CorComp Cursor

CORCOMP COMMITMENT TO EXCELLENCE

We at CorComp are proud of our products and support them in the field both with technical and service assistance. The legendary disk controller chip problem beginning late January which effected our production capabilities and once again challenged our reputation has allowed CorComp to prove its conviction to quality.

The following synopsis is intended to "clear the air" and eliminate the rumors.

LATE JANUARY 1985: An extremely high ratio of disk controller chips were failing initial and final production testing. This ratio was NOT statistically possible under normal conditions. All testing for the disk controller card was expanded. These efforts provided specific information about the problem. Extensive documentation of the testing procedure revealed that a series of date codes consistantly showed the same - **never before experienced problems.**

We first contacted our chip vendor. Considering the sudden slowdown in production, they were very eager to give us any aid possible. However, the procedure was long and involved through the channels of four corporations. The next step was the manufacturer's testing lab and their engineers confirmed that the problem was not with the CorComp design, testing procedures or technical staff!

It was a company decision that in the best interest of the customer, our dealers and CorComp we would not continue production or return RMA's until a technically sound solution was found.

LAST WEEKS OF MARCH 1985: In the complex organization of component distribution, we found that one can not expect immediate action no matter how urgent the emergency is felt by the production line or the end user. This process consumed nearly sixty days before confirmation of the problem's origin filtered down through the system to our technical staff.

A SOLUTION IS FOUND: With the pressure and delay of both production and RMA service, our project engineer, Mike Norton devised an immediate solution to our crisis. A common device used in the electronic industry is a "piggy-back board". Mike designed such a board using the 1773 disk controller chip. This allowed us to service RMA's and assemble disk controller boards that had been on the shelf for two months. Mike proceeded to redesign the disk controller board to use the 1773 from now on.

Back in November, Mike had designed the disk controller portion of the 9900 Micro Expansion System around the 1773 chip. It represented the most current controller chip design and offered several advantages from a hardware design point of view. The 1773 chip has been tried and proven in the Micro Expansion System in the field. The transition to this chip would not effect the firmware in the disk controller or the use of the Disk Manager.

NOTES FROM MIKE NORTON, PROJECT ENGINEER

"After working full time on the disk controller chip problem and being in very close contact with the chip manufacturer, I would like to add a few comments concerning the problem."

"First, the parts that were exhibiting problems were showing a" sector identification error."

"A card with a chip having this problem can be detected very easily by initializing a diskette double density and installing the Disk Manager. Then try to load the new diskette and run Disk Manager. If you can utilize the manager and you see no problems with any of the available screens then chances are you do not have a defective chip."

"Secondly, not all the 2793 chips that were used during January showed the problem. So if you purchased your card then and it is working well there is not need to be concerned."

"Third, once the error was identified, we were able to receive parts that were pre-screened for the "sector identification error". "In some cards that have been shipped out since March the chip that was used was the pre-screened FD2793, or the piggy-backed FD1773 PCB assembly. In either case the card will function without the sector identification problems."

FIRST WEEK IN APRIL: We had finally commanded the attention of all levels of the chip manufacturing and distribution organization. A series of meeting were held in which various combinations of company representatives met to determine how the "paper mill and re tape" could best be supervised while exchanging bad chips for good ones. The efforts, although hampered by bureaucracy, we feel have been sincere. Working relationships have been strengthened, new friendships made, and a tremendous learning curve survived!

It's time to celebrate our triumph! CorComp is still manufacturing the best disk controller available for the 99/4A and our 1985 revision is coming off the production line NOW! TAKE ADVANTAGE OF THE FREE GIFT OFFER, See insert.

Dear CorComp Customers:

I'd like to thank you all for your patience and your terrific sense of humor during our disk controller problem. It was really great to get to know most of you the way I did through our phone conversations. I've made so many friends, that if I ever decided to travel out of California, I wouldn't have any problems at all.

It's funny how often bad situations can turn out to be positive ones, for many times, people would call me just to say hello and to see how things were going. A special thank you goes to Mitch Gorman, his dad Paul and Gary Blydenburgh who were very understanding and the best of friends.

There's a great crowd of TI users out there and hopefully as head of customer service for CorComp, I'll be able to meet more of them and make more friends in the future. If you are ever in need of any assistance with your products, call and ask for Maritza and I'll be more than happy to help.

Thank you

Maritza Castaya

P-CODE CARD AND THE CORCOMP DS/DD DISK CONTROLLER

by Mike Bruss
President of The Davis Science Center Users Group

The CorComp disk controller is a wonderful blessing for disk-intensive operations like using the p-system. Chances are if you have been using the p-system, you have two single or double sided disk drives. I assume that no one is trying to use the p-system with only one drive, which would allow very limited and frustrating use of the p-system. Further, even if you have a double density controller, I do not recommend that you try to use the p-system because making back-up disks would be so tedious. If you have three drives, double density operation will save you money on disks and reduce disk handling, but will not be as great a boon as for those that have two drives, particularly those with two single sided drives.

If you have the p-code card, you will be happy to know that it works very well with the CorComp disk controller card. To use a disk in double density mode,

you will first have to format it, and this is where a warning is necessary. If you have the p-system utilities (a TI software package that is almost essential) you may know that it contains a disk formatting program called DFORMAT. One of the options in DFORMAT is double density formatting. If you choose this option, DFORMAT will appear to format the disk in double density, but in reality, it formats the disk in single density regardless of your choice. I am not sure if this bug is due solely to DFORMAT or due to some unfortuante interaction between DFORMAT and the disk controller. In any event, no error message is issued, and the stage is set for disaster. The p-system will let you tell it that the disk has 360 (or 720 for double sided) blocks even though only 180 are present. Even worse, you can apparently transfer files to all of the blocks, even the non-existant ones. What actually happens is that the file names are transferred into the directory even though there is no room for their contents on the disk. Then, when you try to use a file that is not really there, POW!...no program or data is there and an error message is finally issued. The bottom line is do not use DFORMAT to format disks in double density.

How do you format disk in double density for the p-system? It is a two step process. First, format disk as double density using either the CorComp or TI disk manager. Do not put any files (including the CorComp disk manager) on the disk. Second, fire-up the p-system and call up the FILER. Use the ZERO command to "zero" the directory of the disk, and you are ready to fill the disk with files.

One disk that you will want to create will be one that contains the compiler, the editor, the filer, and some of the most used utilities. If you have double sided drives, you can put all of the utilities on the disk. One utility, MODRS232 is absolutely necessary in you have a parallel printer; run it at the beginning of each session to set-up the printer.

*We hope that this article by Mr. Bruss is helpful to those of you using the P-code system and the CorComp 9900 Disk Controller Card.

CONFIGURING YOUR CORCOMP RS232 CARD TO BE COMPATIBLE WITH YOUR PRINTER

by Mike Norton, Project Engineer

There are hundreds of different makes and models of parallel printers. They all supposedly are Centronics compatible or so they may seem. Though the pin connections are usually the same the actual timing of the handshake signals do vary between printers.

As a result of being put in the position of handling technical calls form the end user for the past four months it had become evident that our RS232 card had some incompatibilities depending upon the type of printer that was being used. Although the original design engineers tested the card with most of the popular pritners at that time many more printers have come into wide use and therefore required increased compatibility with our card. In some cases modifying the cards or even using special cables are required. Obviously this is not a satisfactory solution. With the help of many of the users who contributed in determining the compatibility problems I have redesigned the card to allow compatibility with all currently popular parallel printers without the need of special cables or hardware changes.

However, for those of you that have an early version card I will discuss the compatibility issue and give some helpful information that will aid in determining what is required to make your printer work.

INTERFACE VARIATIONS BETWEEN PRINTER TYPES

For example, the diagram below in case 1 is that of the Epson compatibles. Other printers that fall within this catagory are Star Micronics, Brothers, and TI printers. As you can see the busy signal responds to the leading edge of the strobe signal.

STROBE

BUSY

CASE 1

The diagram below in case 2 is that of printers such as Okidata and Centronics printers. As the diagram shows the busy signal responds to the trailing edge of the strobe signal.

```
STROBE    ‾‾‾‾|___|‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾

BUSY      _____|‾‾‾‾‾‾‾‾‾‾‾‾

               CASE 2
```
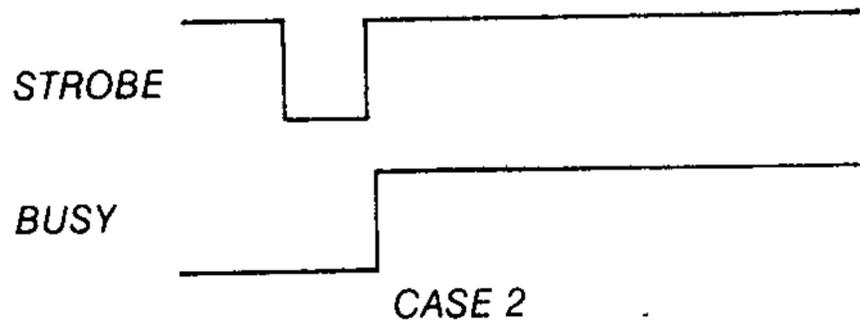
Some printers may have additional timing differences then those shown above. The Smith Corona TP-1, for example, requires a positive strobe signal. This printer requires a special cable which inverts the strobe signal to the printer. **This is required not only by our card but also with certain other computers and as a result even Smith Corona has a special cable available for such a situation.**
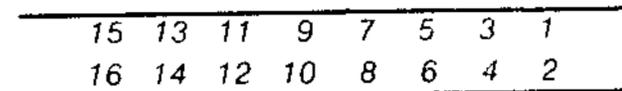
DETERMINING COMPATIBILITY

To determine the configuration of your card you must first remove the card from the clam shell. If there is no revision letter shown then you have a revision B card. Otherwise there is an indication of either revision C or revision E.

Regardless of the revision there is located on the RS232 card a PROM which is a 24 pin integrated circuit that may be labeled 2732 or have a sticker labeled 3/26/84. The 2732 part is compatible with case 1 and the 3/26/84 is compatible with case 2 timing requirements.

The following is a chart that will show compatibilities with the indicated printers and what is required.

	REV B*	REV C	REV E
CASE 1 Epson, Brothers, Star Micronics, Citoh, Smith Corona	2732 PROM	2732 PROM	100% Compatible
CASE 2 Okidata, Centronics	3/26/84 PROM	3/26/84 PROM	100% Compatible
Smith Corona (TP-1 only)	2732 PROM Inverted strobe cable	2732 PROM	Will Need Cable

* You will also need to verify that all component changes have been installed in the card that make it a revision B. You can contact CorComp customer service and request a "Rev. B RS232 Diagram" which will describe the changes if any are required.

If you do need a different PROM, you can contact CorComp customer service and the correct part will be sent at no charge.

Another alternative is to use the 2732 PROM and use a special interface cable that modifies the strobe signal and allows the card to be compatible with both the case 1 and the case 2 timing requirements. You can contact CorComp for information on this cable.

After contacting TI we were informed that when using the TI Impact printer in the parallel mode, you must first remove the serial interface from the printer and then follow the wiring diagram shown in figure 1 below. This will then allow for proper operation of the printer.

Figure 1 below shows the recommended wiring between the CorComp card and most parallel printers. In addition, the pin configuration of the parallel connector on the RS232 card is shown.

CorComp		Printer
1	-----> ------	1 Strobe
2	-----> ------	2 Data bit 1 LSB
3	-----> ------	3 Data bit 2
4	-----> ------	4 Data bit 3
5	-----> ------	5 Data bit 4
6	-----> ------	6 Data bit 5
7	-----> ------	7 Data bit 6
8	-----> ------	8 Data bit 7
9	-----> ------	9 Data bit 8 MSB
10	-----< ------	11 Busy
11	------------	16 Logic ground
16	------------	17 Chassis ground

15	13	11	9	7	5	3	1
16	14	12	10	8	6	4	2

FIGURE 1

SERIAL INTERFACE

The CorComp card also has two serial channels which are standard RS232 interfaces. When any incompatibilities arise, generally the problem can be associated with the wiring between the card and the peripheral. With some devices, simply reversing pins 2 and 3 on the cable will allow it to function. You must carefully compare the needs of your serial device with those of the card. In addition, the revision B cards may need to have component changes made, in which case CorComp customer service will send you a "Rev. B RS232 Diagram" which will provide you with information necessary.

ADDITIONAL EXPANSION

Revision C and the new 1985 revision E cards can easily be configured to allow for up to two RS232 cards in the system by simply moving a jumper inside the card. Revision B cards require a few more jumpers to be changed. In either case CorComp will be happy to supply you with this information upon request.

1985 REVISION OF CORCOMP RS232

In April CorComp introduced a new RS232 card labeled Rev. E which will allow compatibility with both case 1 and case 2 configurations without any changes required. (One exception to this is when using the Smith Corona TP-1 printer.)

Revision E is now the only RS232 card design coming off the production lines at CorComp. They are available through your authorized CorComp dealers.

For those people who have encountered incompatibility problems with CorComp's earlier RS232 cards and certain printers, the following information will be of interest.

INTERFACING NOTES
By Joe Miller

Owner of Innovative Electronics specialists in cable assembly.

The following five cable assemblies will interface most parallel printers and the CorComp RS232 boards prior to the 1985 revision E.

CBL1146   modifies the data strobe signal to work with Okidata and some Centronics printers.

CBL1147   modifies the data signal to work with Smith-Corona and most of the Daisy Wheel type letter quality printers.

CBL1148   provides buffering of the data signals to work with the TI Impact Printer.

CBL1149   eliminates "crosstalk". Crosstalk occurs when a signal from one wire in the cable is transmitted to another wire in the same cable. If some characters are changed in your printout, you may have crosstalk.

Crosstalk occurs with the TI855 printer and other high-speed printers.

CBL1156   works with dot matrix printers such as Epson and Gemini.

These cables are available from most major CorComp distributors, many local dealers or from IEC. I welcome any helpful ideas or information concerning the interfacing with "stubborn printers". Send helpful hints to me at IEC 4150 Fox Street, #A-5, Denver, Colorado 80216.

THE ULTIMATE CONNECTION
9900 Micro Expansion System
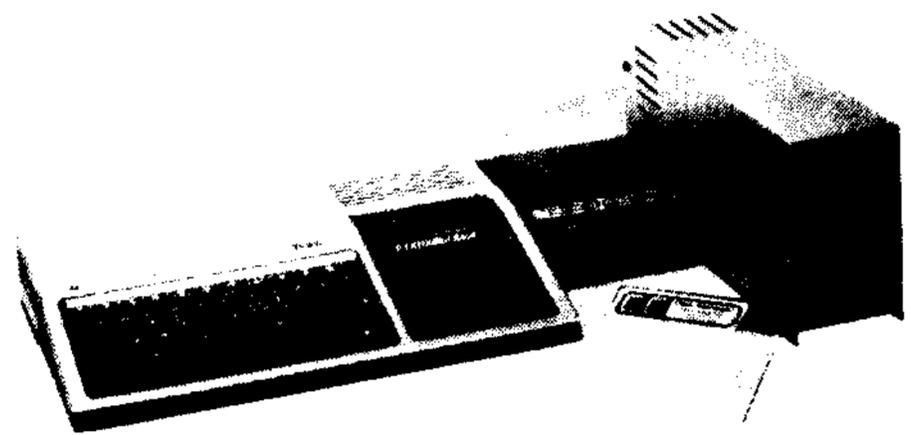
The CorComp 9900 MICRO EXPANSION SYSTEM is having its praises sung loud and clear! The April issue of the MICROpendium gave the MICRO SYSTEM a review grade of an A saying that the "9900 Micro Expansion System works like a charm."

Mini-Mag 99 latest issue reported," Overall, Mini-Mag considers the 9900 MICRO EXPANSION SYSTEM to be an innovative, compact and practical approach to expanding the 99/4A."

In the Mid-Hudson 99/4A Users Group of Kingston, New York, newsletter the hardware report headline read "CorComp makes the news and takes the prize again!" Newsletter author Brett Kropf writes, "I plugged the power supply into the CorComp box and flipped on my power strip. The lights on the CorComp box flickered, the power indicator remained on, and I had unleashed the power of the 9900 MICRO EXPANSION SYSTEM. Unbelievable!"

"Once I had my disk drives ready, I was ready to test the MES and find out just how compatible it was. The real test, to me, was how well it would perform on an

assembly of an 8K game. This assembly needed over two dozen files from two disks. So, I assembled the program and, as expected, it assembled perfectly. I intialized a blank disk double-sided, double-density. What a treat to see over 1,400 sectors available. This initialization was done with the CorComp Disk Manager..."

"I transfered all the files of the two source diskettes to the new disk. All source files, object files, and miscellaneous files were copied beautifully and I had lots left. I reassembled from one disk and arrived at the same results. What a system!" (Rating:***** (out of 5).

Mike Kelly of the San Diego Computer Society in their newsletter "TI-SIG" summarized the power and dynamics of the 9900 MICRO EXPANSION SYSTEM when he dubbed it the "SILENT GIANT"!

--THE 9900 MICRO EXPANSION SYSTEM CAN BE PURCHASED THROUGH ANY CORCOMP AUTHORIZED DEALER--

---

The process of reorganization has been challenging. We believe it has also been very successful. From the calls we receive and letters such as the following it seems that our customers are sharing in our progress. Thank you all for your support!

Ms. Jackie Sagouspe
CorComp Incorporated
1225 No. Tustin Avenue
Anaheim, CA 92807

March 21, 1985

Dear Ms. Sagouspe,

When I find a company that is doing a good job, offering great products, I like to express my thanks and offer my continued support. There are a lot of us in South Florida who appreciate CorComp's dedication to our needs, by providing quality products and continued research into our future needs.

I have been using your Disk Controller for over six months. In my position, I am asked by many potential buyers to suggest products. There are a few company's products which I can recommend without question. I am pleased to say that CorComp is such a firm.

I am the President of the Miami Users Group, the owner of MEGATRON (a small TI related retailer), Chief Technical Consultant for the 99/4A National Assistance Group, and a contributing author for NAG and various Users Group's Newsletters.

Again, I wish to express my personal support for your efforts, and the continued support of many of my friends and customers.

Sincere thanks,

Gary Guibor

Gary Guibor, President

Richard J. Klein
980 Countryside Dr., #107
Palatine, IL 60067

re: CORCOMP RS232 Card

Dear Maritza,

I really appreciate your collective efforts to be of help to me and you were. Without your help I would have no idea where to turn. You and your company have been friendly as well and I enjoyed the courtesy you extended me. There aren't too many companies willing to go out of their way to be helpful and the effort is appreciated.

If you could include any technical information on the RS232 card, I would be grateful. Thanks for your help.

Sincerely,
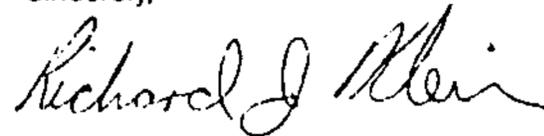
Richard J. Klein

Richard J. Klein

Beverly Boudreau
204 Velvetlake Drive
Sunnyvale, CA 94086

Technitians
CorComp, Inc.
1255 N. Tustin Avenue
Anaheim, CA 92807

I want to thank everyone at CorComp for a great job of modifications on my RS232 card. I can now stay on-line with all BBS systems and it is alot more enjoyable. We need good and efficient companies like you...I am impressed...If you need any support down here in Sunnyvale, California on your products for TI 99/4A or new products, please do not hesitate to ask my assistance. Thank you very much for a fine job.

Sincerely,

Beverly Boudreau

NEW PRODUCT RELEASE

CorComp is adding to its line of "daisy chain" products such as our RS232 Stand Alone and our 9900 Micro Expansion System. We have had requests from our distribution base to add a 32K Stand Alone for those beginning to expand their system and wanting more memory only to run such programs as TI Logo.

The new CorComp 32K Stand Alone is housed in "black box" similar to our Micro Expansion System only 1/3 the size. This truelu "little black box" plugs directly into the 99/4A console or can be daisy chained with our RS232 Stand Alone or the TI speech synthesizer. The retail price on this unit is $119.00.

The addition of this product will allow the 99/4A user to expand his system with a consistency in design and quality of products produced by CorComp. We will be introducing an exciting new daisy chain unit in May!

CorComp Inc.
1255 NORTH TUSTIN AVENUE, ANAHEIM, CA 92807

USA 22
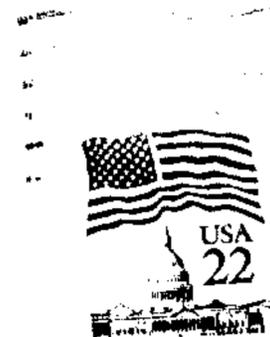
Manasota U.G./Dr. Spector
1631 Columbia Drvie
Englewood Fla. 33533