

Introduction

My wife and I have friends who had built a home that included central lighting control, allowing them to light paths between rooms and “lighting scenes” for purposes such as watching a movie or cooking with the touch of a button. It was a pretty impressive system.

When it came time for my wife and I to rebuild, we knew we wanted to be able to do things like turn off all the lights throughout the house at bedtime and when we left the house, and light the way to the kids’ rooms when we arrive home late at night and had to carry them in.

But when I looked into the cost, I was astonished. Our friends had spent over \$35,000 to install their system, and our cost would be similar. I wasn’t about to spend tens of thousands of dollars on a central lighting system—we didn’t have that much room in the budget.

Centralized lighting systems require all lighting circuits to be run to a central location, and use a separate network of low-voltage wires run to specialized wall switches. The installation requires manufacturer-certified electricians, about twice as many labor hours, and the resulting system is difficult for the owners to program and reconfigure. Furthermore, when one of the central

lighting controllers failed at our friends' home, it took down a few rooms for weeks until it could be ordered, shipped, and re-installed. Finally, while central lighting control systems can take commands from security systems and home theater systems, they can usually only be used to control lighting circuits.

I didn't like the idea of specialty wiring; there would be substantial extra cost in the increased lengths of cable, the low-voltage wiring for wall switches, and all the extra time and higher-priced labor it would take to install them. Furthermore, any "modern" electrical control system will be completely obsolete in 50 years, but your house will still be around. What if homes aren't wired that way when it comes time to retrofit the house? I definitely wanted a system that was wired the same way a typical home would be wired, to ensure compatibility with future systems.

So I started educating myself about home lighting systems, and discovered that new options had come to market since my experiments with X10 compatible de-centralized switches in the 1990s. Universal Power Bus (UPB), Z-Wave, INSTEON, and Zigbee all looked as though they might meet our requirements for a lot less money than a centralized lighting system.

The more I looked into it, the more obvious it became that INSTEON was the way to go. It helped a lot that INSTEON was the least expensive—about half as much as the other options. It also helped that INSTEON sold their devices directly online, and that from forum comments on various websites I could tell that regular people weren't having any significant trouble installing INSTEON devices and getting them working themselves. With rare exception, the forum conversations I read were very positive, and the few people that had reported problems were able to solve them quite simply.

So I bought a starter kit and setup a few devices in the house that we were renting while our new home was being built. I rewired a set of switches to create a 3-way switch that controlled both the living room and entry, and put all the lamps on the house on a central controller so we could turn off the

common room lights. After living with INSTEON for a year, during which time the setup worked perfectly, we specified INSTEON for the new house.

INSTEON is so simple to use that even my small children have figured out how to program switches (which is actually something of a liability). It's quite clear that being able to leverage existing standards, labor practices, and installed wiring makes good economic sense.

Ultimately, our friends' system cost about \$35,000 in hardware and labor, compared to \$5000 in hardware and labor that it cost us to install a functionally superior system that controls a lot more than just lighting.

About this Book

This book is the product of my experience evaluating, buying, and installing INSTEON systems as both a “zero installation” retrofit in an existing home and as an integrated control system in a new construction home. It's the book I wish I could have bought when I started looking into INSTEON.

I've included my personal opinions and some discussion of how I've solved certain problems along with the general information about INSTEON, so I hope you'll forgive the “author's voice” that may be quite obvious throughout the book.

This book is a completely independent work that was not commissioned by SmartLabs, the company that developed and markets INSTEON. They have had no editorial control over the content, nor have I accepted any material support or evaluation devices from them. I did ask that they read through the book for technical errors prior to publication, and they have graciously provided some feedback in that regard. They have also provided stock photos of their devices. All errors, omissions, and opinions expressed in this book are solely my responsibility and should not be construed as being an official representation of any other party.

UniversalDevices and IES, two independent third party manufacturers of INSTEON devices, have provided equipment for review in order to make this book more complete than my system alone would have provided for.

No matter what your level of INSTEON expertise is, this book is for you. The chapters of this book start with Smarthome basics and progress to a professional installation reference. More advanced users may want to skim through the first chapters until you reach the material that matches your level of expertise. You can help improve this book by sending any errors you find to: mstrebe@gmail.com

About the Author

Matthew Strebe is the author of seventeen books focused on the Windows operating system, computer and network security, and the business of computer services for publishers such as iUniverse, Sybex, Microsoft Press, and Wiley.

He is the founder and CTO of Connetic, an IT services corporation focused on managed services for the small and medium sized business market. He is also a founding partner and CTO of Zaxyz, A 3D-Printing technology research and development corporation that focuses on software development and materials research for inexpensive 3D object creation from digital sources.

His avocations include software development and electronics, and he enjoys sailing, motorcycling, automobiling, movies, and socializing. He lives in North County San Diego with his wife, three children, and a variable number of stick bugs, depending upon the season.