

A surprise in the MOAUG mailbox from Jim Clements of LAUGH!

THE ATTACHED diagram is an example of what your faithful old clunker of a computer, ADAM, can do when it -- and skilled programmers -- put their minds to it.

IT IS wiring diagram for a clock board designed for the ADAM. It -- all 565K of it! -- was downloaded from a U.S. bulletin board by an ordinary ADAM and it was printed by an ordinary ADAM using a Star MX-1000 printer. Incidentally, it takes about 17 minutes to print on a relatively fast Star.

DID I say 565K? Yup, you read right -- 565K. On an ordinary ADAM. No frills necessary other than a modem and a modem program such as ADAMlink II, IMP or Mex which allow xmodem downloads.

HOW? WELL, it is contained in an archive file uploaded by John Lingrel of Akron, Ohio. Big John, as he is known, operated Orphanware and now is connected with CL Digital and is certainly the finest creator of hardware for the ADAM. Everything from memory expanders to 720K 3.5 inch disk drives. Even a super-fast hard drive that went on-line this past week. More about him later.

BIG JOHN "squashed" the 565K of the diagram by 92 per cent so that it could be included in a package of instructions on how to build a clock board for the ADAM. As you can see, it is not a project for beginners.

THAT PACKAGE, and others including how to build your own 160K, 320K or 720K disk drives, a 720K GLH (Goes Like Hell) EFROM and superior CP/M enhancement program which allows the use of any size drive, have all been -- very generously -- made available to the public. Instructions and a similar schematic diagram for a 256K memory board are promised soon.

THERE IS only one condition attached to Big John's unparalleled gift to the ADAM community. It is that the instructions and diagrams are free and must remain that way. That is, disks or data packs containing the instructions must only be sold for the price of the disk or data pack itself and that the electronic devices not be sold by any commercial organization or for any sort of profit. Anyone who breaks that condition risks the wrath of Big John and the entire ADAM community. And that seems fair.

JOHN LINGREL is one of the most brilliant and tireless contributors and supporters to ADAM and its users and has been for many years. His creative skills, his craftsmanship, his absolute dedication to quality, honesty, fair-play and a fair deal for his customers' dollars are near legendary. So is his patience with newcomers to the ADAM and others with problems.

IF ADAM is still growing, despite the fact that it is a lonely little orphan, it is largely due to John Lingrel. He deserves the appreciation of everyone who uses an ADAM and many who have left it for loftier computer climes.

THANKS JOHN!

IF YOU would like to add your appreciation, it's easy enough to do. If you have a modem you can contact him on the CL Digital bulletin board in Akron, Ohio, (216) 882-4720. It is by far the best private BBS available to the the ADAM user, chock full of ADAM information and hundreds of public domain CP/M programs that can be downloaded for the price of a phone call. And you can cut the price by calling during off-peak hours. If you are using an ADAMlink modem, set it for 9, 1 and none.

OR YOU can write Big John at 5665 Myers Road, Akron, Ohio, 44319, U.S.A.

(FOR THOSE of us more interested in EOS (SmartBASIC) programs there is a new board, identical to John's and also in Akron, Ohio. It is called Sanatorium, run by Mark DeSure, and can be reached 24-hours a day at (216) 753-8622. Remember, set your ADAMlink modem to 8-1-none. Both are worth looking at regularly.)

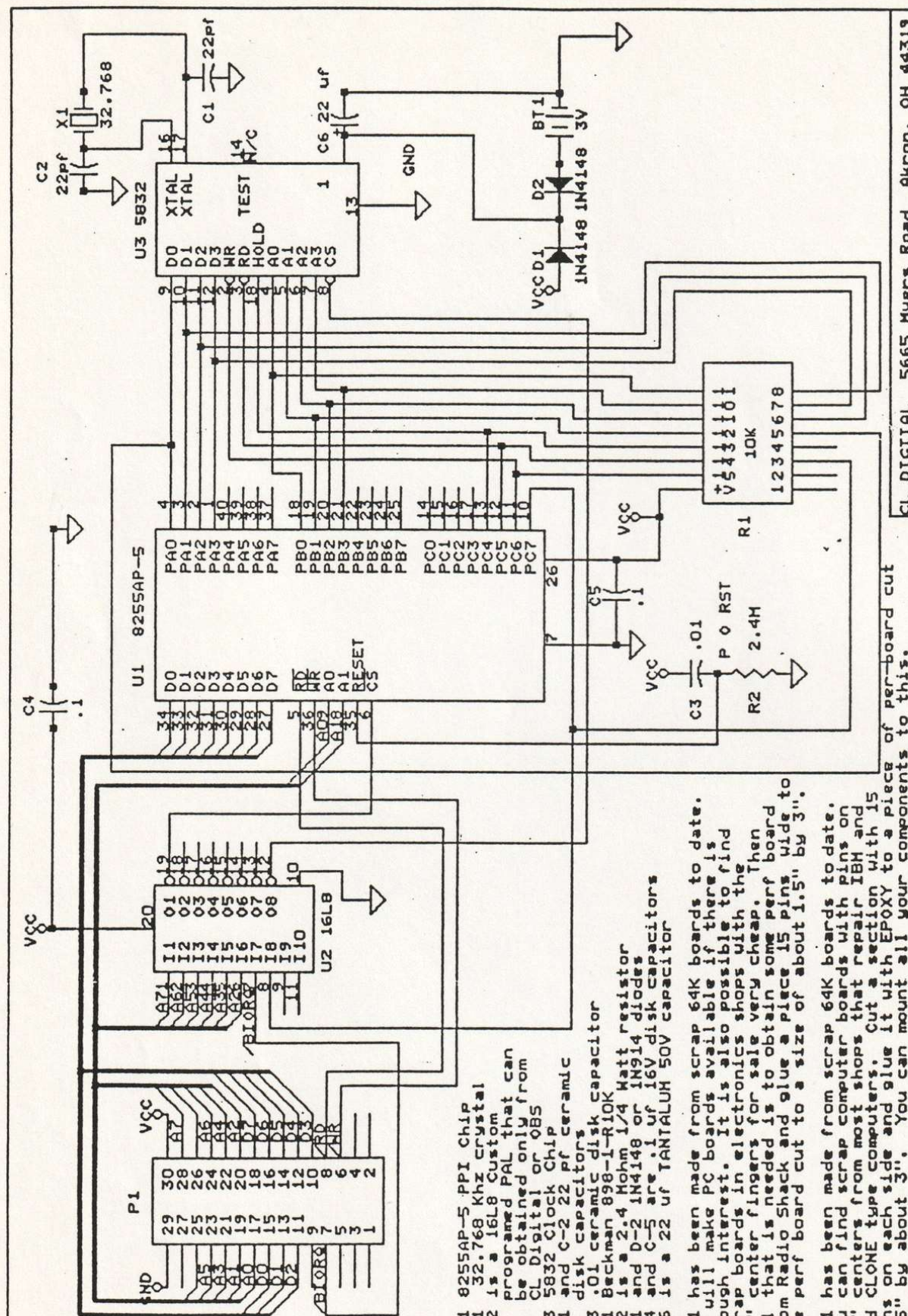
IN KEEPING with John Lingrel's intent, the complete instructions for 160K, 320K and 720K drives, the clock board and other items, have been downloaded and donated to L.A.U.G.H. and to Len, our resident electronics expert. Copies can be obtained from the club or Jim Clements, 575-9393.

HOWEVER, several words of warning. To get full use of these instructions you must have CP/M 2.2 and at least a fair understanding of how to use it. A dot matrix printer is helpful but really only necessary to print the clock board diagram attached. If you save the diagram you'll also save yourself time and money!

AND YOU must have a much-above-average knowledge of electronics. Unless you do, you should leave the tinkering to the experts. That's what I intend to do.

CONTRIBUTED BY Jim Clements.
(PRINTED IN condensed type by ADAM)

{SEE DIAGRAM, NEXT PAGE!}



- U-1 8255AP-5 PPI Chip
- U-2 32.768 KHz crystal
- U-3 16L8 Custom
- U-4 5832 Clock Chip
- C-1 and C-2 22 pf ceramic disk capacitors
- C-3 .01 ceramic disk capacitor
- R-1 Beckman 898-1-R10K
- R-2 2.4 Mohm 1/4 Watt resistor
- D-1 and D-2 IN4148 or IN914 diodes
- C-4 and C-5 are .1 uf 16V disk capacitors
- C-6 is a 22 uf TANTALUM 50V capacitor

P-1 has been made from scrap 64K boards to date. We will make PC boards available if there is enough interest. It is also possible to find scrap boards in electronics shops with the .1" center fingers for sale very cheap. Then all that is needed is to obtain some perf board from Radio Shack and glue a piece 15 pins wide to the perf board cut to a size of about 1.5" by 3".

P-1 has been made from scrap 64K boards to date. You can find scrap computer boards with pins on .1" centers from most shops that repair IBM and CLONE type computers. Cut a section with 15 pins on each side and glue it with EP0XY to a piece of per-board cut 1.5" by about 3". You can mount all your components to this.

See separate parts list for all parts and sources.

CL DIGITAL 5665 Myers Road Akron, OH 44319	
Title	CL DIGITAL RTC (CLOCK)
Size Document Number	REV
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Date: January 8, 1989	Sheet 1 of 1