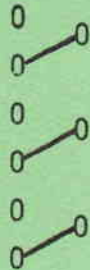


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GETTING STARTED WITH <PHIMON>

0. Read the manual COMPLETELY.
1. Before you can begin to use <PHIMON> in your Digital Group Z-80 system, you must change the memory address jumper wires on your CPU card. These three wires are located in the top-center of the CPU card. It is necessary to change these so that the memory on the CPU card has the addresses 56K - 58K since this is where <PHIMON> resides. The new form for the CPU jumper wires is:



Z-80 CPU CARD 56K - 58K JUMPERS

2. Next, without changing your ROM to the <PHIMON> ROM, read in the WHITE labeled side of the cassette as you normally would any other audio-recorded program. Then place a good BLANK cassette in Phi-Deck #0 and press 7 on your keyboard to make a copy of <PHIMON>. When the "shopping list" reappears, pressing 0 (zero) will jump you into <PHIMON>. It is suggested that you make several copies of <PHIMON> from the audio-cassette maker, especially if you have only one Phi-Deck. (There is no other way to copy <PHIMON> on a system which has only one Phi-Deck). After you have made several copies, turn your computer off, remove the CPU board and change ROMs.
3. Place the <PHIMON> cassette supplied or one of the ones made in step 2, above, in Phi-Deck drive #0 GREEN-SIDE-UP and turn on the power. There should be an audible click as the system attempts to rewind the cassette and then, depending on where the tape was on the cassette, it will be rewound automatically. After the tape has been rewound, you will hear the read-head latch in and the tape will begin to read. Within 15 to 20 seconds, the message RD OVLY should appear in the upper left hand corner of your screen. Within a few seconds, the HELp display should appear on the screen.

4. If you do not get the RD OVLY message or the HElp display, then what to do next depends upon what actually happened when you turned on the power.

a. NOTHING:

- 1) Is the computer plugged in?
- 2) Have you tested your Phi-Deck(s) with the software supplied when you bought them and do they work?
- 3) Did you put the tape in drive #0?
- 4) Did you change the ROM?
- 5) Are the drives connected to the system?
- 6) Did you wire the data and control I/O channels according to The Digital Group, Inc. (DGI) standard?

If the answers to all of the above questions are "yes" then...

- 1) Scream for HELP; or
- 2) Sell your computer and take up needlepoint!!

b. THE TAPE REWOUND AND STARTED TO READ AND THEN REWOUND AND STARTED TO READ AGAIN...ad nausium!!:

- 1) Your deck is not synchronized with ours as far as speed is concerned. This is why you made the copies from the audio version in step 2. Remove the supplied cassette from drive #0 and substitute one of the tapes made in step 2. Then go back to step 3 and start over.
- 2) You did not change your jumper wires and you did a read-in, jump to no-where, which causes a RST 70 or something its' equivalent, and you are in some kind of an oddball loop.
- 3) If you have more than one Phi-Deck, try swapping the decks and going back to 1), b., and starting all over again.

5. Using <PHIMON> to copy <PHIMON> is explained in the manual; however, since the procedure is fairly simple, we will explain it again here:

- a. Place an operational copy of <PHIMON> in Phi-Deck #0 and boot it up.
- b. Place a good blank cassette in any other drive; e.g., drive #1.
- c. Type ZE!#1cr to create a zeroed directory for a system monitor tape.
- d. Then when the prompt character appears again, type BU#1cr and the operating system will be copied from the system resident drive #0 to drive #1.

6. TVC - 64 Adaption Procedure

To adapt <PHIMON> to the 64 character TV display, it is necessary to change only one byte. The procedure to make this change is as follows:

- a. Boot in <PHIMON> or boot in the audio maker.
- b. If <PHIMON> is booted in:

- 1) Type DT0cr or DTHcr
- 2) When the Breakpoints message appears, type
(if DTO) 3432050
then 303space
then ESC or G
(if DTH) E3850
then C3space
then ESC or G

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- 3) If the audio-maker is in, change the same addresses to the same values using the appropriate option but use ESC only to return. G will return you to the audio maker "shopping list".
 - d. If you are operating under <PHIMON>, the display should change immediately such that a space follows every character. While this is not the most elegant method of converting to the TVC-64, space limitations prohibit any other method at this time.
 - e. Make a copy which has the changed byte using the following procedure:
 - 1) Under <PHIMON> type BUcr.
 - 2) Under the audio maker, select option #7.
7. Using MAXI-BASIC or Tiny-Basic (TBX-TVCOS) with <PHIMON>:

There are a number of ways to effectively utilize MAXI-BASIC or Tiny-Basic with <PHIMON>...at least with respect to program files (data file support is not available at this point in time but will be available under MAXI-BASIC, Ver. 2.0).

The quickest and easiest way to get started is to put your original audio-cassette ROM in the CPU card and bootstrap in the maker; place a working copy of <PHIMON> in drive #0 (or alternatively, a blank cassette in drive #0 and make a <PHIMON> first); and then type option 0 to enter <PHIMON>. The following instructions apply equally to both MAXI-BASIC and Tiny-Basic:

- a. While in <PHIMON> place the audio version of either MAXI-BASIC or Tiny-Basic in your cassette player/recorder and type

REcr

and when the START message appears, start the recorder and once the tone stabilizes, type a space to begin the read. This will read the MAXI-BASIC or Tiny-Basic into RAM starting at page 1 just like a bootstrap load would.

- b. When the REad is completed, type

DT0cr

and when the breakpoint message appears, type

51000
 000space
 340space
ESC or G

You have just set the address of option #0 of the Basic shopping list such that any time the shopping list is being displayed, typing a 0 (zero) will return control to <PHIMON>. (NOTE: There will not be any message associated with this zero option...just remember that it is there).

- c. Depending upon whether you type an ESC or a G at the last character of step b., you will end up in either <PHIMON> or the Basic shopping list. (This is due to the EXIT procedure which uses RST 0 which, of course, goes through the ROM and the audio ROM will take you to the Basic shopping list). If you ended up in the Basic shopping list, type 0 (zero) to get to <PHIMON>. If you ended up in <PHIMON>, go on to step d.
- d. At this step we will SAVE the Basic itself as a program to the <PHIMON> systems tape. This is done as follows:
 - 1) MAXI-BASIC: Type SAVE MAXBAS 1-63*5000cr
 - 2) Tiny-Basic: Type SAVE TNYBAS 1-24*5000cr

As you perform either of these SAVES, a series of messages will appear on the screen; the last two of which are:

SAVE PGM HDR
SAVE PROGRAM

Then the prompt character will appear again.

- e. Now type STcr and the Basic shopping list will appear on the screen.
- f. Remembering that the audio ROM is the one in the system, load your old programs one at a time and SAVE them using the following procedure:
 - 1) Read the program into Basic (LOAD with MAXI after selecting Option 7; Option 1 under Tiny-Basic).
 - 2) As the program is reading in, keep track of the page number (this is the number, the least significant digit of which is displayed on the screen during the audio read process).

MAXI-BASIC page numbers begin with 63
Tiny-Basic page numbers begin with 24

- 3) When the read-in is completed, if you are in Tiny-Basic the shopping list will be displayed; in MAXI-BASIC, the READY message will appear. Respond ESC to the READY message.
- 4) You should now have the audio shopping list on the screen. Type 0 (zero)
- 5) You should now have <PHIMON> on the screen. To SAVE the program in Basic language, type
 - (a) MAXI-BASIC program: SAVE progname 63-LP*5000cr
 - (b) Tiny-Basic program: SAVE progname 24-LP*5000cr

Where: LP=Last Page Number

In either case, you must have kept track of the pages in octal as they loaded in so that you can insert the appropriate value for LP in either SAVE command.

The *5000 which is specified as the starting address of the programs, in both cases, causes a jump to the shopping list whenever a Basic program is LOaded or RUn from <PHIMON>. You will then proceed to use the program the same way that you always have.

- 6) After step 5) is completed, type STcr to get back to the Basic shopping list and repeat this process from step 1) until all of your old programs have been SAVED.

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- 7) To SAve new programs, simply enter with Basic normally and key in the program. Then use the SZE command of Tiny-Basic or the FREE (Ø) command of MAXI-BASIC to determine how big your program is. Then SAve it by using the ESC in either Basic to get to the shopping list and follow steps 4), 5), and 6), above.
- g. After you have SAved all of your old programs, power-down your computer, insert the <PHIMON> ROM, power-up the computer and when the HElp display appears, type LOad MAXBAS or TNYBAS if you want to run an older program or RUn MAXBAS or TNYBAS if you are going to enter a new program.
- h. Then while in <PHIMON> type RUn prognamecr and <PHIMON> will go and find your Basic program, load it into memory and jump to the Basic shopping list.