```
PPPP    L       EEEEE   AAA     SSS     EEEEE
P    P  L       E       A   A   S   S   E
P    P  L       E       A   A       S   E
PPPP    L       EEE     A   A       S   EEE
P       L       E       AAAAA           S   E
P       L       E       A   A   S   S   E
P       LLLLL   EEEEE   A   A   SSS     EEEEE


RRRR    EEEEE   AAA     DDDD             M    M  EEEEE
R   R   E       A   A   D   D            MM  MM  E
R   R   E       A   A   D   D            M  M M  E
RRRR    EEE     A   A   D   D            M  M M  EEE
R  R    E       AAAAA   D   D            M    M  E
R   R   E       A   A   D   D            M    M  E
R    R  EEEEE   A   A   DDDD             M    M  EEEEE


FFFFF   III     RRRR    SSS     TTTTT
F        I      R   R   S   S     T
F        I      R   R   S         T
FFF      I      RRRR         S     T
F        I      R  R         S     T
F        I      R   R   S   S      T
F       III     R    R  SSS        T
```

So I can tell you how to set up your new computer

from

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Last revised March 16, 1981

If you have not already done so, unpack the computer carefully and stand it on its feet.

* * * * * * DO NOT open the sealed plastic package containing the CP/M diskette at this time. * * * * * *

Look closely for shipping damage and report any problems to the shipper or to us at ZOBEX. Open the front panel below the disk drives by pulling out on the top part of the panel (held in by magnets). Again check for any obvious damage from shipping, and see that the electronic boards and connectors are properly seated.

Check for proper opening and closing of the disk drive doors (push the button to open, slide the door left to close). DO NOT put a diskette in yet. Leave the doors open.

Make sure the power switch on the front panel is OFF (bottom half pushed in).

At the rear of the computer, connect the power cable by plugging it into the 3-prong plug at the lower right corner of the computer cabinet (looking from the rear). The fuse is also contained in this plug, and may be accessed by removing the cable and sliding the plastic door to the left.

Connect the male end of the power cable to a 115 volt AC source (such as a wall socket). Turn on the front panel power switch by pushing in on the top half. You should now hear the fans and the disk drive motors start. At least some of the LED lights on the electronic boards will come on, indicating power has been applied. If anything unusual happens, shut the power off immediately and contact ZOBEX.

Connect your CRT terminal to the computer by plugging it into socket S3 at the rear of the computer. This is the upper left connector (looking from the rear), and is a female type DB-25S. S3 is normally wired as DCE (Data Communications Equipment), which means it looks like a modem to the terminal, which is DTE (Data Terminal Equipment). This means the computer sends data on pin 3, and receives data on pin 2. The terminal is the reverse of this. Thus a normal "straight-thru" cable with a male end should work properly.

Since our computers are configured for 9600 baud on S3 as shipped, you will need to set your terminal to match. If your terminal has options available, set it up for even or no parity, one stop bit, and 7 data bits.

As shipped for single density disk controllers running CP/M, the CPU option switches are not used, and the ports have been set up as follows:

Socket S3 (upper left) is configured for a CRT terminal at 9600 baud.

Socket S1 (just below S3) is configured for an additional CRT terminal at 9600 baud.

S2 (just to the right of S3) is configured for a serial printer of the Diablo/Qume/NEC type. This port is set for 300 baud as normally shipped.

S4 (just below S2) is an additional serial port. The parallel ports are on S5 (just below S4).

If this fits your situation, skip to "THE FIRST TRY".

If your computer has a single density disk controller and runs CP/M, and if you need to use some other terminal speed than 9600, you will need to modify the bios code.

If you are running MP/M or have the double density disk controller, then you may select the speed by means of the switches on the CPU board. To do this turn off the power and set the switches on the CPU board as follows:

MAIN CRT SERIAL PORT ON CONNECTOR S-3 and S-1

BAUD RATE	SW-3	SW-2	SW-1
110	ON	ON	ON
300	ON	ON	OFF
600	ON	OFF	ON
1200	ON	OFF	OFF
2400	OFF	ON	ON
4800	OFF	ON	OFF
9600	OFF	OFF	ON
19200	OFF	OFF	OFF

AUXILIARY CRT SERIAL PORT ON CONNECTOR S-2

BAUD RATE	SW-8	SW-7	SW-6
110	ON	ON	ON
300	ON	ON	OFF
600	ON	OFF	ON
1200	ON	OFF	OFF
2400	OFF	ON	ON
4800	OFF	ON	OFF
9600	OFF	OFF	ON
19200	OFF	OFF	OFF

SERIAL PRINTERS or CRTs ON CONNECTOR S-4

BAUD RATE	SW-5	SW-4
110	ON	ON
300	ON	OFF
1200	OFF	ON
9600	OFF	OFF

As the computer is normally shipped, the switches are set as follows:

SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
ON	OFF	OFF	ON	OFF	ON	OFF	OFF

THE FIRST TRY

Now turn on the terminal, wait for it to warm up so you can see the cursor, then press the RESET button on the computer's front panel. You should see the word ZOBEX typed on the terminal. This indicates the computer is alive, and is running the built-in monitor program. If you do not get the above result, check the terminal hookup again, then check to see that all four switches on the disk controller board are in the OFF position. Try again. You should get ZOBEX typed every time you press the reset switch.

THE DISK OPERATING SYSTEM

Two diskettes are shipped with your new ZOBEX computer, and both are set up properly for operation on your particular hardware configuration. The first is a standard CP/M release from Digital Research, to which we have added our BIOS and BOOT routines so it will run on the ZOBEX computer. This disk contains a serial number which must be registered to you so that you may receive future updates from both ZOBEX and Digital Research.

BEFORE OPENING THE SEALED PLASTIC PACKAGE CONTAINING THE CP/M DISKETTE, read the license agreement which is visible through the plastic. You may not legally use the CP/M system until you have signed the license agreement and returned it to us at ZOBEX. If you are willing to agree to the terms and conditions presented there, open the package, sign the agreement, and mail it to us without delay, as we are responsible to Digital Research for this disk, and neither of us will be able to respond to your questions or problems until the signed license agreement has been received. Please mail it to:

<div align="center">

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</div>

The other diskette is our own software and contains the source code for our BIOS and BOOT routines, as well as other utility programs.

THE DISK DRIVES

The disk drives are referred to as Drive A, and Drive B. Drive A is on the left, B on the right. Diskettes must always be inserted with the label facing toward the door (toward the right). Insert the diskette as far as it will go, then close the door by moving it to the left until it latches. This causes the diskette to be mounted on the spindle and to turn inside its protective jacket.

CAUTION: Never turn the power on or off with diskettes in the drives - it is possible to erase part of them due to a momentary transient impulse.

BOOTING THE OPERATING SYSTEM

Press the RESET button and see the ZOBEX message typed on the terminal, then type B followed by a carriage return. You will hear a click as the disk head loads, then see the terminal type the CP/M sign-on message. The CP/M prompt of "A>" will appear at the left of the screen, indicating CP/M is waiting for your command. Type "DIR", then carriage return. You will see the directory of the diskette typed out on the screen. The first thing you should do is make several copies of your disks, as follows:

Type COPY20, then return (c/r). This will load a diskette copying utility program into memory, and display a menu of available commands. Now put a new or known-to-be-good diskette in drive B (on the right), type an "A", then return (c/r). It will take about two minutes for the entire diskette in drive A to be copied to drive B. It will be checked for correctness as the copying proceeds, and error messages will be typed if any errors occur. Then put the other master disk in drive A, another new disk in drive B, and type "A" again to make a copy of this disk. When you are finished copying disks, place one of the copies of the CP/M master disk in Drive A, type "E" to exit from the copy program, then put your master diskettes away in a safe place and never use them except to make additional copies (if that should ever be necessary).

If you get errors in writing on Drive B, it may be that the diskette is not properly formatted in standard IBM 3740 format (this is often true even with NEW disks). You may re-format a diskette using our ZSFMT program, to be found on the ZOBEX diskette. Since formatting programs erase all information from a diskette, it is wise to remove the system diskette from drive A after the formatting program is loaded to avoid loss of that diskette if you should make an error.

If you lack familiarity with use of the CP/M operating system, now is an excellent time to read as much of the documentation as you need.

AUTOMATIC BOOTING OF CP/M

If you would like for CP/M to be brought up automatically upon power-on or whenever you press the RESET button, you may set switch 1 on the disk controller board to ON. Remember that you should not have a diskette in the drive when power is applied. The select light on drive A will come on when power is applied, then put the system diskette in and close the door - CP/M will then be brought up automatically. This will also occur whenever you press the RESET button.
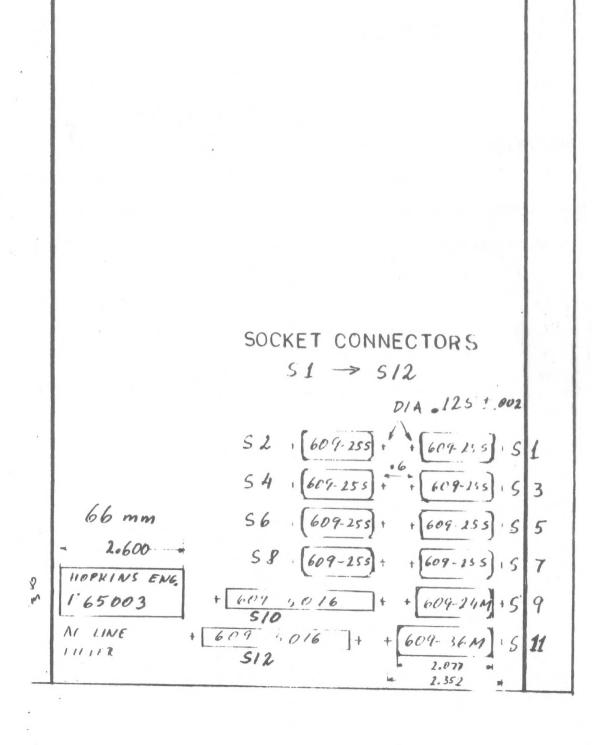

OTHER PERIPHERALS

Socket S1 (just below S3) is configured for an additional CRT terminal at 9600 baud.

S2 (just to the right of S3) is configured for a serial printer of the Diablo/Qume/NEC type. This port is set for 300 baud as normally shipped.

S4 (just below S2) is an additional serial port. The parallel ports are on S5 (just below S4).

QUESTIONS or PROBLEMS?

Don't hesitate to contact us at ZOBEX if you need help or information. We want to help, and thanks for buying our computer.

SOCKET CONNECTORS

S1 → S12

DIA .125 ±.002

| S 2 | . | 609-25S | + | | + | 609-25S | . | S | 1 |

S 4   . 609-25S +   .6   + 609-25S . S 3

S 6   . 609-25S +   + 609-25S . S 5

S 8   . 609-25S +   + 609-25S . S 7

66 mm

2.600

HOPKINS ENG.
1.65003

AC LINE
FILTER

+ 609 .016 +   + 609-24M . S 9
        S10

+ 609 .016 +   + 609-36M . S 11
        S12

2.077

2.352

MOST   COMMONLY   USED PERIPHERALS

TERMINALS

ADDS VIEWPOINT

ZENITH DATA SYSTEMS   Z 19

TELEVIDEO   TV1-912 C

SOROC IQ-120

HAZELTINE   1500

INTERTUBE   111

GNAT 10

PRINTERS

PAPER TIGER

TI-810

ANADEX   DP 9500/DP 950L

OKIDATA

EPSON MX-80   SERIAL AND PARALLEL

NEC SPINWRITER 5515

DIABLO   630