

EXEC-T™

An 11 Megabyte Internal Hard Disk
For The Osborne® Executive.

GARD

Micro Systems Inc.



Dear Executive Owner,

You have just purchased THE ULTIMATE UPGRADE for your Osborne Executive.... the "EXEC-T" Internal Hard Disk modification, and you are about to experience all of the conveniences that internal hard disk portability can provide: mass storage, rapid access, and NO MORE FLOPPIES!

The Osborne Executive, with our hard disk installation, is a dependable piece of equipment, which is sound in design, and which has been thoroughly field tested. As with any unit of this kind, however, reasonable care must be exercised in its handling and use. Don't subject it to unnecessarily rough treatment or hard knocks. Do treat your machine with the respect that an investment of this kind deserves. Don't subject your unit to extreme temperatures or operate it if it has been stored in a hot or cold area until it has moderated sufficiently to preclude damage to its temperature sensitive components.

We wish you THE ULTIMATE ENJOYMENT with THE ULTIMATE UPGRADE!

Gard Micro Systems, Inc.
120 Broadway
Kissimmee, Fla. 32741
305-847-9536

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Gard Micro Systems, Inc. warrants its products to be free of defects in materials and workmanship for a period of ninety (90) days from the date of purchase, provided the purchase is promptly registered with Gard Micro Systems, Inc.

Gard Micro Systems, Inc. will repair or replace, at its sole option, products that fail substantially to perform to published specifications within the ninety (90) day period, for the original purchaser only, provided that such products are returned prepaid to Gard Micro Systems, Inc. in Kissimmee, Florida with advice as to the problem encountered. No warranty applies if the product has been serviced by unauthorized persons, altered, abused, dropped or modified.

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TRADEMARKS

TRADEMARKS AND REGISTERED TRADEMARKS: Osborne: Osborne Computer Corporation; CP/M, CP/M Plus: Digital Research, Inc.; WordStar: MicroPro International Corporation; MBASIC: MicroSoft; dBASE II: Ashton-Tate; SuperCalc: Sorcim Corporation; Trantor, "EXEC-T", Diskmgr, Arkive: Trantor Systems Limited.

CAUTIONS AND IMPORTANT NOTES

This work should be done by a qualified person. Failure to follow instructions properly may result in serious bodily injury or damage to your system and media.

DANGER: HIGH VOLTAGE - UNPLUG UNIT BEFORE PROCEEDING

The interior of the case is coated with a special metallic paint which reduces radio frequency interference. Avoid scratching or damaging this coating in any way.

IMPORTANT NOTICE

This and any other changes to your originally supplied hardware are considered by Xerox Corporation to void any warranty on your system. Before proceeding with any changes, we suggest that you contact Xerox Americare for information as to your liability. All changes and/or modifications are strictly the user's responsibility.

A NOTE OF CAUTION

The integrated circuits used in the Osborne Executive and the "EXEC-T" are extremely sensitive to static electricity. If proper precautions are not taken to eliminate the generation of static charges, these integrated circuits can be very easily damaged or destroyed. Nylon or polyester clothing and floor carpeting are some of the primary factors in the generation of static electricity. If it is at all possible, while installing the "EXEC-T" wear clothing made of natural fiber and work in an uncarpeted room. This will minimize the chance of damage to your computer by static electricity. When the computer is open, do not go from a carpeted area and touch any part of the circuit board or other subassemblies in the case without allowing time for static electricity to dissipate.

Gard Micro Systems, Inc. will not be responsible for personal injury or system damage incurred by performing this system alteration.

INSTALLATION MANUAL:

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INTRODUCTION

Before beginning this installation, set up your Executive on an adequate work table or surface so that all parts will be in plain view, and readily accessible. The tools required are minimal: standard medium and small screwdrivers, medium Phillips screwdriver, 1/4 inch nut driver or adjustable wrench, rugged scissors or tin snips, long nose pliers, and black electrical tape. Remember to set up your start-up floppies BEFORE you begin your hard disk installation.

Our installation manual has been written with one idea in mind...simplicity! We have provided detailed photographs to accompany each step of the installation procedure and a box on the right side of the page for you to check after completion of each step. We have also provided a box for you to check at the end of each section so that you can re-check your work. If you will read each step carefully, refer to the appropriate photographs and then follow the instructions **EXACTLY**, you should experience a trouble-free installation. For your convenience, we have installed an INSTALLATION HOT LINE, so that you can call with any problem that you may encounter during the installation procedure. This number is 305-847-9536.

A word about safety. We have included **warnings** at many steps in the installation procedure, where there is a possibility of personal injury or damage to your equipment. We ask you to pay close attention to the installation instructions, follow them **explicitly**, and then re-check your work. Your reward will be a smooth and trouble-free installation, and the most efficient operation possible on your Osborne Executive.

Parts List

Hard Disk Unit
Controller Card
Metal Mounting Bracket
Nylon Standoffs (4)
Fan, 115 Volt
Fan Gasket
Hard Disk Cable, 20 wire
Hard Disk Cable, 34 wire
D.C. Power Extension Cable, 4 wire
Machine Screws, 6-32 x 1/4 (4)
Machine Screws, 6-32 x 3/8 (2)
Machine Screws, 6-32 x 1-1/2 (2)
Nuts, 6-32 (2)
Flat Washers, (4)
Nylon Washers
Nylon tie (1)

Installation of Software

A. Start-up diskettes

Before installing the hard disk, you must prepare the start-up diskettes. Boot your Executive with the Executive system disk and call up COPY.COM. Make two working copies of the "EXEC-T" master disk. Also use COPYSYS.COM to read the system tracks onto these disks. On these diskettes you should have the following programs: CPM3.SYS, EIBIOS11.COM, EIFRMT11.COM, EIPOS11.COM, EICOPY.COM, MENU.COM, MENU.ASM, TSLCNFG.COM, DISKMGR.COM, ARKIVE.COM, WSKEY.COM, and CPMKEY.COM. We will call these two disks Disk A and Disk B. Take Disk A and do the following:

Erase EIFRMT11.COM

Rename EIBIOS11.COM to EXECST.COM

This will permit you to auto-start the hard disk without calling up the BIOS program. Set this disk aside and put your master away for safe keeping.

Disk B is your working backup disk. This disk will be used first, to start up the hard disk, then to do the testing on the hard disk after installation. Your working disks are now prepared and you can begin installation of the hard disk.

B. Initial start up and testing

When starting up the hard disk for the first time, you should have the hard disk installed, the Executive plugged in and the keyboard attached. Turn the Executive on and the sign-on message should appear on the screen. If it doesn't, turn the machine off and go through the check list to make sure that you have everything installed properly.

Take the disk labeled Disk B and insert it in the floppy disk drive which is Drive A. Press Return.

When the A> appears,

Enter: A> EIFRMT11.COM <RETURN>

The red LED on the hard disk will start to blink. You are now formatting the hard disk. This will take a few moments and at the end of the formatting process, a message will appear on the screen:

Format Successfully Completed.

Press Reset and boot the system. When the A> comes on the screen,

Enter: A> EIBIOS11.COM <RETURN>

The red LED on the hard disk will start to blink and a new A> will appear. You are now in the hard disk.

Enter: A> Dir <RETURN>

No File (Will appear on the screen)

Enter:A> B:<RETURN>

Enter:B> Dir <RETURN>

No File (Will appear on the screen)

At this time, run DISKMGR.COM to check for bad blocks. Hard disks, even new, may have bad blocks. Read the section in the manual (SECTION 7, DISKMGR.COM) about mapping out bad blocks. This must be done on both A Drive and B Drive to prevent read and write errors in the future.

Now you are ready to load your files in the hard disk. For additional information on setting up the hard disk, read SECTION 8, HELPFUL HINTS and ADVANCED PROGRAMING.

DISASSEMBLY OF THE EXECUTIVE

- 1.A Unplug the 115 volt cord from the wall socket and from the computer. IF THIS IS NOT DONE, SERIOUS INJURY COULD OCCUR. Disconnect the keyboard from the front cover (bezel) by spreading the latches on the keyboard connector. Disconnect any external cables (RS-232, modem, external video, etc.). [] []
- 1.B Remove the video contrast and brightness knobs by carefully pulling them from their shafts. The brightness and contrast knobs may need a little force to be removed, but they will slide off. [] []
- 1.C Remove the five Phillips screws that hold the bezel to the case. Place the screws and knobs in a container for use in re-assembly of the Executive. Grasp the bezel near the case latches and pull it straight forward until it is free. [] []
- 1.D Turn the machine over so that the bottom of the unit is facing up. Remove the five Phillips screws that hold the case together. Also, remove the 'Y' bracket from over the brightness and contrast shafts by removing the two 1/4-inch hex screws. Put these screws in the aforementioned container for safe keeping. Lift the bottom half of the case straight up and set it aside. See Photo 1.D. [] []
- 1.E You are now looking at the bottom of the logic board of your Executive. You will notice four Phillips screws that hold the logic board and the metal mounting bracket on the four posts of the chassis unit, one with a ground wire attached. Remove these four screws and put them in the container. NOTE: The metal foil insulator shield is not detachable from the logic board. Be careful not to puncture or tear the shield. TEARING THE SHIELD MAY CAUSE SHORTS TO YOUR SYSTEM. See Photo 1.E. [] []
- 1.F Looking at the computer from the front, you will notice the video harness connector to the left of the brightness control potentiometer, and to the right of the reset button. Locate and disconnect this connector. See Photo 1.F. [] []
- 1.G Turn the unit around to the back. Locate and disconnect the DC harness connector and the thirty-four (34) wire disk harness connector, which is in the upper right corner. Remove the logic board and set it aside. See Photo 1.G. [] []
- 1.H Lift the fan handle assembly out and disconnect the fan power harness from the DC harness. See Photo 1.H. [] []
- 1.I Place the bottom of the case back on the unit, hold it securely and turn the unit over. Remove the top of the case. [] []

1.J You should be looking at the back of the disk pack. You will notice a [] [] grounding strap connecting the disk pack to the monitor. This strap is located either on the top of the monitor or on the side of the monitor and held in place with a Phillips screw. Remove this screw, and place it in your container. On the left side of the disk pack there are two thirty-four (34) wire disk harness connectors - one on A Drive, and one on B Drive. Remove these connectors. You will also see two four (4)pin D.C. wire harness connectors on the right of the disk pack, one on A Drive and one on B Drive. Remove these connectors. **See Photos 1.J (A), (B) and (C).** Then take some black electrical tape, and tape the fan plug to the main DC wire harness, **especially** the exposed connectors. This is a male plug. **THIS MUST BE DONE OR THE POWER SUPPLY WILL SHORT OUT!**

1.K The next step will be the removal of the disk pack. Insert a standard screwdriver between the two bottom screws and carefully pry up the disk pack while lifting the disk pack out. You are now finished with the disassembly of your machine. **See Photos 1.K (A) and (B).** [] []

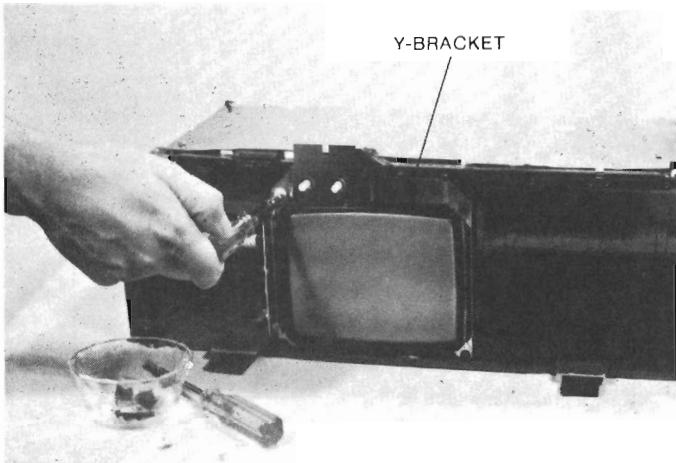


PHOTO 1.D - Remove Y-Bracket

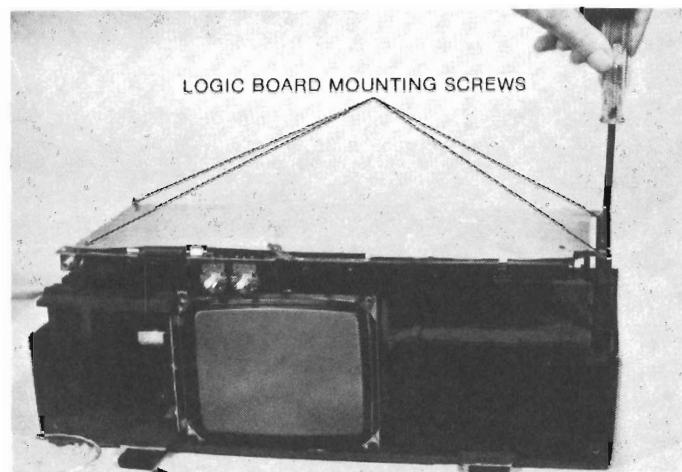


PHOTO 1.E - Remove four end screws.

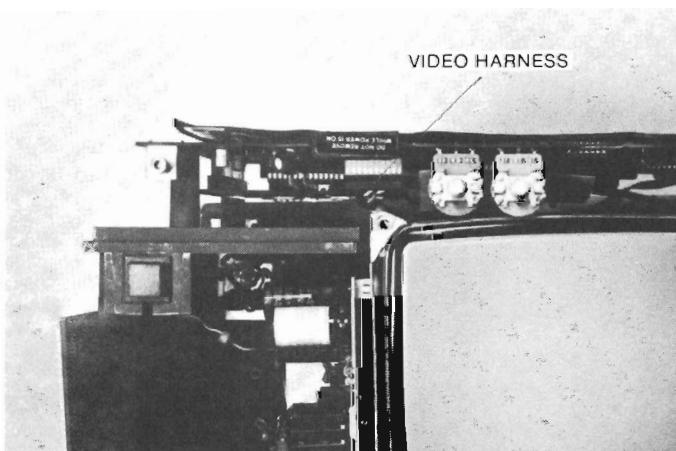


PHOTO 1.F - Locate and remove video harness connector.



PHOTO 1.G - Locate and remove D.C. harness and disk harness.

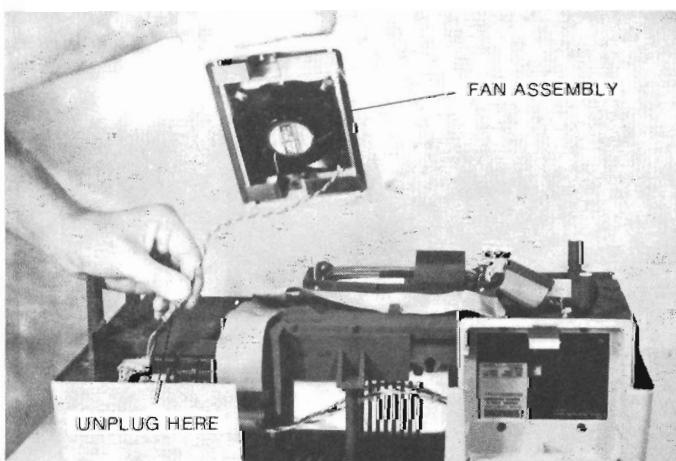


PHOTO 1.H - Remove fan assembly and unplug from D.C. Harness.

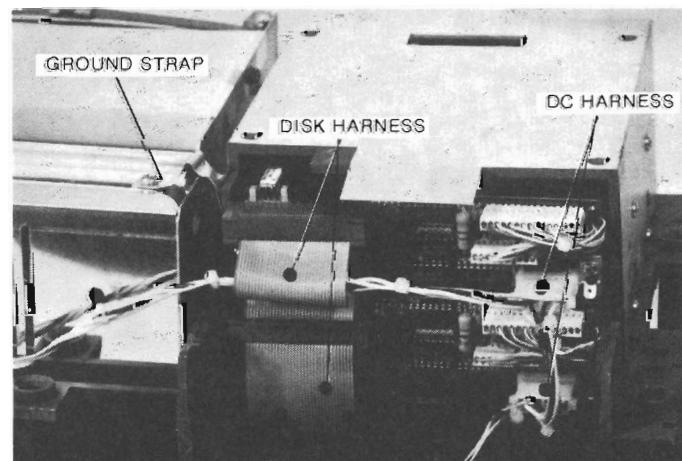


PHOTO 1.J (a) - Locate and remove grounding strap and connectors.

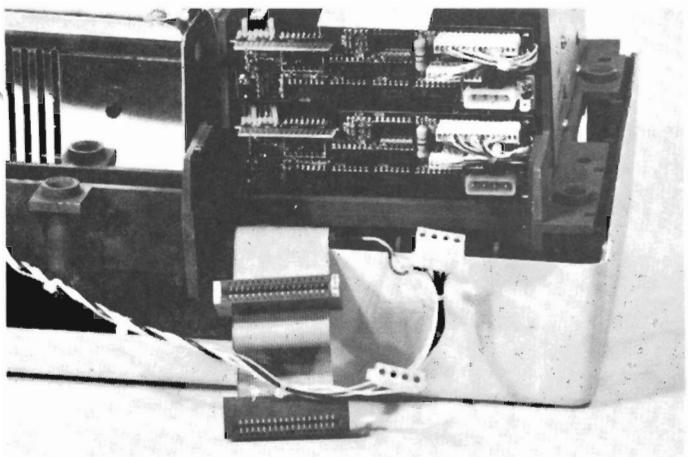


PHOTO 1.J (b) - Connectors removed.

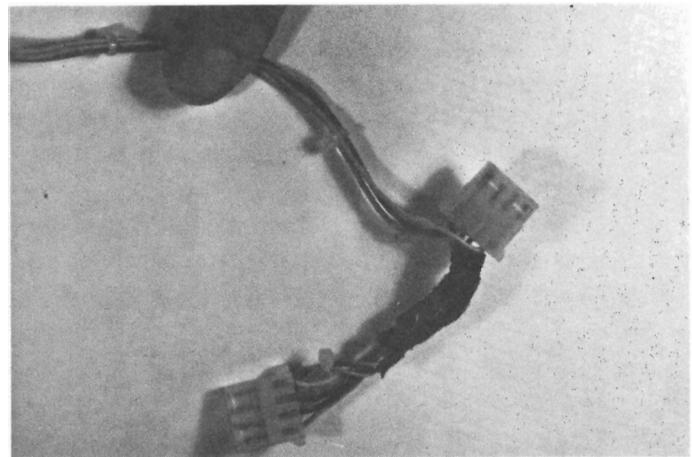


PHOTO 1.J (c) - Tape D.C. wire harness.

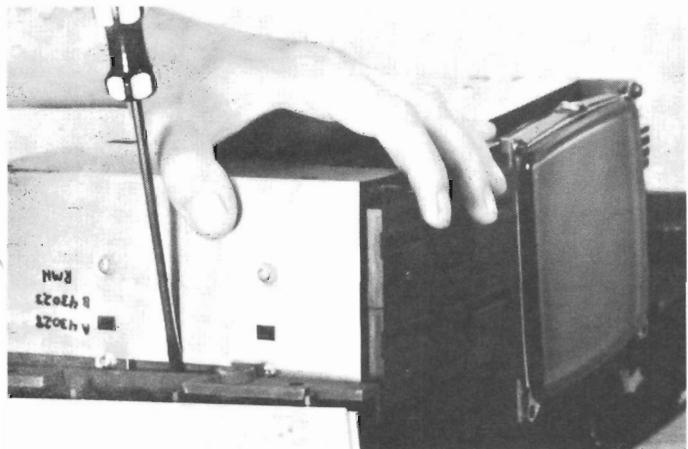


PHOTO 1.K (a) - Use screw driver and pry up.

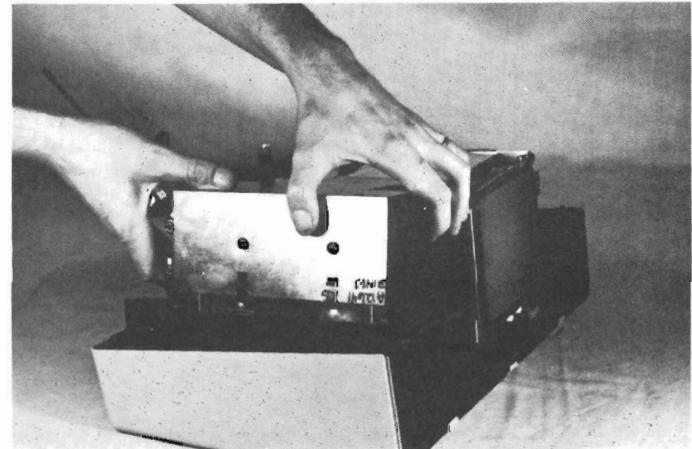


PHOTO 1.K (b) - Remove disk pack.

HARD DISK INSTALLATION

- 2.A Study the way the disk pack is assembled. You should take notice of two items that will help you in re-assembly of the unit. First, the smaller shield is inserted inside the larger shield. Second, there are two Phillips screws that have no lock washers on them, or are black in color. These screws must be reinstalled the same way they were before you removed them in order for the disk pack to fit properly. Turn the disk pack as shown in Photo 2.A.
- 2.B To remove the disk drives, remove the eight Phillips screws (4 on each side of the disk pack) and lift out the small shield, leaving the large shield in place and lift the disk drives out. See Photos 2.B (A) and (B).
- 2.C You will see that there are four plastic tracks inside the disk pack. Remove these four tracks by pushing down on the small tab on the outside of the disk pack and lift the tracks out. See Photo 2.C
- 2.D Cut the four plastic tracks as shown in the photo, approximately 1 3/4 inches long. This distance is from the 'TAB' end. See Photo 2.D.
- 2.E Take the hard disk unit and slide it into the disk pack. Set the disk pack on its side, align the mounting holes, and use the screws that are provided (2 screws per side, 4 screws total). If you don't, you will cause harm to the components of the hard disk. Screw size is 6-32 x 1/4 inch. See Photo 2.E.
- 2.F Take the plastic tracks that you cut in half and insert the part with the tab back in the disk pack. If the track doesn't slide in easily, trim a little more off. Or if the tracks are too loose, use a small piece of tape on the top of each track to hold them in place. See Photo 2.F
- 2.G We will now show you how to correctly configure any ALPS drive to become Drive A. Study the photo 2.G (B) and study your drive. One of your drives will have this configuration. This is Drive A. The other is Drive B. If your Drive A is working fine use it as is. If your Drive B works better, then change this drive to match the photo. Carefully remove the resistor block and insert it into the new Drive A, with the "half moon" pointing toward the header block. Change the jumper as shown in the photo. You now have a new Drive A. See Photos 2.G (A) and (B)
- 2.H Take Drive A and insert it in the disk pack as shown in the photos. Remove the tape, if used, from the tracks and replace the smaller shield. Remember that the smaller shield must be inserted on the inside of the larger shield. Then, turn the disk pack on its side. Also, remember the black screws, or the screws without lock washers? Replace these screws on the opposite side of the shielding strap. At this point you should have the disk pack assembled. Check it. Four screws are on each side . They should be tightened firmly but not too tightly or you will strip the threads. Do not attempt to modify the mounting holes to close the space between the drives. There must be a space between the floppy and the hard disk, so that the circuit board on the hard disk and the floppy drive don't make contact. See Photos 2.H (A), (B), and (C).

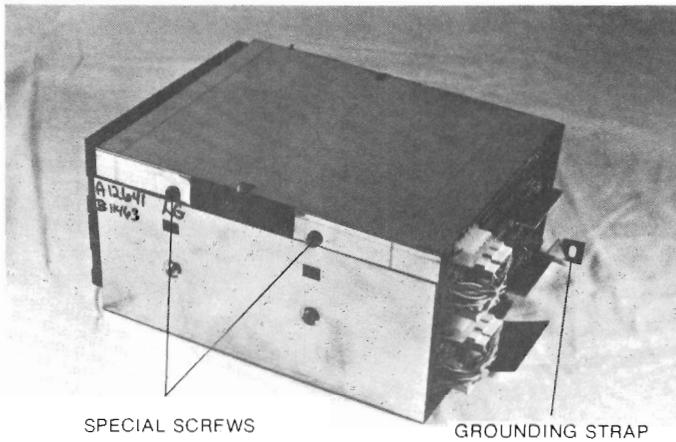


PHOTO 2.A - Special screws and grounding strap and smaller shield inserted into larger shield.

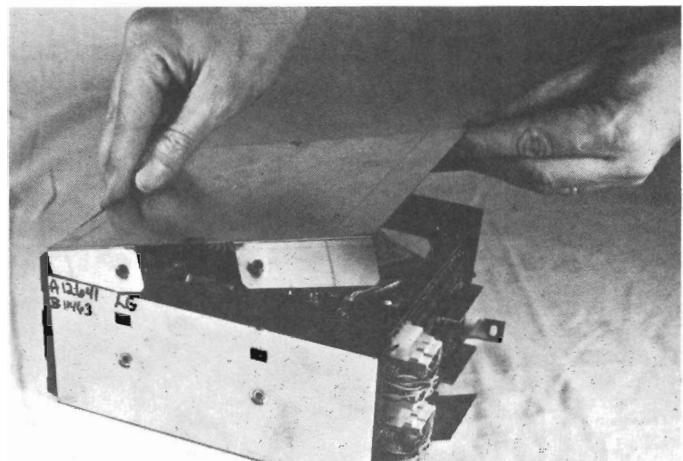


PHOTO 2.B (a) - Remove smaller shield and screws.

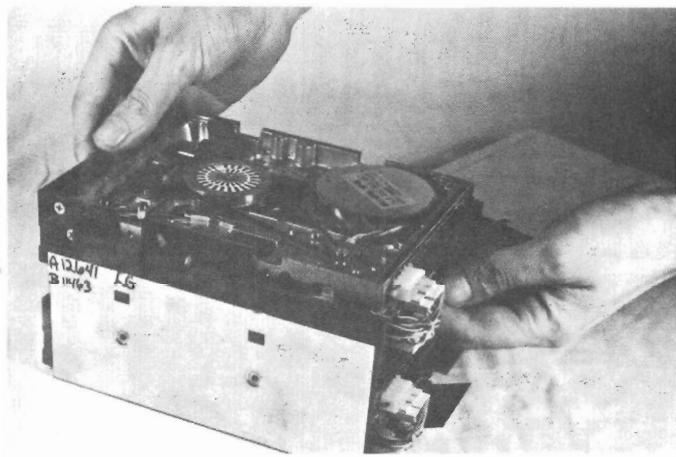


PHOTO 2.B (b) - Lift disk drives out.

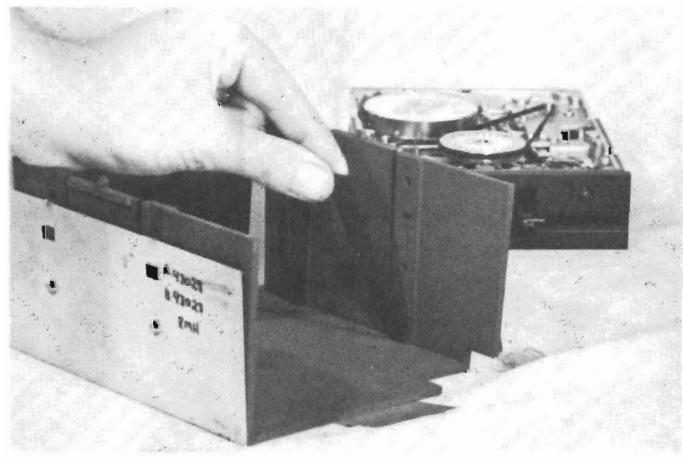


PHOTO 2.C - Remove Tracks.

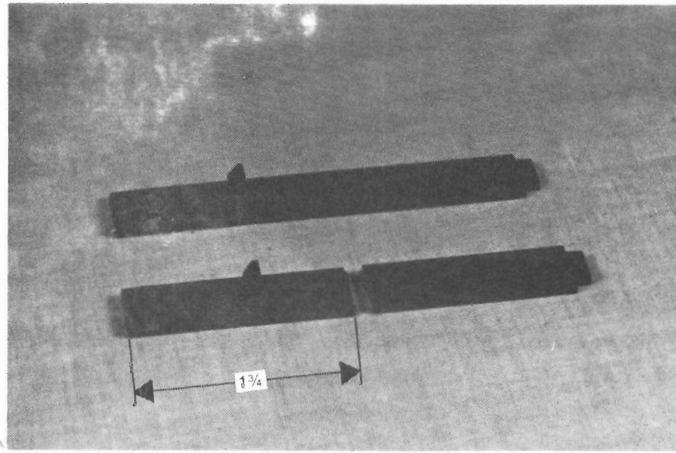


PHOTO 2.D - Cut tracks to 1 3/4".

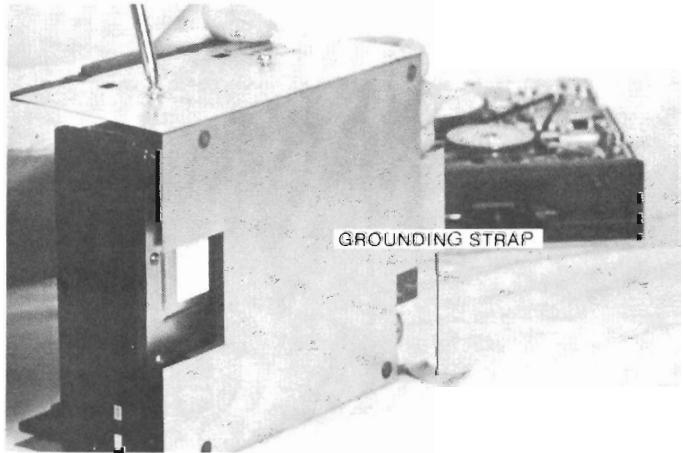


PHOTO 2.E - Use 6-32 x 14" screws to mount hard disk.

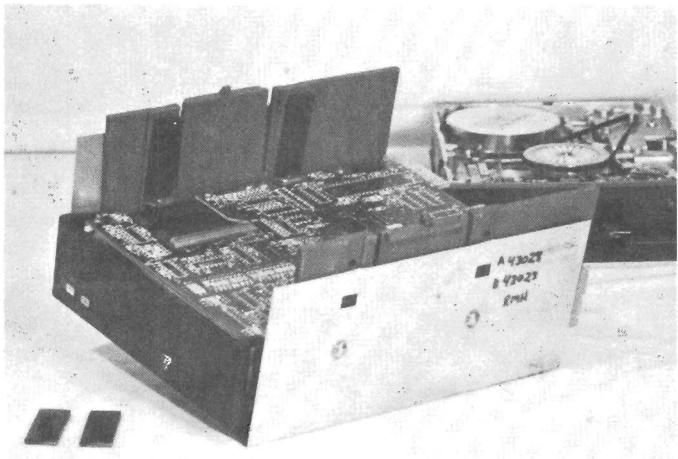


PHOTO 2.F - Insert tracks into the disk pack.

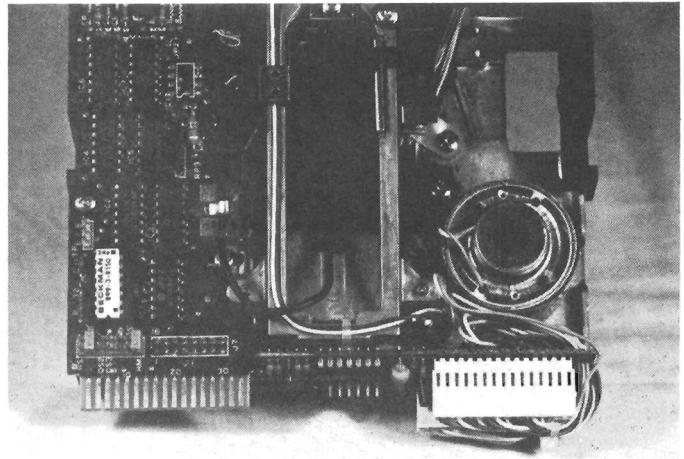


PHOTO 2.G (a) - Back of the disk drive.

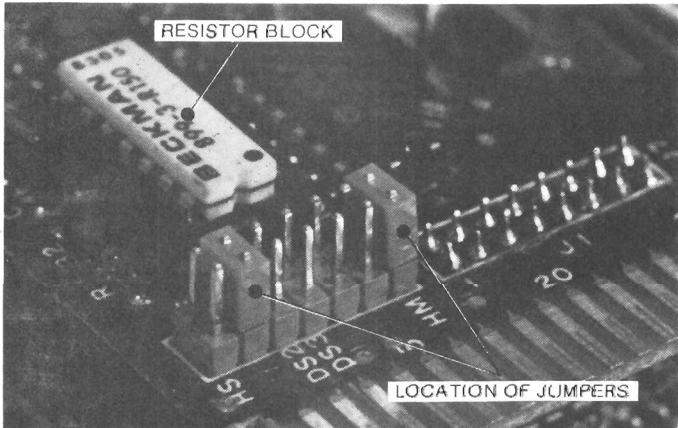


PHOTO 2.G (b) - Correct position of the jumpers and resistor.

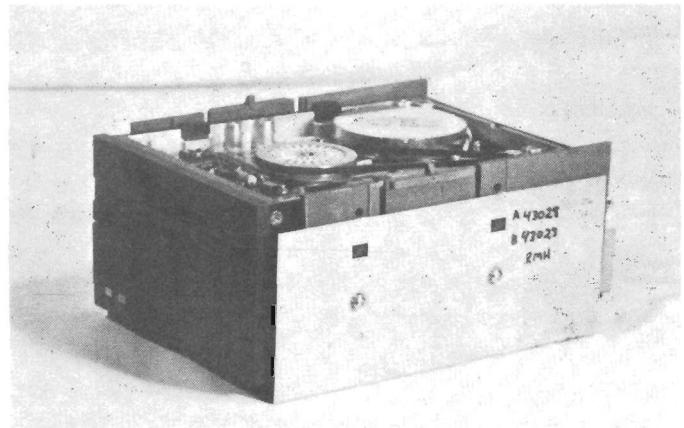


PHOTO 2.H (a) - Install floppy drive.

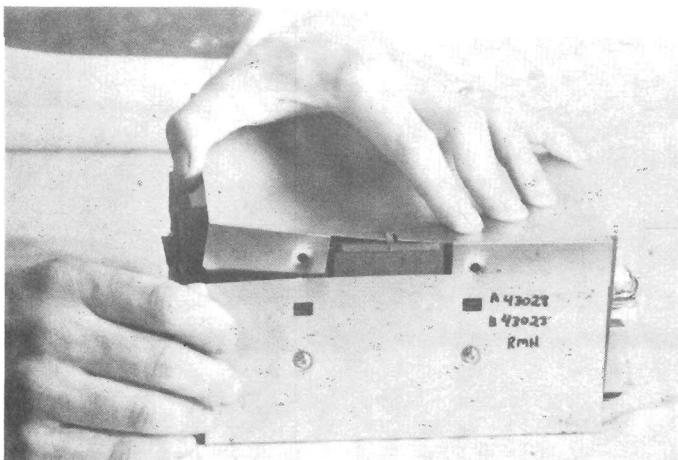


PHOTO 2.H (b) - Install small shield inside the larger shield.

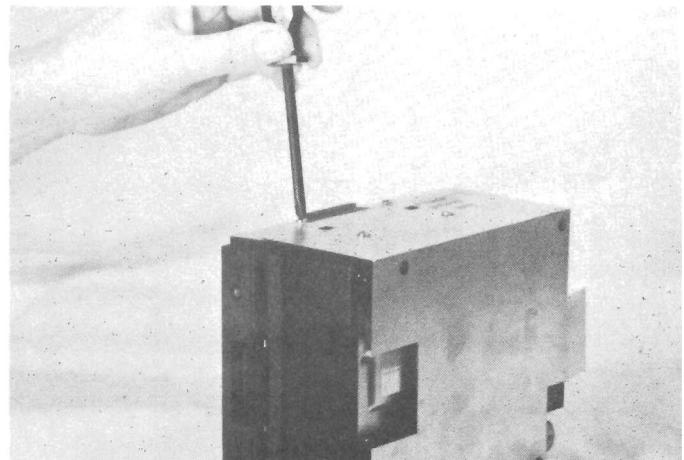


PHOTO 2.H (c) - Screw the floppy drive in place.

CONTROLLER CARD INSTALLATION

SECTION 3

3.A Place the logic board so that the shafts of the brightness and contrast controls are facing you. The memory board is attached to the main logic board by two or four plastic standoffs and a seventy-two (72) pin connector. On some logic boards there is a forty (40) pin connector at the end of the logic board opposite the memory board. Be very careful not to bend the pins on the forty (40) pin connector as no two of these pins should touch each other. Remove the mylar shield which covers the memory board. It may be necessary to use long-nose pliers to squeeze the standoff tips to do this. Do the same to the memory board, and lift the memory board free of the standoffs. Carefully lift the memory board off the seventy-two (72) pin connector and lift the board straight up. Do not bend these pins. See Photo 3.A

3.B Turn the logic board over with the components facing down. Study how the logic board is attached to the metal support bracket. You should see a Phillips screw, a nylon washer, the logic board, another nylon washer, and the metal mounting bracket. This arrangement is very important. If the **nylon washers are not replaced on both sides of the logic board, a short could occur.** See Photo 3.B.

3.C Remove the screw at the rear of the board and install the controller card mounting bracket. Reassemble the unit. If the screw that you removed isn't long enough to be attached to the support bracket, use the one provided. Remember the order of assembly. Phillips screw, controller card mounting bracket, one or two nylon washers (as needed), logic board, one or two nylon washers, and then the metal support bracket. Remove the wax cover from the tape on the opposite side of the mounting bracket at this time. See Photos 3.C (A) and (B).

3.D Turn the logic board over, component side up. Go to the front of the logic board on the side of the metal support bracket, and thread the nylon stand-off support on the screw. If the screw isn't long enough use one provided. When inserting the new screw, remember to use a nylon washer on each side of the logic board. Make sure that both the screw and the nylon stand-off are tight but be careful not to strip the threads. See Photo 3.D.

3.E Take the controller card and mount it on the controller card mounting bracket. The ribbon cable goes to the front of the logic board with the components on the inside. Snap the controller card in place. If you have a logic board with the forty-pin (40) header on this side, also a header and a jumper located behind the RS232 in the front of the logic board, make sure that these pins are not touching each other or the controller card. If they are, bend them gently out of the way. (Some logic boards came this way.) See Photos 3.E (A) and (B).

3.F Study how the Z-80 is inserted in the logic board. The "half moon" on the end of the chip is toward the inside of the logic board. When it is time to re-insert this chip it must go back the same way. Remove the Z-80 CPU with a small screwdriver. Pry the Z-80 up slowly from each end. Be extremely careful that you do not break or bend the contacts on this chip. See Photo 3.F.

3.G There is a long cable coming from the controller card, with a forty (40) pin piggy-back unit attached. Examine this forty (40) pin connector and make sure that all the pins are straight. Then very carefully plug this piggy-back unit into the socket where you removed the Z-80 CPU. Make sure all the pins are inserted in the socket correctly. The cable will rest in the middle of the logic board. **See Photo 3.G.** [1] []

3.H Now, take the Z-80 and carefully insert it in the top of the piggy-back unit. Remember the "half moon" must be pointed toward the center of the logic board. **See Photo 3.H.** [1] []

3.I At this time, you will reassemble the memory board on the logic board. Place the memory board, component side down, on the seventy- two (72) pin header and on the nylon stand-offs. The memory board will then snap on the seventy-two (72) pin header and the standoffs. Make sure that all the pins are in the connector, one pin in each space. Look at this very carefully. Look down through the connector and on the sides. If any pins are touching, or are bent, redo this step. Also remember that the mylar sheet must go on the top of the memory board. You are now finished with the logic board. Set it aside for the final assembly. **See Photo 3.I.** [1] []

3.J Find the disk harness, which should still be attached to the chassis, and remove it. Locate the end with the double thirty-four (34) wire card edge connectors. Follow the photograph for your instructions, and cut the outer connector off the cable right next to the inner connector, as shown. Make sure that this is a clean cut, and that there are no bare wires exposed which could cause a short. Reinstall the cable back into the chassis as you removed it. **See Photo 3.J** [1] []

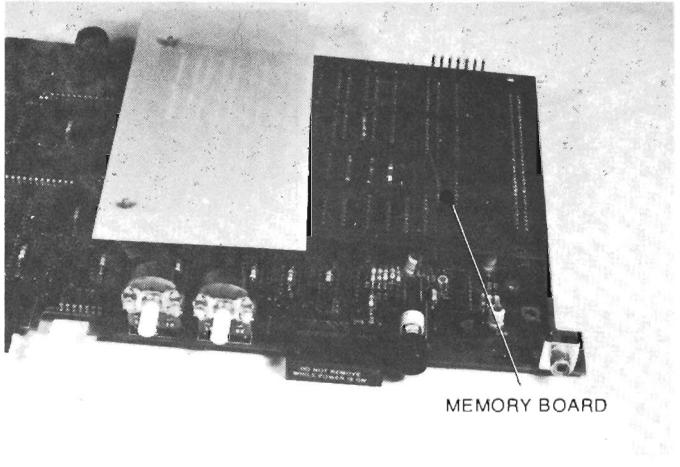


PHOTO 3.A Location of memory board.

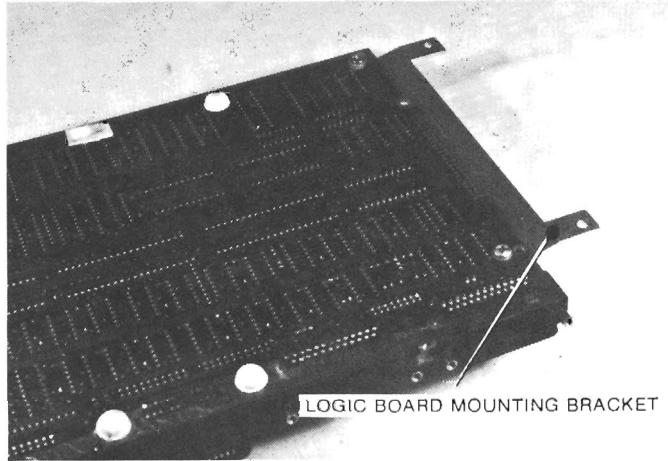


PHOTO 3.B Location of metal logic board mounting bracket.

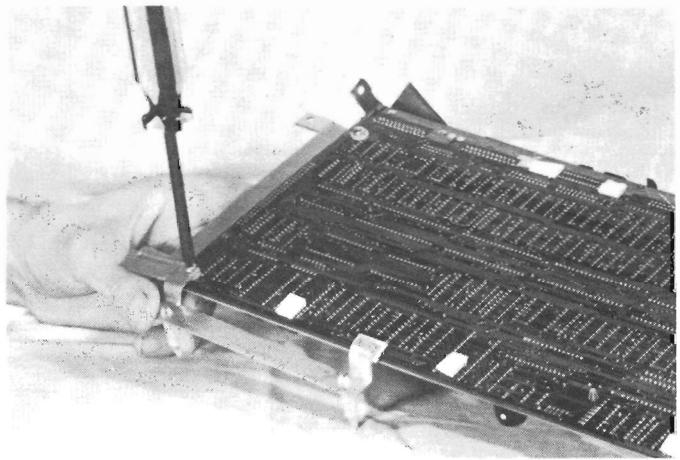


PHOTO 3.C (a) Mount controller mounting bracket onto logic board mounting bracket.

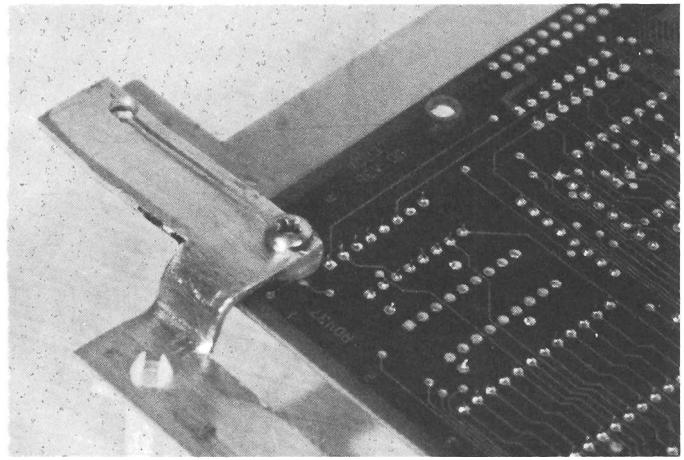


PHOTO 3.C (b) - Screw and nylon washers installed.

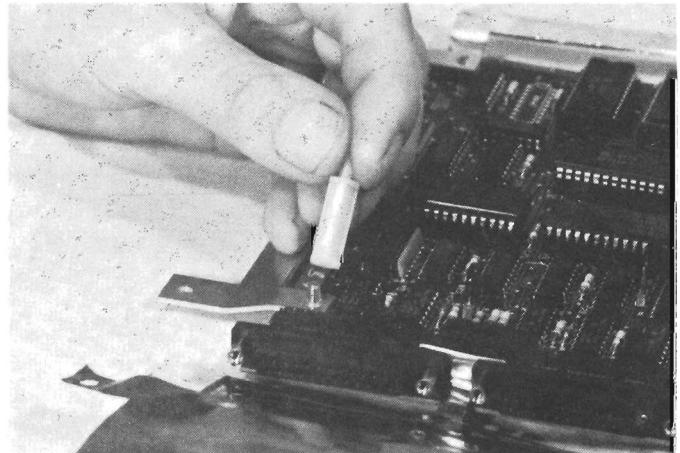


PHOTO 3.D - Screw nylon stand off onto front of logic board mounting bracket.

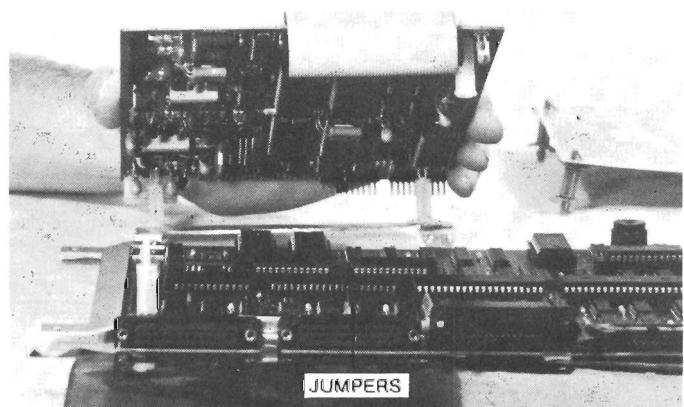


PHOTO 3.E (a) - Locate jumper on logic board and install the controller card.

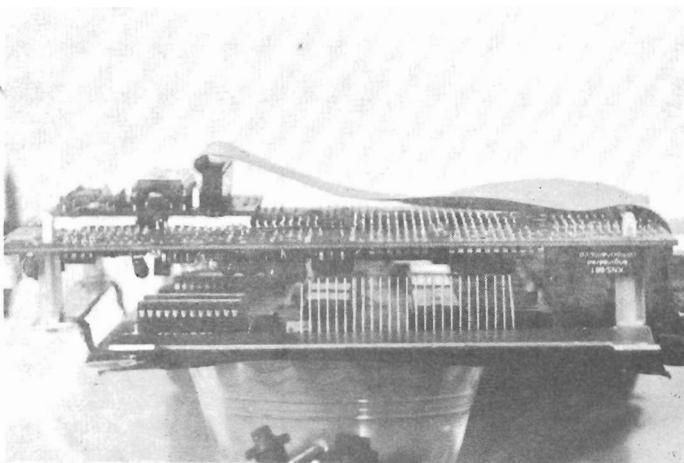


PHOTO 3.E (b) - Location of the 40-pin header.

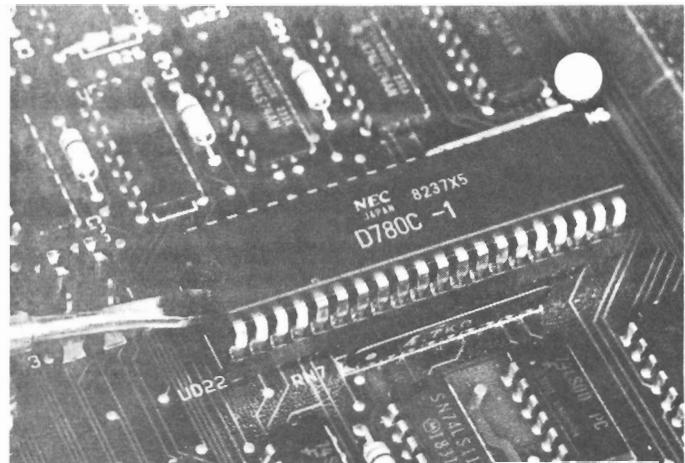


PHOTO 3.F - Remove the Z-80.

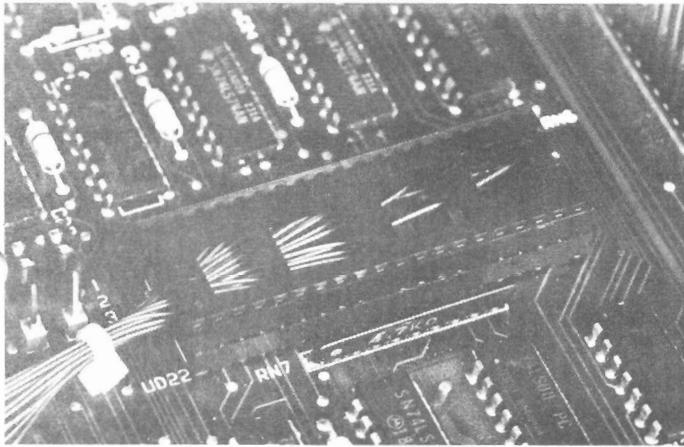


PHOTO 3.G - Install piggy-back unit.

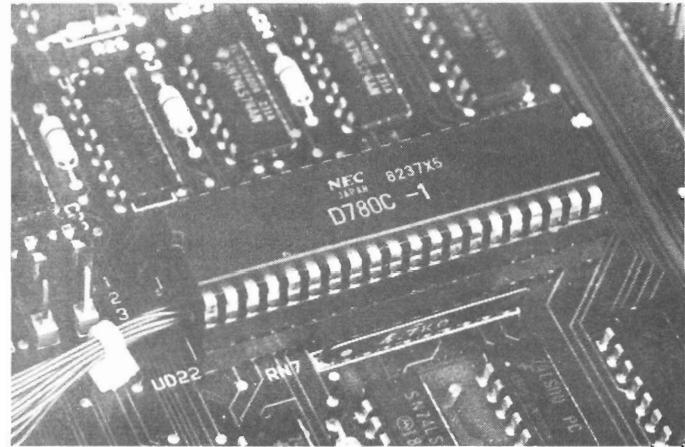


PHOTO 3.H - Re-install the Z-80.

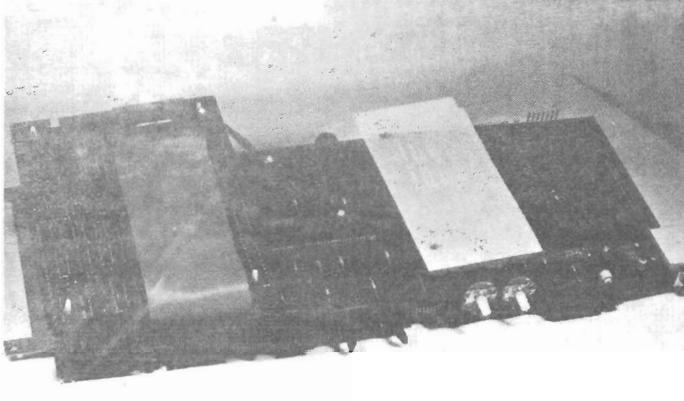


PHOTO 3.I - Finished logic board

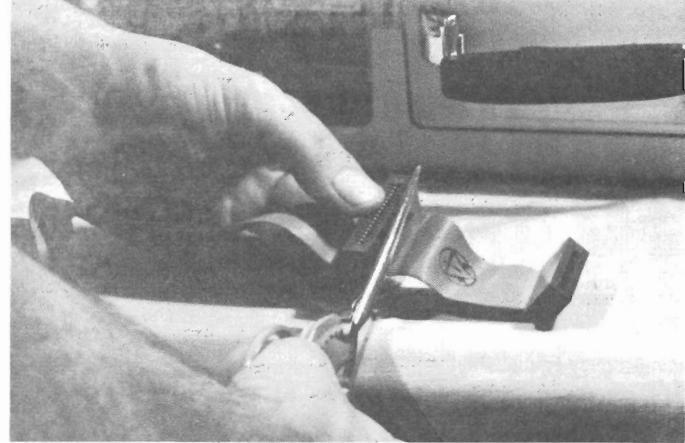


PHOTO 3.J - Cut disk harness

FAN INSTALLATION

4.A Remove the dust screen from the back of the fan assembly. Leave the plastic sliding cover in place as it will help you orient the parts you are going to install. Remove the four screws which hold the old twelve volt Osborne fan in place and the fan itself. [] []

4.B Use the two 6-32 x 1 1/2 inch screws that are provided. Place a flat washer on each screw, then insert it through the rubber grommet in the fan housing. Do the same on the diagonally-opposite side, as shown in the photo. See Photo 4.B. [] []

4.C Now, install the fan gasket, and then the new 115 volt fan. The blades must be pointed upward as shown. Use a flat washer, lock washer, and a nut, to bolt the fan in place. Take the nylon tie, provided in the kit, and place it around the metal support bracket. Strap the fan power wires under the nylon tie, and pull the tie tight. This will keep the fan power wires from touching the fan blades. See Photo 4.C. [] []

4.D Next, on the opposite side of the chassis from where you removed the disk pack, locate the power supply. It is just to the right side of the monitor, when viewed from the rear. **WARNING! POWER SUPPLY COMPONENTS MAY CONTAIN HIGH VOLTAGE CHARGES EVEN THOUGH THEY ARE NOT PLUGGED IN.** **DO NOT TOUCH ANY COMPONENTS OF THE POWER SUPPLY.** Remove the 115 volt plug from the power supply, and insert the new fan plug in this same location. Then, re-insert the 115 volt plug into the new fan plug, piggy-back style. **Make sure that these plugs are not touching any other components.** If they are, bend them away. Insert the fan in the case. Make sure that you have the top of the fan housing toward the top of the case. See Photos 4.D (A), (B) and (C). [] []

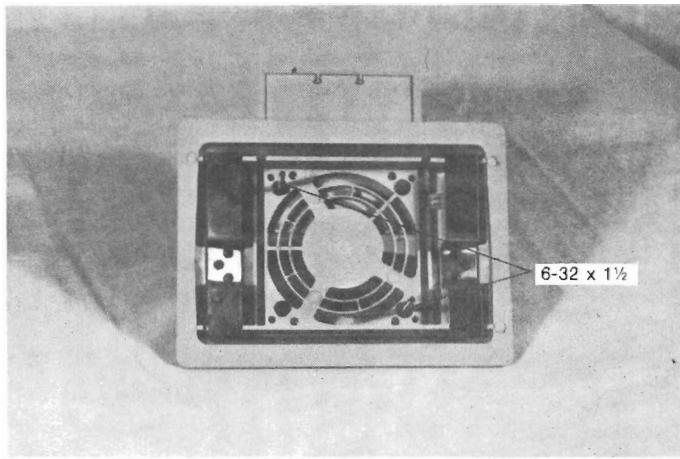


PHOTO 4.B - Install 6-32 x 1 1/2" machine screws.

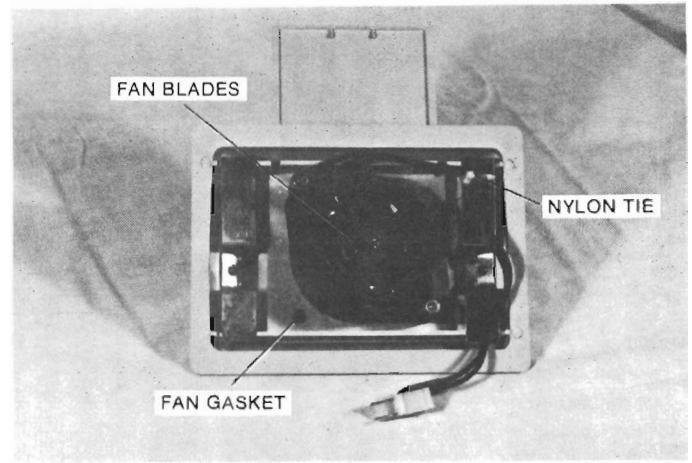


PHOTO 4.C - Install fan gasket, fan, nylon tie, nuts.

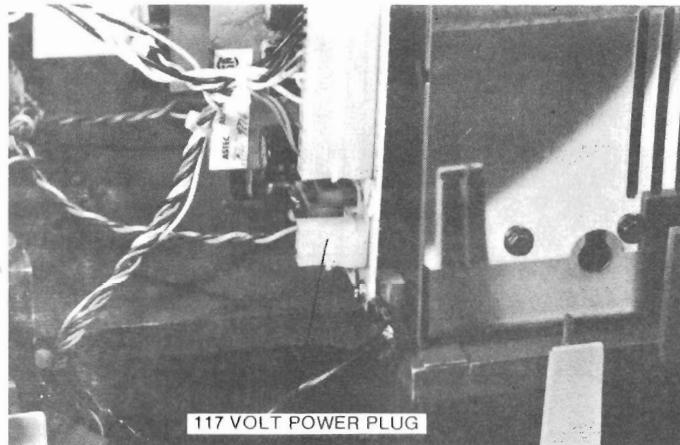


PHOTO 4.D (a) - Locate and remove power plug.

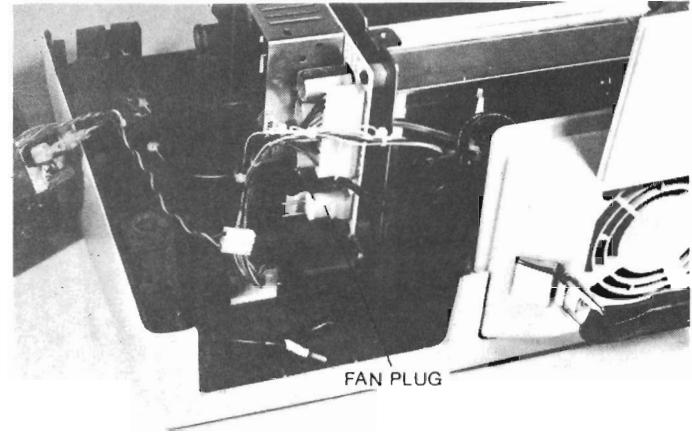


PHOTO 4.D (b) - Plug fan into the power supply.

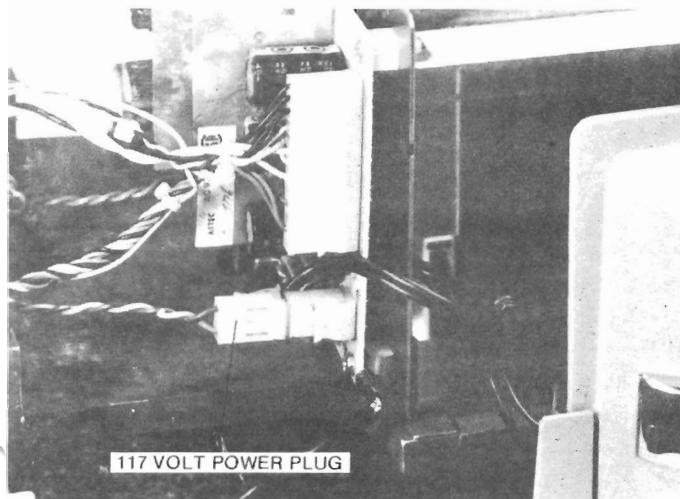


PHOTO 4.D (c) - Plug the 117V power plug into the fan piggy-back unit.

REASSEMBLY OF THE EXECUTIVE

- 5.A Put the top of the case on the chassis and turn the unit over. Take the logic board with the component side down and set it carefully on the chassis. Attach the floppy disk harness to the thirty-four (34) pin connector on the logic board, the red stripe toward the center of the case. Attach the D.C. Power Harness to the seven (7) pin connector on the logic board next to the floppy disk harness. See Photo 1.G (A) in section 1 for details. [] []
- 5.B Between the controller mounting bracket and the logic board mounting bracket install nylon washers as spacers. Install the four Phillips screws and fasten the logic board with the mounting bracket to the four posts of the chassis. Be sure that the ground wire from the power panel is fastened to the left corner of the logic board screw. See Photo 5.B. [] []
- 5.C Position the 'Y' bracket over the video control shafts and install both 1/4 inch hex mounting screws to secure it to the chassis. Be sure that the grounding strap is in front of the lower cover screw position. [] []
- 5.D Install the twenty (20) wire hard disk harness to the twenty (20) pin connector labeled "J0". Install the thirty-four (34) wire hard disk harness on the edge of the controller card. Also install the four (4) wire D.C. extension power harness to the controller card. Let the free ends of the cables fall inside the case. See photo 5.D. [] []
- 5.E Put the bottom of the case on, turn the unit over and remove the top of the case. Install the disk pack in the chassis and attach the shield grounding strap to the monitor. [] []
- 5.F Attach the floppy drive harness to the floppy drive with the red edge toward the center of the case. See Photo 5.F. [] []
- 5.G Attach the twenty (20) wire and the thirty-four (34) wire hard disk harnesses to the hard disk. Make sure that the cables lie flat with no twists in them. See Photos 5.G (A) and (B). [] []
- 5.H Attach the D.C. power harness (center connector) to the hard disk and attach the center connector of the D.C. extension power harness to the floppy drive. Then plug the D.C. power harness into the D.C. extension power harness. See Photos 5.H (A) and (B). [] []
- 5.I Make sure that the D.C. power harness is placed against the monitor. This cable is to rest between the monitor and the rear chassis support. Make sure that this cable is in this position so it won't interfere with the operation of the fan. See Photo 5.I. [] []
- 5.J Place the top of the case over the unit and lower it into place and turn the unit over. Lift the power pocket assembly and move it toward the inside of the unit slightly. Then install the door carefully, first one side then the other. Be sure that the case is seated properly on the chassis mounts and that the fan and power pocket are in place. If the case does not align properly in the rear, pull the fan and power assembly panels outward slightly. This will allow the case halves to align. Replace and tighten the five screws. After tightening the five screws, turn the machine over so that it faces you. [] []

5.K Push the keyboard connector latches together in the closed position so [] [] that the latches will not be in the way of the bezel. Gently place the front bezel on the case, being sure that it seats properly all around and particularly at the bottom of the case. Replace the five Phillips screws that hold the bezel in place.

5.L Push the two brightness and contrast knobs on the shafts. Spread the [] [] keyboard connection latches and re-connect the keyboard cable. Connect the power cord to the unit and plug it in the power source.

INITIAL START UP

5.M Refer to "Installation of Software," particularly Section B on page 3 [] [] and follow the instructions set forth.

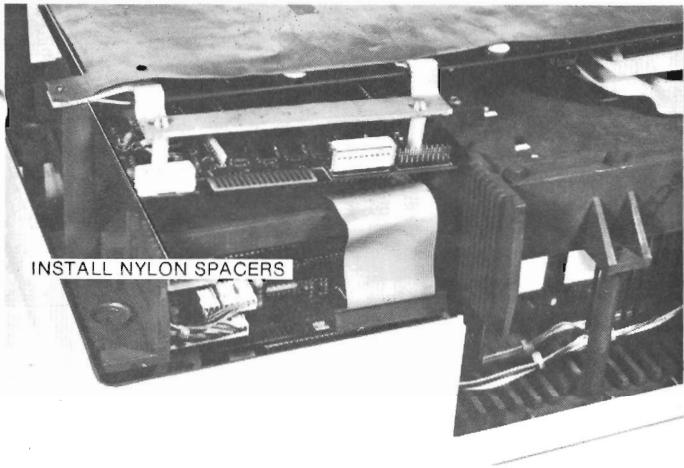


PHOTO 5.B - Controller card installed. Install nylon spacers if needed.

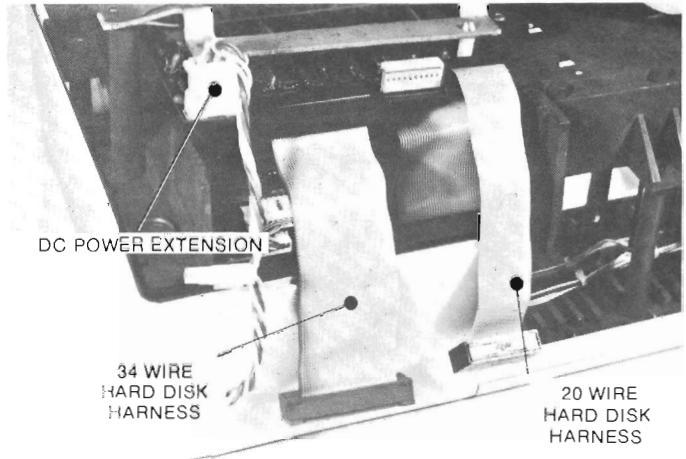


PHOTO 5.D - Install cables.

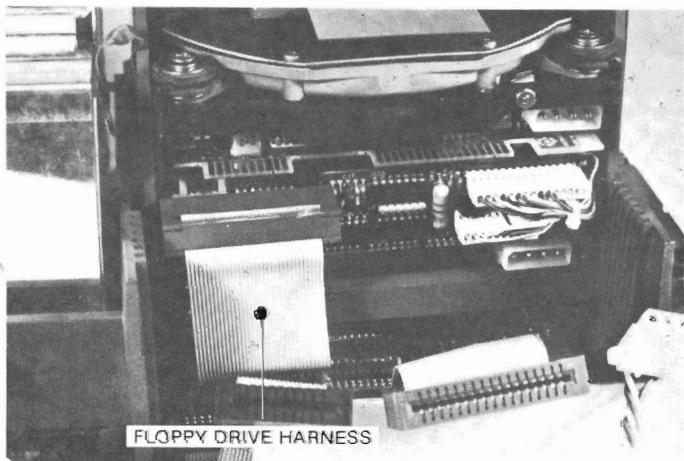


PHOTO 5.F - Attach floppy drive harness to the floppy drive.



PHOTO 5.G (a) - Attach 20-wire hard disk cable.

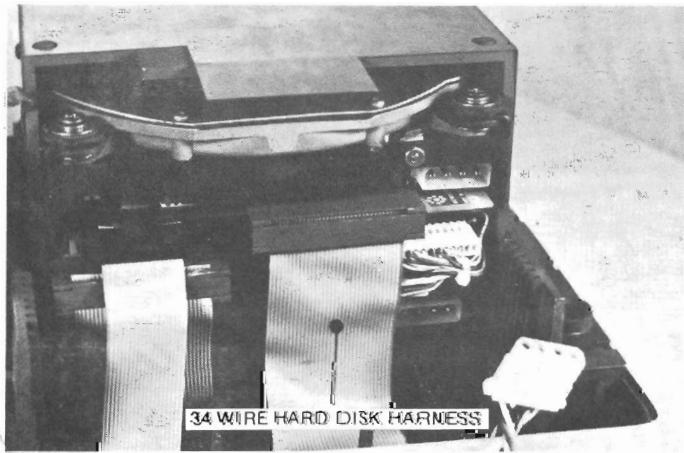


PHOTO 5.G (b) - Attach the 34-wire hard disk cable.

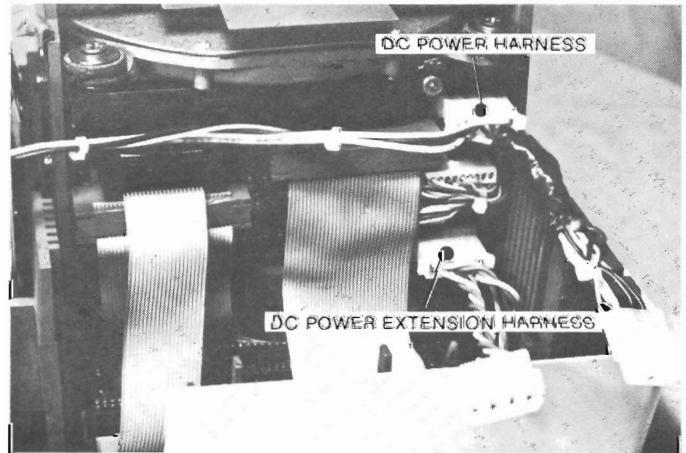


PHOTO 5.H (a) - Attach the D.C. power harness to the hard disk. Attach the D.C. power harness extension to the floppy drive.

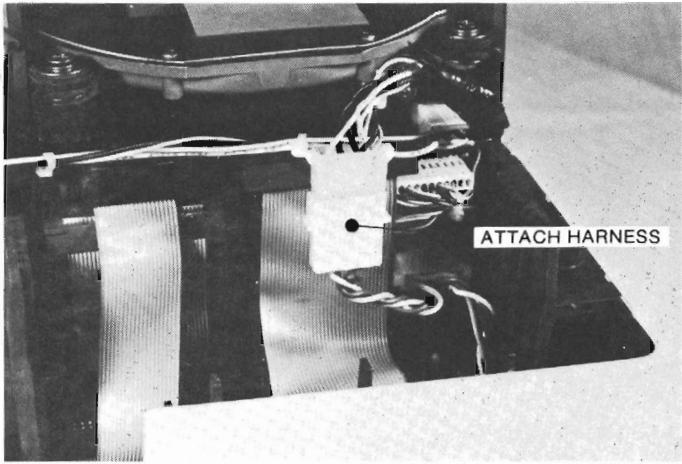


PHOTO 5.H(b) - Plug the D.C. power harness into D.C. power harness extension.

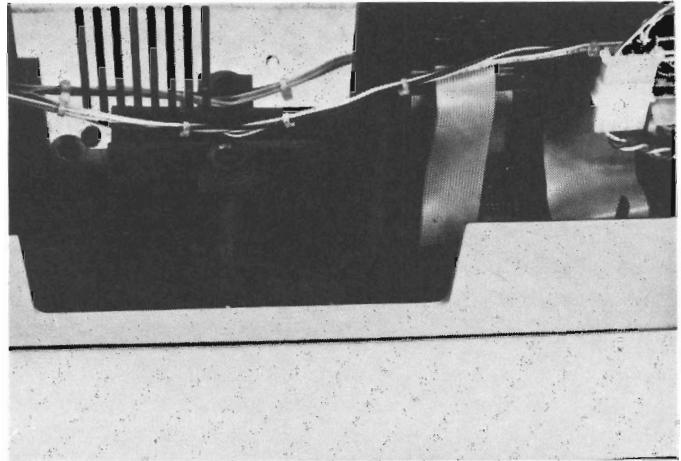


PHOTO 5.I - Location of D.C. power harness.

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INTRODUCTION

The User Manual is divided into eight information sections that range from preparing the hard disk start-up diskettes to writing your own menus in dBASE II. Read all of the sections in the manual because they all interact with each other.

Your hard disk will be partitioned with Drive A: having 4 megabytes with 4K block size and 1024 directory entries. Drive B: has 7 megabytes with 4K blocks and 1024 directory entries. The floppy drive will be Drive C. Except for the CP/M 3.0 utilities which the floppy drive will remain Drive A.

INSTALLATION OF SOFTWARE

SECTION 1

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INSTALLATION OF SOFTWARE

A. Start-up diskettes

If you or your dealer haven't prepared the start-up disks, do so at this time. Read SECTION 3, EICOPY.COM and SECTION 7, DISKMGR.COM before proceeding. Turn your Executive on and the Executive sign on message should appear on the screen. If it doesn't, contact your dealer or Gard Micro Systems, Inc.. Boot your system with the Executive system disk and then insert the "EXEC-T" master disk in the floppy drive. If your hard disk hasn't been formatted, do the following. If it has been, skip this part.

When the A> appears,

Enter: A> EIFRMT11.COM <RETURN>

The red LED on the hard disk will start to blink. You are now formatting the hard disk. This will take a few moments and at the end of the formatting process, a message will appear on the screen:

Format Successfully Completed.

Press Reset and reboot the system with the Executive system disk and then reinsert the "EXEC-T" master disk. When the A> comes on the screen,

Enter: A> EIBIOS11.COM <RETURN>

The red LED on the hard disk will start to blink and a new A> will appear. You are now into the hard disk.

Enter: A> Dir <RETURN>
No File (Will appear on the screen)
Enter: A> B:<RETURN>
Enter: B> Dir <RETURN>
No File (Will appear on the screen)
Enter: B>A:<RETURN>

Enter: A>C:EICOPY.COM <RETURN>

Use EICOPY.COM to make your copies. Read SECTION 3 of this manual. Make two working copies of the "EXEC-T" master diskette. After you make two copies of your master diskette, take your master diskette and put it away for safe keeping. Reset and reboot your system with the Executive system diskette. Then use COPYSYS.COM to read the system tracks onto these diskettes. On these diskettes you should have the following programs: CPM3.SYS, EIBIOS11.COM, EIFRMT11.COM, EIPOS11.COM, EICOPY.COM, MENU.COM, MENU.ASM, TSLCNFG.COM, DISKMGR.COM, ARKIVE.COM, WSKEY.COM, and CPMKEY.COM. We will call these two disks Disk A and Disk B. Carry these diskettes with you at all times .

Take Disk A and do the following:

Erase EIFRMT11.COM

Rename EIBIOS11.COM to EXECST.COM

This will permit you to auto-start the hard disk without calling up the BIOS program.

Disk B is your working backup disk and Disk A will be your start-up disk. Your working disks are now prepared.

At this time, run DISKMGR.COM to check for bad blocks. Hard disks, even new, may have bad blocks. Read the section in the manual (SECTION 7, DISKMGR.COM) about mapping out bad blocks. This must be done on both A Drive and B Drive to prevent read and write errors in the future.

Now you are ready to load your files into the hard disk. For additional information on setting up the hard disk, read SECTION 8, HELPFUL HINTS and ADVANCED PROGRAMMING.

UTILITIES

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UTILITIES

A. EIBIOS11.COM

Enter: A>EIBIOS11.COM <RETURN>

This is the BIOS used to start the hard disk and also the BIOS that TSLCNFG.COM will modify. After your hard disk is installed, rename EIBIOS11.COM or any modified BIOS to EXECST.COM and have it reside on the start up diskette. By having it named EXECST.COM it will auto-start your hard disk every time you boot your system.

B. EIFRMT11.COM

Enter: A>EIFRMT11.COM <RETURN>

This utility is used only to format the hard disk, as it will erase any information you may have on the hard disk, so use it with caution.

C. EIPOS11.COM

Enter: A>EIPOS11.COM <RETURN>

This utility must be run before transporting the hard disk. EIPOS11.COM positions the head.

D. WSKEY.COM

E. CPMKEY.COM

Enter: A>WSKEY.COM <RETURN>

Enter: A>CPMKEY.COM <RETURN>

These utilities configure the arrow keys to CP/M or Wordstar mode. See ADVANCED PROGRAMMING, SECTION 8 for utilization of these utilities.

EICOPY.COM

SECTION 3

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EICOPY.COM

A. Introduction

EICOPY.COM enables you to make copies of diskettes. This utility will not copy a diskette to the hard disk. You have to use PIP.COM or the public domain utilities such as Newsweep to transfer files to the hard disk. However, EICOPY.COM will make a copy of a diskette, save it on the hard disk, and then duplicate it on a freshly formatted diskette. EICOPY.COM will not format diskettes. You are able to make several duplicate copies of a single diskette or make copies of different diskettes.

B. Making copies

Enter: A>EICOPY.COM <RETURN>

The screen will display the following menu:

TRANTOR SYSTEMS LIMITED
Floppy disk copy programs
Version xxx

Insert source disk in drive C.
Hit return when ready.

After hitting Return, the following prompt will be displayed on the screen:

xx Sectors per track
xx Tracks per disk
xxxx Bytes per sector

Reading Floppy disk.....

After reading the diskette, the following prompt will appear on the screen:

Insert destination disk & hit Return.

Writing floppy disk.....

After writing the diskette the following prompt will appear on the screen:

Do you want to make any more copies of the disk?
Enter: Y (YES) or N (NO) <RETURN>

With a Y (YES) answer you will be asked to insert a destination disk and the procedure is repeated. With a N (NO) answer the following prompt will appear on the screen:

Would you like to copy another disk?

A Y (YES) answer will start the process over again. A N (NO) answer will return you back to the A> or the main menu.

Here are some additional features of EICOPY.COM. It will detect different formats. The source and destination must have the same format. If these diskettes are not of the same format, the following prompt will appear on the screen:

This disk is not compatible with the source disk.
The source and destination disks must be of the same format.
Do you want to try another disk?

Answer Y (YES) or N (NO), then follow the prompts that are displayed.

EICOPY.COM also verifies reading and writing of the diskettes. If you encounter an error message, just answer with Y (YES) or N (NO), and follow the prompts.

TSLCNFG.COM

SECTION 4

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A. Introduction

TSLCNFG.COM is a super hard disk partitioning program. It is able to define the number of logical drives on your hard disk. The maximum number of drives is five (5), which can have any CP/M name from A to P. The BIOS file (EIBIOS11.COM) that was shipped with your unit is configured as follows:

Part 1 (A) : 444 trks [+2 res], 4k/Blk, 1024 dir spaces
Part 2 (B) : 776 trks [0 res], 4k/Blk, 1024 dir spaces

This partitioning is done with software and doesn't change the hardware itself. TSLCNFG.COM changes the software BIOS (EIBIOS11.COM) file. Use TSLCNFG.COM only with a duplicate of your original BIOS file. Never use the original EIBIOS11.COM to make any changes.

Before using TSLCNFG.COM, make a total backup of your hard disk, using ARKIVE.COM. TSLCNFG.COM might invalidate data and the current directory tracks on your hard disk.

B. Working with the Worksheet

Prior to using TSLCNFG.COM, you must have some idea of how you want to partition your hard disk. Remove the worksheets provided in the back of this section, and use them to answer the questions on partitioning. TSLCNFG.COM is going to ask you several questions on how you want the hard disk partitioned.

How many partitions?

You may choose from one (1) to five (5). If you want one partition, (one logical drive), the answer will be 1. If you want three partitions, (three logical drives), the answer will be 3.

For each partition you will have to answer the following questions:

CP/M name for partition (A-P):-?

You answer this question with a letter from A to P. For example:

Partition 1 can be A (Logical drive A)
Partition 2 can be C (Logical drive C)
Partition 3 can be D (Logical drive D)
Partition 4 can be M (Logical drive M)
Partition 5 can be P (Logical drive P)

How many tracks (1224 Left)?-

You will have to answer this question for each partition. One track on the "EXEC-T" is approximately 9.13K of storage.

9.13 x number of tracks = total K of storage. Use the following Table as a guide.

Number of Tracks	Kilobyte	Megabyte
minimum allowable 16	146 K	0.146 MB
50	457 K	0.457 MB
100	913 K	0.913 MB
250	2,283 K	2.283 MB
500	4,565 K	4.565 MB
750	6,848 K	6.848 MB
1000	9,130 K	9.130 MB
1224	11,175 K	11.175 MB

The sum of all tracks in all partitions must equal 1,224. TSLCNFG.COM will help you keep count of the tracks, but it is helpful if you answer these questions on the worksheet.

Reserve how many tracks (Return = 2)?=

The correct answer is Return for 2 (two) or more tracks. This makes a buffer between the partitions. For now, a Return is sufficient for all partitions decided above.

Block size in Kilobytes (2,4,8,16,)-

How many Directory Entries?-

These last two questions are tied together. Determining the block size will determine the maximum number of Directory Entries used. The table below will help you determine the correct answer to these questions.

Block Size	Directory Entries
2 K	512 to 1,024
4 K	512 to 2,048
8 K	512 to 4,096
16 K	512 to 8,192

For example:

Partition 1 can have 2K block size with a maximum of 1,024 directory entries.

Partition 2 can have 8K block size with a maximum of 4,096 directory entries.

Partition 3 can have 4K block size with a maximum of 2,048 directory entries.

Etc.

You can customize each partition to meet your needs.

You have now answered all the questions pertaining to the partitioning of the hard disk. However, there are a few more questions that will have to be answered. So, now is the time to give them some thought.

What will be the CP/M name for the floppy drive?

If you used A, B, and C on your hard disk, then name it D. Or you can name it any drive that hasn't been used yet, drive (A-P).

The next question: Do you want Menu to be auto-loaded (Y,N)?

This question deals with a jump routine in EIBIOS11.COM. A Y (Yes) answer to this question will call up only MENU.COM, which is the Menu provided with your "EXEC-T". A N (No) answer to this question will turn the jump routine off. This way, CP/M 3.0 defaults to PROFILE.SUB. By using PROFILE.SUB, one is able to write his own menu-driven hard disk. See SECTION 8 in the User Manual on HELPFUL HINTS and ADVANCED PROGRAMING.

The last question of importance is, do you want the hard disk stamped?

The answer should be Y (Yes). This way you will have the information for future use.

C. Working with TSLCNFG.COM

On your start up disk, have the following programs: CPM3.SYS, EIBIOS11.COM, EIFRMT11.COM, TSLCNFG.COM, and DISKMGR.COM.

1. Boot your "EXEC-T"
2. Enter: A> EIFRMT11.COM <RETURN>
(Formats the hard disk.)
3. Reset your "EXEC-T"
4. Reboot the system
5. Enter: A> EIBIOS11.COM <RETURN>
6. Enter: A>C:TSLCNFG.COM <RETURN>

(If you make an error and wish to abort the partitioning program, hit ^C or Escape. This will return you to the main menu to start over.)

The following sign on message and menu will appear:

TRANTOR SYSTEMS LIMITED
Hard Disk Configuration Program
Version xxx
Copyright (c) TRANTOR SYSTEMS LIMITED, 1984

TSLCNFG Ver. xxx

Options:

- A. Redefine Hard Disk Partitions (in Bios file)
- B. Read/Write Partition Info. On Hard Disk
- X. Exit to Operating System

Type selection letter:-

Get your worksheet ready and select letter A. Read the following paragraphs on the screen.

Redefining Hard Disk Partitions:

This routine allows the user to change the hard disk partitioning in a BIOS file, eg. given a 15 megabyte hard disk, the user could specify that there were to be three partitions of five megabytes each (all sizes are referred to by the number of tracks where each track is 9K)

Caution: Redefining the hard disk partitioning program will invalidate the data on the hard disk.

Note: The user must specify enough partitions to use all available tracks on the hard disk since it is impossible to specify more than 1224 tracks for each partition.

Press any key to continue:-

Redefining Hard Disk Partition-

Name of BIOS input file:-

The name of the BIOS input file will be C:EIBIOS11.COM <RETURN> (include the COM extension).

Output file (return = same):-

Hit Return or Enter a new name if so desired

The current hardware includes-

drive 0: 11 mb
-1224 tracks.

part 1 (A): xxx trks [+ x res.], xK/blk, xxxx dir spaces
part 2 (B): xxx trks [+ x res.], xK/blk, xxxx dir spaces

press any key to continue:-

continue with partitioning (y,n)?-

Answer Y (YES) and get your worksheet ready. The following paragraphs will appear on the screen:

With BIOS file for the Osborne Exec., there is a maximum of five partitions. However, you may specify partitions up to 32 mb (4096 tracks) in size.

For system use, there is a 2 track overhead for each partition.

physical drive 0 - 1224 tracks available

how many partitions?-
(Get this information from your worksheet.)

Partition 1:

CP/M name for partition (A - P):-
(Refer to your worksheet)

(you should use at least 16 tracks)
How many tracks (1224 left)?-
(See worksheet)

Reserve how many tracks (return = 2)?-
(See worksheet)

Block size in kilobytes (2,4,8,16):-
(See worksheet)

How many directory entries?-
(See worksheet)

Partition 2: Follows the same format as above.

After partitioning, the following paragraphs will appear on the screen:

Enter the CP/M name for the computer's floppy disk drives, eg. if the hard disk partitions are A,B and E, then the floppy disk names could be C and D (you would type CD and return at the next prompt).

Floppy disk CP/M names:-
(See worksheet)

Do you want Menu to be auto-loaded (y,n)?
(See worksheet)

Is everything above correct (y,n)-
(Answer Y (yes) or N (no))

Do you want the hard disk stamped (y,n)
(The answer should be Y (yes))

After the partitioning program is finished with writing the new BIOS, you will be returned to the main menu.

B. Read/Write Partition Info. On Hard Disk

If selection B is chosen, the following will appear on the screen:

With this routine, it is possible to examine, read, or write the partition information in a BIOS file to or from an area on the hard disk which is reserved for this information. By keeping this information on the hard disk up to date, it is possible to copy it automatically to any new release of the BIOS which you may receive.

press any key to continue:-

Read/Write Partition Info. On Hard Disk-
Options

- A. Display Partition Info. Currently On Hard Disk
- B. Copy Info. From the Hard Disk to a BIOS file
- C. Copy Info. From a BIOS File to the Hard Disk
- X. Return to Main Menu

type selection letter:-

A. Display Partition Info. Currently On Hard Disk

If selection A was chosen, this option will show you how the hard disk is partitioned. Your hard disk must have been stamped during the partitioning segment or use option C to stamp the hard disk. The hard disk stamping will be displayed as follows:

Part 1 (A) : xxx trks [x res], xk/Blk, xxxx dir spaces
Part 2 (B) : xxx trks [x res], xk/Blk, xxxx dir spaces

press any key to continue:-

B. Copy Info. From the Hard Disk to a BIOS file

If selection B was chosen, this option will allow you to copy the information from the hard disk to a BIOS file. All you need to know is the name of the input BIOS (EIBIOS11.COM) and the output file name, or just hit Return.

Name of BIOS input file:-

Output file (return = same):-

After you enter the BIOS filename, TSLCNFG.COM will prompt you for the CP/M name for the floppy drive.

C. Copy Info. From a BIOS File to the Hard Disk

If selection C was chosen, this option will stamp the hard disk. Just enter the name of the BIOS file (EIBIOS11.COM), or your modified BIOS file.

Name of BIOS Source file:-

Additional features:

Back up your hard disk before trying this part. You must have good back up of files because if you make a mistake, while experimenting, you may invalidate your data or directory tracks.

Number of reserved tracks:

For system use, at least two tracks must be reserved in each partition. The reason the user has control over this parameter is that a "smashed" directory track may be skipped over. Example:

There are two partitions on a hard disk, called "A" and "B". Partition "A" originally had 512 tracks allocated to it but, because of an accident, the directory track was irreparably damaged. There is, however, a lot of information on drive "B" which is still perfectly accessible. So the user enters the TSLCNFG.COM program, WITHOUT CLEARING THE HARD DISK, and specifies that partition "A" is to have only 511 tracks with 3 reserved (the total of reserved tracks and data tracks must equal the previous total of 512 data tracks and 2 (default) reserved). The user then uses DISKMGR.COM to clear the directory track on drive "A", or map out bad sectors. The net effect is that the directory for this partition is bumped one track over the previously destroyed area without disturbing drive "B", even though drive "A" is lost.

Also, the user is able to rename the drives if all other parameters remain the same. So use TSLCNFG.COM with caution and have a good back up of your hard disk before using it.

D. Worksheet

PARTITIONS						
	1	2	3	4	5	
How Many Partitions		XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
CP/M Name for Each Partition	XXXXXX					
How Many Tracks	XXXXXX					
Reserve Tracks	XXXXXX					
Block Size	XXXXXX					
Directory Entries	XXXXXX					
CP/M Floppy Disk Drive A-P		XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
Menu.Com Auto Load (y,n)		XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
Stamp the Hard Disk (y,n)		XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				

PARTITIONS						
	1	2	3	4	5	
How Many Partitions		XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
CP/M Name for Each Partition	XXXXXX					
How Many Tracks	XXXXXX					
Reserve Tracks	XXXXXX					
Block Size	XXXXXX					
Directory Entries	XXXXXX					
CP/M Floppy Disk Drive A-P		XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
Menu.Com Auto Load (y,n)		XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				
Stamp the Hard Disk (y,n)		XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				

MENU.COM

SECTION 5

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MENU.COM

A. Introduction

There are two files on your master disk: one named MENU.COM and the other named MENU.ASM. MENU.COM is the executable file and MENU.ASM is the source listing of the program. The listing is written in 8080 assembly language and is very easy to modify if you so desire.

To have MENU.COM work properly, it must reside on Drive A. If Drive A is one of the partitions on the hard disk, have it reside in A0:. Also, the jump routine must be turned on, (see SECTION 4, TSLCNFG.COM.)

When using an unmodified copy of EIBIOS11.COM just PIP MENU.COM onto the hard disk in area A0:.

B. Activating MENU.COM

MENU.COM will automatically be activated when you boot your Executive. The following message will appear on the screen:

TRANTOR SYSTEMS LIMITED
AUTO START V XXX

Select program to run by entering:

W - Word Star
S - Supercalc
C - Compile Cbasic program
R - Run a Cbasic program
M - Mbasic
D - dBase II
H - HELP Utility
K - Enter Command From Keyboard
U - Set CP/M User Number
V - View Disk Directory
X - Exit to CP/M command mode

Enter selection:

Enter Parameters if any:

Enter your selection and a parameter, if any, and hit Return. A parameter is a command or file that you want to execute after the major program is activated. For example:

Enter: W
Enter: L B <RETURN>

If selection W (Wordstar) was chosen and parameters were entered with a return, Wordstar will be executed and will log to Drive B:. MENU.COM is totally menu driven. All you have to do is make your selection and follow the prompts.

C. Modifying MENU.COM

The program is driven by a table. This table contains information as to what is the selection character, the prompt message, and the name of the command that has to be called as a result of the selection. To start, a listing of the MENU program should be printed using the following CP/M commands:

```
MAC MENU (CR)
PIP LST:=MENU.PRN[T8] (CR)
```

If you have an 80 column wide printer like the MX-80, program it to condensed mode before printing.

Now using Wordstar, modify the program by adding another entry to the table as shown in the example. The maximum number of entries in the table should be limited to 16 as otherwise the full menu will not be displayed on the screen.

After modifying the program, reassemble and reload the program using the following CP/M commands:

```
MAC MENU (CR)
HEX MENU (CR)
```

Needless to say, a copy of the old menu source and program should be made before modifying. If there were any assembly errors in the ASM step above, correct them and reassemble.

Example:

The following example will show how an entry is to be added to call DBASE II. Assume the selection letter is to be B. Then add the following lines at the end of the table at spot marked A.

```
db      'B'
dw      db$message
dw      db$cmd
db      1           ;A 0 here will inhibit the prompt
                   ; for parameters.
db      0           ;this configures the arrow
                   ;keys to CP/M mode.
```

At the spot marked B add the following lines:

```
db$message          db      'Run DBASE$'
db$cmd              db      5, 'DBASE'
```

The first string, the numeric constant before a command name is the number of characters in that command name.

```
;      menu is controlled by the menu$ctl$table.
;      structure of table entry:
```

```

sel$char      equ     0
ptr$msg       equ     1
ptr$name      equ     3
file$ctl1     equ     5
keys$ctl1     equ     6
tbl$entry$len  equ     7
menu$ctl1$table:
               db      'W'           ;must be upper case letter
               dw      ws$message
               dw      ws$cmd
               db      1               ;one file
               db      1               ;keys=ws mode

               db      'S'
               dw      sc$message
               dw      sc$cmd
               db      0
               db      2               ;auto scroll off

               db      'C'
               dw      basic$message
               dw      basic$cmd
               db      1
               db      0               ;keys=cpm mode

               db      'R'
               dw      run$message
               dw      run$cmd
               db      1               ;one file
               db      0               ;keys = cpm mode

               db      'M'
               dw      mb$message
               dw      mb$cmd
               db      1
               db      0

               db      'H'           ;test command
               dw      help$message
               dw      help$cmd
               db      0               ;two files
               db      0               ;cpm mode

               db      'K'
               dw      kbrd$message
               dw      kbrd$cmd
               db      1
               db      0

               db      'U'
               dw      user$message
               dw      user$cmd
               db      0
               db      0

               db      'V'           ;DIR cmd
               dw      dir$message
               dw      dir$cmd
               db      0               ;no files

```

	db	0	;cpm mode
	db	'X'	;CP/M command
	dw	cpm\$message	
	dw	cpm\$cmd	
	db	0	;no files
	db	0	;cpm mode
total\$entries	equ	(\$ - menu\$ctl\$table)/7	
ws\$message	db	'Word Star\$'	
ws\$cmd	db	2, 'WS'	
basic\$message	db	'Compile Cbasic program\$'	
basic\$cmd	db	5, 'CBAS2'	
run\$message	db	'Run a Cbasic program\$'	
run\$cmd	db	5, 'CRUN2'	
help\$message	db	'HELP Utility\$'	
help\$cmd	db	4, 'HELP'	
dir\$message	db	'View Disk Directory\$'	
dir\$cmd	db	3, 'DIR'	
cpm\$message	db	'Exit to CP/M command mode\$'	
cpm\$cmd	db	0	
	dw	go\$cpm	
sc\$message	db	'Supercalc\$'	
sc\$cmd	db	2, 'SC'	
mb\$message	db	'Mbasic\$'	
mb\$cmd	db	6, 'MBASIC'	
user\$message	db	'Set CP/M User Number\$'	
user\$cmd	db	0	
	dw	set\$user	
kbrd\$message	db	'Enter Command From Keyboard\$'	
kbrd\$cmd	db	0	
	dw	do\$kbrdcmd	

ARKIVE.COM

SECTION 6

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A. Introduction

ARKIVE.COM does not use BIOS calls to write the saved files on the archived diskette. It merges all files to be saved, into a file named ARKIVE.LBF. This file is written to the archive diskette, and can co-exist with other files on the archive diskette. In order to archive onto a diskette or diskettes, each diskette must be formatted .

B. Using ARKIVE.COM

Enter: A>ARKIVE.COM <RETURN>

When no parameter is provided, ARKIVE.COM will display the following main menu:

TRANTOR SYSTEMS LIMITED
HARD DISK BACKUP UTILITY V X.X
DATE: MM/DD/YY

OPTIONS:

- A. SAVE HARD DISK FILES TO ARCHIVE DISK
- B. RESTORE SELECTED FILES FROM ARCHIVE DISK
- C. RESTORE ALL FILES FROM ARCHIVE DISK
- D. DISPLAY DIRECTORY OF ARCHIVED DISK
- E. APPEND FILES TO EXISTING ARCHIVE DISK
- F. DESIGNATE ARCHIVE DISK DRIVE
- G. SET ARCHIVING MODES
- H. CHANGE CP/M USER NUMBER
- I. INPUT COMMANDS FROM FILE
- X. RETURN TO CP/M SYSTEM

ENTER SELECTION LETTER-

A. Saving Hard Disk Files to Archive Disk

If you choose selection A when in main menu, the screen will display:

SAVING FILES TO FLOPPY

INSERT FLOPPY DISKETTE IN DRIVE D:
HIT ANY KEY:

The screen will then prompt with the inquiry:

ENTER TODAY'S DATE IN MM/DD/YY FORMAT:

This is very important as it protects you from restoring files from diskettes with different dates on them. For instance, if you are backing up files every week onto multiple sets, and someone mistakenly tries to restore data from a mixed set of diskettes, ones from different weeks, you might end up losing some data. ARKIVE.COM will not let this occur.

When you enter the date and press Return, ARKIVE.COM will display:

ENTER HARD DISK FILENAME:-

Enter the name of a file from the hard disk and press Return. ARKIVE.COM now archives that file(s) onto the floppy diskette. ARKIVE.COM allows you to use ambiguous names and the user number as part of the file name, when saving files as shown below:

MAILLIST.DBF[g5 or MAILLIST.DBF[5 will save the file from user 5. The character asterisk '*' can be used to mean all user numbers, files, etc.. Example:

.DBF[will save all files of type .DBF from all users.
B:.*[* will save all files from Drive B:.

If the file(s) is longer than the capacity of a single diskette, the screen will display the message:

FLOPPY DISK IS FULL.
INSERT ANOTHER DISK IN DRIVE D:
AND HIT ANY KEY:

When the system is finished archiving the selected file(s), the following message will be displayed:

WISH TO SAVE MORE (Y/N)?-

If Y (YES), the name of the file will be requested. If N (NO), the utility returns to the system.

NOTE: ARKIVE.COM writes over existing ARKIVE.LBF files. Data on the destination diskette in default drive will be destroyed!

B. Restoring Selected Files From Archiving Disk

If the menu selection was B , the screen will prompt with:

RESTORING FILES FROM FLOPPY

INSERT FLOPPY DISKETTE IN DRIVE D:
PRESS RETURN.

Then the screen will display the date on which it was archived, the Volume Number, and the Volume Directory:

FILES ARCHIVED ON MM/DD/YY
VOLUME NUMBER: XX
VOLUME DIRECTORY

The Volume Directory will display all of the files contained on that diskette. The next prompt will be:

ENTER FILENAME: <FILENAME> <RETURN>

Then the program will respond with:

ENTER HARD DISK FILENAME, if different:

Ambiguous names, names with * or ?, may be used during restoring. You may enter a different name or different drive, or just press Return. As ARKIVE.COM remembers the drive from which the file was originally saved, it will restore the file to the same drive. However, you may enter another drive if the destination is to be different from the drive on which this file was saved, example:

File MYFILE was saved from Drive B:. Restoring will be to Drive B:. If you wish to have it restored on Drive A:, then just Enter: A:, in response to the above prompt.

ARKIVE.COM remembers the USER NUMBER of the file from which it was saved as well as the drive from which the file was saved. When restoring, it will automatically restore the file to the drive and user area from which it was saved. However, means are provided to override this when necessary. The user number and drive can be overridden as follows:

d:newname[n (where "d:" is the new drive, and the "n" is the new user number)

When the program has finished restoring the file, the following message is displayed:

WISH TO RESTORE ANY MORE (Y/N)?-

If Y (YES), the name of the file will be requested and the same procedure is repeated. If N (NO), you are returned to the main menu.

C. Restoring All Files From Archiving Disk

When in main menu, Enter: C to restore all files from the archived diskette. The screen will display:

RESTORING FILES FROM FLOPPY

INSERT VOLUME 1 IN DRIVE D:
PRESS ANY KEY:

The diskette must be the first of the series of diskettes on which the file is archived. If you are not sure which is the first diskette of the set, use selection D , from the main menu, to display the directory of the archived diskette. The screen will display the following:

FILES ARCHIVED ON: MM/DD/YY
VOLUME NUMBER: XX
RESTORING ALL FILES

The following message is displayed for each file being restored:

RESTORING FILE: <FILENAME>

All of the files on the diskette, or sets of diskettes, will be restored.

D. Display Directory of Archive Disk

When in main menu, Enter: D to view the Directory of archived drive. The screen will prompt with:

INSERT FLOPPY DISKETTE IN DRIVE D:
PRESS ANY KEY:

Then the screen will display:

FILES ARCHIVED ON: MM/DD/YY
VOLUME NUMBER: XX
VOLUME DIRECTORY

FILENAME	RECS	PREV	NEXT
----------	------	------	------

The Volume Directory includes the length of each file in normal CP/M size. It also displays whether the PREVIOUS diskette had a portion of that file, and whether the NEXT diskette has a portion of that file. For instance, if the volume is 02, and the PREV column has a Y in it, then the first portion of that file is on Volume 01. On the Volume 01 diskette, if the directory is displayed, under the same file name in the PREV column it will state NO.

To restore a file, you must begin with the diskette where the PREV is NO. This is the first of whatever number of diskettes it took to archive that file.

The directory also displays the date when the diskette was archived, so by using this date one can verify sets of diskettes.

NOTE: ARKIVE.COM will restore files from multiple diskettes only if they are of the same date, and if they are in the proper order beginning with the volume number having the first records of that file, and proceeding numerically through the volumes until the volume with the last section of that file is restored.

E. Append Files to Existing Archive Disk

When in main menu, Enter: E to append files to the existing archived drive. This feature allows one to continue saving to a volume set. Note that option A always starts writing the files to the destination drive from the beginning whereas this option allows one to add to an archived volume set. The append starts adding to the last volume of the set. The screen will prompt with:

APPENDING FILES TO FLOPPY

INSERT ARCHIVE FLOPPY IN DRIVE D:
PRESS ANY KEY:

Enter HARD DISK FILENAME: <FILENAME> <RETURN>

Enter the name of the file(s) (*.*) to be appended to the existing archive diskette. From here on, this option behaves like option A.

F. Designate Archive Disk Drive

When in main menu, Enter: F to designate the archive drive. The archive drive is the floppy drive to which files are saved, or from which archived files are restored. The default value is Drive D:. The screen will prompt with:

CURRENT ARCHIVE DRIVE IS: D
ENTER NEW ARCHIVE DRIVE OR RETURN:

The screen displays the current archive drive. Enter the new drive if your floppy drive is not the same.

G. Set Archiving Mode

When in main menu, Enter: G to set archiving mode. These modes determine whether files with R/O or SYS attributes will be included for archiving when an ambiguous filename is used. If archiving mode is on, these files will be saved. Files with these attributes should be your programing files which seldom change. Therefore, if you don't want to archive these files set the archiving mode OFF. Since the archiving mode is off these files will not be saved. The CP/M utility SET.COM can be used for setting attributes of files. If you wish to save some particular file with a R/O or SYS attribute, you may enter the complete filename so that it can be saved when prompted. The screen will display:

CURRENT STATE OF ARCHIVING MODES

SAVE R/O FILES: ON
SAVE SYS FILES: ON

OPTIONS:

- A. REVERSE R/O FILES ARCHIVING MODE.
- B. REVERSE SYS FILES ARCHIVING MODE.
- X. RETURN TO MAIN MENU.

If the archiving modes have to be changed, use the options provided.

Enter: A to change modes of R/O files.
Enter: B to change modes of SYS files.
Enter: X to return to main menu.

H. Change CP/M User Mode

When in main menu, Enter: H to change CP/M User mode. This feature enables you to save or restore files from/to a different user from the one in which the ARKIVE.COM program is located. Upon exiting, ARKIVE.COM defaults to the user area from which it was called. The screen will prompt with:

CURRENT USER IS: 0
ENTER NEW USER NUMBER:

To change the current user number, enter the new user number to be assigned.

I. Input Commands From File

When in main menu, choosing selection I will enable you to enter a command file. The command file is created by the "N" option of WordStar. This file will contain commands and names of files to be archived. The commands have the character "/", in the column 1 position. The command name and parameter follows the "/". The available commands are described below:

/S -Save file(s) to archive drive. This command initiates saving of the files to the current archive drive. File names can be ambiguous. See example below EVERYWK.SAV.

/A -Append files to the existing ARKIVE.LBF file on the current archive drive.

/D -Set archive drive. The letter following the command /D, specifies the drive containing the archive drive, example:

/D E sets the archive drive to E:.

/U -Set current USER number.

/U 9 changes the user number to 9.

/SM -Set archiving mode.

/CM -Clear archiving mode.

The /SM and /CM commands are used to set/clear the archiving modes. The parameter following the command specifies the mode to be set/clear, example:

/SM R/O - sets save of R/O files on.

/CM SYS - clears save of file with SYS attributes.

/X -Exit from ARKIVE.COM.

To facilitate setting/clearing of the default parameters, default archive drive, default user number, etc., ARKIVE.COM will read and execute the file ARKIVE.DAT, then the program will revert to the main menu, provided that the command /X, is not executed from within the command file. Use Wordstar "N" option to create this file. ARKIVE.COM can be instructed to execute commands from another file providing the filename is used as a parameter.

Example: The following command will cause ARKIVE.COM to execute commands from the file ARKIVE.DAT and MYCMDS before reverting to the main menu:

Enter: A> ARKIVE.COM MYCMDS <RETURN>

When a filename is entered as a parameter, ARKIVE.COM will accept names of files that are to be saved from another file. In this case, ARKIVE.COM only saves all those files whose names are in the specified file. This feature is useful when it is used to back-up the same files periodically, which is the normal case in the office environment. To use this feature, prepare a file in WordStar using the "N" option. Each line of this file may contain one file name. Ambiguous names may be used. Call up ARKIVE.COM with the name of the file containing the list of files as a parameter. The program will now back-up all of these files.

Example:

The file EVERYWK.SAV contains the following file names:

```
B:*.DBF  
A:MAILST  
A:DIARY  
C:*.DOC
```

Enter: A>ARKIVE.COM EVERYWK.SAV <RETURN>

When ARKIVE.COM is called in this manner, it will save all files of type .DBF from Drive B:, followed by file MAILST and DIARY from Drive A:, and all files of type .DOC from Drive C:. The only operator action required, will be to keep inserting the floppy diskettes into the destination drive as required. The /S option is assumed.

DISKMG.R.COM

SECTION 7

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Introduction

DISKMG.R.COM is a utility program consisting of various useful functions needed by the hard disk user. This program contains functions that manipulate files at a logical level, functions to access and modify directory entries and functions to access disk sectors. The file functions allow access to files across user boundaries and use of ambiguous names (names with wild characters '*' or '?') as well as name filters. Filters are file names that act as exception cases in commands that allow ambiguous file names. Inclusion of these file functions in DISKMG.R.COM allows you to detect files with an error, recover them, rename, or delete the old files without having to quit.

DISKMG.R.COM is very easy to use and it is menu driven. It prompts for all parameters required by it to perform the selected function. The one parameter type that may need some explanation is the file name and the file filter. The file names are entered in the regular CP/M manner with some extensions, and appear as follows:

```
drv:fname.typ[usr<fltrname.fltrtyp]
```

where:

drv: is the optional drive label. If not specified, the default drive is used.

fname.typ is the normal file name and type. Wild characters '*' and '?' may be used where allowed.

[usr is an optional user number. If not entered, the current user number is used. The character '*' may be used to indicate ALL USERS in commands that allow this.

<fltrname.fltrtyp indicates an exception name. It is meaningful only after an ambiguous name. It means that the function should be performed on all files belonging to the group of files indicated by the ambiguous file name, except the ones that match the filter name. The filter name may also have ambiguous characters.

Some examples:

B:*.*	Indicates all files on Drive B: on current user number.
C:*.BAK[3	Indicates all files of type BAK on user 3.
.DBF[Indicates all files of type DBF on all users on current drive.
*.DBF<TAX.DBF	Indicates all files of type DBF on current user and drive except the file TAX.DBF.
.DBF[<TS*.DBF	Indicates all files of type DBF on all users except all those files of type DBF whose name starts with the letters TS.

Before performing the functions, DISKMGR.COM will output a VETO PROMPT. This prompt will be as follows, and will depend upon whether the file name was a group file name, or a single file name. For single file names the veto prompt will be:

OK ? Y(es) or N(o)-

For group file names the prompt will be:

OK ? Y(es), N(o), C(ontinue) or A(bort)-

Entering Y (YES) will perform the function for this file. Entering N (NO) will abort the function for this file and ask again for the next file. Entering C (CONTINUE) will perform the function for this and all the remaining files of this group without further prompt. Entering A (ABORT) will abort the function for this and all the remaining files of this group.

To start using DISKMGR.COM make a backup copy of the diskette, or copy the program to your hard disk, then call up the program.

Enter: A>DISKMGR.COM <RETURN>

Upon calling DISKMGR.COM the following menu will appear:

DISKMGR V XXX

OPTIONS:

- A. Set Default Drive.
- B. Display Disk Status.
- C. Display / Modify Disk.
- D. DIRECTORY FUNCTIONS.
- E. FILE FUNCTIONS.
- X. Exit to System

Type Selection Letter:-

A Set Default Drive

This function can be used to set the default drive. This drive will be used in all the commands where the drive label is not explicitly entered.

B Display Disk Status

This function is used to view the Directory Status for a drive. It displays the sizes of allocable blocks, total number of files, directory entries, and reserved directory blocks.

Enter selection B to view Directory Status. The screen will prompt with:

Select Disk Drive or return for default:

After the drive is selected it will display:

DIRECTORY STATUS FOR DRIVE-

BLOCK SIZE = xK
RESERVED DIRECTORY BLKS= x

MAX DIRECTORY ENTRIES = xxxx
DIRECTORY ENTRIES USED = xxxx
TOTAL FILES = xxxx

TOTAL SPACE USED = xxxxK
DISK SPACE AVAILABLE = xxxxK

Press Any Key to Return to Main Menu-

C Display / Modify Disk

This command is used to examine and modify the disk directly. The command should be used only by those who understand disk formats. The disk sector may be addressed in physical tracks and sectors, or as allocable block number and sector within it. At the end of the display, the program will prompt you with a set of choices. These will display the next sector, previous sector, enter a new address, modify the current sector, or quit and return to menu.

Upon making this selection the following format will be displayed on the screen:

Select disk drive or Return for default:-
Select T(rack addressing) or B(lock addressing)?-T

Track:- 0

Sector:- 0

DISK = A: TRACK = 0 SECT = 0

0	E5							
8	E5							
10	E5							
18	E5							
20	E5							
28	E5							
30	E5							
38	E5							
40	E5							
48	E5							
50	E5							
58	E5							
60	E5							
68	E5							
70	E5							
78	E5							

OPTIONS:

E(nter new adrs)

N(ext), P(revious), M(odify), Q(uit) :

E(nter new adrs.)

If the E option is selected , the program will prompt you for a new address. The address for either track or block addressing must be entered in decimal form.

N(ext)

If the N option is selected, the program will display the next sector.

P(revious)

If the P option is selected, the program will backup one sector and display it.

M(odify)

If the M option is selected, the program will prompt for the address. The address can be between 00 and 7F hex. On entering an address, the program will show the current contents of the address followed by a '-' character. You may now enter, in hex, the new data, or press Return to skip this location, or enter a '.' to terminate the operation. The modified data is now written to the disk and the sector is displayed once again.

Q(uit)

If the Q option is selected, the program will return you to the main menu.

NOTE: A word about addressing. The track addressing mode addresses the absolute track number and not the relative track for a given partition. If the disk is divided into multiple partitions, and regardless of which partition you have selected, e.g., if a disk is divided into two partitions with 612 tracks each, and you have selected the second partition, track 0 will still address the first track of the first partition. The block addressing is relative to a partition. Block 0 of any partition will display the first block (the first directory block) for that partition.

D. DIRECTORY FUNCTIONS

If you chose D from the main menu DIRECTORY FUNCTIONS , the following menu will appear on the screen:

DISKMGR V XXXX

OPTIONS:

- A. Restore Deleted File.
- B. Establish Multiple User Link to File.
- C. Change User Number of a File.
- D. Map Out Bad Sectors.
- E. Step through Complete Directory.
- F. Step through Directory Entry for a File.
- G. Erase Directory Tracks.
- X. Return to previous menu.

Type Selection Letter:-

A. Restore a Deleted File

This function is used to restore a file that has been accidentally deleted. Simply enter the file name. If the file name is not prefixed by the drive name, the default drive is assumed. The program searches the drive for the requested deleted file and if found, prompts the operator for the desired USER number of the restored file. A final chance to veto the restoration is given the user. If ambiguous name was entered, the operation is repeated for all files matching the ambiguous name. A note of warning: a deleted file must be restored before any other file is modified, changed, or copied to. Any such operation may reallocate the disk space of the deleted file, to the modified file. Enter selection A to restore a deleted file, the screen will then prompt with:

Enter name of Deleted File:

Enter the name of file that was deleted, then press Return. The screen will then display:

Restoring File:

FILE = <filename> DELETED EXT = 1 R/W

Enter Y (YES) to restore the deleted file or N (NO) to return to main menu.

If Y (YES), the screen will display:

Specify User Number or return for 0:

Enter in the User number to be assigned to the file or press Return for default User 0.

B. Establish Multi User Link to File

This option is not necessary if you are going to set a file to access all user areas. SET.COM will establish this link for you. Read the section in your Osborne Reference Guide and SECTION 8 in this manual. However if you want to set certain files to specific user areas read this section.

This is a very useful function for those using the CP/M USER function. It avoids having to duplicate frequently used program files for each user. This is done by making a duplicate entry in the directory, under the secondary user number, which points to the file in the original user area. Thus, directory space is used, but disk area is conserved. Normally multiuser links should be established for program files (type COM), which are needed in each USER area, and which do not change often. Every time a file which is linked to multiple user areas is changed, DISKMGR.COM must be rerun and the file relinked.

DISKMGR.COM merely copies the directory entry from one user area to another user area and therefore, when a file is modified, its directory entry may also be modified, and needs to be copied again to the other linked users. The PRIMARY USER number given to DISKMGR.COM should be the user number under which the file was modified. Enter selection B, to establish Multi User Link, then the screen will prompt with:

Enter Name of File:

Enter the filename that will be used in different user areas. If, for example, all files of type .COM in User 0 have to be linked to User 5, Enter:

*.COM

Press Return.

Then each filename of that type will be displayed, followed by the prompt:

Enter Primary User Number: <Return>

Enter in the secondary user number 5, and press Return.

Then the program will do the following for each file with the above name:

FILE: <filename>
OK Y/N

Enter: Y (YES) to assign the user number or N (NO) to return to main menu.

C. Change User Number of a File

This function is used to change the user number of a file, thus effectively moving a file from one user area to another without resorting to PIPing and ERAsing it. Enter selection C, to Change User Number of File, The screen will then prompt with:

Enter Name of File:

Enter the name of the file which is to be assigned to a different user area. Press Return.

Then the screen will display:

Enter Source User Number : 5 <Return>

Enter in the User number to which it is presently assigned, for example, 5. The screen will then display:

Enter Destination User Number: 2 <Return>

Enter in the user number to which the file needs to be assigned. For example, 2. Now the file is linked to user area number 2, and not to user area 5.

D. Map out Bad Sectors

This is the most useful function for the hard disk owner, but can be used on the floppy disks as well. Each disk can develop some defects during its life. Whereas one may choose to throw out a floppy diskette for this reason, a hard disk cannot be thrown out. The solution is to map out the defective area of the disk by making a dummy file so that CP/M thinks that the defective area is allocated to the dummy file, and will not assign it to any other file. DISKMG.COM checks the complete disk, and sets up a dummy file, if needed, to map out the bad areas of the disk. DISKMG.COM should be run immediately after formatting and installing the hard disk. A disk may have defective areas even if it is brand new. Manufacturers of hard disks drives do not guarantee the disk to be completely error free.

DISKMG.COM may also be run at any other time, even when there are files on the disk, especially when a file is suspected to be in a defective area of the disk. This will be obvious when CP/M starts giving out the dreaded BDOS ERROR: BAD SECTOR message, when accessing a file. If there are files on the disk, DISKMG.COM first checks all existing files to detect any bad area. If files with bad sectors are discovered, DISKMG.COM will inform the user of these files. The user may now exit from the program and take some action on the bad files. This action will be either to delete the file or copy it, using DISKMG.COM option E (File Functions) from the main menu, selection D (Copy File Ignoring Errors), or use PIP.COM, to another area of the disk, skipping over the bad sectors, and then deleting the bad file. If more than one bad file is found, do not delete any of these files until all

have been copied. Otherwise, CP/M may reuse the bad sectors in the new copies. After checking the existing files, DISKMGR.COM will check the unused disk space. If any bad sectors are found, a dummy file is created, which uses the bad area. Thus, this area cannot be used by CP/M for new files, and the annoying BDOS ERROR messages will not be seen.

The dummy file created by DISKMGR.COM is named \$BADBLKS.000, and resides in USER 15. If further bad sectors develop and DISKMGR.COM is run, it will add the blocks in error to file \$BADBLKS.000 when the prompt is answered Y(YES). Enter selection D, to Map Out Bad Sectors on the disk, the screen will then prompt with:

Select disk drive or Return for default: B <Return>

Enter in the letter of the drive, for example, B. If there are any files on Drive B, the screen will display:

Checking existing files on Drive B:

OK Y/N

Enter Y (YES) to check files on Drive B:, or N (NO) to skip over the files. If Y (YES), DISKMGR.COM will check each file for bad sectors, display the name of each file, and a message after checking the file. If there are any errors, it will display the error message, and continue to go through the rest of the files on the drive. At the end of checking, it will list all the files with error blocks and give you chance to exit the program. You may write down the names of the files and exit from this function and use the COPY Ignoring Errors Function, (Selection D) to recover the files. Note however, that the sectors with errors on them may contain garbage in the recovered files. After recovering these files you may delete the files with bad sectors, and rerun this function. If you elect to continue instead, the bad blocks in the existing files are ignored by DISKMGR.COM, and will not be mapped out.

Next, the program will check the unused disk space.

If bad blocks are found, it will display the message:

x Bad Blocks Found.

Mapping Out Bad Blocks.

OK Y/N

If Y (YES), it will map out all the bad blocks by creating a dummy file. If N (NO), the program will return to main menu.

E. Step through Complete Directory
F. Step through Directory Entry for a File

These functions are used for viewing directory entries for a file, or of the complete disk. This function will tell you the location of the file and its attributes in hexadecimal format.

G. Erase Directory Tracks

This function will clear the directory of a disk to E5's, the character used by CP/M to indicate an unused space. This function must be used with extreme caution, as its use removes all files from a disk. After using this

function, files cannot be restored using the "restore deleted file function." This function is useful only when the hard disk is being repartitioned and directories have to be cleared. This will save the somewhat more time consuming task of reformatting the hard disk.

X. Return to previous menu

This option will return you to the main menu.

E. FILE FUNCTIONS

Upon selecting option E (FILE FUNCTIONS) from the main menu the following menu will appear on the screen.

DISKMGR V XXXX

OPTIONS:

- A. Display Status of File.
- B. Delete File.
- C. Change Name of File.
- D. Copy File Ignoring Errors.
- X. Return to previous menu.

Type Selection Letter:-

A. Display Status of File

Displays the size of the file and R/W, SYS/DIR attributes of a file.

B. Delete File

As the name implies, the function is used for deleting files. A group name with filters may be used, e.g.,

B:*.BAK[* will delete all BAK files in all users on Drive B:

B:*.HEX<TP*.HEX will delete all HEX files except those whose name starts with TP.

C. Change Name of File

This function is used to rename a file or a file group. When an ambiguous filename is used all the files that match the source name specification are changed to destination specification. The wild characters in the destination name are replaced by the corresponding characters in the source name.

Example:

```
Source name      TS*.CMD
Destination name  *.BAK
```

The type field of all files of type .CMD with names starting with TS will be renamed .BAK. Thus TSABC.CMD will be renamed TSABC.BAK and TSXYZ.CMD will be renamed TSXYZ.BAK.

```
Source name      TS*.CMD
Destination name PQ*.CMD
```

TSABC.CMD will be renamed PQABC.CMD
TSXYZ.CMD will be renamed PQXYZ.CMD

D. Copy Files Ignoring Error

This function may be used to copy files, with or without errors, from one drive to another, across user boundaries, etc.. The destination names may be different, and if ambiguous, the rules are the same as in the rename command above. If any errors occur in the source file, an error message appears, after which, the copy continues. The destination file is always verified by reading back.

Example:

```
Source name      *.CMD[3<PQ*.CMD
Destination name [4
```

All files of type .CMD, except those with names starting with PQ, are copied from user area 3, to user area 4. The source and destination names remain the same.

```
Source name      *.DBF
Destination      B:
```

All files of type .DBF from current drive and current user area, are copied to Drive B:, and the current user area. File names remain the same.

X. Return to previous menu

This selection will return you to the main menu.

HELPFUL HINTS and ADVANCED PROGRAMMING

SECTION 8

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HELPFUL HINTS and ADVANCED PROGRAMMING

A. Loading the hard disk

When loading the hard disk you should use Pip or Newsweep programs. Newsweep version 1.99 or 2.05 works well. Some of the others have bugs in them that could crash the hard disk. To load the hard disk, all COM files should be loaded into area A0:, B0:, etc., depending on which drive is your default drive or working drive. Also these working programs should be set to system using the SET.COM utility.

Using the BIOS supplied with the "EXEC-T", the hard disk will be Drive A: and B:, and the floppy drive will be C:. Insert your floppies in Drive C: and PIP or Newsweep your COM files, including the ones provided with the "EXEC-T" (with the exception of EIFRMT11.COM) to A0:.

You will hear the head move in the hard disk. The head movement will make sounds like your floppy drive did. These moans and groans are normal.

B. SET.COM

After loading the COM files into the chosen drive in user area 0, one should set these files to the system, (see Osborne Reference Guide.)

Examples:

```
AO> SET.COM *.*[SYS]<RETURN> sets all files to system.  
AO> SET.COM *.COM[SYS]<RETURN> sets all COM files to system.  
AO> SET.COM WS.COM[SYS]<RETURN> sets only Wordstar Com to system.
```

Note: If a program has overlays as a working part of the program or additional COM files, they all must be set to system before the program will execute properly.

The purpose of this is so that the user can access any user area on that drive without putting those COM files in that user area. Some examples: Wordstar resides in A0:. Set all Wordstar COM and OVR to system.

Exercise:

```
Enter: A>WS<RETURN>  
This will bring up Wordstar in A0:  
Enter: A>A1:<RETURN>  
Enter: 1A>DIR<RETURN>  
No File (Will appear on the screen)  
Enter: 1A>WS<RETURN>  
This will bring up Wordstar in A1:  
Exit Wordstar  
Enter: 1A>A15:<RETURN>  
Enter: 15A>DIR<RETURN>  
No File (Will appear on the screen)  
Enter: 15A>WS  
This will bring up Wordstar in A15:
```

If the routine doesn't work, you didn't set the Wordstar program to system correctly. Reset WS Files to system and try again.

Most programs will act in this manner because of CP/M 3.0. It allows you 16 user areas per drive (0 to 15). Place your programs in A0:, and then use the rest of the user areas to retain data.

C. SETDEF.COM

This program is also a part of the program package you received when you bought your Executive. This program sets the drive and file search order, (see Osborne Reference Manual).

Enter: A>SETDEF A:,B: <RETURN>

This command sets the drive search path when looking for a COM file. The Executive first looks on Drive A then if the file is not found, it looks on Drive B. If the file is found on Drive B, the program is executed. If the file is not found on either drive, it will return with FILENAME?

At this time you should have COM files set to system and drive order set.

Exercise:

Enter: A>SETDEF A:,B: <RETURN>

Enter: A>A15:<RETURN>

Enter: 15A>WS<RETURN>

This will bring up Wordstar in A15

Exit Wordstar with X command

Enter: 15A>B:<RETURN> (We logged to Drive B)

Enter: 15B>WS<RETURN> (No B: This is not a misprint)

This will bring up Wordstar in B15

Exit Wordstar with X command

Enter: 15B>AO:<RETURN>

Returns you to AO: A>

As you see, you can go anywhere on the hard disk by setting the drive search path and setting files to system.

Most of the major programs will act in this manner, but a few will not. dBASE II is one of these. You must have dBASE II reside in both AO: and BO: to use this feature.

D. SUBMIT.COM

This is another utility that comes with the Executive, (see Osborne Reference Manual). Using this utility you can chain programs together. This saves you a lot of time and is very helpful when you design custom menus and routines to utilize the true potential of your hard disk.

The best way to show this is by writing a small routine. Call up Wordstar and enter the non-document mode, (Command N). Build the following file and name it DO.SUB.

Line 1 Enter: USER<RETURN>
Line 2 Enter: WS.COM<RETURN>
Line 3 Enter: A3: <RETURN>
Line 4 Enter: SC.COM<RETURN>
Line 5 Enter: AO: <RETURN>

Now, save this file and quit by entering ^KX.

The next step is to activate this file. Remember you must have COM and OVR files set to system.

Enter: A>SUBMIT DO.SUB <RETURN>
USER (Will appear on the screen)
Enter: 7<RETURN>

You have just gone into user area 7 with Wordstar and Wordstar will come up on the screen. Now exit with the X command.

You will notice that A3: will rapidly flash on the screen and then SuperCalc will appear. Isn't this great? By entering one command you have accessed two programs without calling up either of the programs. Now exit SuperCalc with the command /QY. Notice that you have an A>. You are back to the starting point. These routines can be very helpful when a repetitious series of commands are needed.

E. PROFILE.SUB

This is another utility that comes with the Executive, (see Osborne Reference Manual). Using this utility you can autostart a series of programs after you have turned off the call to MENU.COM in the BIOS program. Read the section in TSLCNFG.COM on how to do this. The best way to show how this utility works is to create a file. Go into Wordstar in the non-document mode (N Command) and name the file PROFILE.SUB.

```
Line 1 Enter: SETDEF.COM A:,B: <RETURN>
Line 2 Enter: DBASE MENU <RETURN>
```

After EXECST.COM starts the hard disk (with the call to MENU.COM turned off) PROFILE.SUB will automatically execute. Your drive order will be set and DBASE MENU will be activated.

F. GET.COM

This is another utility that comes with the Osborne Executive, (see Osborne Reference Guide). This utility gets console input from a file. Example:

Go into Wordstar in the non-document mode (N Command) and name the file SC.GET.

```
Line 1 Enter: SC.COM <RETURN>
Line 2 Enter: A <RETURN>
```

To execute this file, you need to:

```
Enter: A>GET SC.GET [SYS] <RETURN>
```

NOTE: Include the system option on the command line or else the program will not execute properly.

On the screen you will see that SuperCalc was called up and defaulted immediately to the spread sheet without your hitting any other keys.

In the next section we will tie everything together in a custom designed menu using dBASE II as the driver.

G. Menus

We will use dBASE II as the example but you can use the same idea to create menus in other programming languages.

Let's make a dBASE II command file called MENU.CMD. Use Wordstar non-document mode (Command N) to create this file. Also create a file called WS.SUB and if you haven't created SC.GET do so at this time. The program follows below:

NAME OF FILE MENU.CMD

```
*MENU.CMD
SET TALK OFF
ERASE
@ 0,17 SAY "*****"
@ 1,17 SAY "*"
@ 2,17 SAY "*          DBASE MENU"
@ 3,17 SAY "*"
@ 4,17 SAY "*          A-WORDSTAR      G-COPY"
@ 5,17 SAY "*"
@ 6,17 SAY "*          B-SUPERCALC    H-EICOPY"
@ 7,17 SAY "*"
@ 8,17 SAY "*          C-DBASE        I-DISKMGR"
@ 9,17 SAY "*"
@ 10,17 SAY "*         D-ERASE        J-ARKIVE"
@ 11,17 SAY "*"
@ 12,17 SAY "*         E-PIP          K-QUIT TO CP/M"
@ 13,17 SAY "*"
@ 14,17 SAY "*         F-RENAME       L-HEAD POSITIONING"
@ 15,17 SAY "*"
@ 16,17 SAY "*****"
WAIT TO ITEM
STORE !(ITEM) TO ITEM
DO WHILE T
DO CASE
CASE ITEM = "A"
ERASE
QUIT TO 'SUBMIT WS.SUB'
CASE ITEM = "B"
ERASE
QUIT TO 'SUBMIT SC.SUB'
CASE ITEM = "C"
ERASE
RETURN
CASE ITEM = "D"
ERASE
QUIT TO 'ERASE', 'DBASE MENU'
CASE ITEM = "E"
ERASE
QUIT TO 'PIP', 'DBASE MENU'
CASE ITEM = "F"
ERASE
QUIT TO 'RENAME', 'DBASE MENU'
CASE ITEM = "G"
ERASE
QUIT TO 'COPY', 'DBASE MENU'
CASE ITEM = "H"
ERASE
QUIT TO 'EICOPY', 'DBASE MENU'
CASE ITEM = "I"
```

```
ERASE
QUIT TO 'DISKMGR', 'DBASE MENU'
CASE ITEM = "J"
ERASE
QUIT TO 'ARKIVE', 'DBASE MENU'
CASE ITEM = "K"
ERASE
QUIT

CASE ITEM = "L"
ERASE
QUIT TO 'EIPOS11'
ENDDO
RETURN
```

NAME OF FILE WS.SUB

```
WSKEY.COM - (Changes Arrow Keys To Wordstar Mode)
USER
WS.COM
CPMKEY.COM - (Changes Arrow Keys To CP/M Mode)
A0:
DBASE MENU
```

NAME OF FILE SC.SUB

```
USER
GET FILE SC.GET [SYS]
A0:
DBASE MENU
```

NAME OF FILE SC.GET

```
SC.COM
A
```

After the files are created, you must set SC.GET to system:

Enter: A>SET SC.GET [SYS] (to have the program work properly)

To activate the menu:

Enter: A>DBASE MENU <RETURN> (menu will appear on the screen)

Now push any of the keys A through L and you will access that program. You can take this idea and create a totally menu driven hard disk with the push of a key.

Note: dBASE II creates a \$\$.SUB file to keep track of where it is going. If you get:

CP/M Error on A: File Exists
BDOS Function = 22 File = \$\$.SUB

Erase \$\$.SUB and start over. dBASE II is trying to create two \$\$.SUB without erasing the first \$\$.SUB file.

H. DOs and DON'Ts

DO

1. Back up your hard disk on your important data files!
2. Use a surge protector.
3. Use user areas for data.
4. Use AO: for COM files and overlays. Set these files to system.
5. Carry two floppies with the major programs EIBIOS11.COM, EIPOS11.COM, DISKMGR.COM, and ARKIVE.COM with you at all times.
6. Position the head before transportation. A MUST!!
7. Back up your hard disk before you use TSLCNFG.COM.
8. Enjoy It!

DON'Ts

1. Abuse your machine. For example, don't throw it in the back of a pick up truck and take off through the woods.
2. Don't slam it into doorways or drop it.
3. Don't forget to position the head for transportation.
4. Don't forget to back up your hard disk.

I. Software Capability

All of the major programs will run on the "EXEC-T", and most of the public domain software will run flawlessly. However, some of the Super Editing Utilities will not run and might cause software crash. These utilities will read an absolute block or track on the disk. They work well with the format on floppies but sometimes not with the hard disk. So if you use these Super Editing Utilities, use them with caution, or transfer the files onto floppies, do your work, and then transfer the file back to the hard disk. Or use DISKMGR.COM.

Using the Newsweep programs, we recommend Version 1.99 or 2.05. These work well with the hard disk.

CP/M 3.0 Utilities: The utilities SETUP.COM and COPY.COM work the same as they did before. They will default to the floppy Drive A automatically no matter what the hard disk is defined as. Use COPY.COM only to format the floppies. You can't copy diskettes because there is no floppy Drive B. Use EICOPY.COM to make duplicate floppies.

With COPYSYS.COM, there is a problem using it when one of the partitions of the hard disk is labeled Drive A. If you have your hard disk configured without using logical Drive A there is no problem. COPYSYS.COM will look at both the hard disk A and floppy Drive A and tell you that you don't have a correct version of CP/M to work with. To correct this problem, boot the system without calling up the hard disk and use COPYSYS.COM as before. Remember you only have floppy Drive A to work with as B is no longer in use.

If you do choose floppy Drive B, the machine will look for the drive with no response. Reset the machine and start over.