

STRONG STATEMENTS FROM PEOPLE WHO GIVE YOU...

STRAIGHTTALK

No claims. No boasts. Just straight facts and commitments from Jeffrey Liu, president of Microscience, on our growing family of half-height Winchester disk drives.

"By introducing the new HH-725 20 MB 5.25" and HH-312 10 MB 3.5" half-height Winchester disk drives to our product line, we now offer the proven quality and performance most OEMs need in volume today.

"Combined with our HH-612 10 MB 5.25" half-height disk drive, Microscience now provides a product family of superior quality and better performance than any other drives available.

"Time after time, we have proven that Microscience has the performance, quality, and price personal and portable computer manufacturers demand.

"The secret is the way we design and manufacture drives for you.

"Microscience disk drives have extremely low power requirements because small business and portable computers don't have the luxury of excess power or cooling capacity.

"We've used procedures and components that will be power misers, yet they still provide long-term performance and reliability.

"Our drives feature a thermally isolated stepper motor for precise head alignment and optimum seek performance. A proprietary linear actuator assembly was employed to ensure data reliability

and provide greater drive durability.

"A buffered seek mode and highly accurate proprietary micro-processor-controlled closed-loop servo positioning system keeps the head precisely on track. This maintains data integrity through a wide range of operating conditions regardless of thermal expansion, system hysteresis, or long-term wear.

"Microscience drives are not limited to functioning horizontally. Because of the growing use of portable computers and increasingly compact packaging, we designed our Winchester drives so you can use them in almost any position.

"While volume production is important, what you're really concerned about is the quality of product you use in your system or application. We have made a major commitment to

manufacturing and quality programs.

"Microscience test equipment and tooling have been carefully selected to meet our exacting standards.

"This ensures Microscience ships only zero defect half-height Winchester product that does not eat away at your profits... and your reputation.

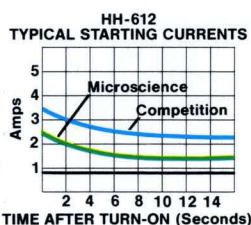
"There's a lot more I could say about the Microscience half-height Winchester disk drive family. But what will convince you is using a Microscience drive in your application.

"For more straighttalk regarding your half-height Winchester needs, call or write us today."



Jeffrey Z. Liu

President,
Microscience
International
Corporation



**Microscience
International
Corporation**

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Distributors: U.S. - Gulfstream, Weatherford, North East Peripherals, Orion International - Multilek,
Canada • Pericomp, Australia • General Automation, Austria, Belgium, France, Italy, The Netherlands,
Switzerland, United Kingdom, West Germany • Wide Trade Foundation Ltd., Hong Kong

Specifications For HH-312, 10 MB, 3.5" Half-Height Winchester Disk Drive

Capacity Unformatted

Per drive 12.76 MBytes
Per surface 3.18 MBytes
Per track 10,416 Bytes

Formatted

Per drive 10.00 MBytes
Per surface 2.50 MBytes
Per track 8,192 Bytes
Per sector 256 Bytes
Sectors per track 32

Data Transfer Rate

5.0 Mbits per second

Average Latency

8.45 msec

Access Time

Track to track 3 msec
Average 70 msec
Maximum 170 msec
Avg. settling time 35 msec

Functional Specifications

Rotational speed 3,550 rpm $\pm 0.1\%$
Recording density 11,000 bpi
Flux density 11,000 fci
Track density 648 tpi
Cylinders 306
R/W tracks 1,224
Platters 2
Heads 4

Interface

ST 506/412

Reliability Specifications

MTBF 14,000 poh
(typical usage)
Preventive maintenance none
Component life 5 years
Error rates
Soft read errors 1 in 10^{10} bit read
Hard read errors 1 in 10^{12} bit read
Seek errors 1 in 10^6 seeks

Power Requirements

DC voltage + 12 volts $\pm 5\%$ @
1.7A max./
0.5A typ.
1.5A starting
+ 5 volts $\pm 5\%$ @
0.6A typical
AC voltage not required
Power 9.0 watts
dissipation

Environmental Limits (Operating)

Ambient temperature 40° to 122°F
(5° to 50°C)
Relative humidity 8 to 80%
Wet bulb, maximum 78°F,
non-condensing
(25.5°C)
Vibration 5-60 Hz, .006" p-p
60-500 Hz, .35g pk
Shock 10g, 11 msec

Environmental Limits (Non-Operating)

Ambient temperature -40° to 140°F
(-40° to 60°C)
Relative humidity 8 to 80%
Wet bulb, maximum 78°F,
non-condensing
(25.5°C)
Vibration 5-30 Hz, .04" p-p
30-500 Hz, 2g pk
Shock 40g, 11 msec

Mechanical Dimensions

Height 1.625 in.
Width 4.00 in.
Length 5.75 in.
Weight 2.25 lb.

Safety Approvals

Underwriters Laboratory
Canadian Safety Association
T.U.V.

Specifications subject to change without notice.



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