

TRAK[®] MACHINE TOOLS



SOUTHWESTERN INDUSTRIES, INC.

August 20, 2020

White Paper

Windows Embedded Standard 7

Microsoft has recently announced that it will no longer support Windows 7. ProtoTRAK customers need not be worried about any consequences of this move by Microsoft.

Background

ProtoTRAK systems do not use the same Windows 7 operating system that had been used on PCs. We use a software developer's version known as Windows Embedded Standard 7. The code we wrote is integrated into the operating system. We send Microsoft a license fee for every ProtoTRAK we sell.

We work very closely with Microsoft as well as some third-party consultants that are closely connected to it. Windows Embedded Standard 7 continues to be very popular with software developers in many industries. They appreciate that it is very well documented and can be broken into components with very predictable consequences.

What "support" means to PCs

It has been many years since Microsoft spent a lot of time adding new features to Windows 7. For the most part, they have not been actively fixing known problems. Therefore, support means defending PCs from newly-discovered viruses. This is not an issue for the ProtoTRAK because the ProtoTRAK is a device and not a general computer. It has more in common with a printer or a networked copy machine than with a PC. The "programs" it generates and runs are really just text files that contain machine code. Having a virus damage the system is unlikely. Creating a virus within the ProtoTRAK is close to impossible, because we have FBWF enabled.

File Based Write Filter (FBWF)

On the ProtoTRAK systems, we have enabled what is called a File Base Write Filter (FBWF) within Windows Embedded Standard 7 to protect the operating system and our software from malware. Malware includes computer viruses, Trojan horses, ransomware, spyware, etc. In addition to this, we hope to prevent users from adding additional software to our control that may conflict with our software.

The goal of the write filter is to enable a device to be configured a certain way and then, when it's rebooted, revert to a default clean state, with any writes from the last boot session wiped away.

File Based Write Filter protects the whole disk, but selective write through exceptions can be granted to specific files and folders. Writes to folders which have been granted exceptions persist when the device restarts. An example of this would be our configuration files (calibration, backlash, etc.) and our message and fault logs.

What “support” means to ProtoTRAKs

Even when Microsoft stops supporting Embedded Standard 7, this will not affect ProtoTRAK users, even looking many years into the future. The software is stable and requires no maintenance. As long as we can copy the Windows Embedded Standard 7 we need, we can still supply a fully-functioning ProtoTRAK system.

The occasional revisions we make to ProtoTRAK software have nothing to do with Windows – they are adjustments to our own code. We do not depend on Microsoft for help with this. It has been a long, long time since Microsoft stopped supporting DOS. However, we are still able to support the ProtoTRAK models that run on DOS – and this is going on 20 years after the models were last made!

The users of ProtoTRAK models that operate on Windows Embedded Standard 7 can anticipate the same level of excellent support for many years to come.