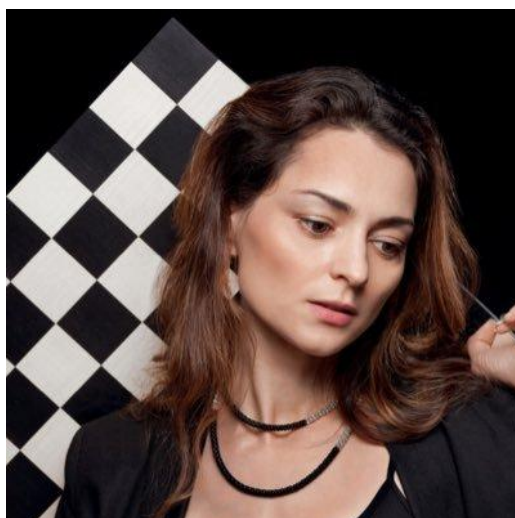
Alexandra Konstantinovna Kosteniuk YouTube channel can be found here: https://www.youtube.com/channel/UCTol4y59smqTXeT_9JYYcEg.
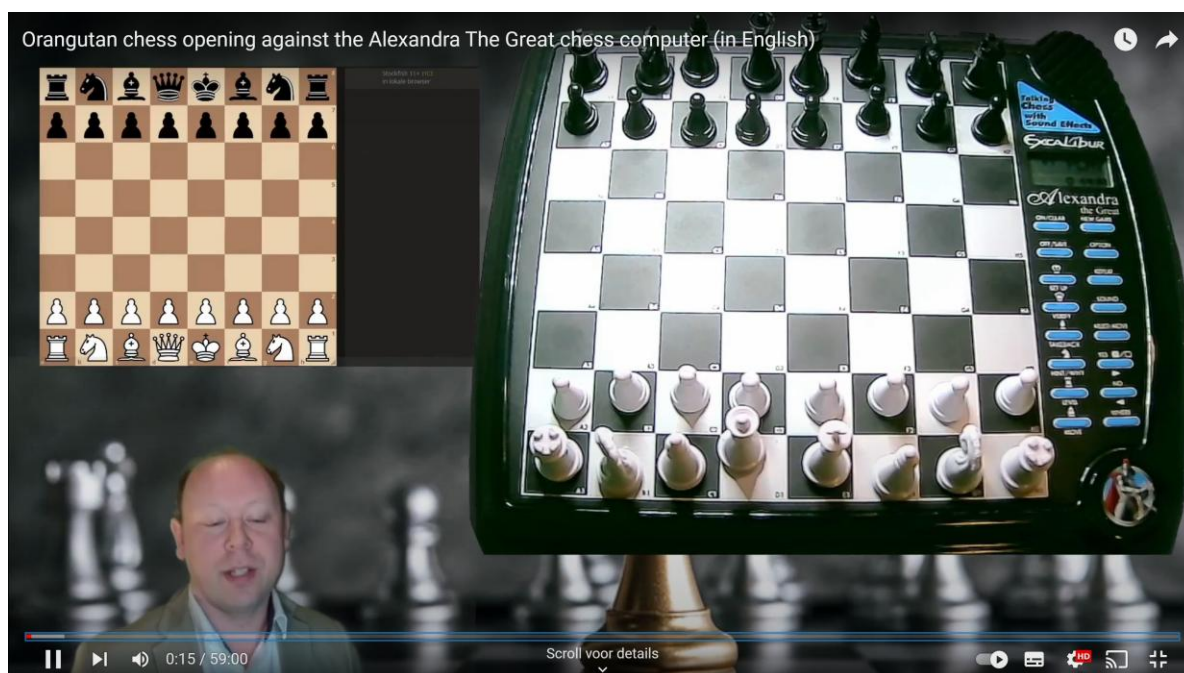
Here is the Excalibur Alexandra The Great on YouTube: https://www.youtube.com/watch?v=Ou25E0irT9s.
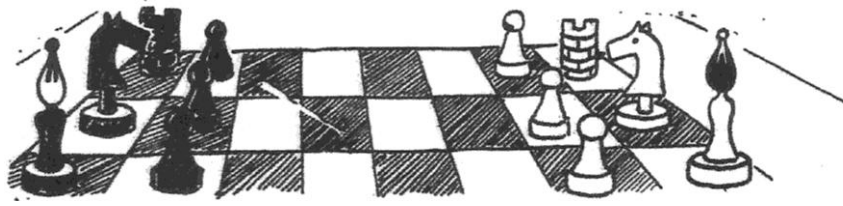
Other H&G projects

RN: I was finishing The Kishon Chesster project, and Helmut Weigel had asked for his own development unit for testing in Munich. Dr. Prommer approved the request and told me to deliver it to Munich so I could also meet the H&G team. I did, and it was a very enjoyable visit. During my visit, I was asked to sit in on a Product Development meeting. It was somewhat interesting and then Dr. Buckhart (I think that was his name. Or Burchhard?) head of Research & Development, said they wanted to develop an ARM processor chess product. He wanted permission to hire an outside firm to design it. I held up my hand and said I would design it. He asked if I had ever designed anything with an ARM processor and I said no.

From left to right: Ossi Weiner, Manfred Hegener and Richard Lang.
Photo is from the 1985 German Magazine Computerschach und Spiele.

RN: Dr Prommer turned to me and asked me if I could do it, and I said yes. So I got my first H&G project. Then I went back home and started researching what the hell an ARM processor was. I called the chip sales rep who gave me an ARM development board on permanent loan. I designed the hardware (after reading an awful lot) wrote the I/O code (LCD & Sensory board and beeper) with Ram Rom test code. It was designed for a Fidelity Designer LCD housing, and I sent the working unit and source code to Munich but never learned what they did with it.

RN: That success led Dr. Prommer to ask me to design a high speed 68020 module for their modular system. He wanted me to work with Richard Lang to get Richards program on it. I contacted Richard to discuss my Fast Code Slow Code hardware design. He had no problem with it. I told him the test unit I had for him was layed out for two 68020's. Did he want me to deliver a fully populated PCB so he could play with multi-processing. He had no interest, so I just populated one half of the large PCB development unit that worked with their autosensory hardware. (**PW**: this might be (the forerunner of) the tournament machine that Ruud Martin was able to take over from Richard Lang a few years ago!?).

RN: I then also finished the layout of the production PCB for the module using my type of hardware design, I sent it to Munich to sample and build and await Richards "partitioned" software. When my wife passed away in 1992, I went to Europe to visit friends and to visit H&G in Munich. One of their good technicians, whom I had met on my previous visit, came up to me and said my fast speed module design was the most solid design he had seen. He said they had very few returns of modules using that design.

RN: The development of the Fidelity Designer 2265 [in 1990] is my most fondest Fidelity memory, a crowning achievement at Fidelity. A certified consumer computer (USCF) chess master. But what came before, the Mach IV...or some name like that. The Spracklens were maxed out. Kathy, in charge of evaluation functions with chess masters in her office advising her, was looking for some other blue sky approach. Dan was now in complete charge of 68000 program advancement. He had executed on hash tables perfectly, so end game was fantastic. I gave him the multiprocessor hardware to use two 68000 programs (on my chess cards) with medium coupling, after I had developed my twenty one 6502 multiprocessor machine I entered at the ACM with loose coupling. But it was not enough, and costly. All rested on null move search technology. He could not make it work to give meaningful improvement. They were in California and I was in Miami, but I had something, I had made. An auto-tester I built, using a competitors product playing a 68000 chess card, I had designed, with the Fidelity Spracklen engine.
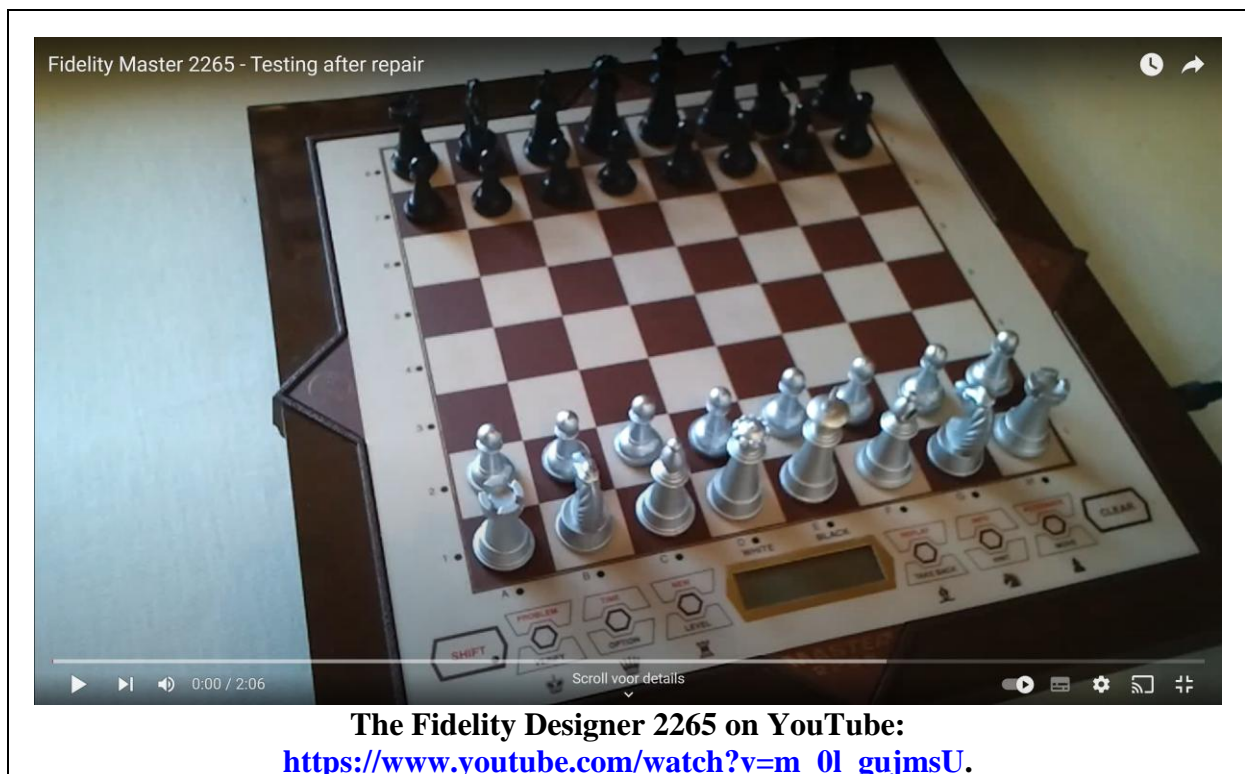
The Fidelity Designer 2265 on YouTube:
https://www.youtube.com/watch?v=m_0l_gujmsU.

RN: I could have many automated matches, printing out PRV and scores. But it was my watching the games and the PRV's like you do, and we did at ACM tournaments that started me asking questions of Dan. Why can we not generate checks in the quiescent search? He said because it would blow up the search and slow down. Ok, I said, but what if we only generated checks that didn't occur as often, like a knight check that forked a major piece. He said, ummm,,, that would not take much and the search would not blow up. So that is how we slowly started developing a tactical quiescent search that had all of the things a strong chess player explores when thinking of a tactical position. But I would see that the PRV was missing these obvious strong player "tricks" and have Dan look to see if he could add them.
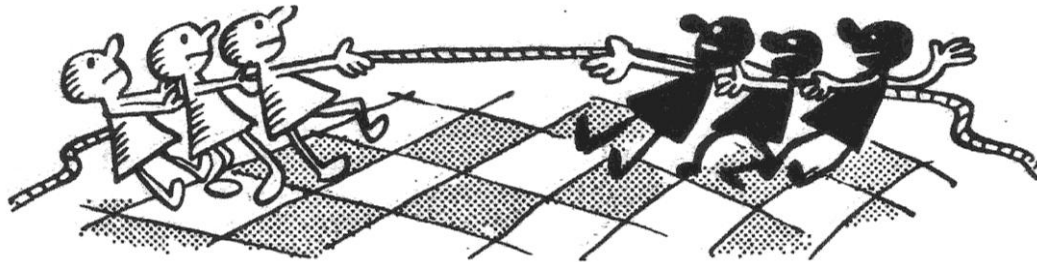
Because of the attack map, all this type of information was easily divined. At the Micro Tournament in Spain, it was music to my ears to have the chess master commentator, perhaps Mike Valvo, say The Fidelity unit was playing moves it had never before been capable of playing. Just like the masters we played to get the certified rating, who were amazed. I used this same type of tactical threat generation on the H8 machine, since I had attack maps with the needed information.

Michael (Mike) Joseph Valvo, (April 19, 1942 – September 18, 2004)
at the Deep Blue vs. Kasparov match in Philadelphia, Pennsylvania 1996.
Photo was taken by Monroe Newborn.

About Larry Kaufman, his main advisor

RN: Even now I have to catch myself when thinking why didn't I bring in Larry Kaufman to help in Fidelity's computer chess development. Sid Samole gave the Spracklen's in their California office everything they asked for. They sequentially went through at least two or three grandmaster advisors. And Larry was in the Miami area and would come in to see me or Sid and we would talk. But never meaningful to me. We talked about his Computer Chess Reports Mag & results. He played many game of consumer computer vs. consumer computer chess like you do, and report the results, and some general opinions. But I think it was the years of watching these computer vs computer matches that his chess master skills began to see why they were making the moves they were making. He could start thinking like the programs, and so he understood the programs. Not just the evaluation function, but the tactical search, and selective search that Lang used in certain positions. So when he came to me at Excalibur, he had learned so much, we could talk turkey like you wouldn't believe. He explained Null move search to me with such clarity, I wished I had had time to implement it, but I had production schedules...lots of them.

See: https://www.chessprogramming.org/Larry_Kaufman
for more information about Larry and Ron's collaboration and, of course,
this YouTube video: https://www.youtube.com/watch?v=i1s0Y3953AU&t=7.

About Excalibur

RN: First I want to set something right in a post I made, I said I wrote and desktop published all my Instruction Manuals. I think it was a case of last in first out memory. For you engineers, are there any on here, LIFO [Last In First Out] and not FIFO [First In First Out] buffer. When I started at Excalibur, Al Lawrence had his own company that consulted on writing Instruction Manuals for Excalibur. He wrote the first manuals for my chess products. They were wonderfully written and typeset, using QuarkExpress. I asked and received all content files he created. When I went on my Sabbatical [in 1999] and returned, it was about the time we were moving into the famous Rook Tower building with the Chess Museum. Excalibur needed MORE products than one (me) person could design and program. So Al Lawrence was brought on, as VP of Product Development, to work with our current HK (Hong Kong) Factories and new Factories Shane & Mike found had interesting products. No computer Chess products.

He could no longer do my manuals with as much attention, so I bought the QuarkExpress software and did all my manuals from then on. Al Lawrence is another brilliant person, Fidelity and Excalibur had as friend, worker and advisor. At one point when it was asked of him, he lived in Hong Kong running our HK office for 6 to 9 months. My fondest memory of Al is seeing him play a simultaneous chess exhibition in downtown South Miami near where I lived.

So I corrected a wrong, with Al Lawrence. By the way it has been 40 years since I invented Chess Challenger on my Altair 8800 home built computer. And Excalibur did go bankrupt and it's assets were bought by EB Brands, so again, all was not rosy towards the end. So things are coming back, perhaps with memory errors from age and some from pain of recalling.

Altair 8800 Computer

On questions about the technical specs of Excalibur models

RN: There have been a lot of questions thrown at me and it is very overwhelming.

The Fidelity days were days of paper files, schematics in PCAD format with no PDF universal file read available. I had a large file cabinet with all of my design histories. But with Fidelity being sold, Excalibur going bankrupt, and me downsizing and retiring to Central Florida, I threw away most of it. Excalibur on the other hand is different. At Excalibur's time things are starting to go electronic. So I have little paper documents but a lot of computer archived information. I didn't archive it with any system of retrieval, so it is very helter skelter. So it would take time and a desire to do it, to answer all Excalibur questions. I have an interest to use online computer chess timelines to try to make my own about Fidelity. I used the name Mach IV in a post, I can't believe I remembered that.

(PW: Nelson first posted a summary timeline of released Excalibur models, going from 1995 to 2005. In response to a question about Excalibur computers after 2005, he later provided a fully developed timeline, with some late Fidelity models added. And also a list of not homemade but imported models that were sold as Fidelity or Excalibur models).

Question about the 2K program

[Forum:]Thank you so much for all your amazing posts you share with us electronic chess addicts. You offer us so much insight into the history. Instead of talking about GM/ Mirage/ Igor/Ivan/Alexandra I want to put your 2K 8049 program into focus, of which you are justly proud. If I'm correct, it was inside the Fidelity Micro Chess Challenger, then revised in Fidelity Eldorado and was then ported to 6805 (2K version, faster clock), for Fidelity Chess Mate. This is still the strongest 2K chess computer in the world, and the only one that can solve mate-in-3. Quite an achievement.
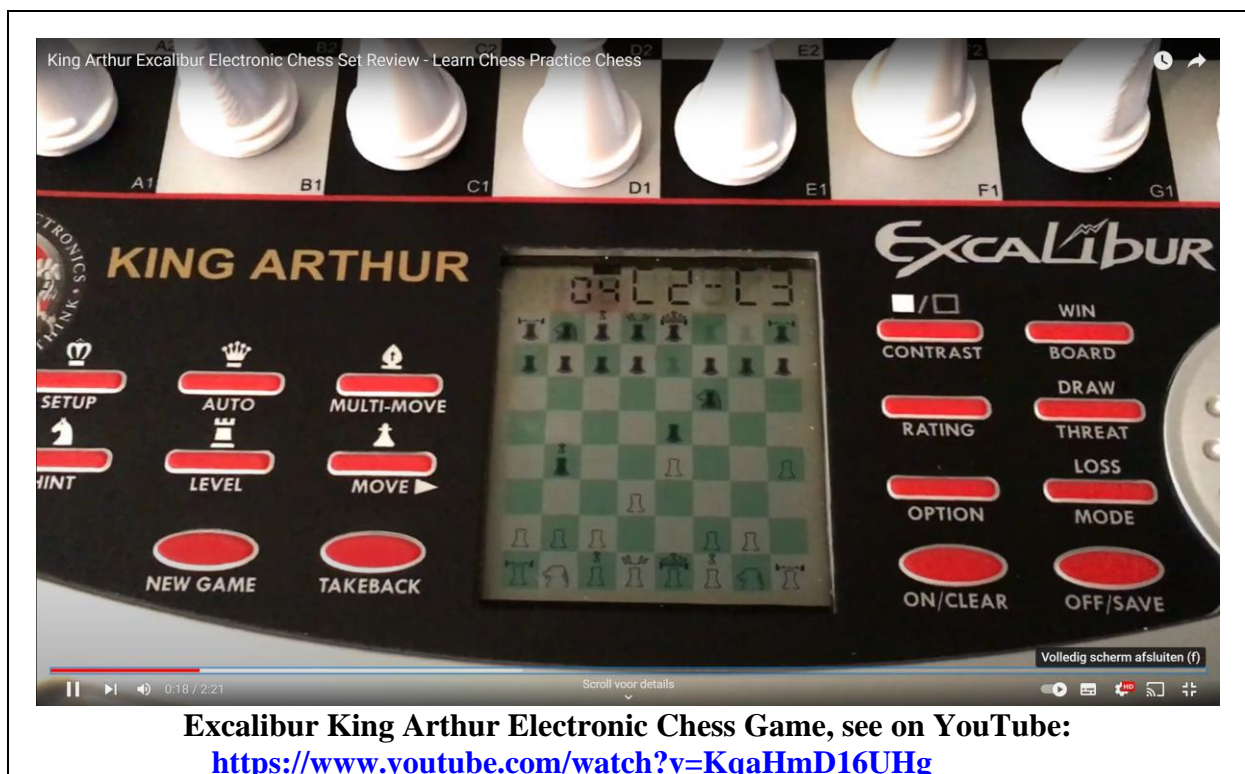
RN: Thank you for your comments. The Eldorado was interesting because it was produced for me (Fidelity) with my 8049 chip by CXG, Eric White's company in Hong Kong. I have put the Fidelity Chess Mate and Avanti on my updated product development timeline, since it seems they say programmer UNKNOWN on these computer chess history online databases. The 2Kbyte 6805 program in the Chess Mate, with only a 2 digit display, was upgraded by me to a 4K version that was used in my early Excalibur Electronics chess products. I was thinking of publishing the 2K 6805 program source code and make a Windows simulator to run it. I tested all my software with simulators, including Fidelity Spracklen 6502 and 68000 programs.

**PW**: Some time later, he indeed came up with (pieces of) this program:
RN: So what does a small memory model 2Kbyte ROM 128 Byte Ram program look like to a programmer. Unfortunately this Post Board does not accept TAB in text file so it is not as clear as what a programmer sees. Here are some snippets.

(**PW**: For this, see his post: https://hiarcs.net/forums/viewtopic.php?p=75485).

PW/HvdZ (Hans van der Zijden): The King Arthur was one of his first computers with its self-developed "for the common man" 4-Bit core SAM47 KS57C21516 16K Byte program. This is the 3rd version, 2003 model 915-3. The LCD screen and program are identical to that of the Chess Station.

Excalibur King Arthur Electronic Chess Game, see on YouTube:
https://www.youtube.com/watch?v=KqaHmD16UHg

PW: The Einstein Chess Wizard runs the same program as the Alexandra, only it runs at 4 MHz instead of 5 MHz, and has little speech. The moves are announced with a drum sound instead of a "beep." This computer was one of the last to be released by Excalibur (2008).
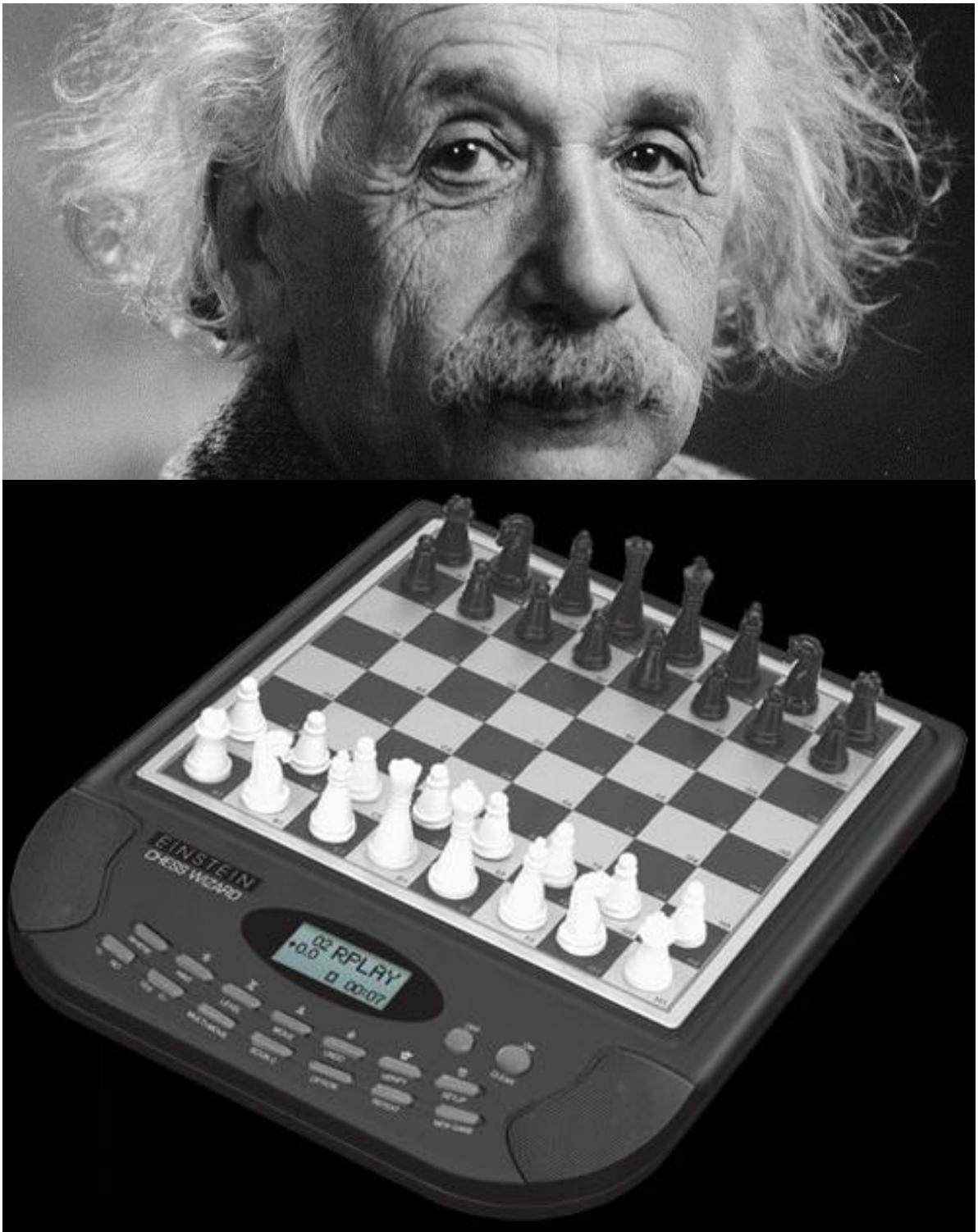
Excalibur Einstein Chess Wizard

Some other trivia - **About Eric White**

PW: After starting Excalibur's own presence in Hong Kong, the contracts with Eric White's factory (of Krypton chess computers, among others) there were terminated. Ron did not have a high opinion of Eric White.

RN: The Mirage was completely designed by me state side. Please do not mention Eric in the same sentence as the Mirage. When Eric White copied my CC10 ROM bit for bit and started selling CC10's in the States made in Hong Kong, I grew a dislike for him. He was stupid enough however to buy them from our Stateside ROM vendor. I called them and said, look they are buying a copy of the ROM you make for us. They looked, they compared and that was the end of Eric White's CC10 in a plastic housing. He didn't care, it got him into the business. It irked me no end that I had to work with him on producing the Ivan for us in HK.

PW: When asked if he remembers which CC10 clones were involved, he replied:

RN: I found a reference to the Chess Challenger 10 that was duplicated (the ROM I mentioned). It was The CXG Computachess I. I stopped it from shipping into the US but it seems Eric sold it as Chess Mate in Europe. Here is info from the website I found. This Chess Mate was in a box in English and French, without trademark, year or country origin. it was bought in 1981. However, the operating manual logo looks like the CXG Computachess one. A simple comparison of the playing levels and the keyboard, shows that it's a Chess Challenger 10 clone, with a lower speed. In fact, the user manual is optimistic: the Chess Mate is two time slower than a Chess Challenger 10; the processor is a Z80 / 2MHz instead of 4.

About a revamped Grandmaster...

RN: I was starting to look back at my archives and was reminded of my new Grand Master design. Which was completely costed out in Sept 2010. But Excalibur went under, and the go ahead for 2011 intro was cancelled. The goal was to have Grand Master retail at US $120. From the outside it would be virtually identical, but inside a new Auto Sensory scheme using membrane switch technology and super magnets (no reed switches). Cost came in at $31.44 per unit with a batch of 3000 units

(**PW**: In other words, if this Grandmaster had been released on time, Excalibur might have been able to make it again for a while with this revenue model....)

THE END

So much for Ron Nelson's posts on Hiarcs. In the end much more than he actually intended to, i.e. just clearing his name and proving that he programmed the Grandmaster. There were many more questions from forum members, but he did not address them further. But it was great that we got an insight into the chess computer past. And now in recent years there has been a revival in the chess computer market, several companies are releasing beautiful new chess computers. The chess computer enthusiasts can indulge again!

Author: Paul Wiselius, September 2024. For your information: The Dutch version of part 2 by Paul appeared in the CSVN magazine "Computerschaak" no. 1, May 2021.

Part 1 can be seen here: https://www.schaakcomputers.nl/hein_veldhuis/database/files/01-2021,%20Paul%20Wiselius,%20Ron%20Nelson%20(re)visited.pdf.

Interest in programming microcomputers to play chess began in 1976, and in 1977, Ronald Nelson of Forest Park, Illinois invented the first microcomputer chessplaying machine, the Chess Challenger (1). Next to Ron's photo - dated July 2, 2023 - is an operational prototype probably from October 1976!

References

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