

Home Automation 101

**Discover How To
Create Or Transform
Your Current Home
Today**

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Introduction

The home of the future can be the home you live in today. As you were growing up, you probably remember cartoons, movies and television that forecasted a home that would make your food, walk your dog, and instantly greet you when you came home.

While we haven't gotten quite to that point, home automation has taken the home into a new dimension. Today, you can control virtually anything in your home with a remote or even voice recognition.

You may think that this is too hard to do or that it's too technologically advanced for you. There's nothing to worry about because home automation has become easy and affordable. In most cases, you can make significant changes for under \$100.

Are you ready to step into a world that offers you the ability to take control? Home Automation 101 will prepare you to do just that. Learn what your options are, the different methods of control and just how to get these benefits into your home today. Yes, today!

Chapter 1: What Is Home Automation?

As a very basic definition of home automation you could consider it to be anything that is able to be controlled in your home. If you have a remote or you have automatic control over the function within your home, you have home automation.

Today's standards are high. There are actually a number of different ways that you can install this type of automation into your home, which you will see in later chapters. What's important to know is that most of the automation that you will do will not require hard work. It won't require tearing apart your home or spending thousands of dollars on a simple system.

Home automation is something that the average person can do. Most of the products that you will find are simple to install and they don't have to be more than a few hours worth of a project.

What you need to know now, though, is what's available to you, why you should be considering this, how to get started and where and what to purchase to make it happen.

First, determine your needs, wants, and budget. It's important for you to take into consideration the vast number of tools that you have at your hands. Depending on what your goals are, you could transform your home into something truly amazing.

Understanding Automation

Home automation can allow you, and your computer, to make the things that you need and do in your home easier to accomplish. Perhaps you want to control your security system? Or, perhaps you want to voice automate the lights in your home so that you can get into bed and then turn the lights out. Or, perhaps you want to be able to control your sound system from anywhere in your home.

No matter what it is you are looking to accomplish, home automation products are probably available to help you to make it happen.

The technology that you need to make this happen is quite accessible to most individuals. One way to purchase it is through kits that are already designed to include everything you need to set up the home automation and to get it running.

This will include the hardware and software you need from things like timers to the wireless devices you'll need.

You can and you should consider the purchase of these kits. They aren't your only option though. You can do all of the hardware work yourself and simply purchase the software to set it up. You can configure your own system completely using the tools that are available on the market.

But, when you take advantage of the automation kits, you are likely to get a more affordable price and its just simpler to make happen. Since most kits can conform to your specific needs, there's little to worry about. Of course, there are several options available for each individual, which allows you to select what's right for you and your home.

A Quick Look At Options

Home automation tools can truly range the gamut. Some of the leaders in this technology offer choices so that you as the homeowner can select the pieces that make the most sense for your needs. Packages are available for:

- Simple remote control units that work no differently than your television remote.
- Motion sensors that work with security systems to detect movement.

- Video surveillance equipment that allows you to monitor virtually anything you want to.
- Thermostat controls to allow you to control how warm or cold you want it.

How Do These Kits Work?

Most of the home automation kits will work in a similar fashion. While some of the latest technology takes you farther, most installing home automation features for the first time should consider what the kits have to provide to you. But, first, let's take a quick look at the technology that is involved in making these home automation kits work for you.

The two main types of automation technologies used currently including X10 and remote control units.

X10: Your Communication Tool

X10 is a communications protocol. It allows your appliances to talk to each other, which means that they can communicate your needs between each other. They do this by using the standard electrical lines you have in your home. X10, which is named after the company that created it is a technology that has the most talking. Although it was

designed some twenty years ago, today's packages are more likely to please you.

Take into consideration, for example, the X10's ActiveHome Pro, which is a home automation system that is one of the very best selling on the market today. What makes it even more amazing is that its about \$100. That's it!

If you look into this product, you'll likely get all that you need. Here's what comes with the purchase, at the time of this writing:

- Adapters, or sometimes they are called modules. One of these adapters will be a transceiver. These modules simply plug right into your wall's outlet. Depending on which appliance you want to automate, that's the outlet you would use for the module. There are different modules for the various types of appliances that you have. For example, you may get one that works for your lighting.
- You may also get a key chain style of a remote to use regularly.
- A PalmPad remote control to control the appliances as you see fit.

- A motion sensor which can help you to really automate your home's function.

The process is very simple, actually. As with this example, you simply will use the modules to turn your appliances on and off. The modules that work with lighting also have the ability to dim as per your control. You'll be able to do all of this by using the downloadable software that you'll get from the company's website.

But, don't worry; you don't have to have your computer running all of the time. In fact, you only need it to install the software and then to adjust your settings as time goes on and you want to make changes. To use the automation devices, you'll use your two remotes, the PalmPad and the key chain device.

It's that easy?

Really, it is. To get started, you'll need to purchase the automation tools that you want to use. Then, download the software that's required to use them. This is simple too, and doesn't usually take much time or space. Once you get it on your screen, you will then be able to assign each of your appliances to the module.

To do this, you simply label the icons that appear in the software to the appliances that you have in the home. You'll

keep them organized, too. Just click and drag them into the room on the screen that they are located in. Its easy to do and keeps each item completely organized.

Now, when you get the modules installed, you'll simply plug them into the outlets that your appliances plug into. These modules allow the computer software to communicate with the appliance through an interface unit.

This unit generally connects to your computer through a USB cable. The unit gets information from your actions on the computer.

From there, it tells the appliance what to do through the electrical wires in your home. The final set will be testing the remotes to insure that they are working correctly, which generally speaking will be. As simple as this sounds, it does become a whole lot of fun, too!

You're Not Limited!

You may be curious about those appliances that don't have an outlet plug. Take for example, the ceiling fan in your bedroom. Don't worry, its easy to automate this, too. In this case, you will simply remove the light bulb, insert the appropriate module into the ceiling fan's light bulb socket and then screw the light bulb into the module.

This makes it easy to use automation specifically that of X10 anywhere you want to.

It Gets Better, Though

Now, just this type of automation would be okay, but once you get it installed, you'll want to play with the Macros it offers too. Macros are a series of commands that are linked. With the use of macros, you can make one button on your remote do several things, in a series of actions. The best part is that you design how it works and what you want it to do.

There are several ways that this technology can work for you. For example, you can set up your outdoor lighting with the use of macros. You could program it to follow a specific set of instructions. It may turn on your outdoor lights when the sun goes down and then an hour later can dim them.

It would finally turn off at the time you set. But, you can configure into this mix the ability to turn back on if the lights detect any motion in their range, creating safety and security.

Or, you can use macros to help you to set up a series of function within the home. Let's say you are coming in the door and want to relax. By setting up macros to turn on the lights to the appropriate level, to turn on your favorite cd

and even to get the bathtub running, you could easily enjoy that.

Not only is it fun to do these types of things but it just makes life easier for you. With this type of technology, home automation allows you to make the most out of what life has to offer to you.

Now, remember that X10's home automation system that we are using as an example here isn't your only choice. There are other companies and products that are available.

But, you can clearly see just how simple it can be to set up and take full advantage of a home automation system. While some of these systems do have a few quirks to them, you are never going to reach for that toggle switch to turn off the lights again!

Today's automation for the home can be done in numerous ways. What you are going to learn in the next chapters includes your options and the vast number of benefits that come from automating your home.

While you may be a couch potato that is looking for a way to just make life simpler, you may also have other needs to address, too. Home automation has been credited with helping countless individuals make life livable by helping to

reduce stress, increase the amount of movement they can do and it can save you time.

As with the X10 system we talked about, you'll find that most of the home automation that you are able to do is quite affordable to do. Just take a look at the options that you have. Consider what works best for you and then implement it.

It's important to realize that home automation also allows you to make life fit you a bit better. But, don't think that there is just one product on the market to serve the need that you have. You'll find many to choose from. Since home automation is a large and growing field, there are many brands, styles and various technologies at play. You are likely to find yourself comparing models to determine which offers what you are looking for in the best possible manner.

This makes home automation that much more enjoyable and beneficial, too.

Now, that you know the basics about this system, consider how it will enhance your life.

Chapter 2: The Benefits Of Home Automation

Now that you are dazzled by all of the possibilities of what can happen with home automation, you may be wondering, why should you do this in the first place?

The benefits of home automation expand well beyond the fun factor. Of course, you could make a case for this being the way of the future too. But, realistically speaking, there are key reasons why you need to make the decision to install these systems into your home.

You may have your own benefits and desires when it comes to home automation, too. For each person, the experience is their own.

Let's break down some of the obvious benefits that automation offers to you.

It's Convenient

The reason that many of the home automation products have been developed is that of convenience. People love being lazy, and in short, that's just fine when it comes to automation options.

Do you remember when you were younger not having a remote control for the television. Yes, there was a time when you actually did have to get up to turn the channels. As difficult as that was, the television remote was one of the first automation tools and by far one of the most used automation tools today.

Convenience with home automation goes farther than this, though. You'll gain the ability to do more, faster and easier.

For example, you can heat your home, run a bath, dim the lights, warm your bed before you make it up the stairs and so much more. A popular choice is that of the bathroom and shower models which will actually get your bathroom heater and shower running five minutes before your alarm clock goes off to wake you up. Yes, no more cold showers and cold bathroom floors!

Convenience is the reason most people do turn to home automation and even why some businesses are using it for their needs, too. What things do you do daily that you would love to avoid? What short cuts would make your life a bit better, even if just minimally?

More than likely, there is a way to make that situation better with the use of home automation.

Safety

Although convenience may be why you are considering using home automation, there is likely to be some safety benefits available to you as well. Depending on the types of products that you purchase, you can secure your home, with or without the help of an alarm system.

Consider the options. To help protect your home from predators, you can secure motion detecting lights to surround your home. Not only will they turn on when they detect any type of movement in an area where there shouldn't be, but they can alert you to this, too.

You can set it up to alert you with an email to your work account or you can have an automated recording call you to alert you.

If you work nights or don't like coming home to a dark house, you can configure your lighting system to turn on as you are approaching. Even from down the street, your home is well light, comfortable and there's no way anything is lurking in the shadows without your knowledge of it.

Safety is important inside the home as well. If there is something that's gone wrong and there's water in the basement, an alert can be sent to you. Or, if the

temperature of the home falls to a certain level, that too can be alerted to you.

Home automation really puts you in charge of your home's safety. Without much cost and much trouble, you can set up your home to be safe from the moment you get up to the moment you fall asleep and beyond.

Set up alerts to contact the police if there's a glass break. Set off warnings that will alert you, the police, the neighbors and even the other appliances in the home of a fire.

Not only do you want the home automation tool to alert you of the problem, but you want it to take it one step farther too. You want it to detect motion, turn on the lights, alert you by email, and even contact the police if the home is violated.

This system of movements is not something that can easily be done without a high end security system that is monitoring your home day in and day out, which comes at a very costly price.

But, home automation elements like this are rather affordable and they can be easily installed in just a few hours. Your home can be safe for you and the people you love in minutes. That is a worthwhile benefit and definitely

a reason for you to begin implementing this technology into your home.

Money Savings

Believe it or not, home automation can save you money as well. There are several ways that it can, actually. For example, by fine tuning the way that your appliances work, you can get the most benefit from them, but you also get the benefit of using them only when you need to.

Why should your home be heated to a perfect 72 degrees F when you aren't home to enjoy it? That's wasted energy. You can use home automation to help with this by programming it to turn on the heat or air conditioning a half hour before you get home.

Don't stop there, either. With the same programming tools you can get your hot water heating for your shower in the morning. Preheat the oven for dinner (you've already gotten it together in the refrigerator.)

By programming your home automation system to do the things that you want to only when you need to use them, you can save yourself countless dollars along the way. Your electric bills, gas bills and other costs can be considerably lowered when you harness the ability of automation to use

programming benefits. Where are you wasting money without using it?

What's more is that adding automation to your home is an excellent way to increase the value of your home should you ever decide that it's time to sell it.

It's Just Fun, Too

There is no doubt that the techie in you wants to play with these tools. It is fun to use them when others are around too. You look like you have had your home designed around these needs, which is no small cost, of course. Impress your guests or just enjoy using them yourself.

Imagine their surprise to hear you tell the voice recognition system to turn on the music program that you've put together. Or, you may be able to impress them with dimming the lights with a remote control followed by the television turning on to play the movie that everyone has come to watch.

Yes, there is no doubt that one of the benefits of tapping into home automation comes from the ability to have some fun with it. You don't have to have anyone near you to feel the satisfaction that comes from using these units.

There are many ways that you can program your home automation system to work for you, in your way. If you are concerned about the options you have, just consider the various types of automation that are already at your fingertips.

In later chapters, we'll get into the ways that you really can dress up your home with home automation.

As you can see, there are benefits to using a home automation program in your home. Although you thought this was something that was in the distant future, and although you thought it was too costly to do this, you may have been mistaken.

Home automation is here to stay. Use it to make your life more convenient. Use it to make your life enjoyable. Use it to increase the value of your home should you ever decide to sell it. Still, there's much more to realize with the use of these tools.

In the coming chapters you'll see a number of different ways that you can add some automation to your life. Just try to stop yourself from enjoying all that it has to offer to you.

Really, there is no reason not to consider investing in this type of automation. Now, are you ready to learn about your options?

Chapter 2: What Will You Take Control Of?

The options are endless. Home automation is easy to benefit from for a wealth of reasons, as you've seen, but what you may not realize is that there are plenty of choices for to you to take advantage of.

What things in your home would you like to automate? There are plenty of decisions to make, and what will surprise you is just how affordable it can be to use each one of these.

In this chapter, we'll take a look at some of the options that you have in home automation. Later, we'll look into some of the most popular choices a bit more in depth so that you can see just how easy it can be to install them into your home.

Here's an overview of some of the options that you can consider in home automation for your home. Remember that each company offers their one unique take on them, but that the overall function is basically the same.

Security Systems

Security today is one of the most important reasons to consider home automation. Your options are limited otherwise. You could purchase a system that will make a lot of noise if someone was to break in or violate it.

Or, you could spend a small fortune (maybe even a big fortune) on having a home monitoring service that will alert you directly when someone violates the home.

With home automation, you get the best of both worlds. You can easily invest in a security system that will monitor your home just like others do, even better most of the time that will also be programmed to alert you when something violates it.

For virtually a one time fee of purchasing the automation kit, you'll be able to secure your home indefinitely with the most up to date technology. Here's what could happen.

- You set your home's automation system to use motion sensors, home security on windows and doors and even noise protection.
- When something is violated, like a door's glass is broken or it detects movement where there shouldn't be any, the alarm sounds.

- You get an email or a call at work or on your cell that alerts you to the possible threat.
- You can even program the system to contact the local police department to check out the home.

It did all of that and did it all without any cost. Your home can be protected from burglary or predators that could be lurking near your family.

You can also use these systems to provide protection in the way of fire, hazards and even to alert you when there is a problem such as water in your basement.

Depending on what you allow it to provide you; you can know what's happening in your home no matter where you are, no matter what's happening there.

In fact, as an added bonus, you can even set up these security systems to provide you with the ability to let someone into your home when you aren't home.

Let's say that your child forgets his code or keys to be let into the home after school. With a contact from you to the security system, you can allow them to gain access to the

home as they need to. This can only happen when you okay it to do so, though.

Security is an option that you have. These kits usually provide you with countless options. Depending on the cost, the needs and the available tools to you, you can safely set up your home to deliver for your needs.

Lighting

Yet another popular choice in home automation has to do with lighting. In fact, in many companies this is the most popular of all the products they offer.

Lighting is also one of the most inexpensive of products to choose from. Investing in these will cost as little as just \$20 which will allow you to dim the lights in your home even if you haven't ever been able to do that before.

Lighting home automation tools will allow you to control the amount of light, when the lights come on, go off and allow you to set up a vast number of wonderful lighted displays that you design.

Lighting automation allows for several benefits that are unique. For one, there are benefits in saving energy. You

can program lights to dim gradually over several hours, or you can plan on the lights going on or off at a set time.

Lights can be shut off from any location within the home one by one or you can have a master switch which allows you to turn off all lights in the home (or those that you adjust) at one time. Going to bed at night, all the lights can be turned off.

Leaving the home, all lights can be turned off. Better yet, think you hear something downstairs in the middle of the night, turn all the lights in the house on at once.

Lighting automation can be done with the help of a remote control or you can use modules that simply screw into the lighting fixture, which makes any lighting fixture turn into a dimming unit. Or, you can purchase a more advanced lighting option such as those that work with voice recognition.

Although you may think that it will take rewiring the whole home to make that happen, that's not the case. Instead, you will just use modules as we've described in the beginning to do all the work for you, requiring little if any type of rewiring.

Indeed, this helps to cut down the price of these units greatly. Anyone can afford some of these models that cost a mere ten to twenty dollars.

Lighting automation also will include options such as remote control blinds, lighting fixtures around the house and for those that are looking for the most advanced technologies, voice recognition.

While most units don't require it, those that need a hardwired product will find that these are readily available.

Some of the most popular brands for lighting automation include Isteon, UPB, X10, and Zwave.

Both indoor and outdoor lighting fixtures can be automated with the same benefits throughout. You can even set up a display that will light up your neighborhood! Lighting displays for outdoors should always be approved for outdoor use, though.

Check out the seasonal lighting options that can help you to manage all of those decorations for the holidays. You'll never be outdone, now.

Timers are an ideal benefit to outdoor lighting or indoor lighting. Program your lighting to turn on and off as you see fit. You should plan for a timer that will dim over the course

of the night. Or, if you are going on vacation, select a timer that will come on at various times of the day and night so that it looks like someone is at home even when you are miles away.

Home Theater

If you have a home theater system, then you have the ability to automate it. There are many different types of theaters that can be automated to make them easier to use as well as more effective to use. Those that struggle to get their system up and running can easily benefit from automation.

Your home automation system can completely start up for you with the touch of a button. The products will load, the system will load and within a matter of seconds you'll have your system up and running.

One thing to consider is adding built in speakers to your home automation system. Simply installing the proper kit for the process allows you to enjoy the best sound that you've ever heard. There's no clutter or difficult rewiring needed.

What makes home automation for the home theater so important is that it allows you to put the entire system together easily. While just a decade or so ago a home

“theater” would encompass no more than a projection style television and the use of a few portable speakers, today’s units are quite complex.

Today’s home theater is likely to have many different components and what makes them difficult is that each offers its one method of controlling it. In addition, most have all of the connections visible, readily making an organized area near impossible.

Yet, when you use home automation, you can completely improve this. You can easily set up a system that controls every aspect of your theater system with just one, wireless device. You can even do this over your cabling system.

In addition to making using these home theater elements easy, it also helps to allow you to control all of these functions for any area of the home. You may even set them up to access them from your laptop or your personal computer!

All types of audio, high definition products, home theater lighting, cable and organizers, IR signal distribution, and media servers can be purchased. From your wireless audio and video to your television and media players, its easy to control each aspect.

What makes it even better is the fact that most of these elements are quite affordable, even in the high tech and usually high priced world of electronics and digital products, you'll save!

Your Phone

Although the phone may seem like a pretty standard piece of equipment that doesn't need much automation, there are still things that can be done to enhance it to make it even better.

For example, automating your phone service could mean only allowing specific phone numbers to get through, or even cause your phone to ring at all. You can program the phone service to do a number of things, even better than this.

Along with phone systems, you can also control several aspects in regards to intercoms. Intercoms work very uniquely when it comes to the home. For example, with a wireless (or hardwired option if you prefer) you can communicate with anyone that's in your home, no matter where they are located.

If you install video options, you can even see who it is that it at the door, making it even easier for you to make decisions about your home. When a visitor arrives, your phone

system can alert you. Even before the doorbell has been rung, you'll be alerted to someone being at the door or approaching it.

Consider an automatic dialer. Or, monitor the calls coming into your home. Door phones are a great choice to talk to the delivery person without having to open the door. You can even purchase remote monitoring units to allow you to monitor your phone usage, calls and even those that are using your phone when you are not there.

As you can see, phone systems can completely be automated. Most of these products are inexpensive and easy to install as well. You'll find that they take the simple phone system and turn it into a communication tool that you can't live without.

Much of what happens with phone systems in automation happens in the small business world. Yet, that doesn't mean that you can find use for it in the home either.

Consider the number of different options you have. Caller identification, voicemail, email notifications and the list goes on, each of which is offering just one more need for communication. By automating these things, you improve your likelihood of making it truly work for you and not against you.

Consider a cordless phone system. While you may already have this, with automation, you don't need a phone jack set up for hand set that you have.

These are just a few of the options that you have in phone automation. If there is a need that you have, more than likely you have the ability to make it happen with just a small investment in home automation!

Thermostats

Yet another popular choice in home automation is that of the thermostat. It seems so easy, though. You simply set it up to reach a certain temperature and forget about it. But, there's much more to it than that.

For example, consider energy savings. With the use of automation, your home can be the right temperature anytime that you need and want it to be. But, when you program your home's thermostats with the information that's required, you get even energy savings that will reflect on your heating and cooling bills.

Here are some ways that thermostaton automation can improve your home's function.

- Heat the home only when you are going to be home. This way, you save a considerable amount of money because you don't need to keep an empty house warm!
- Allow the home to heat up just in time for your arrival. When you are 20 minutes away, activate the system from your car remote and within a matter of minutes, the home warms up so that it can greet you at the right temperature.
- Heat one room a different temperature than another. Save money by not heating areas that you don't spend a lot of time in, such as the basement. When you need to go into there, simply take the time to tell your automated system and in a matter of minutes, its just as toasty.
- Set up alerts for your home. When your home's temperature falls below the desired point, or it rises too high during the cooling cycles, allow you home automation system to contact you. This helps you to care for pets, plants and even keep the pipes in the home from breaking.
- Heat up your home by turning on your automated fireplace. With just an alert, it can start the blaze for you so that you can enjoy a wonderful, warm and cozy

night in front of the fireplace. Of course, you didn't do any of the work!

- Use readings both indoors and outdoors to help maintain the proper temperature control in the home. With various settings, the process turns into something easy to manage.

Even with all of this control, automating your heating and cool systems doesn't have to be difficult to do. There are plenty of things that you need to take care of if you are to find these benefits available to you, and it all happens with the simplicity that the home automation systems provide to you.

Networking

Connect to anything with home automation. Networking used to be something for only businesses, but walk into any average American home and the need for networking has grown, substantially. Whether it's connecting your computer systems to the internet or connecting them to each other, the need has grown considerably and probably will continue.

Connect your television needs to your laptop to watch your favorite shows. Or, watch one movie in several rooms all at once. As you can see, there's plenty that can be put

together to allow for communication to flow from one to the next.

In fact, connectivity is one of the best features that can be done within the home. Home automation is a must today with all of this connectivity need that the average person needs.

We've gone through many of the best features that home automation can provide for. Although there are countless other options and opportunities for you to consider, it makes sense to consider what in your home you would like to make a change with.

The good news is that there is probably a type of automation that you can install into your home, that won't cost you very much that will fulfill that need that you have. Even if there isn't something out there that can make your task more automated, it's probably something that can and should be developed.

What can you automate in your home? What system would really impress you?

Chapter 4: Methods Of Home Automation Control

As you have seen, there are actually quite a few ways to automate your home. But, do you realize that there are different methods to control them?

This is where home automation gets a bit technical, but even still its easy to understand and it couldn't be easier to install into your home. But, when you get out there and start looking at products to help automate you home's systems, you'll want to take into consider several of these methods. Some may work better for you than others.

These methods also help to define the cost of the product too. Remember, you can automate much of your home inexpensively. But, there is a different level of automation available in the various types of tools available. Learning more about each of these will help you to make the right decision for the product that's out there for you.

Take a few minutes to compare the different methods of controlling your home automation. Select the one that seems to fit your lifestyle, your needs and your budget the best.

Most home automation is controlled using some type of remote. Just like turning on your television or DVD player, using a remote makes life easier.

In home automation, you'll have one remote (generally) that allows you to control the types of automation that are available in that home. If you've installed kits for automation within your home, you'll have a remote to activate and use them as you see fit.

In home automation, your remote control will provide you with the power to control your lights, your security system, your irrigation system, and your appliances. Many of these remotes work throughout the home, even from the other end of the room.

There are different methods that you will be able to consider using for controlling these remote devices. Earlier in this e-book we mentioned X10, but there are other methods that can be just as simple and just as useful or even better to use.

Take a look at the good and bad points of each of these control methods. Determining which one is right for you may come just from these tips. It is also important to note that not all products come with choices in all of these control methods. That too may limit you a bit.

Infrared

Infrared technology is commonly used with home automation. The remote control options are one of the most affordable choices, and therefore are often used for the smallest budgets. You'll find that they start at just \$10 and move up, depending on what they are designed for.

Infrared does have the disadvantage of requiring a "line of sight" style of remote control. You'll have to point the remote at the application, appliance or device for it to make any changes happen.

You'll find that Infrared is used in many television remote controls as well as other consumer style electronics and appliances. Most of the remote controls you pick up today will have this type of technology in them.

Radio Frequency

Radio frequency is just what it sounds like. It uses radio frequencies that travel through the air to get to the device and do what you ask it to do. Radio frequency, which is sometimes just called RF, is a common type of home automation tool because it can get through walls. That means you can be in the garage and can get the lights in the house on.

There are different ranges that you'll need to take into consideration. Depending on the application that you plan to use it for will make the most difference in this regard.

You will find that radio frequency is a bit more expensive than that of Infrared and some other technologies. You'll find that home automation remote control will start around \$40 and go on up depending on your application needs and desires.

Besides being a bit more costly than that of infrared, radio frequency isn't as good with long distance remote controlling that you may need. These two disadvantages may push you towards other types of control for home automation. But, it is still worth looking into.

The most popular types of applications for radio frequency include garage doors, which can open from a bit down the drive or street and computer networking, such as within the home.

Powerline

Powerline is a good choice for several reasons. First off, it is just as affordable as Infrared technology, which means that you'll find it offered in many types of applications that you

are considering using home automation for. It also works as a whole house types of control measure.

The largest disadvantage of Powerline is that it often needs noise filters used with it. You may also need phase couplers to work with it as well. That may be a bit more of a hassle than other methods, but the costs are well worth it. The cost of Powerline starts at just \$10 and moves up from there.

Powerline is more readily available for indoor home automation but in the most common types of automation, too. You'll find it used in appliances, in lighting applications as well as many types of home security. Powerline may take a bit more work, but its affordability makes it something many consider it for.

Hardwired

There are benefits to using hardwired home automation. Although many people don't want to even think about this option because it is one of the most costly of options, the benefits are probably well worth it.

In hardwired applications, you'll have to do the actually wiring of devices, something that a professional may have to help you with. Since the costs start at \$1000 and go well up, it's not the right thing for everyone.

The benefits of hardwiring, though, include the ability to rely on it. It is quite the dependable option especially when you compare it to other types of automation that can be somewhat dependant on frequency or location.

Hardwired automation is also quite fast. You generally have little to no wait time in using the elements. Like turning on the television, it's that simple.

Hardwired applications are the most difficult for those that are trying to fit them into their preexisting home. But, if you are building a new home or doing some major remodeling, consider the benefits of adding hardwiring into it. You'll find it to be an ideal choice for its speed and dependability.

Hardwired control is generally used in high end applications as well as in various video elements and in some cases networking throughout the home.

INSTEON

INSTEON offers you even better benefits. If you select to use this type of remote control automation tool, you'll have several key benefits. In fact, there's not a lot to say negative about it. You'll find it a bit more expensive than

Infrared technology, but at starting prices of \$30 or so, it's still much more affordable than hardwire.

The benefits are many. It's affordable. It also works through walls so it can be used in virtually any location around the house. It doesn't need any type of noise filter or phase couplers either. This makes it easy to install and simple to use.

In addition, you do get great speed from the use of INSTEON. It's reliable, just as reliable as hardwire, in fact.

If you purchase legacy X10 products, you'll find that INSTEON works well with those products, too.

In products, you will find INSTEON used heavily in lighting applications, in computer related control needs as well as in appliances of all types throughout your home. It can be adapted to fit many needs.

INSTEON was created by Smarthome to work as a better solution to several of the other products on the market. Basically, it provides you with the benefits of Powerline with the benefits of remote frequency. You get maximum coverage throughout the home but you still get a low price. INSTEON is a tool to work with your X10 products, which we'll talk a bit more about in the next chapter.

The biggest benefit of these products is that they allow you to work with X10 technology but they don't require that you use any type of noise filter or phase couplers as you would without them. These are only used in certain situations in which there is "noise" created over the line such as when you are using a vacuum or some high powered unit like a large television.

What About Automatic Control?

In these examples, you'll use a remote to tell the device what needs to be done. But, there are types of home automation that can actually be better when it is done automatically for you.

For example, you want to set up your Christmas lights to come on at dusk and to turn off at ten. You would want to use automatic technology to make that happen, so you don't have to actually get out there and point a remote to them.

Lighting is heavily done with automatic control both indoor and outdoor. Other appliances can also have this feature including thermostats, security systems and heating units.

Included in automatic control is the ability to press one button on your remote and get several functions accomplished by it.

As we discussed with home theater automation, you'll want to point the remote at the home theater and hit a button which pulls each of the necessary tasks on without you having to tell it to do each one.

Automatic control works in many types of appliances and applications. If you are considering this type of control, you may spend a bit more, but you get the convenience of never really forgetting to do what you want to do. That's what home automation is all about, after all.

Each of these methods of controlling your home automation is important. You will want to invest in finding the right product for the job too. For example, if you want to be able to use voice recognition, you'll need something completely different than these applications.

Or, if you are considering using hardwiring in your new home, you may not realize that it's still beneficial to have another method as well.

By comparing what's out there and how well it fits your needs, you'll be able to select the right home automation for your needs.

Chapter 5: Just What Is X10 Technology?

One of the most popular types of technology for home automation is that of X10. There are many brands of product on the market that you can use, and by no means is this e-book saying that X10 is the best. But, it is one of the most popular and the most likely that you'll begin using. For that reason, you should look into the benefits that it can offer and understand what it means to use these products in your home.

X10 is a type of communication. It's the language that your devices are talking with and therefore doing the things that you ask them to do. It's what makes the two products compatible. Consider it the translator between two people that speak different languages. Without it, automation simply can't work because the units can't tell the other way to do.

X10 uses the electrical outlets and wiring devices that you already have set up in your home. This means that you don't have to tear down walls to get the benefits that it can offer to you as you would if you were to hardwire the devices to work.

Of course, not having to use hardwire devices means that the product is also quite affordable to use. The actual purchase of X10 products is also affordable. The combination of these two elements makes X10 so important to the world of home automation.

Installing this communication tool in your home is simple. You simply need to install the transmitter, which plugs right into outlet in your wall and sends out a control signal to the device. The device is plugged right into a receiver and then into the wall. When the device receives a signal from the receiver that the transmitter is sending, it performs the task that's being asked of it. Really, its pretty simple to understand.

You can program your X10 units with one of up to 256 different addresses. The address identifies which product is to be used to make the change that you are requesting.

Using this technology, you can also assign two products with the same address so that you can turn them on or off at the same time. This allows you the ability to control many units at once, if that's what you need and want to do with your X10 product.

The good thing about X10, in addition to these things, is that all X10 products can be matched together. No matter the

brand name, you can mix them together to get the desired effect.

Breaking It Down

To show you just how easy it is to use X10, take a look at this simple, five step procedure to installing home automation (Using a plug in product.)

Here we'll say that we are looking to work with your music system.

Step 1: Using a module, which we discussed earlier as a tool that allows you to communicate, plug your music system into it.

Step 2: Now, plug that module into the outlet that the music system would have been plugged into to get the power it needs. Usually, this will be a 110 Watt receptacle.

Step 3: Create the address. You'll use a small screwdriver to make the decision based on the House And Unit Code dials that you receive. There are up to 256 of these to use. This tells the transmitter what the address of the module is for use.

Step 4: Now, plug the transmitter into a wall outlet, again a 110 Watt receptacle is best.

Step 5: Set your house code and the transmitter so that they match what you put into the receiver.

All that's left to do is to test the products to make sure that they are working the best they can for you. Remember, that all of the different X10 products you purchase and use in your automation will work together, making your job that much easier.

Now that you've got your music system ready to go, you can use it just as easily as you would any other device with a remote control.

If you were using a product that had a light switch that turned the unit on and off, you should replace that switch with an X10 compatible wall switch so that the two can work together well.

Disadvantages Of X10

Even X10 is not oblivious to some disadvantages. Most of the time, you'll find that you have little to no problems with these units. But, sometimes things can be a bit more difficult to handle.

For example, you may have problem using some of these devices with products that generate noise over the electrical outlets.

Products like your dryer, your vacuum cleaner and other loud appliances will create enough noise over the electrical line that the X10 product will have problems with this. These noise related problems also happen a lot with laptops and very large television sets. In any case, by simply using a noise filter with your X10 product, you still gain all of the function and the noise is filtered out.

Another problem that you may have with X10 has to do with its phase. If your transmitter is located on one phase of your home and your receiver is on the other, the two may have problems.

Most of the time, your signals will bridge to the other location by the transformer or even through some large appliances in the home.

When this doesn't happen on its own, you may need to install a phase coupler that will make it happen. This is an inexpensive add on, just as the noise filter will be and it puts the process back on track for you to use without any problems.

Why Use X10?

We've gone over the benefits of using home automation in general, but what about X10? Why should you invest in this product over others or even over doing nothing at all?

There are many reasons to do so, actually.

For starters, it's inexpensive. Unlike other types of home automation, it is just cheap to do. Most of the appliance hook ups that happen as in our example really do cost under \$100 to make happen. It's also inexpensive because you don't have to rewire your whole home to make it happen. You don't have to do any type of wiring at all actually, making it even cheaper.

When you use X10, you also get the benefits of having a vast system that can fill all of your home automation needs. There are hundreds of X10 products that will work together to provide you with these services. And, you'll be able to control up to 256 different appliances, devices and tools in your home using this technology. That's a good amount and more than most need to use.

Another benefit of using X10 is that is proven to be a well deserved and trusted product. Not only is it simple to install, it also is easy to rely on. These products have been around for over 20 years, after all!

You can purchase X10 products right online, if you so choose. There are several dealers that provide you with options and can help to answer your questions.

But, you'll want to take into consideration a bit of research first. You don't want to be sold more than you need or want for that matter.

X10 isn't the only product on the market for communication between two different types of technology. As we mentioned, there may be other types of products that are more ideally chosen for your specific needs. But with so much to offer to you, you should look into what X10 can provide.

To learn if a product you are considering for home automation is available or compatible with X10, simply look for the symbols that come on these products. Generally, it is a rectangular shaped box that is white and purple in design. It tells of the type of unit it is, such as a receiver, a transmitter or both. Or, you may be able to find X10 Wireless compatible products instead.

Chapter 6: Building An Automated Home

Did you know that the expectation by many was that when home automation technology came onto the market it would be so beneficial and life changing that it would be installed in virtually every home quickly?

But, there are many things that left it in the dust, including an overrun imagination that many had. From the “Jetson’s” style of cartoon, many believed that automating the home was going to be a way to let robots handle virtually all aspects of our days. That didn’t quite make it, or at least hasn’t to this point.

The fact that it hasn’t reached that level yet has frustrated some, but for others it just means another far researching goal is set.

Yet, do homes have to be so far behind in this technology? Why can’t you have all of the home automation that you crave? You can, but in most cases, there is a rather steep cost that must be paid to make it actually happen in your home for you.

The cost of rewiring a home and tearing up the walls to install a home automation tool isn't something that you are likely to do. In fact, it could cost you some serious investment to do this throughout your home. For that reason, many have decided not to install such life altering home automation tools.

Good or bad, that's what happened. Yet, if you are building a new home, things have changed considerably and for that there are many opportunities for success and well being.

Are you Building A House?

If you are building your own home, there is no reason not to consider home automation as part of it. Because the walls aren't yet set up, you can make many changes that can help to lay the foundation for a home that's completely automated.

It is essential to know what goes into these home building projects, though. You will need to work with a competent builder who will guide you through the process giving you step by step direction to take.

Even still, it's important to consider these points about home automation and the building of your home.

First, Determine Needs

When building your automated home, the first things you need to take into consideration are your needs. If you visit an online retailer offering home automation products, you'll have an easy time of choosing the right ones for you. In fact, you may just want to install one of each into your home's design.

As part of the building process, you should consider your future needs in regards to home automation. What do you want now and what could you want later? Remember, it is easy to add these affordable differences into your home when the walls are still going up! That's not true when they are coming down!

You will want to develop a proposal that includes all of the pre wiring and home automation projects to your builder. You'll want to work on the electrical plans first and foremost because these will be vitally important to your automation system's success from the start.

By working out what you would like and how it effects the home's wiring needs, you can easily get your home on the right track.

Pre Wiring Needs

Some of the most common needs for home automation pre wiring will include these elements:

- Your phone, phone to video and phone to intercom types of systems.
- Computer needs such as your LAN and internet needs, pay per vision television and cable needs
- Surveillance equipment such as cameras, security systems and room to room surveillance.
- Multi room audio needs, communication devices within the home, communication devices with outside the home.
- Keyless entry needs, watering and irrigation needs as well as other outdoor elements

Considering this type of pre wiring necessities now will help to alleviate countless problems later for you and future homeowners. Working with your builder on each of these situations must be done before any type of walling up of the home happens.

Outdoor Lighting

Believe it or not, outdoor lighting is one of the most sought after types of home automation. When you are building your home, it is easy to install lighting automation from the start. You'll even find it to be quite easy to do in this manner.

You will want to consider such things as landscaping lighting, security lighting needs, walkway lighting, as well as security and keyless entry systems. Each of these must work together as well as alone to provide you with the help you need. There are both switch style operation and control with outdoor lighting needs as well as touch screen technology that makes it just that much more user friendly.

Work with your designer to determine what type of outdoor lighting and security you will have. Determine where each location will be that the units are placed. You should also consider the various design or inspirational looks that are after as well as the security lighting needs that are much more important.

Adding outdoor lighting home automation is also a great money saver, as we mentioned earlier. It helps to keep the home well lit and quite attractive at the same time. It increases the home's value, too.

The Nice Additions

If you are planning on adding a few additions into your home that may be a bit more luxurious, you should examine the options that you have for home automation from the start. Consider the benefits on both a large scale and a small scale here.

For example, if you are building a new home, why not invest in a good quality home theater system for your home's entertaining and relaxation? When you are purchasing and then installing these units into your home from the start, everything is well designed to fit your needs and desires where as reworking it later will be much more difficult.

In addition to a home theater consideration, you should also take into account multi room Hi Fi, among other things. If there is a high tech new device or system you are considering, talking with your builder about it will help you to ultimately make the right decision regarding the home's automation needs.

Other options to consider include wall speaker units and control units for each room. You should be looking for a high quality installation process of each of these elements as well, especially in a well advanced house.

By working with the builder now, before the home has gone up, you get the ability to design your home with every facet of home automation that you would like to use.

The best way to know what's out there is actually to research home automation yourself. You can purchase these products easily on the web, but before you invest in that, take the time to really look at your options. Make a list of those that you want to consider to talk with your home's builder and designer about.

In most cases, you'll find that adding these home automation tools into your home doesn't take much time or money to make happen, if you ask and if you make the commitment to do so.

Building a home with home automation is something most can only dream about. If you are one of the lucky ones that got to do this, it is still quite important to consider your options. Don't assume that you can have it all or that one product, because it's the one you've seen advertised, is the best one for you.

No matter if you are building your home from scratch or not, home automation is still something that you should be planning for every day.

Tips For When Automation Doesn't Go As Planned!

Because home automation is something that is electronic, there are times when things won't go as well as they should. Generally speaking, X10 and other communication tools work wonderfully, communicating as you wish they would. But, sometimes things don't go as they should.

The good news is that most of the same tips for getting your remote to work are just as important here.

1. Check the batteries! Really, it may be that simple. But, when you are installing your system, get rid of the batteries during this time period. Software installation doesn't mix well with battery usage!
2. Check out your hardwire configuration. Have you ever had to reprogram your remote control for your television? It's the same concept. Make sure that your transceiver house codes are correctly set up.
3. Save it! During the installation process, make sure that you actually save your work before you exit. You'll also want to make sure you download timers and the macros you've selected, which is generally a second feature. This keeps your product working even when your computer is flipped off down the road.

Conclusion

Home automation may not be at the level of the Jetson's just yet, but it is quickly becoming that much better. It doesn't matter if you are a science whiz or a guy who still doesn't know how to program his VCR, you can understand, install and use home automation.

The good news is that home automation will continue to improve over time. As more needs arise and better ways to making it happen arrive on the scene, you'll find that there are even fewer things that will stand in your way of walking into a home that's ready for you.

Today, you'll find a wide range of home automation products on the market. We suggest taking the time to compare several, looking at the benefits of each and determining which offers the most bang for the buck, so to speak. You should also realize that the more advanced you go, the more in depth the cost and the installation process will be.

By far, home automation is simple to do. With the benefits we've described, it's a wonder that not more people have taken the time to invest in these products. The good news is that you can do this, easily and gain from it right away.

