

West Penn 99er's News

VOLUME 2 NUMBER 17

MAY-JUNE -1998



Handling large TI-Writer

text files

By Roger Klatt

Here is a procedure for breaking a big text file into two or more pieces when you get that "TEXT BUFFER FULL, SAVE OR PURGE" message. There may be easier ways to do this, but my method results in the largest (and fewest) segments.

First, make a back up of your file and put the original aside for safekeeping. Then load the copy in the usual way, which will produce the above message.

If you save it as is, you will have the memory so full on subsequent reloads that some of the TI_Writer's functions will not work. You need to gain headroom by deleting a few of the last lines, and to do this you neither Save or Purge, but instead enter an "S" for show lines, following that with an "E" for end of file. Let's say it is named BIGFILE, and that 435 lines load before filling.

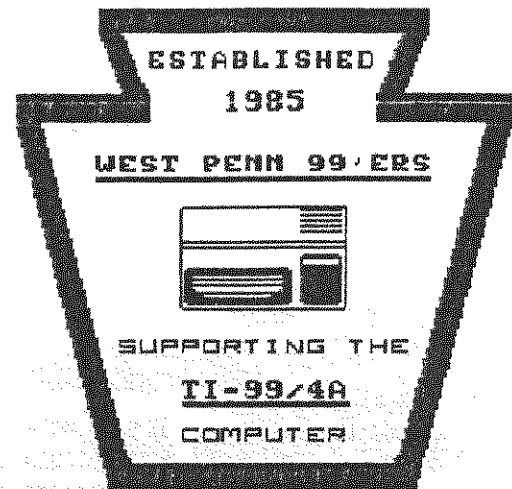
I suggest deleting around 30-50 lines, so a good separating point should be chosen, perhaps between paragraphs or pages, or if the file is a LISTED Basic program, select a point between two of the basic lines.

On the command line, enter "D" followed by, we'll say, 400 435. This indicates the second part, when we get to it., will begin at line 400 so make a note of that. Now save this portion with a unique name, such as BIGFILEPT1. Do NOT use the original file's name, or you will lose that portion which didn't load!

continued page 4

WEST PENN 99'ERS CLUB INFO

Next Meeting Date: JUNE 16, 1998
 Meeting Location: Penns Woods Civic Association
 Just off Route 30
 N. Huntingdon, Pa
 Time of Meeting: 7: P.M.



GENERAL ITINERARY OF OUR CLUB'S MEETING

6:45 P.M. Doors Open
 7:00 P.M. Genrral Meeting
 7:45 P.M. Demos and New Info
 8:45 P.M. Questions and Answers
 9:30 P.M. One on One Help
 10:00 P.M. Socializing
 10:30 P.M. Doors Close

MEETING HIGHLIGHTS FOR THIS MONTH

CARTRIDGE DEMO'S.....Demo by Paul Brock
 Latest Library NewsSpeaker Paul Brock
 Latest in hardware.....Demo by Jim Wiegand
 Ribbon Re-inking.....Done by Art Gardner
 Open Interest.....Open to all

LIST OF WEST PENN OFFICERS FOR 1998

President:	Paul Brock	724-478-2754
Vice-President:	Norm Rokke	614-264-6442
Treasurer:	Ed Mandich	412-824-5566
Recording Secretary:	Paul Brock	724-478-2754
Corresponding Secretary:	Jim Wiegand	304-738-2110
Soft/Ware Librarian:	Paul Brock	724-478-2754
Newsletter Editor:	Paul Brock	724-478-2754
NEWSLETTER EDITOR:	PAUL BROCK	724-478-2754

The West Penn 99'ers Users Group is a Non-Profit organization, dedicated to encouraging the continued use of the TI-99/4A home computer.

Our Membership Fee is:

- * \$15.00 per year for an INDIVIDUAL / FAMILY membership.
- * \$10.00 per year for a NEWSLETTER ONLY membership

Those having Full memberships are entitled to the many extra benefits our club has to offer.

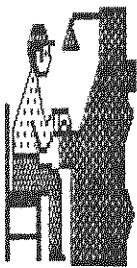
Some of those benefits are:

- * Getting to meet some of the nicest people.
- * Demos of the latest TI-99/4A software.
- * Free copying of our West Penn 99'ers Disk Library.
- * Up date of T.I. news, Local, National, International.
- * One on one help / Problem solving.
- * Participation in our Module Lending Library.
- * Participation in our Video Lending Library.
- * Ribbon re-inking- for just \$1.00 per ribbon.
- * Various Computer supplies - at a substantial savings.
- * Ability to trade or sell computer equipment, or electronics.
- * Help on getting equipment fixed.

We meet the third Tuesday of each month at the PENNS WOODS CIVIC ASSOCIATION in North Huntingdon, PA. at 7:00 P.M.

If you can't make it to our meetings...at least become a Newsletter member - and enjoy our NEWSLETTER FORMAT- done entirely on a TI-99/4A computer.

SEE PAGE 10 FOR OUR WEST PENN MEMBURSHIP APPLICATION.



FOR THE RECORD BY PAUL BROCK

APR. & MAY MIN.



The meeting for April 21, 1989 started at 7:30. The coffee was brewing as we all waited for Lew King to get unpacked. The night was filled with inthuesasm as he unpacked his TI equipment.

The librarian was not present, therefore no report on the library. The treasure gave a good report, and mentioned that the Micropendums had not arrived as of this date. There was no other reports. I mentioned that some of the clubs had canclcd their newsletter, and I am working on improving ours. I also gave thanks to those that contributed to our newsletter.

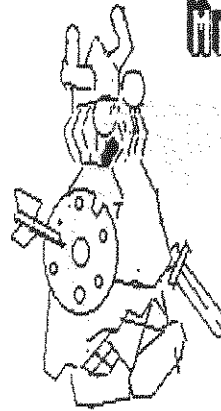
I turned the meeting over to Lew King at about 7:55. He gave a demo of how to get on the internet with the TI computer. He had brought along most of his equipment, to insure a proper demo. Among his equipment he had a VGA monitor, Super AMS memory card, SCSI controller and a 36 baud modem. There was a pause to get the telephone on line, but once established, the demo took off and it was none stop for Lew. There was an extensive explanation of every step. The attention of every one was focused on the monitor. As Lew proceded, there was no interruption as the text began to pour onto the screen. The questions came at random. FUNNELWEB, the word processor that was used for the text file. One of the fine tools for the TI99/4A.

MAY MINUTES

I miss placed the minutes for May. As you know we held the meeting on May 12. There was 10 in attendance. The Vice President was not there but Art Gardner was here and we had ribbon re-inking. If you want ribbons reinked give Art a call to if he can attend the meeting his TELE: 724-835-4304
NEXT MEETING-JUNE 16th



Untill then my Quill has run out of ink!



MESSAGE FROM THE

PRESIDENT

EDITOR

With much regret I must inform the members that we have lost our librarian, and a great benefactor to the TI community. Mickey has made programs from Adventure to Genealogy. She was President of West Penn 99'er's from 1988 to 1996. Always had the answer or could find it for you. My best memory would be her wedding day. The whole TI community was there. Ken Gilliland of NOTUNG S/W flew in from Calif. to be there. We didn't run out of Pepsi. On April 23 or 24, I got a call from Mickey to pick up the clubs Disk library, and that she was quitting.

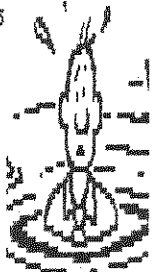


Through the years, Mickey has given her all. when we lost our editor, she took over and did a swell job. As I well know! It takes lots of

time to put out a newsletter. I don't think that she will put her TI on the shelf. We at West Penn welcome her any time. We wish you well and hope to see you real soon...

XXXXXXXXXXXX

I have been tring different ways to speed up the production of our newsletter, as you probably have already noticed. The Newsletter is not intirely done on the TI. I get my articals from old newsletters, which are reproduced. I hope that I am not in any trouble. If anyone has any suggestions, please inform me, or other officer. As always, there will be goodies and coffee.



The difference between laughter and shouting is one can be heard! PB..

XXXXXXXXXXXX

HAPPY BIRTHDAY!

TI'er where ever you are!



CONTINUED FROM PAGE 1.

Haven't fallen a sleep yet? This is probable old stuff to the pros. Than again some one may say that this is new.

Now at the command line enter LF for LOAD FILE, and arrange it this way:

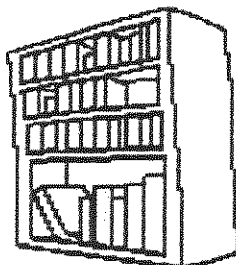
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400 3000 DSKn. BIGFILE
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Substitute for 400 the line number you wrote down as being the first line of part two. The 3000 only needs to be a number way past the actual end of the entire file. This will load the second part into memory, picking up right where part one left off.

If you don't get the "BUFFER FULL" message this time, you are home free with your file in two parts. SAVE the second piece, again giving it a unique name.

If your file is so large that loading the second part also fills the buffer, then repeat the entire process, as needed, until the final portion loads okay. To estimate how many pieces a file will split into, divide its total sectors by 100.

SPECIAL LIBRARY REPORT!



Do to certain sircumstances, the Disk library is now in the possession of the President. I am desperately looking for a place to board them. I will try to bring them to the meeting. *Paul A Brock.*

PC PS in the PEB
by John F. Willforth

Got a dead P.E.B. (Peripheral Expansion Box)? Are your Myarc HDFC or 9640 cards turning brown and operating when they feel like it? Does carrying that heavy PEB to meetings cause regular trips to the chiropractor. Does putting another disk drive or more hardware in the PEB cause you a head ache or sleepless nights, not to mention an empty wallet? If you can relate to any of the above, you may want to read on.

A.L. Beard wrote an article explaining generally the placement of an IBM PC power supply in a PEB replacing the TI transformer and regulator card. The transformer being the HEEAAVVYY unit. I intend to include enough information to accomplish the same thing with the New Style PEB, which Mr. Beard said he knew little about. The New Style PEB can be identified easily by the ON/OFF switch. The New Style PEB switch rocks, push on the top to turn PEB on, push the bottom to turn the PEB off.

The power supply in both styles of PEB are linear, not switcher, and are heavy, inefficient (low power and high heat), and costly to repair. If your transformer is bad let's say, you must either order one (over \$75.00), or you could send the PEB back to TI for a guaranteed repair at something between \$50.00 and the cost of the transformer.

Availability of a PC power supply as well as it's cost must be considered before you begin this hardware mod. to your PEB, as well as your ability to do it. I used an old PC power supply taken from an original IBM PC. The power that is available is considerably less than is available from newer XT and AT power supplies. This one was free! You should get a 135 watt or greater power supply. I can't imagine you being able to stuff enough of ANYTHING inside a PEB and add external power (DC) for stand-alone drives to draw excessively on a 150 W. PC power supply. I'm going to describe in the next couple pages what I learned putting the PC power supply in the N.S. PEB.

Opening the PEB to gain access to all it's wonders involves, first making sure the AC POWER IS REMOVED. Lift the lid to

gain access the cards. Remove ALL (incl. the interface card attached to the firehose) the cards and any disk drives in the drive port. Turn the PEB over and remove all screws with the exception of the two that hold the black plastic block that rested under the disk(s) in the drive port. Turn the box upright and remove all in the rear except the two that hold the top cover latches. There remains just two more to remove, they are located on the outside left and right rear corners of the PEB. Now hold down on the center of the PEB (area where the circuit cards plugged into the PEB, called the system bus), and slide the outer housing (sides and front), away from the main PEB assembly.

Observe locations of the large transformer and the regulator card mounted to the left of the transformer from back to front. Note the routing of the floppy/hard disk power cable, as well as where three unregulated DC voltages and ground enter the system bus, (identified with brown, yellow, black, and green wires attached, just to right of the transformer).

Carefully remove the regulator card, by first disconnecting the three snap on connectors that connect to the card, and with a long phillips screw-driver remove the two screws that hold the plastic mounting bracket. Four screws must then be removed from the circuit card to free up the bracket for use later to support the new PC power supply safely. Remove four nuts that hold the PEB transformer to the base. As you lift the transformer pull each spade lug connector from it's connection in the PEB. NOTE: If you are chicken, mark and diagram all wires and connection first, just in case you find a reason to try to put this back together the way it was. You will probably have to cut several wire-ties in order to remove the transformer since TI while assembling tried to tidy up things.

If you want and feel confident as a good experienced hardware constructor, you may want to remove the system bus board so you can remove the four wires attached, and clean the holes properly as well as do a good job soldering the new wires from the PC power supply into these four eyeletts. These four holes could give you problems if attention is not given to wire dressing and proper soldering. GROUND is all around each hole!!! The BLK hole is ground however.

If you are not adventuresome, you can always cut these four wires two or three inches from their attachment to the card and use either shielded crimp couplings to join the wires (available from Radio Shack) or even heat shrinkable tubing placed over soldered connections. I used both types of connections,

I'm going to label all major components with an alpha designator, followed by an identified point on that component to make a list of point-to-point wiring and for text references. I'll explain as we go along.

First, with the items I've already described removed, be sure you have a RED wire going from item "I" point "L" in Fig. B to item "S" point "2a" in Fig. C, in other words: IL to S2a. That is easy isn't it? The next is a WHITE wire from IN to S1a. Study it. Here is the entire AC wiring list:

- I120 to S2 IL to S2a IN to S1a
- S1 to TPC2# S1 to FA* IF to TPC1#
- IF to FC* (# * means no polarity and may be exchanged to it's like point)

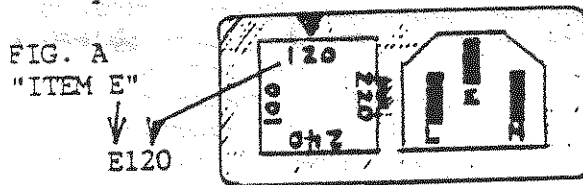


Fig. A is only included here so you can see the FUSE and it's special way of being inserted to select for input of AC voltages. Pulling and rotating the fuse actually selects different taps on the transformer you removed. This means that if you have LOW AC voltage you can just by rotating this fuse, so that 100 is located at the top. Increase the internal DC voltages. If you have 220 VAC at your home, rotate the fuse to put 220 at the top. Fig. A is an external view.

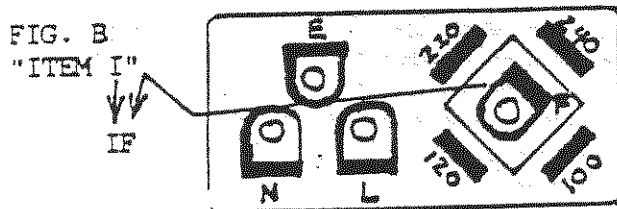
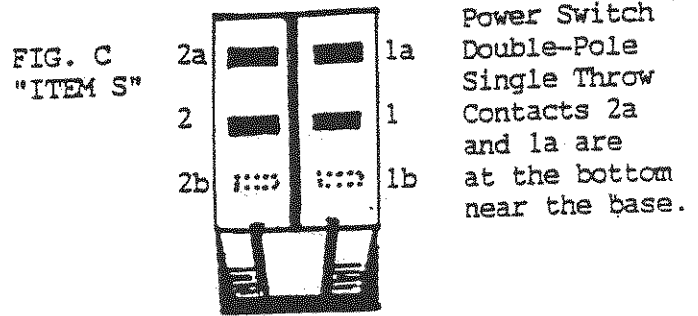


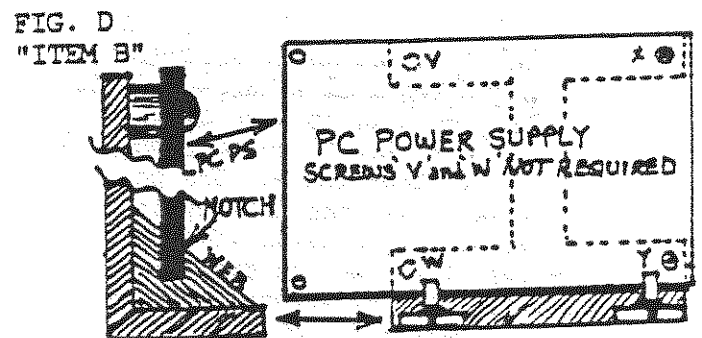
Fig. B is an internal view of the power input and fuse connectors - "I".



The RED and White wires I described in the column to the left and down one, are already in place and will be located under the new circuit board. The rest of the AC wiring will have to be done after the PC power supply board, the system bus board and fan items are prepared.

I mention the fan, remove it especially if you intend to reverse it's direction to quiet the PEB operation, otherwise you may want to leave it in place so that when you install the PC power supply, you can refer to it for contention of space.

The plastic bracket that held the regulator in place may now be examined to see how you might mount the new PC power supply in very much the same way as was the the original regulator. See Fig. D for a suggestion on notching the plastic support webbing to provide a new slotted area on the bracket which can act as a guide and as support for the bottom of the new card. The top of the card and any already existing mounting holes should be taken into consideration when making this study.



I'm running out of space for this month, so while your looking for the PC power supply, I'll be finishing this article and maybe making corrections to what I've already written. If you already have the idea you may want to go ahead. If you do, you may want to get in touch because ALL PEB cards must be modified. Next Month - JFW

If you decide to solder the four wires directly to the system bus board (see Fig. E below, clean the holes very well and as you dress the selected wires from the new PC power supply, be careful not to nick the strands since nicked wires may break and dance around the top surface of the system bus board (eight slot board in PEB that you plug the PEB cards into), causing shorts between +12, -12, and the +5 DC lead and the killer ground is very tight around those three holes on the board. Do not allow too much lead to extend past the bottom of the board, since shorts then could exist to the metal below.

We've some confusion to deal with when reconitering DC power output from the PC power supply board. The location of these DC voltage outputs vary with each power supply. They'll probably be considerably low if read with a meter and no load is applied. To assist in this area, try plugging a disk drive into one of the disk power connectors coming from the PS power supply. Mount the new +12 PS (power supply) in the PEB and with only the disk drive plugged in and AC provided to the PS at TPC1 and TPC2, from S1 and IF, CAREFULLY power the unit up. Now you can short pins 16 and 15 on the disk drive together to turn on the motor to the disk drive. This causes an increase in +12 volt draw on the PS. Pins 15 and 16 are on opposite sides of the logic board on the disk drive where you would plug in the 34-pin ribbon cable. They are the eighth pin on a side counting from the end of the board that has a notch between the second and third edge connectors. All odd pins are ground so it doesn't matter which pin you touch on the odd pin side.

Locate by metering, the +5, +12 and -12 wires coming from the PS. Also find the many grounds. You will note that there are many +5, +12 and Grounds on the board but usually only one -12. Use the extra disk power connector(s) to measure the +5 and +12. Note as you do

the colors of the wires, because the manufacturers usually keep the same colors for the voltages and ground on the PS units and this would make identification of the DC power on the PS much more precise.

If all looks good at this point, you may want to hook up the power to the system bus Item "P" in Fig. E. It shouldn't matter which ground and which +12 or which +5 you use, but I believe that your choice will be limited to the one -12 volt wire you find.

You can reinstall the fan if you reversed the field (laminated zink plates shown in Fig. G) to quiet the PEB. Connect IF to FC and S1 to FA or visa-versa (it doesn't matter this is Alternating Current were talking about here). By the way, to reverse the fan, remove the plastic fan blades (a very hard pull), then remove the two screws that hold the fans main parts together. By the way, it might be smart to mark the main three housing parts, so you KNOW that you actually did turn the field 180 degrees. All other parts remain in exactly the same position. Watch where the small washers on the armature shaft are (how many and on which end) and be sure not to lose any. You may find that doing this, will make all the work worthwhile.

FIG. E
"ITEM P"

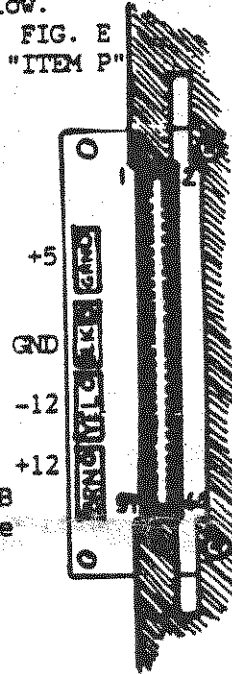


FIG. F
"ITEM T"

Note that there can be many connectors for the various voltages on the board, and they can be located anywhere on the PS board.

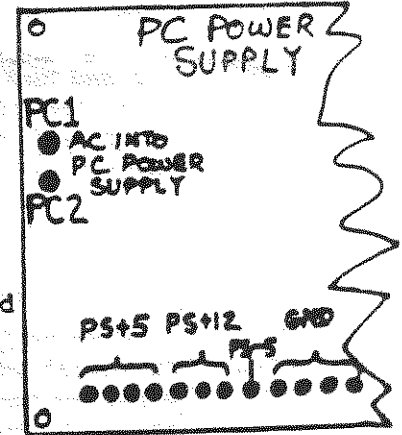
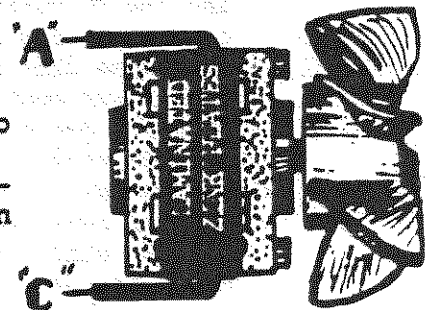


FIG. G
"ITEM F"

You may want to lubricate the two brass bushings on the fan while you have the PEB apart.



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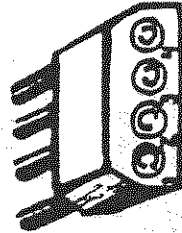
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Below in Fig. H, Item "D" you may reference the pin-outs for a disk power connector. They are the same in the PEB as the ones found on the new PC power supply. The connectors are both identical but the wire colors will, in all likelihood be different. There may also be only one wire running to the number 2 and 3 pins since these are both ground, and a loop of wire is sometimes used between these two pins. i.e.: You may have only three wires from the new PC PS. This is OK.

FIG. H
"ITEM D"

None of the connectors on the new power supply is likely long enough to reach the drive

+5
GND
GND
+12



port with enough to spare to allow for comfortable hook-up of disk drives. It will then be prudent to splice the old PEB disk drive power cable to the new PC disk power cable using information you gathered and I've provided to this point. Use the voltage/wire color table that you should have drawn up earlier. You can survive if you failed to do any thing about checking voltages, if you at the very least NOTED ALL THE +5, +12, -12 and GROUND WIRE COLORS on the new PS or at the VERY LEAST have a means to accurately meter the voltages on a live power supply. The better you note the items I mentioned earlier, the less difficulty you will encounter.

CHECKPOINT

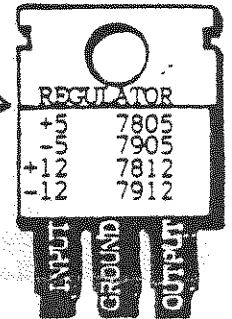
With no PEB cards installed, the new PS installed and all the AC wiring (7 wires connected, shown just above FIG.A) the DC to the system board (see FIG.E), and the DC voltages to the disk power connector (see FIG. H above), and at least one disk drive connected to that disk power connector, APPLY POWER. Note that you can't get anywhere accurate DC voltage readings without a load on most of the new switcher power supplies. If the fan runs, you don't smell anything, you can start getting excited! A quick check of the voltage pins on the disk power connector, followed by shorting pins 15 and 16 on the 34-pin connector should prove that you are doing pretty well. Now, CAREFULLY meter the four

connections shown in Fig. E to see that the +5 DC is present on the point marked GRN (green not ground), ground should be on the point labeled BLK (black), that -12 DC is present on the point marked YEL (yellow), and finally +12 DC is on point marked BRN (brown). I wondered what TI would have done if the wire manufacturer ran out of green, black, yellow or brown wire since they etched the colors of the wires right into the board. With all the mistakes I make, I'd never dare etch a variable into a board.

If all still looks good, it is time to learn the FINAL step in upgrading the PEB, and that is the modification(s) to the individual PEB cards, including the seldom thought of PEB interface card. This card plugs into the left-most slot in the PEB. Remove the cover and find a component that resembles the regulator shown in Fig. I Item "R".

FIG. I
"ITEM R"

To bypass, short input to output.



These regulators will be found in up to four flavors, depending which card and by what manufacturer. Don't worry, I

can help you here by saying that they all look the same, have numbers that appear to be very close and confusing, but all that doesn't matter. Just look for at least one on every card, and up to three on some cards like the GENEVE (9640). The regulator was chartered with the job of reducing and controlling the RAW DC voltages fed to them from the old TI PEB type power supply. Since the new PC power supply already does this, they can be bypassed.

One way is to remove the item, and put a jumper wire across the outer two holes that are left (staying clear of the center hole; ground). Another way is to not remove the component, but to just jumper the outer two leads. The regulator will then be quiescent and inert.

Bypass the regulator in the PEB interface card, reassemble, and install the card in the PEB. Connect the firehose to the TI-99/4A, and power up the PEB, followed by the TI console. (unless you have a 9640, GENEVE) in which case you won't have

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a fire-hose attached. In this case I think that you are going to have to do as Mr. Beard did, modify your 9640 board as described (short-out the three voltage regulators or remove and jumper) and just try it.

**** This project should not be under
**** taken by any but experienced
**** project doers, or those with a
**** lot of money to replace the unit
**** that no longer works. I cannot
**** take responsibility for misprint
**** errors or your failures to com-
**** ply with instructions. As a mat-
**** ter of fact I'm sure that I'm
**** speaking for the User Group that
**** prints this article as well as
**** any other reprint. J.F.W.

All cards that are installed in the PEB will now have to be modified as shown in Fig. I to the items that look like the voltage regulator, and it is VERY IMPORTANT to note that unless the jumpers are removed, these cards can never be used in a standard PEB with the old style linear PS inside. The reason is that if jumpers are in place, RAW +16, RAW -16, and RAW +8 VDC (actually as much as 50% above these values is possible) will be put on the voltage pins of chips which are not designed to be operated at these extreme levels. Basically all chips on a board can be "SMOKED". Here is a simple rule:

Any PEB board, modified or unmodified may be put in a modified PEB, but only a modified card will function, the unmodified card will fail to function but is not damaged.

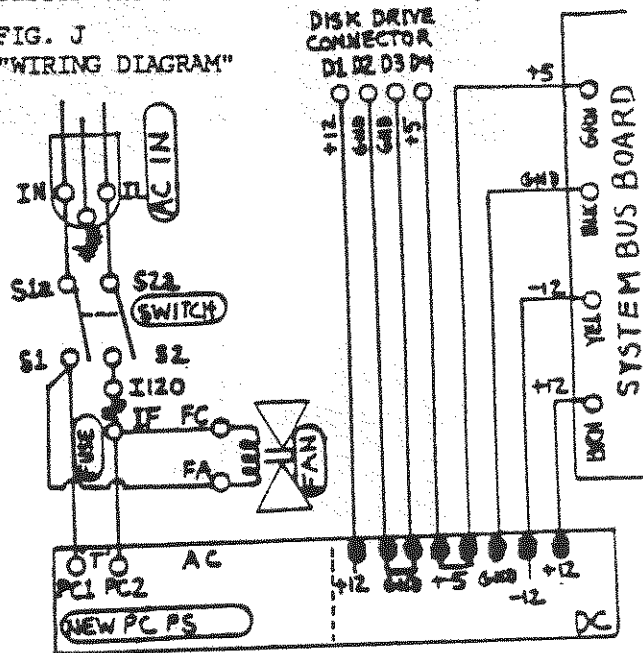
An unmodified PEB will DESTROY ALL cards that are modified.

SUGGESTION, place a bright red or yellow sticker attesting to the fact that the card should never be placed in an unmodified PEB on the TOP SURFACE of that card.

I might mention here that if you wish to modify your old style TI PEB, the type with the PUSH switch (not the rocker type described in this article), the units are primarily different in the area of the transformer and the fuse. Since the fuse is easily located this should cause no problems, and the transformer will be removed completely anyway, you should be able to reference the wiring diagram in

this column and modify any PEB that TI released. You can either solder directly any wire to a spade lug connector, but putting a shielded female lug connector would make adjustments, repair, and disassembly much easier should it become necessary.

FIG. J
"WIRING DIAGRAM"



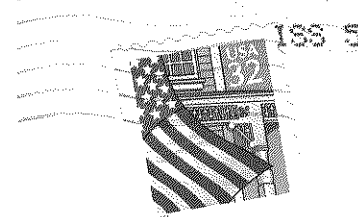
I know that many things may be confusing in the last four and three quarter pages, but please read the entire article carefully first, locate all the items in your PEB, and familiarize yourself with your new PC power supply. Chart all measured voltages in the PEB and on the new PS to wire color. If you feel more comfortable just wire as indicated above. Some people won't need all the detail I've tried to place here. Caution with repeated checking as you go along is always wise.

You can even use the DC fan from the new PC power supply, but you will have to plug it into the new PS and not wire it to the A as was your old PEB fan. This could give you a quieter PEB, depending on the fan that was in your new PS. Try in either case to have the air flow into the PEB and not out of the PEB (this is the reason for a muffled quieter PEB).

This is the end of the PEB power supply upgrade (modification) article. You should be referencing five pages, if not something is missing. I hope that you will benefit a great deal from this article.

Maybe you'd like to make the PEB into a MINI-TOWER, with the TI-99/4A inside? Might be next!
ML J.F.W.

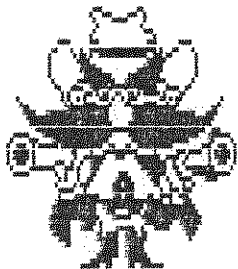
WEST PENN 99'ERS
C/O Paul A. Brock
P.O. BOX 222
North Apollo PA 15673-0222



Newsletter Editors

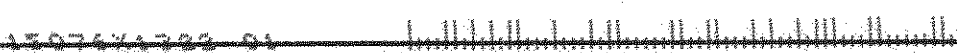
Please note new address
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FIRST CLASS MAIL



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