



Home Controls: Trends and Opportunities

A Parks Associates' White Paper

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Published by Parks Associates

© August 2007 Parks Associates
Dallas, Texas 75230

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Printed in the United States of America.

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1.0 Home Controls: Trends and Opportunities

To best understand the current state of the home controls market and how it is evolving, it should be assessed in the overall context of home systems – multiple systems in the home interacting with each other as needed. When consumers acquire one system in a home, whether a security system, home theater or multi-room audio installation, they are often prompted to install other systems as well. Our research of the installing dealer channel made us aware of this phenomenon. We asked dealers in the U.S. if home theater installations ever expand into broader home control projects as work gets underway. Dealers reported that 30% to 40% of their home theater jobs expand into home control projects. With this fact in mind, we can begin to envision how control systems will evolve and adoption will spread.

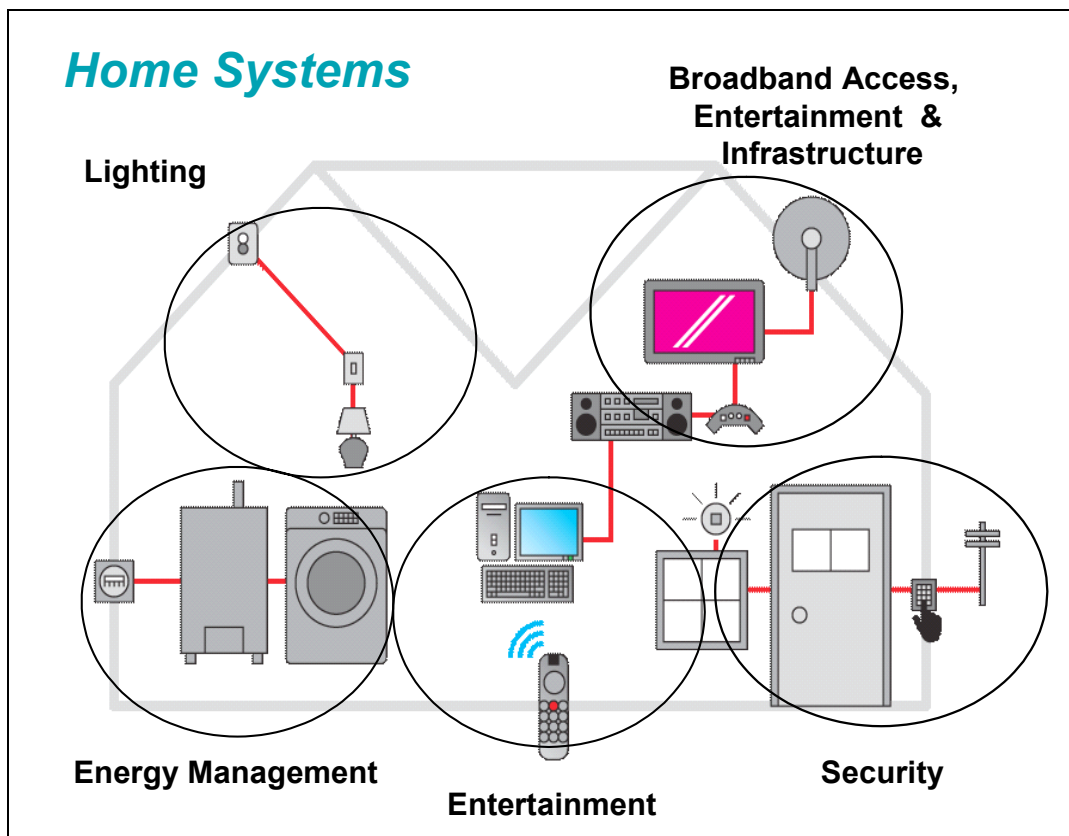


Figure 1 Controls Cover a Variety of Home Systems

1.1 Multiple Paths into the Home

At the end of 2006, 10% of households in the U.S. had a lighting control system – defined as a system that can control lights in one room from another room, from outside the house, or over the Internet (Figure 2). Security and home theater systems are in much more widespread use than are lighting controls. The reasons for this disparity are straightforward: the ability to control something is often more a concept rather than a tangible product, but controls as a part of a specific system, e.g. lighting or energy management, entertainment or security, is a much more tangible idea. Turning lights on or off is well understood and is one of the most popular applications for electronic controls at the high-end of the market. Creating scenes, e.g. turning on the house lights from the car upon returning home, creating the right lighting scene when watching a movie, or turning on the outside perimeter lights from bed when a suspicious noise is heard, are all common in new, upscale homes. Technology advancements have made it possible to develop systems that can accomplish these functions affordably and reliably for the mass market. Awareness must be built, but we also believe that focusing on specific, well-understood applications in market messages is critical to broader acceptance of controls.

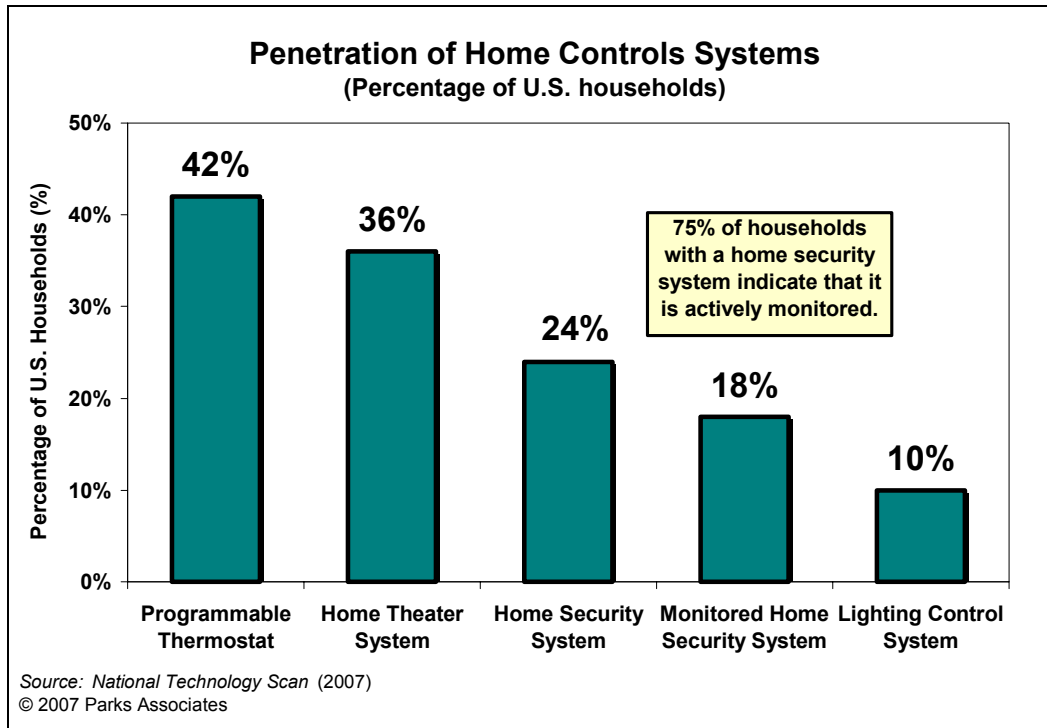


Figure 2 Penetration of Selected Home Systems (U.S. Only)

Energy management is another good candidate for prompting adoption of control systems more broadly. The technology that can give consumers the ability to monitor and control electricity usage is available from a number of manufacturers. Appliance manufacturers in Korea and Japan have incorporated controls in their products that allow consumers to set the time when appliances are turned on or regulate the amount of energy consumed. Energy utilities in Europe, Asia, Canada, and some parts of the U.S. are getting into the act by installing systems that can read meters automatically and, in some cases, regulate power usage. In the U.S., energy has been relatively inexpensive, and, for the most part still is. This situation is changing as costs for all forms of energy are rising. With this said, consumer acceptance of power regulation by utilities is likely to be slow, but self-monitoring and regulation are likely to be attractive to many people.

Results of the our 2007 *National Technology Scan* (a telephone survey of 1,000 U.S. households via random digit dial sampling in February 2007) reveal that programmable thermostats are installed widely in homes with 42% of households reporting that they have at least one such thermostat. Concern about rising energy costs prompted 62% of

households to keep their thermostats on a warmer/cooler setting than in the past and 57% to use energy efficient light bulbs.

Security systems are installed in 24% of U.S. households, and more than 40% of new homes have one installed. In a 2006 *Channel Monitor* survey of security system integrators and installers, Parks Associates learned that 60% of respondents routinely connected lighting controls to the security systems they installed and 50% connected other types of controls as well. This fact coupled with the trend of security system dealers increasingly installing control systems of all types points to yet another Trojan horse for controls to ride into the house.

1.2 The PC Connection

Perhaps most importantly, PC-connected entertainment systems, broadband access, and online content are combining to develop a connected home environment that is conducive to adopting control systems. This opinion is not based on conjecture, but on hard facts gathered by the 10 to 12 consumer research surveys that we conduct each year to gain a statistically significant profile of consumer buying trends, preferences and usage patterns for digital systems, services, and content.

Early adopters in Internet households with home networks are already connecting TVs, stereos, and digital video recorders (DVRs) to the network. This trend is likely to continue with major TV networks revamping their programming and beginning to offer more of it at multiple sites online. Online movie distribution is growing and downloading music is already common, so it is not surprising that consumers have begun connecting traditional CE systems to their home networks.

Home networks will evolve from data-centric applications to entertainment applications as consumers become increasingly familiar with digital content and find online content attractive. Our research indicates that in 2006, U.S. consumers spent approximately \$2.5 billion on online content, and we believe that figure will balloon to more than \$15 billion by 2010. Consumers will need to manage, distribute, and control that content and will become accustomed to using their home network to control their entertainment systems and storage devices. These activities will then open the door for controlling other

systems in the home, e.g. turning down the lights and closing the blinds in preparation to watch a movie, managing temperature settings throughout the house, and monitoring security cameras.

As consumers are making use of home networks for more than just data, network tools such as Web services and advanced user interfaces are making device discovery and diagnostics easier. Media servers, a.k.a. Network Attached Storage (NAS) systems, are already popular in high-end entertainment systems, and as prices drop they are becoming popular for mainstream users. These trends plus “no-new-wires” controls and sensors coupled with control middleware from companies, e.g. Exceptional Innovation, Homeseer, Lagotek, and Superna, position the home network to become the backbone for command and control communications in the home.

1.3 Evolution of the Handheld Remote Control

These trends, plus the introduction of advanced universal (handheld) remote controls (URCs) from Logitech, Monster Cable, and Universal Electronics (see pictures in Appendix) that marry entertainment systems control with general purpose RF control capability have the potential to dramatically increase consumer awareness of the capabilities and convenience that control systems can provide. These systems use the Z-Wave wireless communications technology from Zensys.

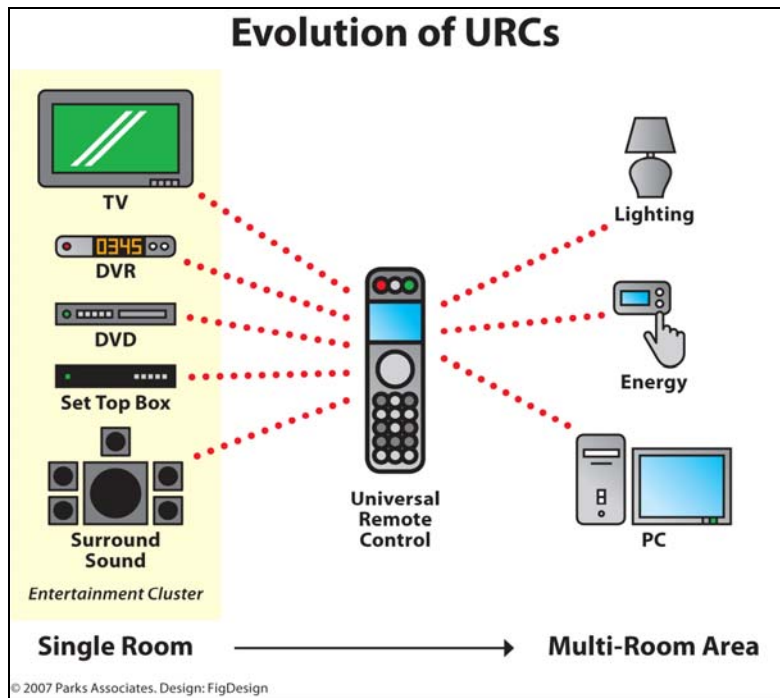


Figure 3 The Evolution of Universal Remote Controls

1.4 The Bottom Line

Home controls are one dimension of a broader set of home systems that includes entertainment, security, energy management, broadband access, and data networking. These other home systems can entice consumers to bring controls into their homes if control systems manufacturers partner with firms providing these other systems and services. Technology advancements have produced affordable, reliable solutions that can be installed in existing homes as well as new construction. These advancements, plus the widespread implementation of broadband Internet access and consumption of digital media, are creating a market environment that will stimulate adoption of home controls.

In the U.S., Parks Associates projects that the market for home control hardware and software will reach \$3.5 billion in 2007 and grow to \$6.0 billion by 2012. Intelligent controls (excluding security controllers) will grow from just less than \$600 million in 2007 to \$1.5 billion by 2012 led by rapid growth of advanced entertainment controllers. URCs are already a billion-dollar market in the U.S., but their popularity will continue to grow, creating a nearly \$2 billion market by 2012.

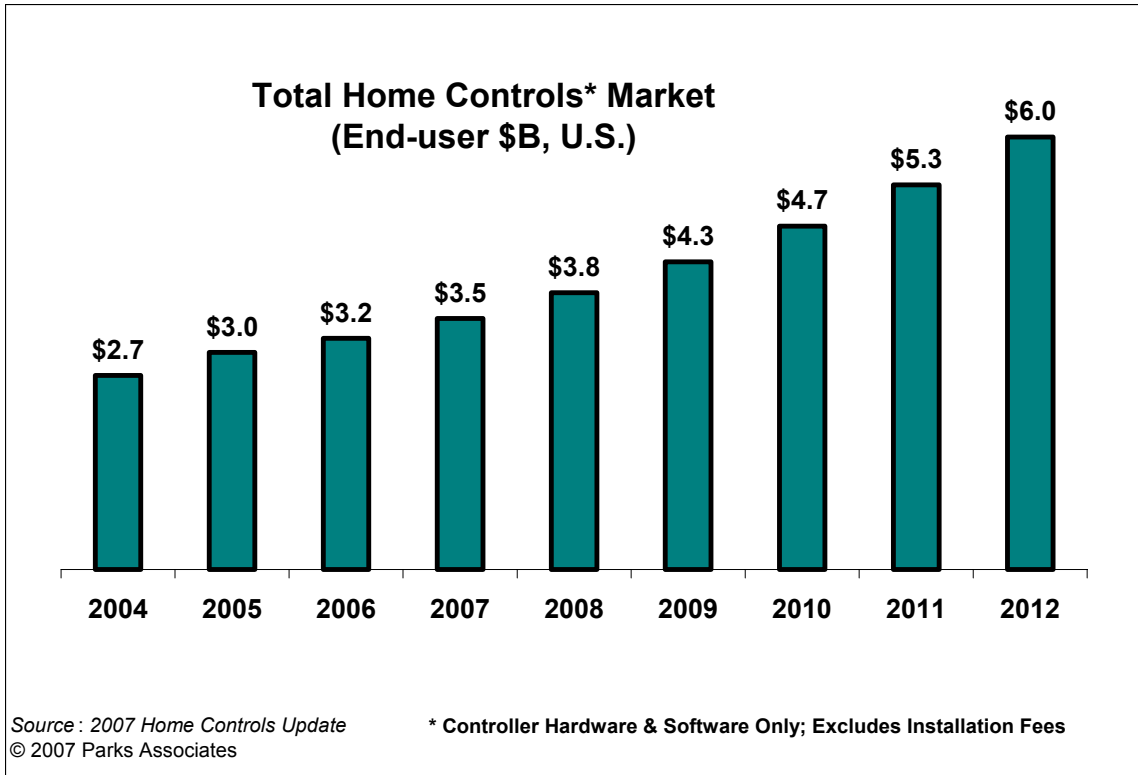


Figure 4 Total Home Controls Market

2.0 Appendix



Monster Cable's AVL 300 Home Theater and Lighting Controller



Logitech's Harmony 890



Universal Electronics' Helix

About the Author:

Bill Ablondi is an information technology market analyst with 25 years of experience advising computer and related peripheral manufacturers, software publishers, communication service, and Internet providers. He has directed syndicated advisory services and related custom consulting activities for several leading research firms in addition to Parks Associates.

Bill began his information technology career as an engineer and business development manager at Texas Instruments. He holds a BS degree in chemical engineering from Rensselaer Polytechnic Institute and an MBA from Columbia University with a concentration in management science, emphasizing operations research and finance.

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