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Prime News

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FFD: Fast Flash Disk

What is the same size as a hard drive, the same shape as a hard drive, has the same **memory** as a hard drive, looks to the system just like a hard drive, but is 200 times as expensive? (read more...)

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Prime News

Advantech a Leading Windows CE .NET Solution Provider
SOM-4450 Demos Windows CE .NET

The next version of the Windows CE
operating system, Windows CE .NET, is
scheduled for its formal product launch
on January 7th, 2002. Last November,
when Microsoft Corp. introduced the beta
version of Windows CE .NET, formerly
code named "Talisker," to its Windows
Embedded partners in Asia, it choose
Advantech's SOM-4450 as the demo
platform, using 40 units for the
demonstrations in Taiwan, and another
25 units for the presentations in Japan.
Microsoft also selected Advantech's Panel PC 153T as a development platform
for these events. It will use the same platforms again for the upcoming Taiwan
Windows CE .NET Developers' Conference in January.

Microsoft® Windows® Embedded Partner

2001 Partner of the Year
Independent Hardware Vendor

What's New?

Now, thanks to Microsoft Windows CE .NET technology, Advantech can offer
enhanced embedded software solutions to our worldwide customers. There are
several points that set Windows CE .NET apart from its predecessor, Windows
CE 3.0. These are: .NET support, IRQ sharing, and improved user interface. As
implied in the name, the support for .NET technology is among the primary
enhancements in the Windows CE .NET release. "One of our design goals for
Windows CE .NET was to make it the best platform on which to base wireless
devices," said Keith White, senior director of marketing for the Embedded and
Appliance Platforms Group at Microsoft. "Windows CE .NET complies with the
Bluetooth specification as well as 802.1x, which means that customers can be
confident of the interoperability of wireless LANs, PDAs, mobile phones, digital
cameras, security devices, in-building controllers and other peripherals."

Also, previous to Windows CE .NET, Windows CE did not support IRQ sharing,
so developers were limited in the number of IRQ-requiring devices that could be
connected to a Windows CE-based system. Although Advantech engineers had
developed certain device driver workarounds, such as that for the PCM-3641,
where eight COM ports share one IRQ, for the most part the maximum of 15
available IRQs put definite limits on the expandability of system architecture. Now,
Windows CE .NET supports IRQ sharing, so the number of connected devices is
limited only by overall processing power.

Last, but still important to users, the Windows CE .NET interface is visually lusher,
more like Windows XP.

Advantech Puts Windows CE .NET to Work in Development Kit

The SOM-4450 module will start including Windows CE .NET as of its formal

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product launch date, January 7th, 2002. The SOM Development Kit comes with a pre-installed, tested Microsoft Windows CE .NET OS on Flash disk, a Windows CE license, the SOM-4450 module plus a basic development board, device drivers for onboard devices, utility and sample programs and a user's manual. Also included is a null modem serial cable and CESH parallel cable. It is a cost-effective solution that leverages previous software and hardware experience, plus greatly shortens application time-to-market.

Advantech's CE Strategy

Advantech's embedded software strategy is to "Enhance quality of life with Advantech platforms together with Microsoft Windows embedded technology." And our Windows CE strategy derives directly from that. It is to work together with Microsoft to enable Windows CE .NET in the embedded computing community. In order to facilitate quick project startup, we offer over 30 Windows CE .NET-ready products that come with Windows CE .NET properly integrated and licensed, ready for the customer to start application development immediately.

We also provide flexible services to help customers customize their Windows CE .NET OS. These include: overall project evaluation, OS integration, and device driver development, as well as separate training courses for developing applications with Microsoft Embedded Visual Tools, and integrating Windows CE OSs with Microsoft Platform Builder.

With the more advanced technology available through Windows CE .NET, Advantech is making Windows CE .NET platforms more flexible and ready-to-use through continuous feature improvement. Planned improvements include, among others, more installable device drivers utilizing the latest system hive architecture. Our goal is to make Windows CE .NET solutions easily and widely available to the embedded computing community. This is our commitment to customers who are looking for reliable embedded software solutions.

Find Out More

Contact Advantech at ess@advantech.com for information on putting Windows® CE embedded systems to work ASAP.

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Technical Information

FFD: Fast Flash Disk
What Is FFD?

What is the same size as a hard drive, the same shape as a hard drive, has the same connectors as a hard drive, has the same **memory** as a hard drive, looks to the system just like a hard drive, but is 200 times as expensive? The answer is Fast Flash Disk. Basically, FFD is a flash memory array packaged as a plug-n-play, drop in replacement for an IDE or SCSI drive. Capacities range from 32 MB to 10.2 GB. So, for all that money, there must be some good points, right?

The Good Points

Since FFD is all solid state, there are no moving parts. No moving parts means no seek time, no read/write latency. Access time runs less than 0.1ms. No moving parts means high reliability; 99.999%, to be exact. And high reliability is maintained even with an unstable power supply. MTBF is calculated at 2,000,000 hours. (What is that, 228 years?) Superior reliability means no maintenance required. All solid state means shock resistant. These things can withstand 50Gs for 11ms, and 1500Gs for 0.5ms. Vibration resistance is also high (16.4G RMS). They comply with MIL-STD-810E, and with telecommunications NEBS Level 3. And unlike traditional magnetic hard disks, they are very resistant to magnetic fields. One peculiar feature of FFDs, of interest for some very specialized applications, is security erase. FFDs can completely erase their entire load of information in about 5 seconds. Just the thing if the enemy is at the gate. Standard models operate in temperatures of 0 ~ 70° C. Extended protection models can withstand operating temperatures of -40 ~ 85° C. There is also an anticorrosive option with special coatings on the internal PCBs. These units operate well even in marine atmospheres.

The Medium Points

While seek time is very good, read/write speed for FFD is nothing special. For IDE FFDs, sustained read/write is around 3.5 MB/sec, with burst rate at 16.7 MB/sec. For SCSI FFDs, sustained read/write comes in at under 4 MB/sec, with burst at 9.7 MB/sec. Ultra Wide SCSI FFDs show sustained read at 28.5 MB/sec, sustained write 23.5 MB/sec, and burst at 40 MB/sec. Reading endurance is unlimited. Endurance for write/erase cycles is 250,000 to 1,000,000. The former limiting factor for flash memory, as you may know, was cell burnout. FFD overcomes this through balanced write management, or what they call "Dynamic Wear Leveling." The warranty is 5 years.

The Bad Point

The bad point is, well, the price.

Applications

FFD boasts an impressive list of customers, including dozens of big names we're sure you've heard of. And where do these famous players deploy their FFDs? Airborne radar, black boxes, in-flight map displays, ground-based telecom systems, broadcast systems, wireless base stations, mobile video stations, audio/video servers, military control systems for radar, sonar, and fire control; factory automation, robot control, nuclear systems control, and mining test equipment, to name a few. And since the form factors of FFDs exactly mimic standard drives, the retrofit market is wide open, especially for mission-critical applications.

Product Range

	FFD 2.5" IDE	FFD 2.5" SCSI	FFD 3.5" SCSI	FFD 3.5" Ultra Wide SCSI
capacities	64MB~4.1GB	32MB~5.3GB	32MB~5.6GB	256MB~10.2GB
package heights	17mm up to 4.1GB 12mm up to 2.3GB 8mm up to 1.0GB	17mm up to 5.3GB 12mm up to 2.8GB 8mm up to 1.0GB		

Conclusion

If you need state-of-the-art mass memory, that offers great performance, great reliability, zero maintenance, operates well under harsh conditions, and you can pay a little more (okay, a whole lot more), FFD is for you.

Find Out More

To find out more about how Advantech puts cutting edge technology to work, contact your Advantech representative today, or check out the Advantech website at www.advantech.com

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