APPLH	APPLICATION REVISIONS				
NEXT ASSY	USED ON	LTR	DESCRIPTION	DATE	APPROVED
	1		A,EN 1057 PROD. REL; B,EN 1404 R/R;		
÷			BI, EN 1689; C, EN 1624; D, ECN 2042A R/R;	T	
	•	I	E, ECN 2094A R/R	1	
		F	ECN 2168 R/R	5-27-82	PW.

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This document gives unpacking and damage inspection procedures, configuration verification instructions, mounting instructions, guidelines for connecting power and interface cables, and procedures for repacking the drive for shipment. These instructions MUST be followed to prevent damage to the drive.

#### CAUTION

The drive must not UNDER ANY CIRCUMSTANCES be subjected to mechanical shock in excess of 20 G's in any axis. Shock greater than this level can cause permanent damage. For further information, contact Micropolis Technical Support.

## Unpacking the Drive

The MicroDisk drive is packaged so as to minimize the possibility of damage during shipping. Inside the shipping carton is an "inner wrapper" structure of foam blocks, which provides shock isolation for an inner package (consisting of a two-part carton with foam pads for further shock insulation, sealed in a polyethylene bag). Use the following procedure to unpack the drive, and save ALL packing material in case it is necessary to repack the drive for shipping.

- a. Place the shipping carton on a clean, flat work surface.
- b. Slit the sealing tape on the carton top, then open the top flaps.
- c. Fold back the foam block on the top of the inner wrapper.

## CAUTION

Use extreme care when handling the inner package; the drive (inside it) is subject to damage if dropped.

- d. Carefully remove the inner package and place it on the work surface (observe the TOP UP marking).
- in the second and the polyethylene; bagafrom the inner package.
- f. Remove the top portion of the carton.

#### CAUTION

The drive should be left in the lower carton until it is ready to be mounted. The disk media and heads are very shock sensitive, and without the carton's foam pads, even a short drop onto a hard work surface could cause a shock of over 20 G's, resulting in permanent damage.

# MICROPOLIS SIZE GODE IDENT NO. DWG NO. REV A RD 100315 F SCALE SHEET 2 OF 12

- Visually inspect the drive for damage. If shipping damage of any kind is evident, notify the carrier at once. Do not return a damaged drive until the shipping company inspector has reviewed the damage, since an insurance claim may, be involved. Verify that the model number on the identification label is as ordered and agrees with the shipping paperwork. Bring any discrepancy to the attention of the supplier. A MITUAD
- At this point a visual, inspection may be performed to verify the proper circuit board configurations. If this is to be done, loosen the three captive retaining screws securing the printed circuit boards to the base casting. Swivel the board set up (the board set is mounted on pivots at the front of the drive). Being very careful to not strain any of the connectors or cables, pivot the boards over center until they come to rest against the pivot stops. next section for the actual configuration information. Then swivel the board set back down to their original position (against the frame), and tighten the three board-retaining screws.

## NOTE

Some customers order drives and controllers shipped separately, and install the controllers on selected drives themselves. If this is the case, and if a controller is to be installed on this drive, it should be installed either at this point or later at system-integration time (procedure is included with the controller).

Before applying power for an operational receiving inspection, the shipping latch must be unlocked. To do this, replace the top portion of the inner carton on the drive, turn the drive over, and rest it (upside down) on the top portion of the carton. Remove the lower portion of the carton, and rotate the slotted head of the shipping latch (see Figure 1) to the UNLOCK position. Replace the lower carton, turn the drive back over, and remove the upper carton. After testing is completed, repeat this procedure to set the shipping latch to the LOCK position to prevent head and media damage.

i. Before mounting the drive, it should always be transported in the lower portion of the inner carton. When it is removed for mounting, the drive must be handled very carefully to ensure that it is not subjected to mechanical shock.

#### CAUTION

When removing the drive from the lower carton, hold it by the sides or ends of the bases casting. Do NOT pull on the circuit boards. 300

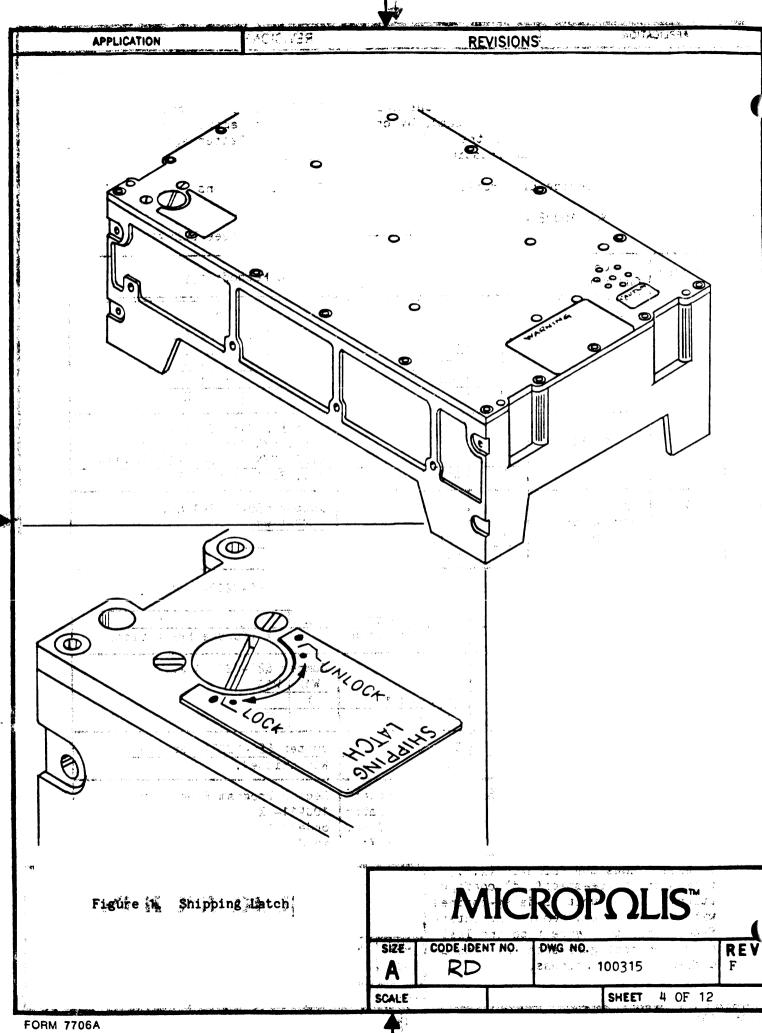
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- it vicedates elle rueddise j. Prior to utilization, uncouple the shipping latch by rotating the slotted head to the UNLOCK position (see figure 1). Do not uncouple the shipping latch until the drive is ready to mount. Head and media damage may result.
- Save ALL shipping material and the cartons

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GODE IDENT NO. DWG NO. REV RD 100315 SCALE, ... SHEET 3 OF 12

RM 7706A



## Configuration Verification

Verify the correct configuration of the drive unit's Device Electronics Board (and Controller Board, if a 122X Subsystem), by checking the board against the appropriate configuration table (make sure the part number and revision letter agree). The figures that follow will aid in locating the specified components.

Device Electronics Board P/N 100280 Configurations

Part No. 100280-XX-X XX-A-TVSRI-XX

-Option Codes (see below)

Option	Option Characteristic	Option Code	Description (* see below)	Option Methodology
A	Drive Address	0 1 2 3	Unit 0 * Unit 1 Unit 2 Unit 3	Jumper 680-0202-1 at:
T	Interface Termination	1 2	Used # Not Used	RP1: P/N 115-0001-4, SIP1: P/N 116-0003-8, and SIP2, P/N 116-0001-2 installed. RP1, SIP1, and SIP2 omitted.
V	Interface Terminator Voltage	1 2	Local * Remote	Jumper 680-0202-1 at:    W2   W1
<b>S</b>	Sector/ Address Mark	1 2	Sector Pulse * Add. Mark Found	Jumper 680-0202-1 at:    W10   W11
R	Remote Start/Stop	1 2	Disabled *	Jumper 680-0202-1 at:  W12   W13   X   X
I	Sector Pulse at Index Time	1 2	Generate *	Jumper 680-0202-1 at W16 W16 omitted.
XX	Number of Sectors/ Revolution	0-98	Program Sector Pulse Generator for Desired No. of Sectors XX.	Sector Program Plug Assy 100411-XX (specified when ordered), factory installed in JX3.

Asterisk shows the "normal" (i.e., unless-otherwise-specified) configuration. If the unit is daisy-chained with other drives, remove the interface terminators except on the last drive and configure each drive to a different drive address.

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## Device Electronics Board "B" P/N 100482 Configurations

Part No. 100482-XX-X XX-A-TVIC-XX

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-Option Codes (see below)

Option	Option Characteristic	Option of Code	Description (* see below)	Option Methodology
	Drive Address	0 1 2 3	Unit 0 # Unit 1 Unit 2 Unit 3	Jumper 680-0202-1 at:  W3 W4 W5 W6  X  X  X
	Interface Termination	2	Used # Not Used	RP1: P/N 115-0001-4, SIP1: P/N 116-0003-8, and SIP2, P/N 116-0001-2 installed. RP1, SIP1, and SIP2 omitted.
V	Interface Terminator Voltage	1 2	Local *	Jumper 680-0202-1 at:    W2
I	Sector Pulse at Index Time	1 2	Generate *	Jumper 680-0202-1 at W16 W16 omitted.
, <b>C</b>	Control Program Firmware	e Papiliana Casultudin Las Lockers	Standard Firm- ware per Spec. 100198.	Jumper 680-0202-1 at W9 and W17; no jumper at W14 or W15. PROM 800063-01 at U73.
ХХ	Number of Sectors/ Revolution	0-98	Program Sector Pulse Generator for Desired No. of Sectors XX.	Sector Program Plug Assy 100411-XX (specified when ordered), factory installed in JX3.

\* Asterisk shows the "normal" (i.e., unless-otherwise-specified) configuration. If the unit is daisy-chained with other drives, remove the interface terminators except on the last drive and configure each drive to a different drive address.

## MICROPΩLIS™

SIZE CODE IDENT NO. DWG NO. 100315

## Controller Board Configurations

Part No. 100295-51-8-XX-A-TC-FF

Option Codes (see below)

-Board Revision Identifier (see below)

Option	Option Characteristic	Option Code	Description (* see below)	Option Methodology
A	Controller Address	_0	Controller 0 * Controller 1	Jumper 680-0202-1 at:  W1 W2 X  (and always at W9 for Rev. D or E Boards only)
T	Host Interface Termination	1 2	Used * Not Used	RN1: P/N 115-0001-4 installed. RN1 omitted.
C	Control Program Firmware	1	Standard Firm- ware per Spec. 100292.	For Revision C Boards:  A3: P/N 800042-01-2, and A4: P/N 800042-02-0 both installed.  For Revision D or E Boards:  A3 omitted; A4: P/N 800060-01-4
FF	Format		Configured for Desired Sector Format	Specified when ordered. See Format Selection table below.

Asterisk shows the "normal" (i.e., unless-otherwise-specified) configuration. If the Controller is daisy-chained with another Controller, remove the host interface termination except on the last drive and configure each Controller to a different Controller address.

## Controller Format Selection Table

Format	Sectors	Length					2-1 iw8	Format PROM D15	RAM B5 and C5
_00	42	256	· <del>* * *</del>	"	1	<del>  ''                                  </del>	X	800040-01-6	Not lised
01	40	268			X		X	800040-01-6	Not Used
02	24	512		X			X	800040-01-6	
_03									
04	66	128	X				X	800043-01-1	Not Used
04 05 06	24	514	X		X		X	800043-01-1	Not Used
06	12	1024	X	X		X			421-0001-6

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SIZE LODE IDENT NO. DWG NO.

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SCALE SHEET 7 OF 12

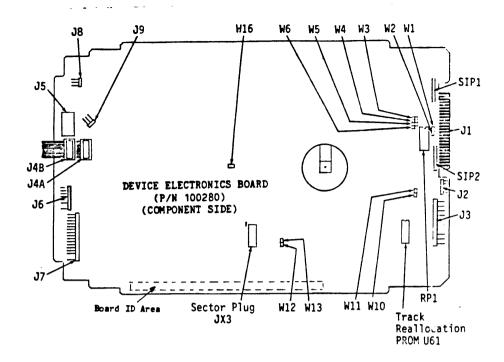


Figure 2. Device Electronics Board (P/N 100280) Configuration Components

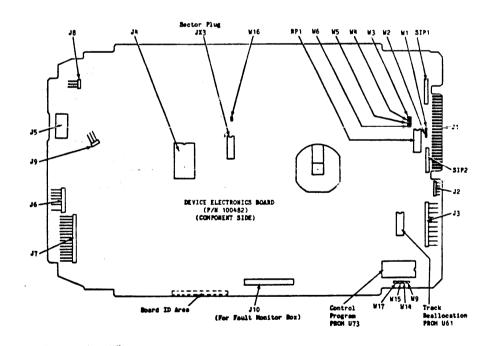


Figure 3. Device Electronics "B" Board (P/N 100482) Configuration Components

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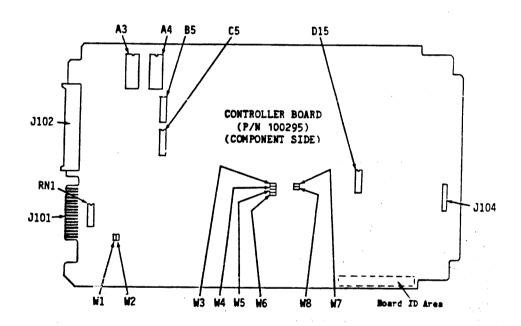


Figure 4. Controller Board Configuration Components

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SIZE	CODE IDENT NO.	DWG NO. 100315	REV				
SCALE		SHEET 9 OF 12					

DRM 7706A

## Mounting Instructions and the

The following guidelines should be adhered to when planning the installation:

- The drive may be mounted in any orientation except with the circuit boards down. This mounting would result in inadequate cooling.
- b. The breather holes on the base plate must not be obstructed. The breather holes permit pressure equalization inside and outside the sealed clean area. therefore the air flow is very small. It is sufficient to ensure that any adjacent flat surface is at least 0.050 inches from the breather holes.
- The drive can be mounted using either the eight mounting holes along the long sides of the casting or the four 10-32 threaded holes in the bottom. Eight 8-32 thread-rolling screws are provided for use in the side holes. Screws should be torqued to 30 plus or minus 5 inch-pounds. If the four holes in the bottom are to be used, care must be taken to prevent any stress or distortion from being imparted to the drive. Careful consideration must be given to the mounting method and selection of shock isolators to suit each individual application. Micropolis recommends the use of shock isolators in all applications. Refer to the drive specification for shock isolators suitable for an office environment.
- Free air circulation must not be blocked from the cutaway areas on all four sides of the drive. Ambient air temperature should be in the range 50° to  $104^{\circ}$  F ( $10^{\circ}$  -  $40^{\circ}$  C). If the unit is installed in a small enclosure, a fan may be required to maintain the ambient air below  $104^{\circ}$  F.
- The drive will perform satisfactorily with natural air convection cooling when mounted as follows:

The drive can be mounted with the base or either long side down. Mounting brackets may touch or cover the frame below the circuit board area (see figure 5a). Under no circumstances should the cutaway areas in the frame be obstructed. If the drive is mounted base down, a 3/4" to 1" air space must be provided on each side of the circuit board area (see figure 5b), to ensure proper circuit board cooling. If the drive is mounted with either long side down, the remaining three sides must be open to air flow. If the drive is mounted in an enclosure with mounting brackets on both long sides. at least one side must be open or grated for air flow (see figure 5c).

#### CAUTION

The end of the drive with the hinge blocks for the printed circuit boards is a critical heat dissipation area. Do not restrict air flow in any way.

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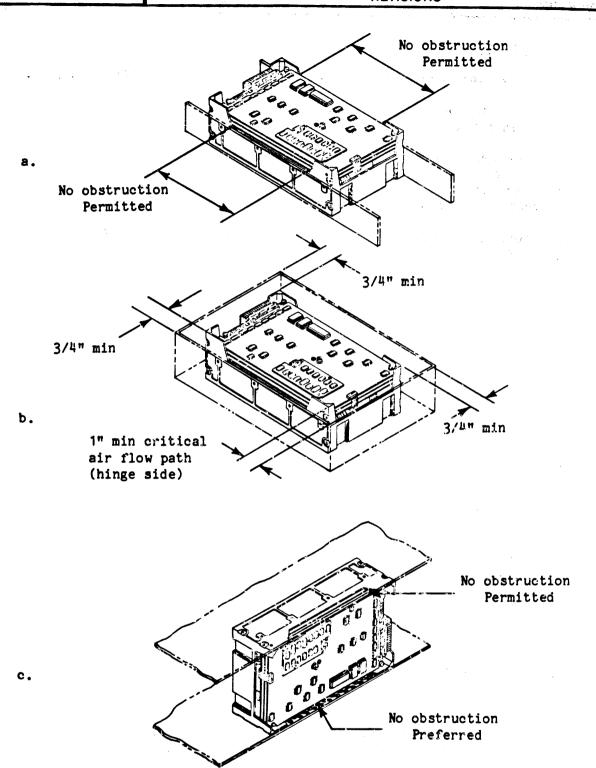


Figure 5. Drive Mounting for Natural Convection

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## Connecting Power and Interface Cables

Connect the dc power connector to J3 on the Device Electronics Board (pin 1 toward 50-pin connector J1).

For a Model 120X Drive Unit (without controller), connect the interface cable to 50-pin connector J1 on the Device Electronics Board (pin 1 toward the edge of the board).

For a Model 122X MicroDisk Subsystem (with Micropolis Controller), connect the interface cable to J101 on the Controller Board (pin 2 on top, toward the Device Electronics/Controller 50-pin interconnect cable).

## Repacking the Drive for Shipment

If it is necessary to repack the drive for shipment, the following procedure <u>must</u> be used. Contact Micropolis Customer Service to obtain a Return Goods Authorization (RGA) prior to returning any drive.

#### CAUTION

Do not attempt to ship the drive except in the original packing. If any of the packing material is lost or otherwise unavailable, contact Micropolis Customer Service for new material.

- a. Engage the shipping latch to the LOCK position (see figure 1).
- b. Put the drive into the (lower) inner carton, and place the upper inner carton (which is marked "TOP UP") over the circuit boards of the drive. The cartons are a snug-enough fit that they will stay in place by themselves.
- c, Flace the drive (in its pair of cartons) into the polyethylene bag, and seal with tape.
- d. Put the sealed package (from step c) into the inner wrapper structure within the shipping carton. Fold the top flap of the inner wrapper down over the package, close the shipping carton flaps and tape securely.

