

November 27, 2006

THE JOURNAL REPORT: TECHNOLOGY

Must Consumer Electronics Be So Complicated?

If only home-entertainment products could be as simple as...computers

By NICK WINGFIELD

November 27, 2006; Page R4

Consumer-electronics makers once seemed light years ahead of the computer industry in creating products that were easy to use. Nothing could be more plug-and-play, for instance, than attaching a CD player to a stereo receiver with a set of cables. By contrast, high-tech companies often inflicted horrors on consumers wanting to do simple tasks like connecting a new printer to a PC.

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'Geotagging' lets Web users put² all that information in its place. Plus, small businesses and local governments³ are finding it's easier than ever to track their employees.

- **Question of the Day:**⁴ Which electronic gadget do you find most frustrating to use?

- See the complete [Technology report](#)⁵.


Today the tables have been turned. Home-entertainment systems come with controls that resemble airplane instrument panels, while the computer industry has gotten better at making products that are both more functional and friendlier to use than those from an earlier era.

"It's actually easier to connect these more complicated products" from the high-tech industry, says Jakob Nielsen, a user-interface expert with the Silicon Valley consulting firm Nielsen Norman Group. "Computers went from being horrible to being decent."

What's more, companies with Silicon Valley pedigrees have begun to apply those lessons to the electronics business, making highly usable products that have made great technical leaps over consumer gadgets like the VCR and Walkman, with machines like **TiVo Inc.**'s digital video recorder and **Apple Computer Inc.**'s iPod.

Companies like Apple and others are set to play an even bigger role in living rooms, potentially displacing traditional consumer-electronics companies, as home-entertainment systems enter the networked era in which they'll play music and movies stored on personal computers and the Internet. Meanwhile, electronics veterans like Japan's **Sony Corp.** are starting to make bigger investments in software and graphical interfaces to help walk users through the intimidating process of configuring their home-entertainment systems.

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"If we assume picture quality is great and assume audio quality is great, the real challenge now is making it usable," says Jeff Goldstein, vice president of marketing for home audio and video for Sony's U.S. electronics division.

Button Creep

One tool that has long attempted to do just that, but still needs a little work, is the remote control. Much of the remote's usefulness has been lost, experts say, with the continuous addition of more buttons. Mr. Nielsen, the user-interface expert, once totaled up the buttons on the six remotes in his living room -- for a cable set-top box, digital video recorder, DVD player, TV, stereo receiver and VCR -- and came up with 239. He uses perhaps a third of them.

Button overkill violates a basic principle of usability, Mr. Nielsen says, which is that a device should at first present users with a limited number of features likely to be most useful, then allow users access to more advanced functions if they wish. On most conventional remotes these days, electronics companies attempt to show users every last thing their gadgets can do all at once. "They want to expose all their features," Mr. Nielsen says.



EASY DOES IT The Apple remote shown on the left in proportion to a typical remote has just six buttons

Veterans in the consumer-electronics business say home theater systems have become so bewildering that many consumers can't set them up and operate them on their own. Walt Stinson, who co-founded a chain of electronics stores in Colorado in 1972 called ListenUp, says the fastest-growing part of the business is technical support, now about 15% of its revenues, up from nothing a decade ago. ListenUp technicians charge \$70 or so an hour to set up wiring, calibrate surround-sound speakers and do other tasks.

On the flip side is a high-tech start-up with a new home-audio-networking product that has developed a cultlike following, in part, at least, for its skillful devotion to simplicity. The ZonePlayer, from closely held Sonos Inc., Santa Barbara, Calif., wirelessly connects speakers in different rooms to play music from your PC, your stereo or an Internet music service like **RealNetworks** Inc.'s Rhapsody.

The product performs tasks you wouldn't expect of a home-entertainment center. It seeks out music files both on the Internet and stored on devices connected to the network. It also automatically finds its way through firewall software that can, in some cases, thwart sharing of digital music files between different devices in a home.

Yet for everything the ZonePlayer does, its remote contains only 12 buttons and a touch-sensitive wheel, like the iPod's, which users can use to scroll through all of the songs available in their home network. The controller is about the size of a small paperback book. Through a vivid color screen with a simple interface, it allows users to drill down to adjust music-equalizer levels and other advanced settings, also like the iPod. The front of each ZonePlayer, too, is a picture of simplicity, with just two buttons -- mute and volume.

"We needed to pull people into the future, but not [make] such a big jump they didn't know what to do," says Sonos founder John McFarlane, a former software executive. "If you have 50 buttons, you've lost the user."

The package is easy to set up. In a test at my home, it took less than 45 minutes to set up a system with three ZonePlayers on three floors. After plugging the ZonePlayers into speakers and one of the gadgets into my home network, I installed Sonos software on my PC that wirelessly detected each device and transmitted music to them. I could play the same music on all three devices simultaneously, or different songs.

ZonePlayer lacks many of the modern home theater's features for fine tuning the audio, like the ability to play music through surround-sound speakers and to emulate the atmospherics of different physical environments like concert halls or rock arenas. It costs a pretty penny, too, starting at \$999 for the least-expensive bundle -- a remote and two ZonePlayers.

To true audiophiles, traditional home stereos are likely to sound better, since ZonePlayers are often used to play songs that are digitally compressed for more efficient transmission over the Internet and storage on hard disks, at a loss of fidelity. But ZonePlayer users can play uncompressed audio files if they choose.

Apple's Next Act

The biggest success story in audio in recent years, the iPod, shows, in part, how ease of use can trump audio quality. Most iPod users fill the devices with tracks in the MP3 format ripped from CDs or in the AAC format used by Apple's iTunes Store -- both compression technologies. Yet the convenience of being able to store one's entire music collection on a hand-held device with a slick user interface won out. Cupertino, Calif.-based Apple has sold more than 60 million iPods.

Now Apple plans to introduce a \$299 product early next year tentatively called iTV that will attach to conventional televisions and stereos and play videos and songs stored on a computer elsewhere on a user's home network, including movies downloaded from the iTunes Store. When Apple CEO Steve Jobs publicly demonstrated the product for the first time in September in San Francisco, he used a small remote control with a handful of buttons on it that comes with most Macintosh computers for navigating music, photo and video collections from across a room.

Some traditional consumer-electronics companies, like Sony, aren't standing still. Sony recently introduced a \$1,500 home-theater receiver that attempts to greatly simplify setups by walking users through the process with a friendly graphical interface that it displays on the TV set. The interface, elements of which were borrowed from Sony's videogame division, provides on-screen explanations of jargon for connections and settings that might otherwise stump a user. The receiver also automatically calibrates the surround-sound speakers to appropriate settings; users just plug in a microphone that's included and hold it while sitting on the couch in front of their television.

Answering Consumers

Michael Smith, marketing manager for home audio components at Sony, says the receiver's interface, replete with icons, was a response to consumer research. "They kept saying, 'Why can't the home-entertainment experience be more like TiVo,'" he says.

Another benefit of the graphical interface: It allowed Sony to reduce the button count on the receiver's remote control to less than 60 from the 80 to 90 typical in previous Sony products. Some controls for advanced settings were put on the screen instead of on the remote control. Sony

says it plans to eventually incorporate the user interface throughout its home-entertainment line.

Some habits die hard, though. The name of the Sony home-theater receiver -- the STR-DA5200ES -- isn't exactly user-friendly. But that's another story.

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