

An Interview With Tim Martin and Eddie Churchill of INOVAtronics

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Recently, I attended a conference in Dallas, Texas. Since I was going to be so close to INOVAtronics, I gave them a call and asked if they would be willing for me to come by their offices and conduct an interview. They said that they would be happy to do so. Upon arriving at INOVAtronics, Eddie Churchill, whose official title is Idea Czar, showed me some of the things he was working on for the next release of CanDo. He also showed me the SimMachine, which is a combined Amiga 4000, video laser disc player, and other hardware that ARCO put together for training purposes. The software running on the SimMachine was created with CanDo.

After being shown around for a while, I went to Tim Martin's office. Mr. Martin is the president of INOVAtronics. I began conducting an interview with him. During the latter part of the interview, Mr. Churchill joined us.

(NOTE: When reading the end of the interview, please keep in mind that it was conducted shortly before Commodore announced they were going out of business.)

RF: What year did INOVAtronics form, and who was responsible for starting it?

TM: INOVAtronics was formed in December 1985. Before that time there was a company by the name of INOVA that designed expansion boards for CP/M machines. Martin Murray and a few other people had come together to produce boards for the Osborne computer. In late 1985, the CP/M machines were dying off, and the Amiga computer was introduced. Martin saw the Amiga and decided he had to write software for it. So they disbanded. Martin formed INOVAtronics, incorporated it, and started working on PowerWindows. Before PowerWindows was released, several small utilities, including MCalc and others, were produced. However, it was PowerWindows that really got the company going. Martin had one other person working with him at the time PowerWindows was released to help with fulfilling orders.

While Martin was developing PowerWindows, I was developing software for the Atari 400, 800, and VCS game machine. I had worked with Games by Apollo doing game cartridges. I was talking to Broderbund about the new Atari machines. This was right at the time that the Amiga was bought by Commodore. Jack Tramiel left Commodore and started inheriting Atari. The Atari 520ST, I believe, was coming out. I was talking to Broderbund about writing software for it. They asked me if I had seen the new Amiga computer and told me it looked pretty hot. So, I started looking into the Amiga and found out it was designed by a lot of the old Atari gang such as Jay Miner and others. I got into the Amiga and became a developer. Later, I found out about PowerWindows. It was being produced here locally, so one day I met with Martin Murray. We discovered that we were both assembly language programmers and were almost religious about the 68000 and the Amiga technology. Therefore, we hit it off pretty well and started talking about working together on a project. I was real impressed with the PowerWindows product, with how dynamic it was for creating user interfaces interactively. I had seen HyperCard on the Mac and thought that the Amiga needed a similar product. About this same time, Martin was talking with Eddie Churchill who worked at one of the local distributors, Southern Technologies. We all hit it off together. I also knew Cash Foley who I had worked with at Games by Apollo and who had also worked at one of my previous companies. I thought he was a very competent programmer; very

creative and very different. He was heavily into assembly language. So, we all got together and started to do something HyperCard-ish for the Amiga.

We scoured over HyperCard to find out how it would translate to the Amiga. We wanted to be able to move stacks over to the Amiga and run them. But after looking at many of the existing HyperCard programs, we saw that many of them used X commands. We felt there was no way to make X commands portable because they were so hardware dependent. Also, HyperCard wasn't able to take advantage of any Amiga features. So, we started doing our own thing and came up with CanDo. Actually, we came up with AV1, which is the underlying language of CanDo. We got Southern Technologies real excited about it. So we got started on that project and ended up with CanDo after a lot of work. [Laugh] It was a LOT OF WORK!

RF: Does Martin Murray still work for INOVAtronicS?

TM: He now works outside the company in California. But he still does programming for us. He was running our German office, but we have someone else now. He got kind of tired of the headaches of running the business, so he's back at programming.

RF: How many employees does INOVAtronicS have?

TM: Here, we currently have eight. In Germany, we have two full-time employees and one part-time employee helping with tech support. In England we have one guy who does tech support. Actually, it's like one and a half. That's about it. However, we do work with a number of contractors who are not employees. As we have different projects, Eddie tries to match up people with different pieces of the software we are trying to improve or polish. He's been doing a good job of finding certain people to do certain things.

RF: My next question was "What were the original goals of the company other than making money?" I think you have pretty much answered that question.

TM: The funny thing about it is, of course we wanted to make money; however, we were really interested in being the company that brought a HyperCard-like thing to the Amiga. Little did we know that when we brought CanDo out it would be the most misunderstood piece of software known to man. We were compared with products like Deluxe Video, Interactor, and slide show programs.

RF: I remember seeing a comparison between CanDo and Deluxe Video.

TM: Yeah. They were comparing an authoring tool that makes applications to a video tool that does slide shows. We weren't geared at all to do that. We were probably as misunderstood as the Amiga was in the marketplace. No one really knew what made the Amiga special. Same way with CanDo. We had a very, very hard time educating the consumer though ads and what not. Magazines in particular didn't know what it was. We had reviewers that didn't understand. It was pretty mixed up out there. When we introduced CanDo in Europe, we had much better coverage. For some reason they clicked on it a lot easier over there. It was interesting. I didn't understand it. However, we had much higher expectations for CanDo than what actually happened with it. It's

still our pride and joy here. I think the direction we're going to be taking this summer will help it finally see some of what we had hoped for it. In terms of a mass marketed consumer product, I had higher expectations. I can go to a trade show and demo the product for a half an hour, and finally light bulbs start going off. They say, "You mean I can make my own programs?" They finally catch what that means. But when you're running ads in a magazine or a reviewer is comparing you to presentation packages, its really hard to get an audience out there. Then again, a lot of people don't want to make their own programs. They want readymade applications that they can load and start working with.

But, we're seeing some things these days that are really, really amazing. ARCO is doing things that you can't really do with any other platform. They use video and audio and all the production values they have. They're bringing it all together with CanDo and they're incredibly happy with it. So, we're going to divert some attention to that marketplace now and go after that kind of customer.

RF: I originally called INOVAtronicS to find out what the similarities were between Visual Basic for Windows on the PC and CanDo on the Amiga. I had been using Visual Basic for a while and wanted a similar tool for the Amiga. However, I didn't know for sure how CanDo worked. I talked to a tech support person and asked him quite a few questions. After hearing the answers, I ordered a copy on the spot. I didn't quite understand what CanDo did either until I asked the questions.

TM: Well, it's real difficult. For instance, with Visual Basic, you already have a clue, just by the name, as to what it does. Basic, meaning the programming language, and Visual, meaning that you just click to do the programming somehow. But with CanDo, no one had a clue what it was all about. People didn't know what HyperCard was. When we told people it was like HyperCard, they didn't even know what HyperCard was. They'd say, "Is that a card I add to my Mac?" or "What is that?" So, we were quite surprised it was such an incredible learning curve to distinguish what our product did. It's still that way. We still have people amazed that you can put a button on the screen and tell another application to do something. It's like, "I didn't know you could do that." A light bulb goes off, and its starts to click in their brain. "Ah, I understand now." So, we think we have a real competitive product.

RF: You mentioned PowerWindows earlier. That was the first INOVAtronicS product I ever owned. What happened to it?

TM: I believe 2.5 was the last version produced.

RF: Yes. That's the version I have.

TM: Basically, there was no money in supporting that product. The Amiga became less a programmer's machine and more a video and consumer machine. Early on, Martin sold quite a few copies of PowerWindows to programmers. The Amiga attracted technical people. Since Commodore didn't really know what they had when they started selling the Amiga, a good portion of the people buying it were programmers, engineers, and technical guys. PowerWindows was up their alley. However, in the last four years, this has slowly declined. When you only sell one or two copies a month, you can't afford to carry that product.

RF: Was some of the code for PowerWindows used in CanDo?

TM: No.

RF: It was a total rewrite?

TM: CanDo was a ground up project. It was all original code. We had definite ideas of what we wanted to do and how we wanted to do it.

CanDo is structured very creatively. Eddie would work on spec-ing it, and Martin would say, "Hey, we can do this," or "How about this?" It evolved. With the new Pro version we are developing, you will have access to AV1. AV1 was designed to write an authoring tool, and AV1 was the product of that authoring tool. So, it's a self generating thing. We had a lot of creative ways of doing things because we weren't working in C, so our code was tight and fast. We have non-traditional thinkers here that don't just whip out a routine in C. We don't have to be compatible with anything since CanDo has been our only AV1 product, and we have never actually sold or distributed AV1. Over the years, we've been able to modify AV1. The end user never sees that because he has never seen what is underneath. We're going to have a real nice polished product this summer that's going to be slick and very stable. It's going to be a wonderful environment for doing interactive applications.

RF: You mentioned development tools like C and Assembler. What development tools did you use when creating CanDo?

TM: AV1 was written from scratch with our assembler, C.A.P.E. 68k.

RF: So the core is all assembly. There's no C or anything else involved.

TM: Now, there will probably will be a bit of C code in some of the libraries that are external. The CanDo library probably has some C code in it. However, up until a year ago it was all assembly. Martin, Cash, and I were definitely assembly language guys. The machine had limited memory, it was multitasking, and it had the graphics horsepower. We wanted to really make it fly. And since we were making a high level interpretive language, it needed to fly because we were writing an authoring environment in it.

RF: Do you have any plans to convert CanDo over to some other platforms?

TM: We've talked about making run-time systems for both Windows and PowerPC. We've been trying to figure out how we might do it. It would be a big undertaking because the Amiga is fairly unique with multi-tasking and so on. We've played by all the rules for Intuition and the OS, so we are pretty tied to the Amiga. It's very difficult to separate us from the machine. We've talked about writing new run-times that are more portable and could run on other platforms. Initially, you'd have to author on Amigas, but your code could be moved to other platforms and run.

RF: How do you describe a typical CanDo user and what do they use it for?

TM: The most typical application is an Art Department controller. I don't know how many people have tried to write one. Other than that, I would say the typical user is very non-typical. We have so many people doing weird things. We had a guy in the Outback of Australia teaching Aborigines English, and playing games between lessons. One guy was controlling a boat lock with a CanDo application. We have a local guy that's controlling oil well mud pumps. Of course, ARCO is simulating a lot of their equipment; off shore oil rigs, training, et cetera. Halliburton's engineers use CanDo to simulate pieces of equipment that they design and engineer. Simulation and control applications are where we've shown the best usage, but there's so many weird applications. Some of the shows produced for TV or movies mock up control panels for equipment they use on the set. Kiosks. A prison system was conducting literacy courses. A dentist in London created an application that taught people about tooth decay and disease. It had really gross pictures in it. [Laugh]

RF: How popular is CanDo?

TM: Well, it's not as popular as Directory Opus. But, it is a successful product. It doesn't have the success that we thought it would. It's generally the engineers and tinkerers out there that like CanDo. It's also those weekend programmers that like BASIC on the old Commodore 64's and the older machines. Those people use CanDo to make utilities and various applications. We thought it would be a HyperCard. I guess the reason for the limited enthusiasm or success is due to the Amiga not going where we thought it was going.

RF: You've already mentioned a little about the future direction of CanDo. What more can you tell us?

TM: Well, we're definitely opening up the language to end users. Most likely, we're going to come out with two products this summer; one is going to be the consumer version of CanDo, and another the Pro version of CanDo. The Pro version will have access to the entire ASCII language. If you want, you'll be able to work in ASCII totally. This gives you a lot of flexibility. This will be the biggest upgrade we have had for CanDo, and it's the first upgrade where we have incorporated a lot of user feedback. We hope that by listening to our customers, including our corporate/professional customers, we'll have the products that suit their needs. We're trying our best. Most of our users are happy with us. I'd say that INOVAtronicS is known for really good tech support and quality products.

RF: I've been very pleased with your tech support. Every time I have called with a problem, I have either been given an answer or told right up front that the product does not support what I am trying to do. In the latter case, I tell them that I would like for them to add that to their list of suggestions for a future update.

TM: Right, right. I say to the end users, "Give me the name of any other company, including the ones in the Mac and PC industries, that gives the same level of support we give our products here." I know that you generally will not get it in the Amiga marketplace.

RF: Again, because of the limited resources they have.

TM: Exactly. We really try to do our best with what we have to work with. I'm pretty optimistic about the new direction we're going this summer. We're going to have a higher level of customer, and we're going to be able to offer a higher level of support. Also, we're not threatening to go out and develop everything for Windows. We're actually supporting the Amiga still. Maybe we're crazy. [Laugh] But, I can't see going out there and competing with Microsoft.

RF: You mentioned the European market earlier. Is CanDo more successful there than it is here?

TM: In terms of the number of units sold, it's more successful in the States. However, we have not pushed CanDo very hard in Europe. Directory Opus took off really well in Germany and somewhat in the UK. What we find is that CanDo trickles over to Pro or prosumer marketplaces, and we still can't reach masses. The UK tends to be low end users. In Germany, I've been really impressed with the technical abilities of the average user. Directory Opus really soared over there. They understand that product. It's interesting that the CanDo users over there are typically at a higher level. They understand the product better and ask high level technical questions when they call. They're educated about how things work. The market for CanDo is going to grow over there. I don't really know the direction the UK is going to take. It may stay games, but it may follow Germany to a certain extent.

RF: Do you have any plans for CD32?

TM: Yeah. [Laugh] Do you already know this?

RF: No.

TM: Nobody told you anything about this?

RF: No, I haven't heard anything.

TM: Oh, we have big plans for CD32, but we're not calling it CD32. Since we have been exposed to a lot of customers who have been doing kiosks, training, and all sorts of applications, we found that, typically, an Amiga 1200 or 4000 is not the right beast for them. The 1200 isn't expandable enough for them, or they need multiple serial ports, or they need a bit more horsepower. For some applications, the 4000 is overkill. We're coming out with a commercial product that I call the Kiosk Engine, the only name I have for it at the moment. It basically starts out as a CD32. We expand it with a four meg SIMM for Fast RAM. It also has available an IDE hard drive controller, an audio mixer, and amplified audio so that it has line in, line out, and amplified out. It also has available four serial ports, a parallel port, a keyboard port, the mouse port, a game port, RGB out, Super VHS out, MPEG video, and, of course, the CD-ROM. We'll have the ability to add an accelerator, additional memory, possibly a SCSI interface, and Ethernet for networking. It will be repackaged as a commercial unit, possibly rack mounted. What we're trying to produce here is not a computer, but an interactive engine so that when you're doing kiosks for JCPenney stores, or interactive training similar to what ARCO does, or putting in an InfoChannel network at an airport

with Scala, you'll be able to take these things, bolt them down somewhere, plug in your displays, and they work. When one breaks, you unbolt it, re-box it, send it to INOVAtronicS, and we send you another one. That's what we're coming out with this summer. So far, people have been incredibly interested in it.

RF: I can see why. But I haven't heard anything about that product.

TM: Yeah. That was our hardware complement to the new CanDo. The Pro version of CanDo will have all the support for the hardware features of the new box like the audio mixer, the MPEG module, et cetera. What's interesting is that the depth of control of the new CanDo and the abilities of the new hardware make a very powerful combination. It's very low cost for what it delivers. The MPEG video can, of course, be put on the CD-ROM. You can have a lot of program storage on the hard drive. Oh, a floppy drive port is on there, too. With a one stop shop you have a box that delivers what no one can deliver right now.

RF: Will it be designed such that the development work is performed on an Amiga 4000?

TM: Yeah. You would author on the 4000, and then have your CD-ROM produced. Your software would run off of the hard drive, or you could put it on the CD-ROM too, if you wanted. That gives you an incredibly low cost yet powerful platform to deal with.

We noticed that people don't want to deal with Commodore. Commercial and corporate companies don't like Commodore at all, and Commodore's quarterly earnings reports don't really help improve that image. However, the technology has found its way into different niche markets in corporate America. The Toaster is probably the biggest hit. Typically the only reason it got there is that the technology outweighs the fact that upper management is saying "Commodore what?", "Didn't they go out of business?", "Don't they make game machines?", "Why do we need to have this?", or "Can't we do this on an IBM?" The capabilities just outweigh those factors. That's the reason that Newtek puts those Toaster stickers on the front of those 4000's. We want to become the Newtek of interactive. Don't worry about the Amiga 4000. Don't worry about Commodore posting a nine million dollar loss. Don't worry about Commodore being a games company and selling games in Europe. Because, if you need support, we're here. If that thing breaks, we're here. Commodore isn't in that business and they can't handle that business, so we're going to work our way into that. It's perfect for us to move into that position. There are many people out there who are trying to do interactive and need to know where to get things. People have problems locating touch screens. People have problems locating cabinets. People have problems locating expansion products for the Amiga 4000's or 1200's. We're trying to address those needs. We'll set you up with a station that's ready to go. That's required by business these days. They don't have the people in-house that can spend two years learning about everything available for the Amiga. It's such a tangled web to find anything for the Amiga and to find people who know about the Amiga. So, we're going to bring this all together so people can just call INOVAtronicS, and we'll connect you with the right people.

RF: I think that will be a very interesting setup.

TM: I think so, too. If we could only get it finished. [Laugh]

RF: You say that will be out this summer?

TM: Yes. This summer we're hoping to show everything.

RF: Let's switch over to Directory Opus for a bit. You have already said it is more popular than CanDo. Was Directory Opus written using CanDo?

TM: No.

RF: So, it's totally a stand-alone product?

TM: Yes. It's written in C and is totally stand-alone.

RF: It has the look and feel of a CanDo application.

TM: It would be a monstrous task to write it in AV1 or CanDo. But to answer your question, no, it's all written in C. Jonathan Potter had an earlier version that was around a number of years ago. We saw a beta version and thought it was pretty good. He was going to release it as shareware. We thought it had real promise. So, we brought it in and looked it over. Eddie basically evaluated it and said, "We can change this and change that," and "Why did he do that?" We were sold on the program, so we talked to Jonathan, and he agreed to let us put it out. What we saw was everybody using Diskmaster. We would go to the store and every time they would sell a Video Toaster, they would also sell a Diskmaster. I saw that and said, "Diskmaster isn't very good." We thought we could compete with Diskmaster. And we did real well competing with Diskmaster, especially with version 4.0 and above. I think we did a fine job with 4.0.

RF: I use Directory Opus every time I turn my machine on. It's convenient to have it there to look at files and brushes and whatever.

TM: Exactly. And everybody else does. We get letters and registration cards back all the time saying, "Ten. Excellent product. I use this more than Workbench. You should tell Commodore to use this instead of Workbench." It's very highly rated. We really don't make money on the product, but it gives us a lot of exposure. Jonathan's done well with it. It's a real successful product.

RF: Do you have any plans at this time to update Directory Opus?

TM: Yeah. We might come out with one this summer, but I don't know when. We haven't scheduled it. It's basically going to add a feature that was toyed with before 4.0, which is custom requesters. This allows Directory Opus to have custom front ends for the applications it invokes. You can do that with CanDo right now. Make little decks that can be opened and run on Opus. But we're going to incorporate everything into Opus and have a whole requester system. If you're starting a print utility, for instance, it can bring up a window that presents different options. Previously, some people knew we had the requesters in Directory Opus because there was a beta copy that got released in the 4.0 era that had requesters working and a few people figured them out,

started distributing them, and were saying, "These are great." Then we yanked them out of there because they had some problems. Later, these people called us up and asked what happened to the requesters. We said they were not suppose to have that version anyway and asked them where they got that version of Directory Opus. By the way, the British police just confiscated four thousand copies of Directory Opus on disk from some guy in the UK. He was duping them. I thought that was great. It makes you feel good. Hey, we have a popular product. Even the pirates think its popular.

RF: How did they track him down?

TM: I don't know how they tracked him down. All I know is that one day we got a fax or a phone call asking if we had released Directory Opus into the public domain. The police wanted to know if we wanted to prosecute and if the product was copyrighted. Sure enough, a month later, I got a note from our German office that they had cracked down on some big pirate over there who had a lot of disks, and there happened to be four thousand Opus disks. So, it's popular with pirates.

[At this point, Eddie Churchill joined us]

TM: [To EC] I was just telling him that we're probably going to have a release of Opus that incorporates custom requesters.

EC: Uh, is that right?

TM: Right.

EC: I alluded to that. He wanted to know what ZedRexx was, and I said it was an entirely different beta program.

TM: [Laugh]

EC: And it is currently.

RF: I just received a copy of Edge, your new text editor, shortly before coming to Dallas.

EC: Editing on the Edge.

TM: Another great program with underwhelming sales.

EC: There you go.

RF: I thought it looked pretty powerful. What plans do you have for this product?

EC: There will be a new version coming out at the same time as the new version of CanDo.

TM: It will be the editor of choice. It's a real good editor. We can't afford to advertise it, but it's

good.

RF: What is the status of some of your other products like GigaMem, TurboPrint, MetaScope, and Vektor Storm?

EC: MetaScope!?

TM: Yes, MetaScope.

EC: We have a new version coming out. It will incorporate the custom requesters.

TM: [Laugh]

RF: [Laugh]

EC: No, honest. It is due this summer. The people who develop MetaScope also develop real world applications. They keep MetaScope around because they need it. And we keep it around because there isn't anything else. It doesn't really cost us anything to keep supporting it. The developers tend not to call us up and ask too many questions. But if they do, the developers around here who use it can usually answer it. The MetaScope guys, Metadigm, are working on it again because they need to use it for a couple of things. They will probably incorporate ZedRexx simply because they are putting in Rexx.

TurboPrint? What's that?

TM: TurboPrint has more or less been discontinued.

EC: Yeah. Let's see. Vektor Storm. Neat game, but there's nothing new to report.

GigaMem. Well, it's constantly being upgraded. We're currently at GigaMem 3.0. We'll probably have a new version sometime around the beginning of summer.

RF: Does GigaMem extend CHIP memory?

EC: No. Anything that's DMA can't be done that way. DMA, as the name implies -- Direct Memory Access -- accesses the RAM directly without going through the MMU tables.

RF: So it wouldn't help me at all when I run out of CHIP memory, which is what typically happens to me. I can barely run ProVideo CG II on my Amiga 2000 with one meg of CHIP RAM. My wife and I put together an educational video, and we used CG II to do our titles. If I run any other application and then get out of it, I can't run CG II because my memory is already segmented too much.

EC: Ah, fragmenting. What a tough thing.

RF: Let's change gears for a bit. There has been much concern about the viability of Commodore as a company and therefore concern about the future of the Amiga. What do you foresee happening

to Commodore and the Amiga?

TM: I'll address that question by saying that we are still selling our products, and we haven't changed anything about the summer releases to deviate from what we had planned.

EC: There are many, many, many, many, many, many things going on in parallel up there. Everything that we are associated with or work with, people and that type thing, they're still there. They're still answering their phones. They're still business as usual. We've never seen a drop in support or speed of development from Commodore. Other developers can't seem to get them to pick up the phone. We haven't had that problem.

RF: Maybe they have Caller ID.

EC: Yeah. "Oh, that's Eddie. We'll take that one."

TM: [Laugh]

RF: [Laugh]

EC: Commodore can only do so much with what they've got. We've never had a person up there promise to do something and then not follow through. They've been very forthcoming. The glossary that's going to be in the CanDo manual is basically theirs because they are sending it to us. They're willing to support companies.

TM: Also, it's like what you were saying about our tech support. We'll be pretty blunt and say we just can't do that. Commodore's like that too. They'll say, "We just don't have the resources. We just can't do that." Like for a university that thinks they should receive a batch load of machines. They're not going to do that. It's like, "We only have so much resources. We're in the mode of trying to figure out how to make money. We're not going to do that."

EC: Anyways. Who knows? An asteroid may come down. Commodore may go out of business.

TM: An asteroid can fall out of the sky? [Laugh]

EC: Yeah. You can't really predict anything.

TM: IBM may go out of business.

EC: Yeah. IBM loses more money than Commodore has ever earned. However, Commodore is probably big enough that if worse came to worse, somebody would do something with it.

RF: That's what I wanted to ask next. If things got real bad, do you think anyone would buy it up? I mean there has been talk of Hewlett-Packard, Sony, or even Newtek buying out Commodore.

EC: Some people think they have solutions to all of Commodore's problems. But what they don't

understand is that one of the problems is money. Say someone comes on board and spends fifty million or a hundred million dollars to buy Commodore. They had better have some money left over to run Commodore. To pay off bills and to do other types of things. That's not cheap. It's not a cheap thing to buy a company the size of Commodore International. Commodore USA, that's a drop in the bucket. But Commodore International has a lot of different pieces all over the place. So these people coming in and saying, "No, no, no. They just need to do the right thing." -- you have to do the right thing with the right amount of money.

TM: They just need to advertise.

EC: They just need to advertise. And, of course, advertising is free.

TM: Everybody knows that advertising is free. [Laugh]

EC: Yeah, right.

TM: I can tell you that advertising isn't free, by the way. [Laugh]

EC: Yeah, by the way.

RF: I know about that. My wife and I just did a direct mail advertisement for the video we put together.

TM: Even direct mail isn't inexpensive.

RF: I mean just the postage...

TM: Yep, yep.

EC: And were you dealing with state side only? Local only? International is expensive. Hey! The phone bill's expensive. The Commodore guys got yelled at last Christmas for not advertising. In this particular instance Commodore was advertising, but they weren't advertising in Amiga magazines.

RF: Yeah. Whenever I see an Amiga ad in an Amiga magazine, I wonder why they are using resources on that. But I know that they were advertising in video magazines because I get some of them. Trade journals and things like that. They had a lot of ads that ran at one point.

EC: If you pick any one company, with the possible exception of some of the largest ones like Microsoft, IBM, Apple, you really don't see ads constantly in the same magazine all of the time. They will go in and out with the seasons. Even Microsoft doesn't actually put the same ad in the same magazine all of the time. It just doesn't make that much sense.

Commodore is large enough and they have enough technology, either existing or in development, that if things get worse, someone will probably come in and assist them. But some of the companies that have been named make no sense. Why would Sony buy Commodore? They

have more technology than you can shake a stick at. Are they buying it for the distribution channels?

TM: [Laugh]

RF: [Laugh] I didn't think Sony sounded too bad. They don't have any kind of video computer, do they?

EC: Sony has lots of computers over in Japan. They just never brought them out because they got burned on the MSX deal. I don't know if you know what MSX is, but it was an old standard that Japan thought was really, really neat. Microsoft said, "Let's build the operating system for it." It basically turned out to be Dumb Computer. Brain dead.

TM: You got that right.

EC: It was a terrible computer for the time.

RF: It used the DumbOS? [Laugh]

EC: There may be something there that Sony likes. But on the face of it, it's easy to say that's insane. If someone buys Commodore, it will probably be someone we are not guessing about.

I remember that AT&T was going to buy them at one time. The reason everyone thought they were going to buy them is that Commodore was looking at some DSP chips and had AT&T in. So, of course, one person says, "We're looking at AT&T stuff. AT&T's here today. Dah dah dah." Rumors start up and all of a sudden AT&T is buying Commodore. AT&T is only going to sell them these little DSP chips. But that's how rumors start up. But we do know that Lew Eggebrecht of Commodore commented that they were looking at HP microprocessors for next generation machines. Does that mean that HP's going to buy them? That would be kind of silly. That would be like saying Motorola's going to buy them because they use Motorola microprocessors.

TM: So Motorola's going to buy them?

EC: That's right. The guy that makes the plastic cases is going to buy them.

RF: Well, I think we covered everything I wanted to cover. I appreciate your hospitality and the time you have taken for this interview.