



American Woodmark, Winchester, Virginia  
Logic Supply, Burlington, Vermont



# MINI PCs POWERED BY INTEL® PROCESSORS A PERFECT FIT FOR AMERICAN WOODMARK

To cut downtime and maintenance, American Woodmark's manufacturing floor depends on Logic Supply's ventless, fanless Mini PCs powered by Intel® processors.



Intel® Core™ processors help American Woodmark's factory floor run smoothly.

# 1%

Downtime drops to less than 1%.

Harsh, dusty conditions were increasing maintenance and downtime on the PC hardware running the assembly lines at kitchen and bathroom cabinet manufacturer, American Woodmark. Moving to Logic Supply's ventless and fanless industrial mini PCs, powered by the Intel® Core™ family of processors, cut tech support time and maintenance requirements, while boosting uptime on cabinet manufacturing production lines.

## Challenge:

- **Turning up the heat.** Cabinet manufacturing creates dust and wood debris which clogged up traditional PCs causing overheating and failures.
- **Vacuums suck up time.** To keep the assembly lines running, American Woodmark's technical staff had to regularly vacuum or blow out the PCs to reduce the risk of overheating that was impacting their hardware lifecycle.
- **Line downtime impacts productivity.** While swapping out the PCs didn't take IT staff long, a line being down for any period of time could impact as many as 450 workers.

## Solution:

- **Sealing reliability.** As an industrial PC manufacturer, Logic Supply's Mini PCs provide a sealed, ventless and fanless solution to keep assembly lines running smoothly.
- **Flexible placement.** Its small form factor hardware with mounting brackets means American Woodmark can mount the mini PCs out of the way and anywhere they're needed.
- **All the right connections.** Since these PCs run a wide range of machinery, American Woodmark depends on the flexible options for input/output devices to connect all their tools.

## Impact:

- **Downtime cut drastically.** Failure rates have dropped to less than 1% which means production isn't halted for repairs.
- **Maintenance time reduced.** Technicians save hours every day since they no longer have to vacuum out dust and replace failed PCs.
- **Workspaces Cleared.** Mounting brackets provide flexible PC placement, freeing up bench space and allowing hardware to be securely installed where it's needed most.

## Clearing the Dust

As a leading kitchen and bathroom cabinet manufacturer, American Woodmark uses PC hardware on its manufacturing and assembly factory floors to help employees construct the cabinets, provide real-time data for supervisors and quality assurance personnel, and to let employees connect with human resources forms or information. The PC hardware also drives some of the tools and machinery used to create each cabinet.

American Woodmark is always looking at ways to innovate or improve efficiency. After weathering the economic downturn, attention was turned to optimizing employee time and reducing downtime.

*“We now have a system that we know we can depend on.”*

**Josh Keiter**  
American Woodmark Corporation

*“We’ve created a high performance thermal solution for customers like American Woodmark that need a tough, small PC.”*

**Andrew Swayze**  
Logic Supply

In the company's nine manufacturing facilities, they noticed their technicians were spending a lot of time vacuuming out hardware and dealing with downtime caused by dust getting into traditional desktop PCs and clogging the electronics causing overheating.

“Downtime is a big thing in our industry,” says Josh Keiter, project/group leader of client solutions and data center operations, American Woodmark Corporation. The company has been growing steadily over the past years, producing as many as 25,000 cabinets a day, up from 8,000 during the downturn. With as many as 450 employees working on a single manufacturing floor at a time, having a line go down for a hardware failure was costly.

“Desktop PCs are not really geared for environments like ours,” says Keiter. “It is cold in the winter and really, really hot in the summer. Plus, being a cabinet manufacturing facility, we have a lot of dust from both the wood and machinery. Our hardware wasn't lasting as long as we felt it should and since we operate on a four-year lease cycle, we wanted our hardware to last the full term.”

Keiter wanted to improve how technicians' time was being used and vacuuming PCs was time consuming. “We operate big manufacturing facilities with a couple hundred computers on the floor, so it takes one or two people a lot of time away to cover them all. We were seeing more failures than we wanted and most of them were going back to the overheating issue and the dust causing the overheating.”

After looking at a range of options, Keiter learned about Logic Supply's ventless and fanless industrial mini PC, powered by the Intel® Core™ processor family.

“We started seeing what it could do for us and we were really pleased so we went full speed ahead,” says Keiter. “We now have a system that we can depend on.”

### Sealing Out Problems

Unlike many other PC hardware platforms that rely on vented chassis and fans to keep them cool, Logic Supply's mini PCs (including the ML 240\* and ML 400\* models installed by American Woodmark) feature a fanless and ventless design that leverage innovative heatsink technology to dissipate the heat generated by components. As a sealed unit,

it isn't adversely impacted by dusty or harsh environments.

“Our customers need a PC that can withstand dust, heat, vibration and other stresses that happen on a manufacturing line,” explains Andrew Swayze, vice president marketing at Logic Supply. “We've created a high performance thermal solution for customers like American Woodmark that need a tough, small but powerful PC.”

“We have eliminated the need to vacuum out the units and our failure rates are down below 1%,” adds Keiter. “Our technicians no longer have to put five miles of boot leather on the floor regularly to keep our PCs clear of dust.”

Since their facilities can be the size of several football fields, reducing the amount of time technicians spend walking from one PC to the next has resulted in a significant time saving.

“Plant supervisors really like that their technicians aren't away from their offices as much because they don't need to vacuum out hardware any more. Technicians can spend more time helping the users that put in solution center tickets or problem tickets instead of troubleshooting issues on the floor,” says Keiter, noting that when a line is down, anywhere from 300 to 450 employees could be standing around waiting for the line to restart.

“Ever since we started with Logic Supply we have been under a 1% failure rate so everything is just working out tremendously for us. We are very, very, pleased,” he says, noting they didn't track the failure rates of the desktop PCs but Keiter knows it was significantly higher than today.

“The sheer time we are not babysitting the hardware is a big return on our investment,” he adds.

### Power On Demand

Whether the PC is running an application, controlling a specific tool used to construct cabinets, or being used by quality control staff to verify units are up to specifications, Keiter says the Logic Supply PCs featuring Intel® Core™ processors have the power American Woodmark needs. “We tried a different model without the Intel® processor and we found there simply wasn't enough processing power. The Intel® Core™ processor fits the bill perfectly.”

## Technology:



Intel® Core™ Processor Family

For Computer Assisted Design Stations, Keiter upgrades to Logic Supply models featuring the Intel® Core™ i5 processor or Intel® Core™ i7 processor for the additional processing power needed. And, since some of the units are displaying instructions or detailed parts assemblies on a 40-inch screen, having high resolution images supported by Intel® HD Graphics keeps images crystal clear.

“Pretty much anywhere on the floor that we have a workstation or a tool running, Logic Supply fanless units are running them,” says Keiter noting that all the workstations are supported by a local and corporate server network, powered by Dell servers featuring Intel® Xeon® processor E5.

### Optimal Placement Options

On a manufacturing floor, space is at a premium and there isn't always an out of the way location for a traditional desktop PC. A Logic Supply mini PC is about the size of a bestseller hardcover (measuring 2.24 inches high and 7.71 inches wide) and weighs between 4 and 5 ½ pounds, which is about ½ the weight of an average mini tower PC. Small and lightweight with flexible mounting bracket options allows American Woodmark unprecedented placement options.

“They were able to mount them in different places, on carts, racks, wall and cabinets. They're not getting bumped or knocked over and they're out of the way so things aren't getting set on top of them,” says Swayze, noting customers like American Woodmark gain a lot of processing power in a small form factor. “Customers are getting a lot of performance per square inch out of these devices.”

### Reliability Matters

With so many employees depending on the hardware to keep the production lines running, Keiter and his team purchased extra units as backups. Keiter says with downtime hitting less than 1% they haven't needed the extra units as backups.

“Since we are not using them as spares for downtime, if someone needs a PC yesterday, we can use the ones we have and order a spare backup later so our turnaround can be hours instead of weeks,” says Keiter. “The ability for the hardware to perform every single day in that environment and for us to not even have to bat an eye has been tremendous.”



## Spotlight on American Woodmark Corporation

American Woodmark Corporation manufactures and distributes kitchen cabinets and vanities for the remodeling and new home construction markets. Its products are sold on a national basis directly to home centers, major builders and through a network of independent distributors. The Company presently operates nine manufacturing facilities and seven service centers across the country. [americanwoodmark.com](http://americanwoodmark.com)



## Spotlight on Logic Supply

A leading industrial PC company, Logic Supply designs rugged, highly-configurable computers specifically engineered for reliability, and serves a variety of industrial and embedded markets from its offices in the US, the EU and Taiwan. [www.logicsupply.com](http://www.logicsupply.com)

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