R/D COMPUTING NEWSLETTER

Which computer refuses to fade away, produces many rumours, phantoms and speculation - has outsold Apple and Commodore yet has failed to appear at the CES for three years running?

Yes, ladies and gentlemen, this is only issue three. Why? What IS the problem? It is both simple and quite complex. First things first: our apologies, it is inexcusable - then a little background. Just to set things straight, we _are_ producing the full seven issues advertised STARTING with this issue. This means that those who received the first two will see additional issues.

As noted we are originally from the user community rather than industry or trade. Running down rumours led to Myarc who had some VERY interesting things to say about the work they were doing. Which led back to CorComp who had more INTERESTING things to say. Both of whom did not really want to be identified for different reasons. Seeing as how the folks at Myarc didn't have any marketing research going on - we had the 'wise' idea to conduct a "word of mouth" test to see if TI owners _did_ want a new system at this late stage in the game. Well, it worked too well. Being totally _unprepared_ for the response, we were both astounded and dismayed. An avalanche of letters, phone calls and BBS activity resulted...to the point where burial occured. We were _not_ prepared for the onslaught. Perhaps we could have handled a _few_ thousand inquiries. It has taken _months_ to sort it all out. Some earlier people were lucky enough to see the first two issues...everyone else has been neglected until now. The truly massive response has demonstrated the fanatical loyalty TI owners have to support their orphan. After a series of blunders and mistakes... things _are_ getting better.

Down to business. Myarc did not show & tell at CES. Neither did Tex/CorComp. Myarc was very free in passing out THAT information out among different groups, people, software houses, keyboard manufacturers, hardware companies, distributors, (as well as the "competition" etc.) Along with this came rumours, politics, various games and confusion.

Sound familiar? We heard from MANY MANY THOUSANDS of users groups, owners, hackers, programmers, system designers, financial backers, market & business people, publishers etc. Throughout WE CAREFULLY SAID it was stated as "proposed" & "contingent on FINAL decisions" and so forth...and that "SOMEONE ELSE WAS DOING THE WORK". And the proverbial horse-feathers flew; quite ruffled you see over the fact that... well, we're not sure exactly which politics caused the uproar. The key point is that _support_ was the real, final, telling factor that makes _any_ difference in 4A land. We've all heard that TI was doing it with the 99/8, that CorComp announced the Phonenix, that "two guys in Florida were working on a clone" and that others (including GE) were taking the plunge - Myarc included.

The support is there. You all made it very obvious. Out of 47,806 letters and phone calls: about 98% expressed delight that their favourite machines was receiving the ultimate benediction - a clone of our own! The other 2% said that it would never happen due to various reasons - technical and otherwise. Nearly 65% said they wanted some kind of software built into the system (ie: programming language - productivity etc.) Speech was a minor concern. Sound/music was much more popular as a feature. Due to population densities, the majority of responses came from East & West coasts. Totally overloaded us!

We hear now that it is still a go. Some sources say "Not to worry" or the typical "No comment" (Read between the lines as in IBM). Notice that C & R Distributors is running ads for "the incredible new operating system for the 99/4A." We heard that the fabled phantom was at CES under wraps - showing to potential investors only in some obscure location. Other RUMOURS say that the phantom was the Cor/TexComp 99/9. Perhaps it was only a marketing ploy?

WE DON'T THINK SO. The actual announcement made by TexComp / CorComp is that the "TC 99/9" has been designed and will cost about $1200 with colour monitor included. Memory is 128k with 40-80 column capability. We are trying to get more hard data.

We witnessed a loyalty battle between East and West. California is full of hackers who staunchly defend the talent there. The East coast has a different attitude all together. The same information on market responses, demographics, letters and phone calls has been sent to TexComp and CorComp GRATIS as well. We reiterate: the time and expense qualifying market response has been at our expense AND the purpose is to guage user response.

Many letters and inquires (the vast majority were inquiries only) had comments on "another newsletter for an orphan". Hardware and circuitry projects to customize the 4A are featured in this and future articles - wonderful devices that increase the power and use of your computer. This aspect has received more response (second time around) than the future console comments. A number of circuits from Germany, the US, Canada and Australia have come in that deserve circulation. REAL news on the compatible phantom will be published. After all. TI owners are STARTING to see the innovative hardware which SHOULD have been produced "way back when" the Mercedez of home computers first came out. So be it.

Perhaps the best idea yet is a public trust fund for (Myarc / CorComp etc.) to develop the console of the future. Forget the backers, venture capitalists, investors and financial manipulators... we're the people who care one way or the other. We could

see progress and open architecture all at once without the secrecy, politics, and nervous behaviour.

At this point we are seeing a backlash effect. Myarc was both obviously open about the work and secretative at the same time. Do we really need any explanation about the dichotomy? Now some groups and individuals express severe doubts that a new computer will ever see the light of day. Part of this is due to the fact that TI is rather unwilling to license the 4A or 99/8 technology. We also heard that changes in video display technology from TI (cancelling the 9228 chips in favour of 9161 video display chips) were partly responsible for Myarc missing the show. Another rumour was that they had lost a backer and that rewriting the operating system was causing problems. RECALL THAT IT IS NOT EASY TO PRODUCE A NEW COMPUTER SYSTEM BASED ON OLD LIMITED DESIGNS.

We would like to suggest that those who wish to gripe about the efforts of Myarc / CorComp send them money. Encouragement and letters are worth the paper they are printed on whereas money is worth more than the paper. Continuing innovative and inspired technology REQUIRES a strong market (anyone for yet another dismal IBM clone?). Harsh words are valid coming from any user out there with the $3 - $4 million necessary to build a new machine... with the clout to access TI data for a new operating system. We would gladly tackle the project due to the phenomenal response to date. In fact, you CAN have a 9995 based machine with no memory and assembly code only direct from TI. But it sure won't run TI Writer et al.

Better rumours: Several companies are working with 99/4A limitations to produce additional SERIOUS products. We will report on these when concrete data is available. Other reviews must wait until next issue. We have an update on circuits which will allow new features to be used with your console / system.

Stay tuned for circuits which will allow your investment to PAY for itself... in response to that question, "but what else will it do?"

We are planning some interesting news in the next few months for TI owners. In line with the recent hard learned lessons: announcements and

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availability will be confirmed (or cancelled) at a later date. We will say that we are looking for beta test sites for a new product under development. If you are interested, please write CARE OF: BETA UNITS. As we have had problems even opening mail, this will ensure we see your letter sooner rather than later. We request a profile on current use and the status of your system (drives, memory, peripherals etc.). We are also looking for owners with bare consoles for another project we have in mind. Your average weekly use is the deciding factor in this regard. WE CANNOT ENGAGE IN CORRESPONDENCE FOR THIS OFFER.

Stay tuned for further developments! We would like to solicit user written tips, hints and programs for publication. We have discovered a wealth of information among TI owners. Often people believe "others must know about this", when in fact others would really appreciate the data. A number of users and groups have put the circuit designed by Ron Gries to good use - yet the data came from another user in New York who got it from a users group meeting. Enough said!

Ken Hamai from Orange County sent us a newsletter with some tidbits: Reportedly, the building where the new computer will be produced is to be built around August and the first computers should be rolling off the line around September. The unit is to have 128k and look like the IBM PC keyboard. The main circuit board will be located in the keyboard like the 99 with expansion through the PE Box. It will NOT be compatible with the 128k card from Foundation or the CorComp DS/DD controller. The default is to the Myarc DS/DD disk operation which differs from CorComps in sector ops. This only gives you 328k rather than 360 due to TI software. To get a full 360k one needs the Myarc DOS software. Under development is the possibility of running translated IBM type software such as LOTUS(tm) or FLIGHT SIMULATOR(tm). Access will probably be with a coprocessor plugged into one of the two ports at the rear of the computer. Price was mentioned as somewhere between $300 to $400. Also mentioned was $180.00 for a 4A 128k card or DS/DD controller.

Reproduced here are specs on the TMS 9995 (tm) microprocessor. This CPU is capable of truly amazing speed, throughput, logic & sophistication. It is possible to have a working computer system with only THREE chips using the 9995. We are considering obtaining the 9995 board system for further design work. Presenting hacker data in depth on a special arrangement would be an offshoot. (interested - write!) This board systems allows for running assembly code, monitoring and writing routines for the 99/128.
(tm) Texas Instruments - courtesy of Texas Instruments:
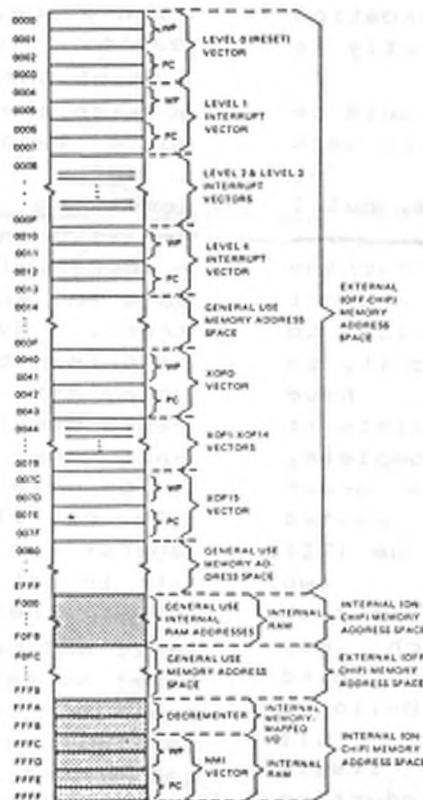
NOTE: Addresses are byte addresses in hex

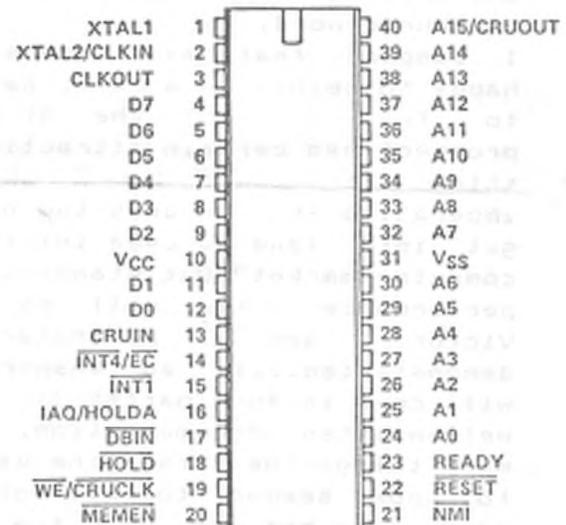FIGURE 2 — TMS9995 MEMORY MAP

FIGURE 24 — PIN ASSIGNMENTS

LETTERS:

Gentlemen:

Received your interesting news- letter on the successor to the 99/4A and I am definitely interested....

True phonetic speech...would be very nice to have...incorporating some analog speech recognition technology into another optional add-on, the potential for amazing one's friends would be greatly enhanced. These are not essential bu would serve to keep the 99/4A tradition going --

Beyond that, the major question is: what can we all do to keep 9900 architecture alive in a world increasingly domiated by 6502 and 8080-descended systems? (Those who answer, "Why bother?" should read Freman Dyson's book, DISTURBING THE UNIVERSE. The more viable, competing technologies, the better for everyone.) I bought my first 4A partly on the basis of a book...I agree with you that the 4A is not the ideal showcase for the TMS family's capabilities...the 99/8 would have overcome many of these limitations - The problem for the manufacturer of a 99/4A replacement-and-upgarde is going to be marketing, too. The companies that seem, at present, to have the ability and the mailing lists to offer a new 99/4A compatible machine, are, probably, CorComp, Myarc, Foundation and Morning Star. None is exactly a household word.

I suspect that many users would be happy to belong to a cult, harking back to the days of the Altair. The prospect has certain attractions, but I think it would be a shame. The imperative is: how does the new machine get into (and succeed in) the general computer market? Out standing price to performance ratio will not do it, as Victor and Northstar have demonstarted...if an answer exists it will come in four parts: (1) Complete, well-written documentation. A great many things the first-time user wanted to know seemed to fall into the (TI) gaps between the two manuals...especially true of the disk control system, a fact which may underlie the terrible time third parties have had in trying to build a workable controller card. Full documentation for the hardware itself was not produced until production ceased... hardly the way to sell computers.

An example of failure in documentation is Sanyo, whose excellent MBC series has been set back two years by inept technical writing. Engineers are not usually very good at this task. They assume that their readers all share basic assumptons. Third party documentation in the 99/4A community is abysmal. (2) Bundled software. There's enough talent in the 4A world to come up with an outstanding mathematical/word —— processing/data base/list—— handling/file— management package, available with the computer Atari demonstrates the market advantage of this approach. (3) Ad money. Popular computer magazines have an annoying tendency to ignore companies that don't run regular schedules with them. Good public relations -- ie. having someone always available to answer questions and [for] regular publicity -- is also an imperative. IBM can afford to smile secretively. This manufacturer cannot (and, if he seriously plans to produce the thing, I don't see the need for the presnet guessing-game).

There may be an alternative to retracing the Osborne route... ..the 4/A is a great hobby computer, able to handle nearly any application... the Mini-Memory and Editor Assembler betokened the start of a new orientation..unfortunately financial reality closed in too fast.

I think there are still a lot of people outside the 99/4A users' fratenity who would lead at the chance to buy a $500 computer with unique features -- something they could apply their creative intelligence to building into a powerful system, thereafter being able to sneer at the IBM PC-BUYING sheep. My impression is that this sort of person built Apple to the point of going after the mass market. A TMS9995 based machine with 10 MHz clock-speed and three- instruction pre-fetch ought to be able to mop up the floor with a IIe or IIc and more than hold its own aganst the gimmicky MacIntosh. Bring it in at a good price and promote it right, there may be hope.

(4)It had better work right the first time! As far as I can see, the cause of death of the Adam computer was its initial reputation as a turkey. IBM can afford to spend millions to rectify a disaster like the PCjr: I do not believe your mystery manufacturer can.

If it takes six months to get all the bugs out, then take six months. Take orders and put the money in escrow or something, but be sure everything has been tested to destruction before going to market with it.

CorComp's disk controller card painfully illustrates this point. I've got the card, it hasn't gone West on me yet; it's excellent. But how many sales have they lost because of the publicity attending the widespread failures of the first batch?) It probably unrealistic to expect instant success. A two-phase rollout, first to the /4A community to get some feedback on improvements (from friends as it were) and only then to the world at large -- might be indicted.

I have spent 17 years working as an editor for a trade magazine... this experience may have made me unduly cynical about the general level of marketing and communication competence among technical people. I do hope the project is a success.

Yours truly, Timothy Sanford
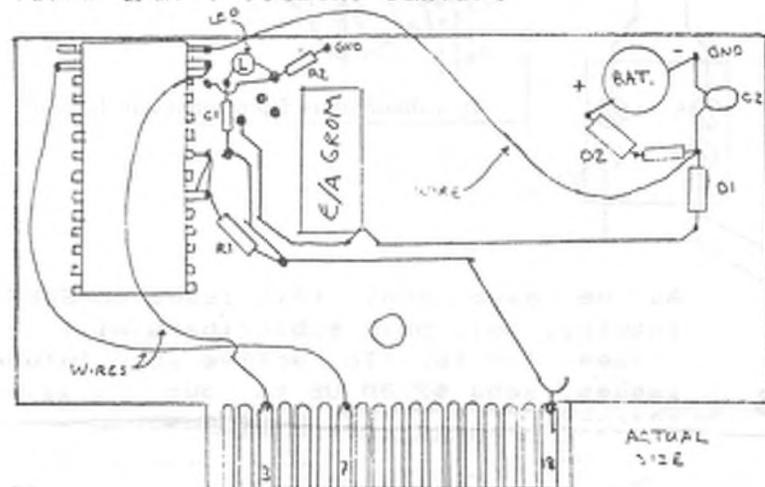
Here we have the next version of the 8k E/A module with battery backup. Our understanding is that David Romer, 213 Earl Street., Walbridge, Ohio 43465 USA is now offering two disks of software for this module at $6 per disk. It would help to send a stamped self addressed mailer.

The additional parts required can be ordered through Active, Radio Shack, JDR or Digikey (etc.)
R1-R3 1k 1/4watt resistor
D1-D2 1N914 signal diode
C1 2.2uF capacitor Tantalum
LED Lithium Cell & Cell Holder

Wire the diagram as shown to complete the circuit (using the LP series Hitachi chip) for battery back up. 5

NEXT: For those with a hot iron, we have another small circuit to add a keypad to your computer direct through the keyboard. This device uses no software and can simplify keying code with long strings of numbers. I am a good touch typist yet getting the numbers 100% is still hard. You can use a normally open, momentary contact switch pad or a matrix keypad if you cut all the common traces. This can be assembled in a pre-fab unit or on a PC board in any layout you desire. As the basic data was purchased from Dave Benne in Florida, we leave the project details up to you. The 15 pin header connection in the computer is numbered from left to right as you look at your mother board from the TOP & FRONT.

Many people seem to like the idea of customizing their computers but do not want to open things up or learn the art of soldering, finding parts or project details. We would like to hear from users on this subject. Many projects are very simple - others are increasingly complex. Would you buy a kit? How about a finished product?

For example, we are trying to track down plans to add 32k of memory INSIDE your computer. Faster access time, no connectors or boxes off the side and full access (with XBasic etc) for larger programs. How about that? One could supercharge the console with this and several other projects.
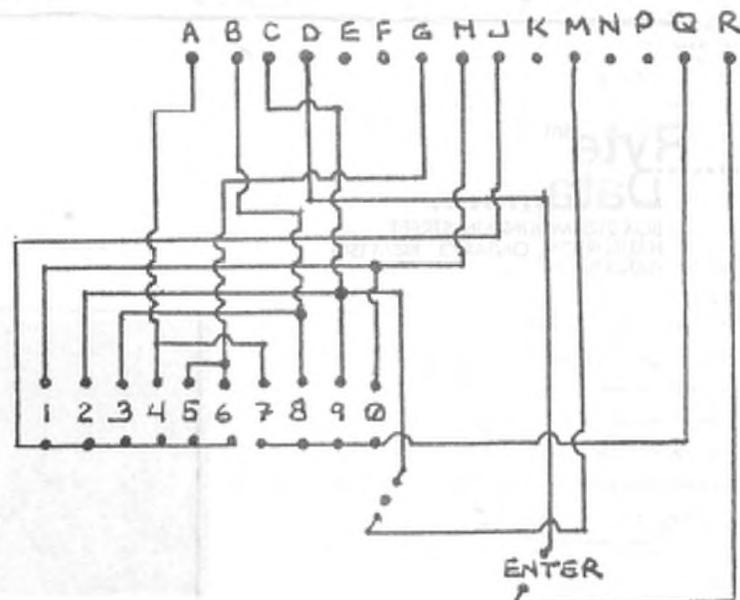
One of the most useful tasks you can set your computer to doing is "HOME CONTROL". Starting with this issue a series of articles dealing with the subject will be run.

The principles involved are fairly easy. Circuits which convert real world information into digital data are the base for HC projects. For example: to read the outside and inside temperature a simple sensor is wired to an input. The signal (an analog voltage) is converted to binary format. The number generated is fed to a running program which reacts with an appropriate action. Above a certain value, the computer would turn a fan on (or off), start the furnace going or close window shades. The inputs and resulting actions are limited by your imagination. With careful design you could have a system which answers the door, turns lights off & on, watches energy usage, monitor flood/water systems, sense lights (day/night conditions), give your house a sense of direction or even "watch" your pets, intruders, children or guests!

Using a bare console only, you can duplicate an alarm system costing much more! The TI has a mini A/D converter built into the joystick port - enough to return certain values to a monitor program.
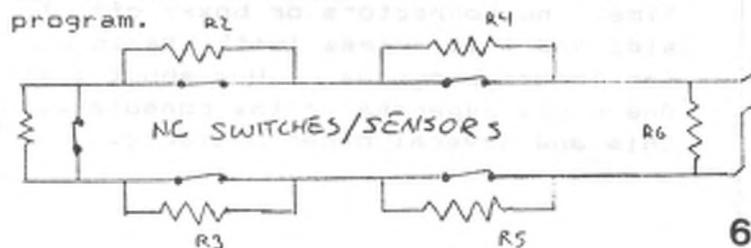
This is an area which is gaining more attention in various journals and books. Future articles will delve into REAL WORLD interfaces and circuits you can build. Data on a commercial unit is given at the end of the article.

The first circuit is given for using your console as a simple alarm system. Next issue (which will be published on Sept 1st) will cover circuits to add and basic software to operate the system.

Over the next six issues we will expand on this circuit, delve into more sophisticated systems and publish circuits for total home control. With luck we will show you how to have your system respond to voice control. "Maxfield, please turn off the yard lights."
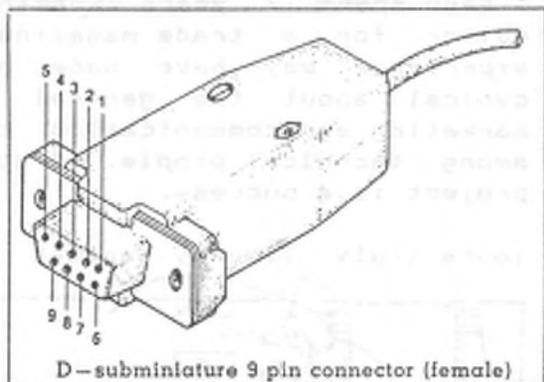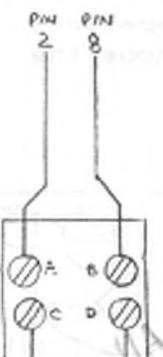
D-subminiature 9 pin connector (female)

NC SWITCHES/SENSORS

As we have sent this issue to EVERY inquiry, only paid subscribers will see issues 4 - 10. To receive your future issues, send $7.00 US to our Canadian address listed on page one.

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