

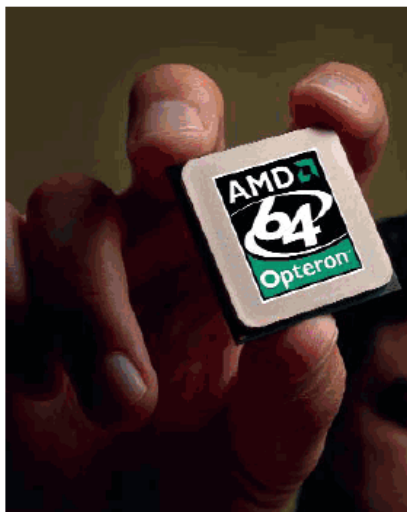
BY STEPHEN MURPHY

Series Recap: One no longer needs to be manically obsessed or semi-masochistic to conquer the configuration of a cutting-edge Windows-based workstation capable of handling a multitude of high-resolution audio tracks and/or uncompressed HD video. By virtue of a stable OS, advances in data processing technology and easy access to online resources, nearly everyone can configure a computer from the ground up. With the continuing goal of keeping neophyte do-it-yourself computer projects from turning into SIY (screw-it-yourself) projects, this series endeavors to provide a general roadmap to the configuration of a Windows XP-based audio workstation.

ASSEMBLY REQUIRED

Last month we looked at the process of choosing the components that form the core computer system. To summarize, the simplest and safest way to ensure success is to pick the processor (or multiple processors) you wish to employ, and then use the CPU manufacturer's lists to choose a compatible motherboard and CPU heat sink/fan cooling system. Use the motherboard manufacturer's compatibility lists to choose an appropriate case (based on mobo size and other features such as number of drive bays), power supply, RAM, and video card (or at least video card slot type).

Be sure to use your target audio application's knowledge base and forums for hardware requirements, recommendations and compatibility issues. The forums can be a particularly good resource for audio interface and video card recommendations, and even complete, battle-tested system configurations.



Building the Perfect Beast (Part 3)



For those who have asked, the system I built during the writing of this series is based around two of AMD's latest-generation dual-core 64-bit Opteron 280 CPUs (the equivalent of four 2.4 GHz processors). The rest of the core system consists of a Tyan Thunder K8WE motherboard, a PC Power & Cooling Turbo-Cool 850 SSI power supply and Wintec DDR 400 PC3200 RAM (4 GB).

For a bit of flexibility and future proofing, I chose a Matrox Parhelia AVPe 128MB PCIe x16 video card because it supports up to three displays and a variety of output standards (DVI, VGA, HD analog component and composite/S-video). For the system drive I am using a basic Maxtor 100 GB ATA/133 drive partitioned in two for a XP Professional and XP x64-bit dual-boot configuration. To be able to handle uncompressed HD video (one of the fundamental reasons for building this beast), my "media drive" is a RAID comprised of four Maxtor SATA II 250GB drives (16 MB cache/7200RPM) running in RAID 0 mode on the mobo's NVIDIA SATA II RAID controller.

Assembly of the components takes patience but is relatively straight forward provided you follow the manufacturers' instructions. There are a number of good sites that detail basic computer assembly, though most of the information you need is covered in the mobo manual (the Tyan manual was refreshingly detailed and clear – another sign of the improving times).

THE SOFT SIDE

Unlike Windows operating systems of the past, XP requires very few tweaks for use with audio/video applications. Before we get to the tweaks, here are some tips to make your XP installation go a little smoother:

1. Have a computer available and connected to the Internet for product reference, troubleshooting and driver downloads.
2. Before you start, download the latest drivers for your motherboard and video card



– burn these to a CD.

3. When installing XP, you are given the opportunity to install third-party (i.e. motherboard-specific) disk and Ethernet controller drivers – these are usually supplied on a floppy with the mobo. If you plan to install a RAID, be sure not to skip this step.

4. Once XP is installed, use Norton Ghost to save a mirror image of the system drive. Ghost essentially allows you to restore your system to a clean install (or any other point at which you ran a Ghost image).

5. Go through the online Windows Update process, which should ultimately upgrade your OS to Service Pack 2 (SP2) – be aware that this may require at least two update processes. Ghost again.

6. Also save a Ghost image after applying system tweaks and after installing key software applications. You can save a half-day of your life and several tufts of hair by having good restore points.

The only essential change in Windows XP for use with audio applications is to set processor scheduling to Background Services: Start > Settings > Control Panel > System > Advanced > Performance Settings > Advanced Tab > select Background Services. While you are there, you can also set visual effects to a minimum by clicking on the Visual Effects Tab > select Adjust for

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Best Performance.

There are a number of other tweaks that can slightly enhance performance and/or prevent unintended interruption of audio processes. To get you started, here are the three most rudimentary and benign tweaks:

1. Disable the screen saver: Right click on desktop > Properties > Screen Saver > None.

2. Turn off power schemes: Start > Settings > Control Panel > Power Options > set monitor, hard discs and system standby to "Never" and save as your own preset. While you are there, click on the "Hibernate" tab and make sure it is not enabled.

3. Disable System Sounds: Start > Settings > Control Panel > Sounds & Audio Devices > Sounds Tab > set Sound Scheme to "None."

Next month we'll look at some of the more advanced tweaks for improved performance, reliability and protection from unwanted intrusion from the internet. We'll also look at the state of 64-bit and some of my favorite audio computer peripherals.

PAR Studio Editor Stephen Murphy has over 20 years production and engineering experience, including Grammy-winning and Gold/Platinum credits. His website is www.smurphco.com.