Amiga Music Programs 1986 - 1995

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August 20, 2009

Hi!

I wrote this essay in autumn 2003, as part of the course "Media between Technology and Culture" at the Royal Institute of Technology. For a long time, I have thought it might be a good idea to translate it to English and present it to a wider audience. The subject and time interests me, and I think it was worth doing some research on it. I hope you will feel the same after reading.

Even if I did my best at the time given, please note, my academic standards are not super high. References are lacking, and it may be a bit hard to separate facts from my subjective impression. I still hope it can be good reading. If you find any errors in this text, please contact me.

Thanks for additional fact-checking go to: John Carehag, Mikael Kalms, Tomas Danko and Anders Carlsson. Thank you!

— Johan (kotlinski@gmail.com)

1 Introduction

This essay is a socio-technological analysis of the development of the music programs of the Amiga between 1986 and 1995.

The background is that the Amiga home computer, which reached a very big popularity in Europe, was a host for a wide variety of music programs. These music programs had quite different approaches, and the development sometimes took paths that might seem hard to explain without being aware of the technological and social conditions of that time. In this essay, I will try to highlight how the development of music programs was connected with the European home-computer culture that took form during the 80s. I will also try to bring out technical aspects, and point out that the music programs not only played a role as stand-alone applications, but also had a function in larger systems.

To keep down the extent of the essay, I have chosen to limit my studies to the time period 1986-1995, and only include music programs that rely on the computers internal sound synthesis. Music programs made for controlling external synthesizers thus fall outside the study.

It is worth to mention that the essay does not make any claims to give a complete description of the situation, as there probably were at least hundreds of music programs for the Amiga, many of them in a number of versions. Instead, I will try to highlight the different paths that the development took, and exemplify with the programs I see as the most important milestones within respective

path. The criteria I used for selection were mainly level of innovation, and how influential the programs were for the further development.

It is worth to mention that my own direct experience within this area is somewhat limited. I grew up with computers like the Commodore 64 and the Amiga, and am familiar with the culture that evolved around them, but my direct experience in the subject is limited as I only used a few of the programs mentioned in the essay myself. Luckily enough, I got a lot of help and information from the vintage computer enthusiasts Jakob Rosén and Mats Andrén. Jakob mostly helped by giving me facts about the evolution of Soundtracker, while Mats answered questions about synthetic music programs for the Amiga.

A problem in writing this essay was to find good source material. Those programs that never got very popular were of course most hard to find information about, and in those cases I had to do with the program documentation, if there even was any (!). In contrast, there was pretty much information available about the programs that got very popular. The problem in those cases was that a lot of the information I found on the Internet turned out to be of doubtful value, or even obviously wrong. For that reason, I primarily used sources that obviously were on place and followed the development closely. I only used more doubtful sources for finding information of a general nature.

2 The Amiga as a Technical System

Commodore, an American computer company, produced the Amiga computer series. Its major breakthrough came 1987 with the Amiga 500 home computer. At this time, the Amiga was technically superior to its competitors on almost every area. Today it would have been called a multi-media computer, as its advanced graphics and sound possibilities made it unique on the home computer market.

The Amiga had the possibility to play four channels of digital sound simultaneously. What mostly made it different from earlier computers was that it could play back samples — that is, sound recorded to the computer and stored in digital form. That was something completely different from the sound of early home computers, which only could generate different kinds of synthetic sounds (mostly beeps and noise).

3 The Rise of European Home Computing

3.1 The Scene

To understand the development of the music programs of the Amiga, it is important to first know about the home computer culture that took form in Europe during the end of the eighties. One especially needs to know about the particular sub-culture called “the scene” — a loose and informal network of groups of boys and young men who seemingly wasted large parts of their youths in front of their home computers. As usual when it comes to sub-cultures, it can sometimes be hard for outsiders to understand the underlying drives and motivations. In the case of computer users, it can be even more difficult, as their activities rarely take any physical form. To give a better understanding, I will make a short review of the events that led to the development of the scene.

The seed to the home computer culture that flourished around the Amiga came already in the beginning of the eighties, as the first mass-produced home computers appeared. These machines were with todays standards very crude, but reasonably affordable, and many were tempted to buy a computer to take part of the promised home computer revolution. The problem was that these machines practically were not very useful. They were the pride of the family for some months, and maybe the family father used them for learning some simple programming language, but soon enough the machine was usually left unused. There was, however, one group that came to use the computer a lot: the teenagers who used them for playing computer games.

Soon enough, the market of computer-gaming teenagers grew to the extent that it was profitable to run business as a game producer. These new game companies soon ran into the problem that users preferred to copy games from each other rather than buying them. The companies then tried to counteract this private copying by implementing different kinds of copy protection into the software. It did not take long until programming-skilled computer users learned to remove these copy protections — as they called it, to "crack" games. Soon enough, an underground network was established, with people who enjoyed themselves with cracking and copying games.

This informal network of teen-aged software pirates and crackers was the embryo of what would come to be called the scene. The most important product might not have been the actual cracking of games, but the underground movement that took form in its wake. These user groups started to communicate with each other using modems and electronic bulletin board systems.[1] Soon enough a new culture was created, with its own electronic magazines and values. Unsurprisingly, free information was one of the main motivations for these groups, and actions that were vaguely or definitely illegal were seen as exciting and tempting.

Something that gave fire to this underground attitude was the widespread use of pseudonyms (so called handles) on the bulletin board systems. Game crackers could go by imaginative handles like Mr. Xerox, Red Rebel, Captain Kidd or Mr. Big. The imagination shown at the choice of handle was only surpassed by those teenagers need for self-assertion — their drive to appear as the best, smartest and fastest. Soon it turned into a sport to crack games as fast as possible. The fastest[2] crackers got the honor to be considered part of the so-called elite: these were the ones who had the rumor of being most skilled and had the earliest access to new games. At this point, people also started working together in groups, where different people specialized in different functions. One could crack games, another could specialize in trading games with other groups, a third could administrate a bulletin board system, and so on.

3.2 Intros and Demos

Soon a new element in game cracking appeared, whose significance is hard to overestimate for the future development. In addition to removing the copy protection, crackers also started to add an "intro" screen that said who had

[1] When it came to exchanging physical goods like floppy discs, regular "snail mail" certainly was useful too.

[2] Interestingly enough, the definition of "fastest" for some time was the person who first uploaded a cracked version of a game to an American bulletin board system. My guess is that this definition stayed long after Europe became the focal point of the scene.

Figure 1: 1983 intro screen by German Cracking Service.

cracked the game. When the game then was copied around, the new intro screen would be present in each copy. It is not hard to imagine that it must have given these young men a huge kick, knowing that their names had been spread in thousands of copies. A comparison with graffiti lies close at hand.

So far, this activity had mostly taken place in America, on early home computers like the Apple II and the Atari 800. It didn't appear in Europe until around 1983, when the home computer Commodore 64 (from now one called C64) had its major breakthrough. A development that took off mostly in Europe was that crackers started to show off how smart they were by producing increasingly advanced intro screens. They spent more and more time on programming visual effects, printing their names in good-looking ways, and sometimes even adding music that was stolen from some game. To have an impressive intro screen was soon as prestigious as cracking many games first.

The definite step for this network forming its own culture, independent from game companies and with its own values, was when people got the idea to do separate productions inspired by the intro screens. These productions could be called e.g. "letters" or "messages," and often presented text or home-made color graphics together with game music. Later, this type of productions got the name "demos," meaning that it was a demonstration of the producers programming and graphics skills. Demos were more of an art form than the early intros, even though the main focus still was technical. The difference from before was that the main challenge now lied in circumventing the technical limitations of the computer in a good-looking way, rather than in cracking games.

Soon this underground network of C64 hobbyists was named "the scene." The name was used in the same sense as a music or theatre scene, that is, a platform on which people can get up to show their skills. Around 1987, the scene was a steadily established subculture with social gatherings (parties), and it was this environment the Amiga was born into. There were thousands of demo programmers who were driven by intellectual challenge and by their ambition to become a part of the so-called elite. It is also important to note that the

Figure 2: Border Letter I. 1986 demo by 1001 Crew.

people of the scene traditionally had little or no respect for copyright laws and ownership of information.

4 C64 Music Editors

To have the background to why some of the music programs on the Amiga looked like they did, it can be interesting to know about the situation on its predecessor, the C64.

For a long time, there were no publicly available music editors that could be used seriously on the C64. The game musicians had to program their own editors and playback routines. Most demo programmers did not have much interest in doing that, as it was not seen as a technically impressive thing to do anyway. Instead, they usually disassembled[3] games and stole songs to put into their own intros and demos.

As demos gradually became more of an artistic expression, demo groups grew more interested in making their own music. Music interested programmers were of course also interested in using their computer as a musical instrument. Soon, such hobbyist programmers made the first inofficially distributed music editors. One could mention programs such as SidMON, Future Composer and JCH. These were rather rough programs that lacked graphical user interfaces, and had all musical data represented as text and digits. Since the songs were meant to be used in games or demos, ease of use was usually considered less important than having a playback routine that consumed very little resources. Using these programs also required a very good knowledge about how the SID, the C64 sound chip, worked. However, even if these programs were not very user friendly, it was a big step forward compared to forcing the composer to write everything from scratch.

[3]Disassembling means converting a program from executable machine code to human-readable assembly language. This makes it easier to modify and extract pieces from a program.

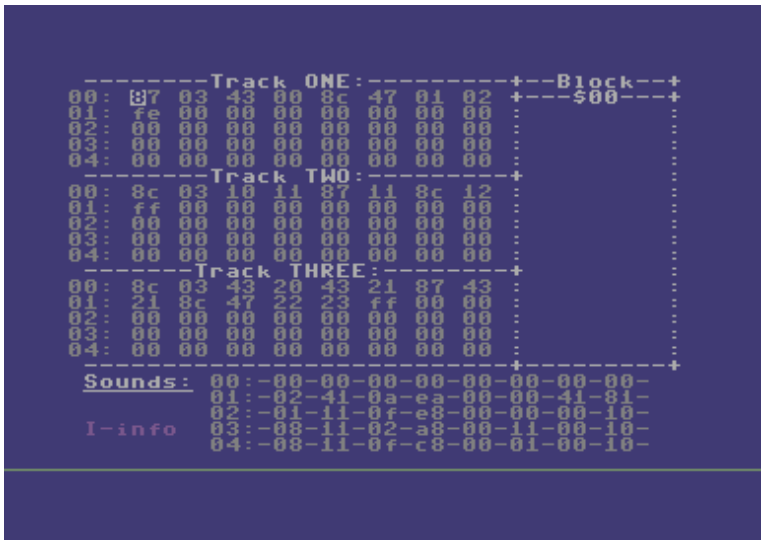

Figure 3: Future Composer v1.0, 1988. By Charles Deenen (a.k.a. The Mercenary Cracker).

5 Amiga Music Programs

5.1 Graphical Programs

The first commercial Amiga music programs, Aegis "SONIX" and Electronic Arts "Deluxe Music Construction Set," appeared 1986. They had graphical user interfaces, where notes were added to a sheet using the mouse. These graphical interfaces were relatively easy to understand, but a bit hard to work with. They also caused problems for some of the old C64 computer musicians, as they often could not read notes. Another problem was that it was hard to include the resulting songs into other programs. This was a problem both for game and demo programmers. As a result, the leading musicans had to write their own music programs and players (just like with the C64).

5.2 Soundtracker

In 1987, the first version of The Ultimate Soundtracker appeared. It was written by a German named Karsten Obarski, and was a commercial product distributed by AES. As opposed to the earlier Amiga programs, it was not entirely graphical. Instead, entering notes was made by using the computer keyboard as a claviature, just like on C64 music editors. The "tracker" was however more simple than similar C64 programs. The user was limited to using the samples that followed with the program, and thus all songs made using the program had to use the same instruments. Also, much of the arrangement flexibility found on the C64 had disappeared, as all channels were edited together in a block (called "pattern"), instead of being edited separately from each other. This limitation was still kind of advantageous, as it made the program relatively easy to learn. However, as it was rather buggy at this time, the program didn't achieve big sales.

1988, the development of The Ultimate Soundtracker took an unexpected

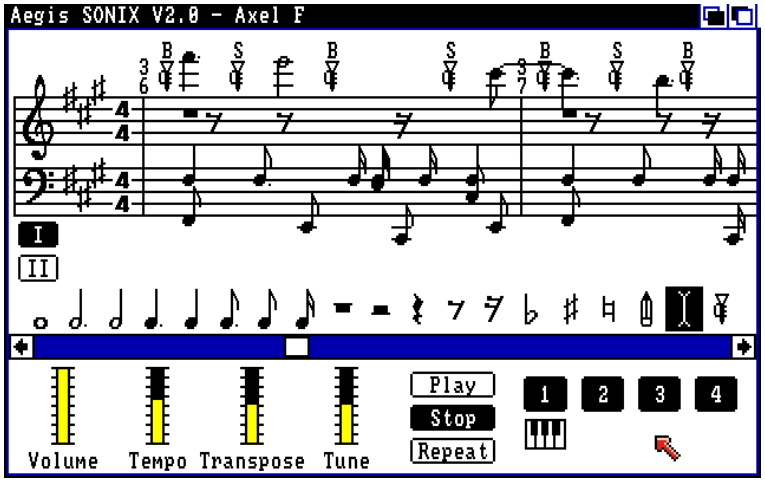

Figure 4: Aegis SONIX V2.0.

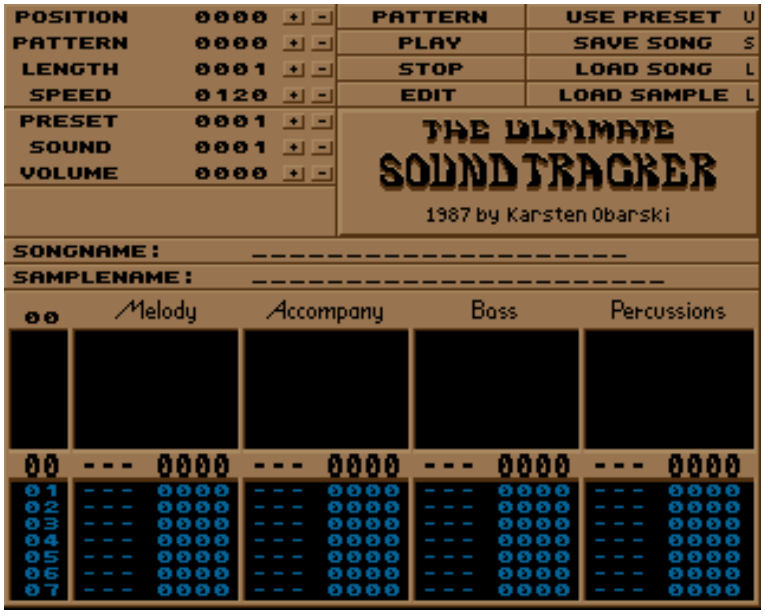

Figure 5: The Ultimate Soundtracker v1.21, 1987. By Karsten Obarski.

turn. The Dutch demo programmer Exterminator of the group Jungle Command disassembled Soundtracker, added changes and spread Soundtracker 2 under his own name. The most important change was that he made the playback routine public, so that anyone could incorporate Soundtracker songs into their own productions. It was a very shameless and illegal thing to do, but the fact is that it was the starting point for the Soundtracker revolution. Slowly, Soundtracker became the de facto standard within game programming and the demo scene.

Many were impressed by Exterminator's achievement, and within soon many new Soundtracker versions were developed more or less independently from each other. Leading developers were Unknown of D.O.C. and TIP of The New Masters. Karsten Obarski continued to develop his program aswell, but it was soon getting very difficult for him to find any buyers for his program, as many versions were circulating freely.

During 1988, many important things happened with the development of Soundtracker. Above all, tools appeared to create custom sample disks to complement those that followed with the original program. It was also the birth of the "module" file format, which allowed the user to save a song together with all used samples to a standalone file. It made it a lot easier for composers to distribute their songs to a larger audience.

5.3 Synthetical Music Programs

Even if Soundtracker was practically useful for producing music for games and demos, not everyone was satisfied with the program. Most notably, the people who had been using music programs on the C64 were missing the flexibility of the old C64 music editors. The biggest problem was the need to use memory-demanding samples, that made it hard to fit the songs into intro-screens for cracked games. There was also some irritation about the lack of arrangement flexibility compared to the C64.

This discontent led to a new wave of music programs that tried to transfer the advantages of the C64 music editors to the Amiga. In this text, I will describe them as synthetical music programs, as they are signified by their ability to synthesize their own sounds instead of just playing back samples. The first example appeared 1988 with the commercial program SidMON (by Reiner van Vliet), an interpretation of the C64 program with the same name. Other noteworthy programs are Delta Music by Shogun, Future Composer by Supersero of the Superions (not related to the C64 program with the same name), and TFMX by the computer game musician Chris Hülsbeck.

Future Composer is probably the synthetical music program that became most widely used. Here is an interesting quote from the documentation:

> Future-composer is not just another soundtracker, it's more like the competition that will wipe it out!. This is because the future-composer has some great advantages compared to the soundtracker, the main advantage being its ability to produce SYNTHETIC SOUNDS! (and of course still being able to use samples). The building and sequencing of patterns is also far more flexible, and less memory consuming. The synthsounds does not take up much memory either, making the soundmodules relative short.

Figure 6: Future Composer 1.4. (Amiga)

You don't have to read between the lines to understand that Future Composer to some extent was a reaction to the success of Soundtracker, and that the general development of music programs was seen as going in the wrong direction.

If you look strictly at possibilities, the synthetical music programs were clearly more powerful than Soundtracker. Unfortunately, the developers failed at making good user interfaces, so the programs were rightly seen as hard to use and understand. Soundtracker simply raised the bar for what could be expected in terms of usability, and computer musicians didn't have the same patience with frustrating user interfaces as they had during the heydays of the C64. Those who used this kind of programs mostly did it for special applications where memory resources were very scarce, for example in intro screens for cracked games.

5.4 Further Soundtracker Development

During the follow years, the Soundtracker market domination only grew stronger. The problem with the memory demand of sample-based Soundtracker songs was solved in 1990 by the demo musician 4-Mat of Anarchy, who is generally credited for invented a new style called "chip music." The technique is based on looping short samples of single waveforms, instead of full instrument samples, thus keeping memory usage down. In this way, it became possible to use Soundtracker songs even in applications where low memory usage was critical. The term "chip music" probably comes from that the resulting sound was similar to the one of old sound chips.

A milestone in the development happened in 1990, when the Swedes Mahoney & Kaktus released Noisetracker 2.0. It was a Soundtracker clone that added many usability features, e.g. keyboard shortcuts for frequently used functions. It was the first tracker that felt really enjoyable to use. An interesting note is

Figure 7: Protracker v1.3b, 1992.

that Mahoney & Kaktus created Noisetracker with the goal to sell it to EAS, the same company that owned the rights to the original Soundtracker. However, since EAS went to the grave before the plans were realized, they chose to release the program as freeware.

In 1991, Protracker by ZAP of Amiga Freelancers, took the lead position from Noisetracker. It had an even more modern user interface, and useful tools like a good sample editor. From 1991 and on, Protracker (in different versions) was the dominant music program on the Amiga.

5.5 Independent Trackers

Around 1990 some independent trackers appeared. They were usually Soundtracker compatible, and had similar user interfaces, but were completely written from scratch rather than building on Karsten Obarskis original code. The most notable example is the commercial program MED by Teijo Kinnunen. The first version appeared 1989, and set itself apart by being relatively stable and easy to use. It also had some features that Soundtracker missed, for example MIDI support. Even if MED and its follow-up OctaMED never became as popular as the Soundtracker clones, it still gained a faithful user base.

5.6 Crystallization

At 1991, the positions between the Amiga music programs had definitely crystallized. Protracker was the beloved de facto standard. MED was the more user friendly alternative, maybe mostly for musicians that didn't aspire to be part of the scene (and wanted to use MIDI). The synthetic music programs were mostly marginalized. These positions stayed fixed for the rest of the Amigas popularity.

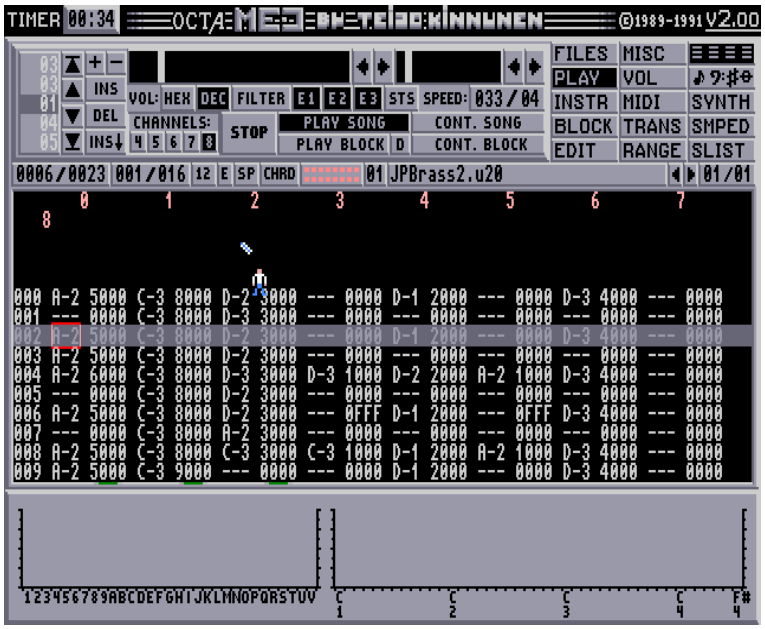

Figure 8: OctaMED v2.00, 1991.

To some extent, the success of Protracker stunted the growth of new programs and ideas. The commercial synthetic music program Sonic Arranger (1991) was significantly more powerful and easy to use than its precessor, Future Composer. However, at this time, most people were so satisfied with Protracker that they didn't feel any desire to try out a synthetic music program. Maybe Sonic Arranger also felt somewhat aged in comparison. It is however likely that the development had been very different if Sonic Arranger appeared just a few years earlier.

5.7 A New Wave of Synthetic Programs

After this, it took as long as until 1995 until any new music programs of significance appeared. They were AHX by Dexter/Abyss and Musicline Editor by the Swedish demo group Phenomena, both synthetical music programs. AHX was soundwise rather C64 nostalgic, but had a very modern and easy to use interface, and gained some appreciation from the scene. Musicline Editor, inspired by Fred Editor by Frédéric Hahn (1989), had a sound synthesis more powerful than anything heard before on the Amiga. However, it never became very popular — maybe because the player consumed a lot of resources, making it hard to include songs in games and demos.

6 Conclusion

The development of Amiga music programs followed three main paths. The most popular programs were the so called trackers, originating from Karsten Obarskis "The Ultimate Soundtracker" but improved to perfection by independent demo

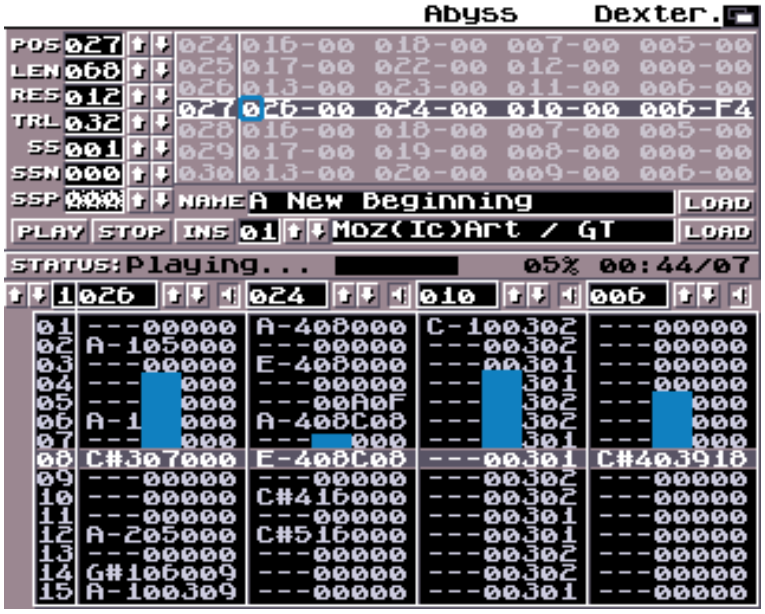

Figure 9: AHX.

programmers. The commercial program MED appeared as an user friendly and MIDI-compatible alternative to the Soundtracker clones. There also were synthetical music programs, that originated from C64 music programs and were developed increasingly in the shadow of the Soundtracker clones.

7 References

- ExoticA! Archive of exotic Amiga music programs and songs. The site contains a chronology of early Soundtracker clones.
- World of Cracktros Archive of Amiga intro songs. Gives a good hint of the popularity of different music programs.
- In Medias Res Interviews with Amiga and C64 scene people.
- Amiga Music Preservation Database about Amiga music and musicians.
- The Karsten Obarski Tribute Project Contains information about Soundtracker clones. Unfortunately does not seem to be a completely reliable source of information.
- Amiga History Guide Amiga history site.
- Copyright Finns Inte v3.0 Web book about information, power and the birth of hacker culture. Swedish only.