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## **IBM 10MB Fixed Disk Drive**

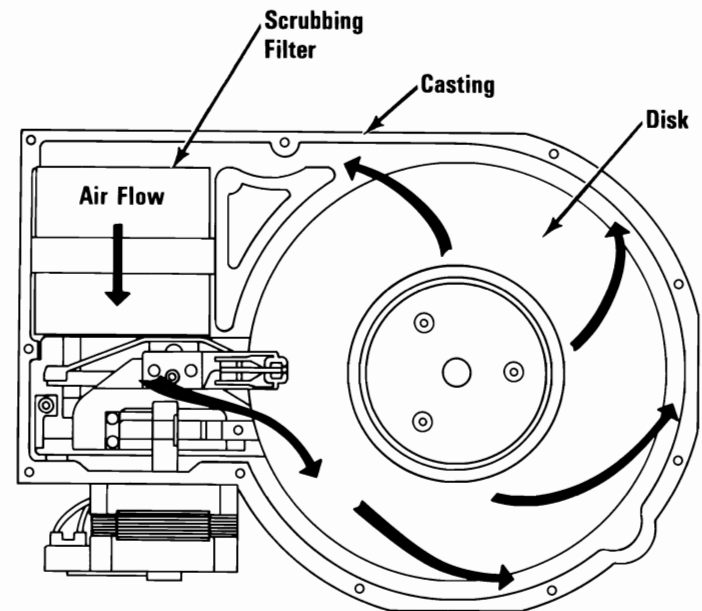
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## Description

The IBM 10MB Fixed Disk Drive is a random-access storage device that uses two non-removable 5-1/4 inch disks for storage. Each disk surface employs one movable head to service 306 cylinders. The total formatted capacity of the four heads and surfaces is 10M bytes (17 sectors per track with 512 bytes per sector and a total of 1224 tracks).

An impact-resistant enclosure provides mechanical and contamination protection for the heads, actuator, and disks. A self-contained air recirculating system, which consists of an internal filter and a breather filter, maintains a clean-air environment. Thermal isolation of the stepper and spindle motor assemblies from the disk enclosure results in a very low temperature rise within the enclosure. This isolation provides a greater off-track margin and the ability to perform read and write operations immediately after power-up with no thermal stabilization delay.

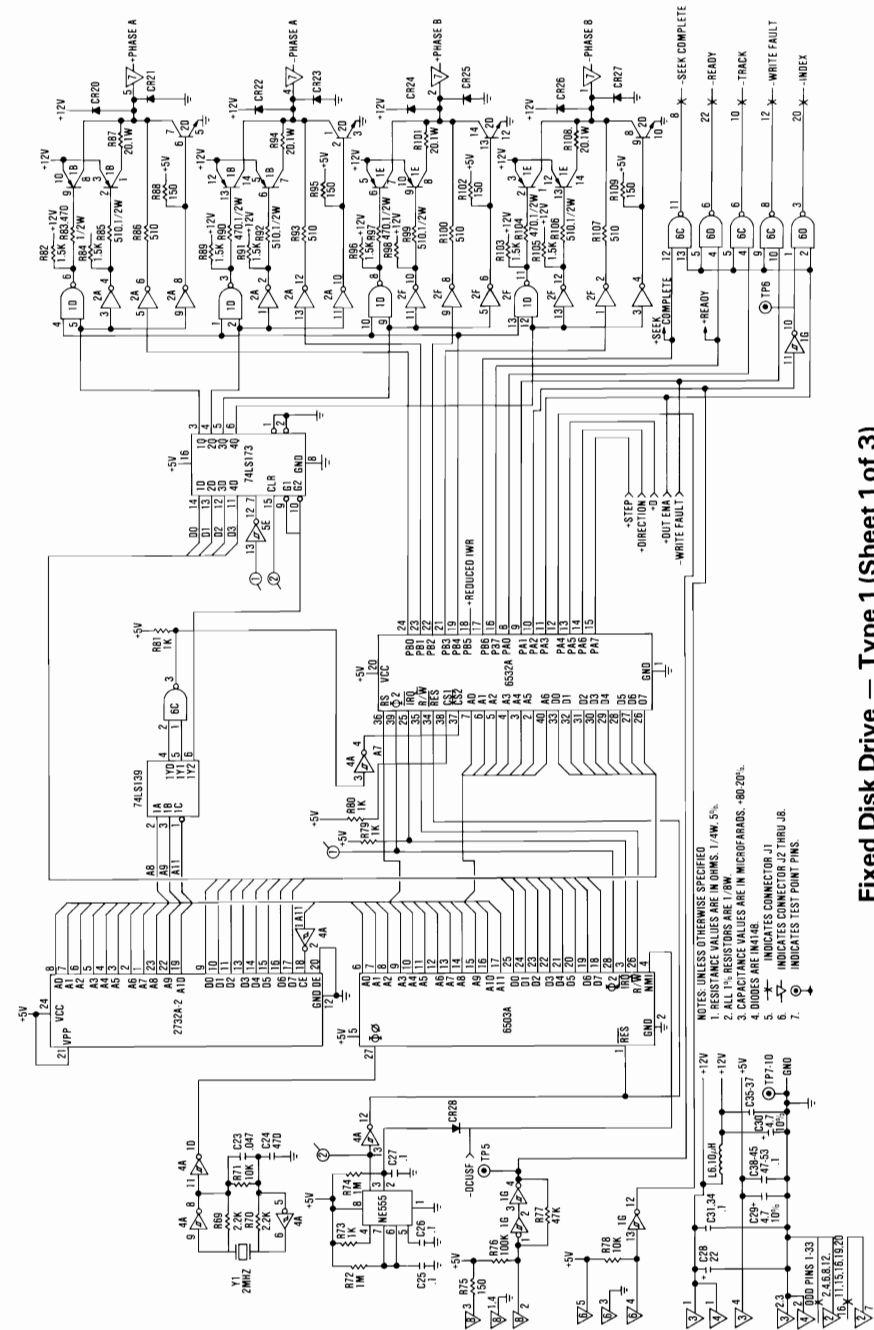


# Specifications

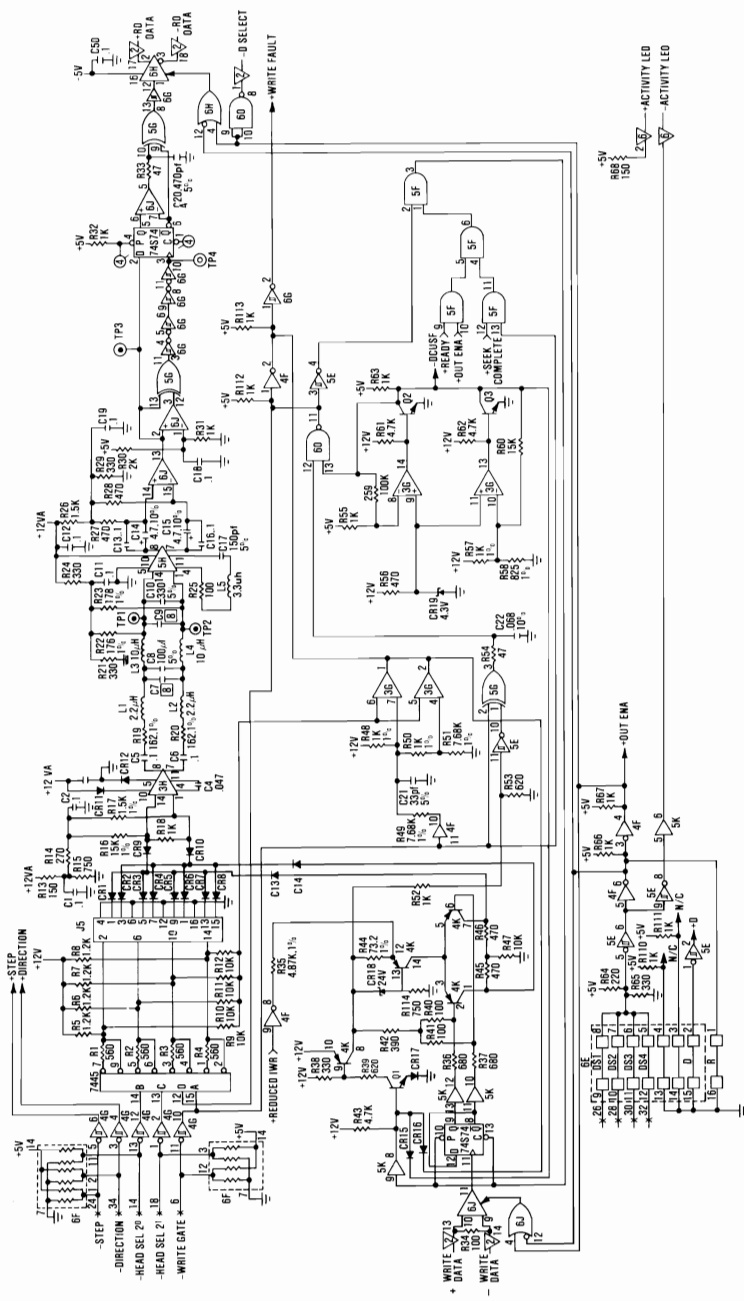
<b>Size (maximum)</b>	
Height	82.55 mm (3.25 in.)
Width	146.05 mm (5.75 in.)
Depth	203 mm (8.0 in.)
<b>Weight</b>	2.08 kg (4.6 lb)
<b>Power</b>	+12 Vdc $\pm$ 5%, 1.8 A (4.5 A maximum)
	+5 Vdc $\pm$ 5%, 0.7 A (1.0 A maximum)
<b>Maximum Ripple</b>	1 % with equivalent resistive load
<b>Media</b>	Rigid media disk
<b>Track Density</b>	345 tracks per inch
<b>Number of Tracks</b>	1224
<b>Temperature</b>	
Operating	4 to 50°C (40 to 122°F)
Non-operating	-40 to 60°C (-40 to 140°F)
<b>Relative humidity</b>	
Operating	8 to 80% (non-condensing)
Maximum Wet Bulb	26°C (78°F)
<b>Shock</b>	
Operating	10 Gs
Non-operating	20 Gs
<b>Access Time</b>	3 ms track-to-track
<b>Average Latency</b>	8.33 ms
<b>Error Rates</b>	
Recoverable	1 per 10 <sup>10</sup> bits read
Irrecoverable	1 per 10 <sup>12</sup> bits read
Seek Errors	1 per 10 <sup>6</sup> seeks
<b>Design Life</b>	5-years (8,000 hours MTF)
<b>Disk speed</b>	3600 rpm $\pm$ 1 %
<b>Transfer Rate</b>	5.0M bps
<b>Recording Mode</b>	MFM

## Mechanical and Electrical Specifications

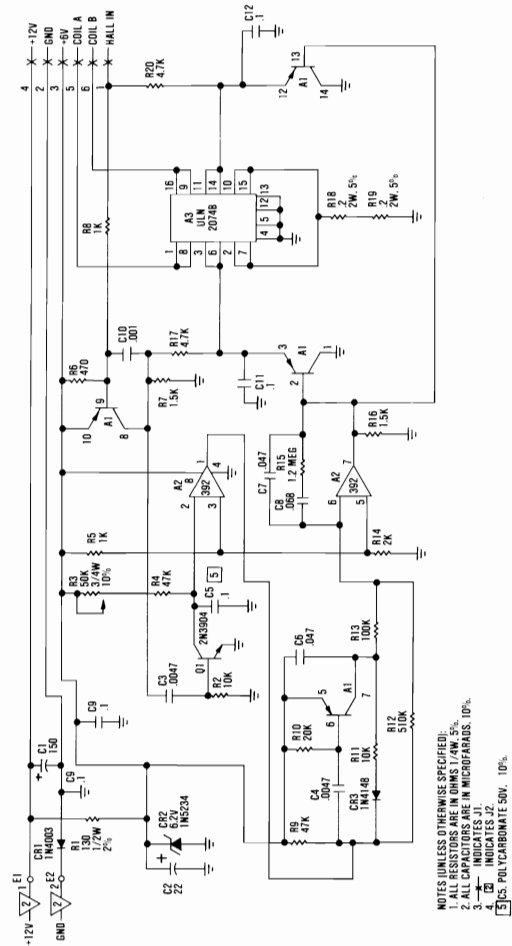
# Logic Diagrams



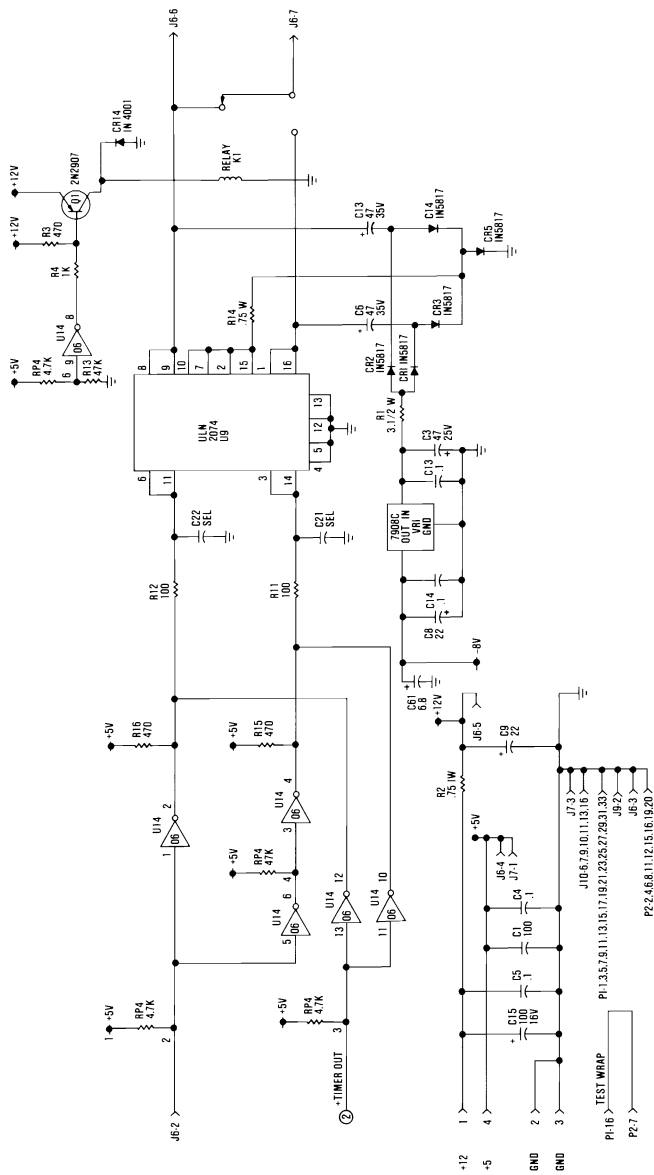
Fixed Disk Drive — Type 1 (Sheet 1 of 3)



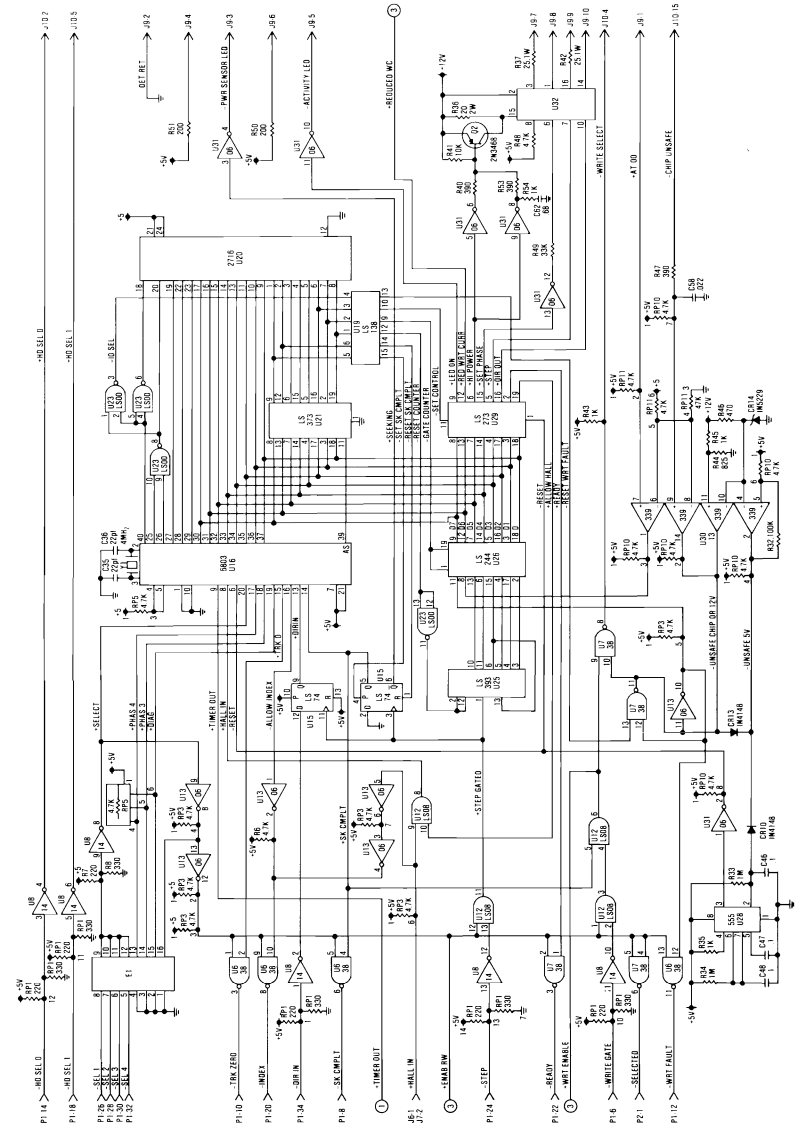
Fixed Disk Drive — Type 1 (Sheet 2 of 3)



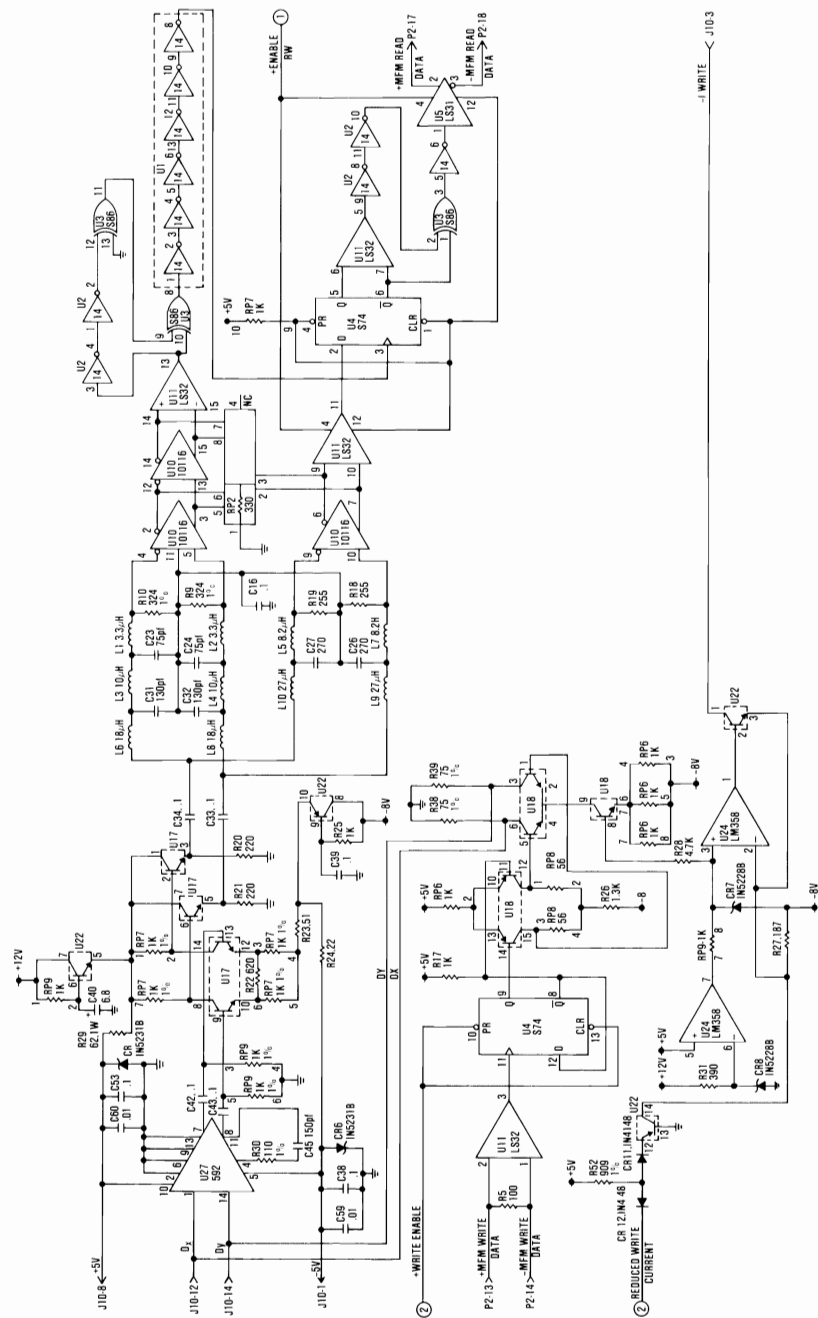
Fixed Disk Drive — Type 1 (Sheet 3 of 3)



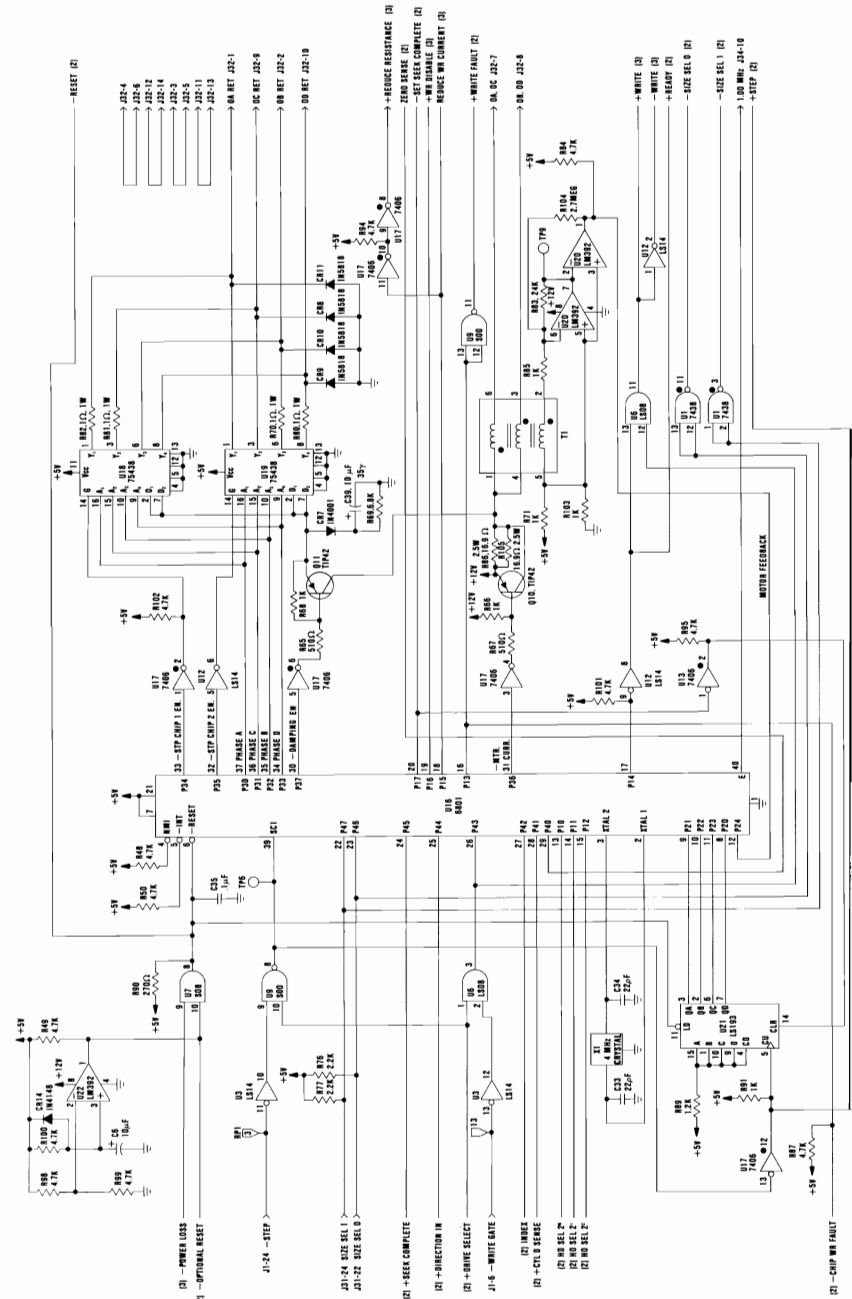
## Fixed Disk Drive — Type 2 (Sheet 1 of 3)



## Fixed Disk Drive — Type 2 (Sheet 2 of 3)



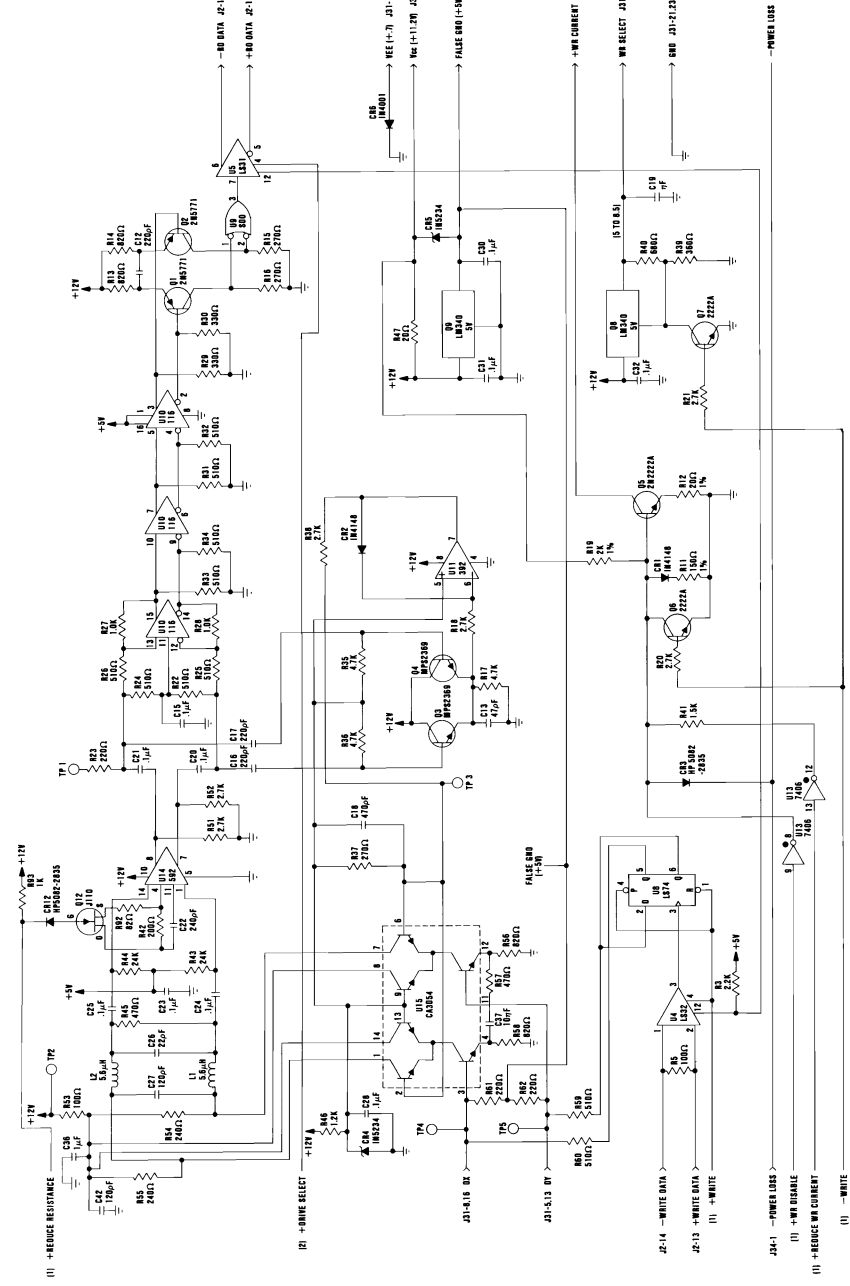
Fixed Disk Drive — Type 2 (Sheet 3 of 3)



Fixed Disk Drive — Type 3 (Sheet 1 of 3)



(1) --RESET



### Fixed Disk Drive – Type 3 (Sheet 3 of 3)

## Notes: