



Audio, Video,  
Communications, and  
Home Convenience  
Packages

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# About Copple Construction, Ilc

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Copple Construction, Ilc is a Licensed Builder who specializes in New Home and Remodel low voltage wiring packages, including phone/cable/data, distributed audio, home theatre, etc. We are a full-service design/build company which can handle your wiring needs from design & product selection, through the installation and final training on its use. All projects are personally managed and much of the work is performed by the owner, Kirk Copple. His attention to detail, knowledge, and experience of residential construction allows for an personalized approach to your construction services. With your budget in mind, we can explain all of the options for your project and help you choose the best one for your needs. We have experience with many of the products on the market and can guide you through the choices.

A few small steps can have a dramatic effect on the cost, look, and durability. We have the experience and knowledge to choose the proper products and techniques and to provide the skilled labor necessary to complete your remodel properly, on time, and on budget. Helpers and specialists are brought in as needed. All work is supervised and inspected by the owner to ensure it meets our high standards. Most of the helpers we use are trusted professionals whom we have known for years.

Our mission is to:

- Develop a personalized solution to your problems
- Complete the work to the highest standards
- Develop a trusting relationship with each client, so we are their first call every time
- Complete the work for a reasonable rate

We pride ourselves on completing projects on time, but will always take the extra time, if necessary, to ensure the work is completed properly. We rarely purchase the cheapest products, since we know the better products normally cost only slightly more. We understand the small extra cost is worth it for the increased speed of the installation, the improved look, and the increased durability/longevity of the finished project.

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## History

Copple Construction, Ilc opened in 2007, with a two-fold purpose. The first is to provide top quality work at reasonable rates. The owner has fixed too much substandard work in this area. If it's worth doing, then it's worth doing right. We don't use the cheapest materials and we spend the time to make sure each step is finished properly. The second purpose is to provide a general contracting service which helps people choose the right products and techniques to meet their needs and budget. Usually there are many options as to the materials and techniques used to complete a project. So many contractors have become specialized, have only been trained in one way to do something, and/or get special deals on certain products. Instead of helping you decide what is best for your situation, they sell you something, whether it's the best solution for your needs or not. Copple Construction, Ilc does not use high-pressure sale tactics. We will help you sort through the options, so you can choose what is best for you.

## Owner

Copple Construction, Ilc is owned and operated by Kirk Copple, who has lived in the Springfield area for over 25 years. His work experience includes over twelve years in construction and eight years in corporate sales management. He attended college at the University of South Carolina for a B.S. in Business Management. In 2004, he left his job as an electrician, returned to residential remodeling, and went into business for himself. Since then he has completed hundreds of projects and satisfied every client.

He learned his trade from a lifetime of construction activities - from growing up in rural Nebraska and learning from family in the building trades, to working under a master electrician, a few great carpenters, and a couple of quality builders. He also has a thirst for knowledge which keeps him up to date on the latest advancements in technology and techniques in the construction trade. This drive has also led to his completion of numerous training and certification courses.

## Licensing

Fairfax County Business License # –	1006786
Virginia DPOR Class B Contractor's License # –	2705116134
Contractor's License Endorsements –	Building Electronic/Communication Service
EPA Lead Certified Renovator Certificate # –	R-I-18506-10-09799
\$2,000,000 General Liability Insurance	

# Copple Construction, llc A/V Design & Installation Process

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## **Initial Consultation**

We meet get a complete understanding of your project, vision and goals. The scope of work is determined. A ballpark budget is discussed. Style and materials are discussed.

## **Initial Planning Meeting**

We review an initial plan and budget. A preliminary scope of work for the project and the budget is presented and reviewed. The Design Agreement is signed. We explore design options with regular feedback and refinements until you are completely satisfied. A comprehensive site survey of your home is performed. The product selections are made. The design and budget is refined based on your input. An additional planning meeting may be necessary and a time will be set for that meeting.

## **Final Design and Budget Review**

This is where we finalize your project drawings, selections, and budget. Minor refinements are made to the design. A plan is presented which outlines what you can expect throughout the process. Start and completion dates are set. The Service Agreement is signed.

## **Pre-Construction Meeting**

While waiting for the other trades to finish their rough-in installations, we complete behind-the-scenes preparations, like ordering materials, coordinating helpers, and sub-contractors. Once the electricians and plumbers are almost done, we meet at the worksite to mark the exact locations of all jacks, speakers, etc. We will discuss the job schedule, daily start and stop times, communication protocols, lockbox arrangements . . . an entire list of pre-construction items.

## **Rough-in Construction**

Your project begins on the scheduled start-date. You and/or the general contractor are kept informed throughout the entire process. We work everyday to ensure quality work and a timely completion. Everything is installed carefully and correctly, lines are tested, and we clean-up after ourselves. A walkthrough is completed to ensure everything is located where you want it.

## **Final Installation**

Once the electricians and plumbers are finished with their Final Installations, and before the Final Inspection, we return to install all of the jacks, wallplates, speakers, etc. Everything is tested to insure all the lines work properly. If you desire, we will connect all of your equipment and test it to ensure proper function. A Final Walk-through and Training Session is performed and you are shown how everything functions. The Final Paperwork is presented, including all owners' manuals and warranty information. Any necessary adjustments are made for complete client satisfaction.

# Distributed Structured Wiring

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Distributed Structured Wiring is the phone, cable, and data lines in your home and the media panel with all of the connections and routers. These days, most phone line and data line installations are with Cat5e wiring, although it is becoming more common to install Cat6 instead. It can allow for faster home networks and the ability to transmit digital video at 1080p. Fiber optics will probably not find much use in the home for the foreseeable future because of the expense and fragility of the wire, but will probably see more expansion in the next 10 years.

Coaxial cable is what the television signals in the home are transmitted through. While some companies will install RG6 Dual-shield, it is recommended that RG6 Quad-shield be used, because of its increased insulation against interference. Two lines to each outlet are usually run to allow for satellite use, either now or in the future. Also, four lines to the attic for future satellite hookup. This small expense now saves a huge expense later.

The Media Panel is a metal enclosure usually mounted in the basement, at least 10 feet from the electrical panels, preferably more. Every low voltage outlet in the house has a dedicated line run to this panel and all of the equipment to connect them is contained in it. A panel-mounted telephone punch-down block provides connection between all of the phone lines. While higher quality connection blocks are available, they are usually only used for larger homes. The cable television or satellite splitters and amplifiers are also installed in this Panel.

The third thing installed in the Media Panel is the data line connections for your internet and/or home network connections. There are two types of installations that are used. The basic installation includes field jacks installed on the ends of each line and plugged directly into a router/switch. A higher quality connection includes specialized modules with punch down blocks for the house data lines and a jack to plug a factory-made patch cord into the router. It may not seem like much, but is considered a higher quality connection, since field jacks connections are not perfectly made like patch cords made by a machine.

The Media Panel may also include modules and connections for an intercom system, CCTV, remote HVAC controls, and other home automation modules.

Providing for future compatibility before the drywall goes up is a good idea. Running a conduit from the media panel to the attic, the media panel to the main entertainment area, or other key areas can make the difference between a simple future upgrade or an expensive run of wall repairs.

Most of these items will be chosen and provided by the installer. There is a difference in manufacturers and quality, so it good to know what is being installed. Some manufacturers like ICC, Suttle, Channel Vision, and Uniprise concentrate on the lower end market and most of it I wouldn't recommend. Manufacturer's like OnQ are good residential quality products. Leviton makes higher quality residential products. They are considered the base model for commercial work. Hubble is considered a top quality manufacturer. Each level of quality includes a rise in the cost, so I usually recommend either OnQ or Leviton quality levels.

There is also a difference in wire quality. Most installation will use the base quality Commscope or General Cable wires. They are good for residential work. There are higher quality wires made by companies like Belden and Superior Essex used more for high-end residential work and for commercial work.



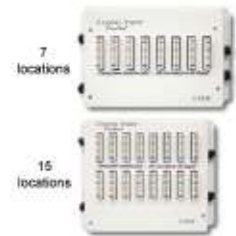
Media Panel



Wall Plates



8-way Coax Splitter



Telephone Distribution

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## Research

<http://www.legrand.us/OnQ.aspx>

[www.leviton.com](http://www.leviton.com)

[www.hubbell-premise.com](http://www.hubbell-premise.com)

[www.twacomm.com](http://www.twacomm.com)

# Installation Packages

## Basic

Includes materials and installation of the following using OnQ connectors and modules:

2 Cat5e / 2 RG-6 Quad	to each location (1 or 2 to most rooms in a home)
Individual phone, data, and cable lines	to other locations, as needed
Utility Feeds	from phone/cable companies NID to the Media Panel
Attic	pre-wired for Satellite
Media Panel	to contain all the connections
Standard Coax Splitters	to route cable TV signals
Phone Punch-Down Block	to route phone signals
Cat5e Field Connectors	attached to the end of each data line, at the panel, to be plugged into your router or switch
Fully Marked Lines and Media Panel	to allow for easy future access

## Advanced

Includes everything in the Basic Installation Package, plus one or more of the following:

Upgrade to Cat6 instead of Cat5e	to allow for Gigabit Networks and Streaming Video
Upgrade to Leviton connectors and modules	better quality
Add Surge-Protected Receptacle to Media Panel	to protect Media Panel electrical from surge damage
Upgrade to Data Punch-Down Modules w/Patch Cords	instead of Cat5e Field Connectors, for a better signal
Panel-Mounted 10/100 Router	is supplied and installed



Media Panel



Wall Plates



Amplified  
Coax Splitters



AC Receptacle  
w/Surge Protection



Data Termination  
Module



Telephone  
Distribution

## Premium

Includes everything in the Advanced Installation, plus one or more of the following:

Add 1 Fiber Optic Line to each Multi location	for future compatibility
Upgrade to Hubble connectors and modules	top quality
Upgrade to Panel-Mounted Gigabit Router	for the fastest data speeds

## Optional Equipment

Add on one or more of these options to any package:

Wireless Internet Signal Transmitter at the Panel	to provide a wireless signal to most or all of a home
Remote Internet Signal Transmitters	to provide a signal in remote rooms
Intercom System	multi-function interconnected intercom system
CCTV System with Color and Night-Vision Cameras	interconnected with the cable TV – indoor/outdoor
Internet-access Smart HVAC Controls	HVAC controlled from your web-based cell phone
Home Automation	control the lights, doors, curtains, etc. remotely

# Distributed Home Audio

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Distributed Home Audio is an interconnected audio system with speakers in separate rooms of a home, all connected to a music source. This normally involves two speakers per room and one volume control in each room. All speaker wires are run to either the Media Panel or where the music source is placed, depending on the system design. For most systems 16-gauge in-wall speaker wire is used, although for wire runs over 50 feet, a larger 14-gauge wire is used. Larger wire creates less resistance and thus better sound. If you are going with high-end products and/or use high volume levels, then using 12-gauge wire will make a difference that the discriminating ear can notice, but with most Distributed Audio Systems 16 to 14-gauge wire will deliver a good sound – as long as it's installed correctly.

There are three types of connections used for Distributed Home Audio. One is a simple wall plate with inputs to plug your music source into and impedance-matched volume controls in each room. The second is a system with a panel-mounted matching module to plug the wires into and matching volume controls. This provides better matched sound levels between speakers and a crisper sound. The third way is by using a special multi-room amplifier at the music source and premium volume controls. This provides the best matched and cleanest sound.

In-ceiling speakers are used for most rooms. A wide variety of speaker types are available for the patio. While it is not necessary to spend an extreme amount on the speakers, the cheapest ones are made differently and will not provide a crisp, clean sound at all volumes. Be sure the speakers are 8 Ohm speakers, which are most of the speakers on the market.

## Research

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[www.leviton.com](http://www.leviton.com)

<http://www.legrand.us/OnQ.aspx>



In-Ceiling Speakers



Patio



Room Volume Control



Input Jack

# Installation Packages

## Basic

Includes materials and installation of the following:

Dual 16/2 or 14/2 Speaker Wire to each Volume Control	to provide audio signal to individual room controls
Single 16/2 to each of 2 speakers	for stereo sound
Cat5 to each Volume Control	to allow for installation of an IR system in the future
Base Level Speakers	in-ceiling or wall-mount speakers
Basic Volume Controls	to control volume in individual rooms
Input Wall Plate	simple input wall plate to connect to an AV receiver

## Advanced

Includes everything in the Basic Installation Package, plus one or more of the following:

Upgrade to 14/2 or 12/2 Speaker Wire	for clearer sound
Upgrade to Spec Grade 60W Speakers	for clearer sound
Upgrade to Premium Volume Controls w/ Audio Distribution System Matching Module	for better balanced distribution of the signal



In-Ceiling Speaker



Room Volume Control



Patio

## Premium

Includes everything in the Advanced Installation, plus one or more of the following:

Upgrade to 12/2 Speaker Wire	for the best sound
Use Matched Length Wire Runs	to balance the sound between speakers
1 extra Cat5e to each Volume Control & Speaker	to allow for amplified speakers in the future
Premium JBL 80W or 120W Speakers	for premium sound
Premium Volume Controls and Multi-Room Amplifier	to balance speakers and provide for the best quality amplified sound



Multi-Room Amplifier



In-Ceiling Speaker



Patio

## Optional Equipment

Add on one or more of these options to any package:

IR Remote Sensors in each room	to allow access to components from remote areas
Premium AV Receiver	for the best sound
Premium CD Changer	for the best sound
IPOD docking station	to plug in your IPOD to play throughout the home



# Home Theatre

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A Home Theatre can be a simple 5.1 surround sound system for the TV or include a wide range of things. It's a place you can really let your imagination go. A simple system can include a 5-speaker surround sound system, a standard TV, and the A/V components (cable, DVD, receiver) set up in the living room. A more complicated system can be set up in a separate home theatre room and include:

- 9-speaker surround sound system with double bass tubes
- Projector w/ screen and motorized curtain
- Theatre lighting system
- Stadium seating
- IR receivers
- Universal remote to control everything
- Computer access, online Movie/TV/Music access, terabyte storage drive w/ all your movies and music that can be played on the home theatre
- Media closet with all of the A/V components (cable, DVD, receiver, gaming system, etc.),

Some companies install the basic 16-gauge speaker wire. 14-gauge or even 12-gauge is recommended for home theatre systems because of the importance of clarity of sound. There are different opinions on whether high quality speaker wire makes a big difference in the quality of the sound. We have found that unless you want to pay a lot for the top quality cables which are made of different metals, the rest of the cables on the market perform about the same. The bigger determination of quality of sound is the cable gauge and number of strands. Of course, the speakers and components make a big difference, too. It's best to match the quality level of all parts of the system, for the best results for the cost.

## Research

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[www.leviton.com](http://www.leviton.com)  
[www.jbl.com](http://www.jbl.com)



5.1 Speaker Input Wall Plate

[www.pioneerelectronics.com](http://www.pioneerelectronics.com)  
[www.audiosource.com](http://www.audiosource.com)



Speakers



Speaker Jack Wall Plates



Complete 7.1 Home Theatre System

# Installation Packages

## Basic

Includes materials and installation of the following:

14/2 Speaker Wire	for the wire run to each speaker
5.1 System	2 front, 1 center, 2 rear
Base Level Speakers	in-wall or wall-mount speakers
Base Level Subwoofer	Bass
Input Wall Plate	Either wire clips or RCA jacks
Speaker Jack Wall Plates for each Speaker	for wall-mount speakers, either wire clips or RCA jacks
Base Level AV Receiver	to route the signal from different components
Base Level DVD	movies and music

## Advanced

Includes everything in the Basic Installation Package, plus one or more of the following:

Upgrade to 12/2 Speaker Wire	for clearer sound
5.1 or Upgrade to 7.1 System	add two more speakers for the best sound
Spec Grade 80W Speakers	in-wall or flush-mount speakers
200W Subwoofer	More Bass
Upgraded AV Receiver	upgraded functions and/or signal
HD-DVD / Blue Ray	high-quality video and music

## Premium

Includes everything in the Advanced Installation, plus one or more of the following:

Upgrade to Premium 12/2 or 10/2 Speaker Wire	for the best sound
Use Matched Length Wire Runs	to balance sound between speakers
7.1 System	full surround sound affect
Separate component closet	with conduit run to the projector
Premium JBL 120W Speakers	in-wall or wall-mount speakers
Premium 300W Subwoofer	Max Bass
Premium AV Receiver	premium functions and signal
Blue Ray	high-quality video and music
DVR	to record video



## Optional Equipment

Add on one or more of these options to any package:

Remote IR Receiver	so you can point the remote at the screen instead of the closet
Universal Remote	one remote for all equipment, pre-programmed for you
Dual Center-Channel Speakers	for more complete center channel sound
IPOD docking station	to plug in your IPOD to play on the surround system speakers
Theatre Lighting System	to enhance the movie experience through pre-planned and coordinated light levels and schemes
Video Game System	for gaming enjoyment, movies, and music
9.2 Surround Sound	9 Speakers and 2 bass tubes
Media Server	All of your digital pictures, videos, and music
TV or Projector w/Screen	Cathode, LCD, Plasma, DLP, LED, or Projector for your viewing needs

# Intercom

An intercom system can make a big house seem like a cozy home. Whether being able to broadcast to every other station at the same time is good enough or if you want to be able choose which other station your voice comes out, there is a system for you. These intercom system aren't like the simple ones from a few years ago which you just used to tell everyone dinner is ready. Intercom systems can be used as a baby monitor, whole home music system, to see and speak with who is at the front door, and unlock the front door for them from the other side of the house. These intercom systems can definitely make your life easier for a reasonable cost.

## Research

<http://www.legrand.us/OnQ.aspx>

[www.leviton.com](http://www.leviton.com)

[www.nutone.com](http://www.nutone.com)

## Installation Packages

### Basic

Includes materials and installation of the following:

Cat5e run to each location	to carry the signal
OnQ Inquire Broadcast Intercom System	call to all stations at the same time
Front Door Unit	to add intercom at the front door with a doorbell



Distribution Module and Main Panel



Room Unit



Patio Unit



Front Door Unit

### Advanced

Upgrade to:

OnQ/Leviton Selective Call Intercom System	call to individual stations or all at once
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Main Panel and Distribution Module



Room Unit



Patio Unit



Front Door Unit

### Premium

Add on one or more of these options to the Advanced package:

Music Module	play music through the intercom stations
Upgrade to Video Front Door Unit	to see who is at the front door
Remote Door Lock Release	to unlock the door from any station

# Internet-Wireless and Cellular Repeaters

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Depending on the size and layout of a home, there may be problems receiving a wireless internet in the areas farthest from the router. Thankfully there are remote antennas (access points) available which can provide a secondary transmission point for the internet router's wireless signal. For instance, if the router will be at one end of the home in the basement and you usually use your laptop in your office on the top floor at the other end of the house, then a remote antenna will speed up your connection. Or if you enjoy surfing the web while relaxing by the pool, but can't get a signal, then there are antennas which can give the whole backyard a wireless internet signal.

Another problem in many buildings is the lack of cell phone reception. Considering many people use their cell phone as their primary number, that can cause real complications. A basement office sounds like a great idea until you find out you don't have cell phone reception. There are numerous solutions to this problem, starting at just a few hundred dollars. If there is a good signal outside of the home, then a repeater/amplifier can be installed. A simple system has an antenna which installs on a window with a wire which runs to a smaller antenna which sits on a desk which puts out a signal in a 6ft. radius, for one person. There are also larger systems which will cover the entire home, which multiple people can use at once. If you are in one of those areas that don't have a good cellular signal outside, then there are systems which connect over the internet and can provide you with a signal in part or all of your home.

## Research

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[wi-ex.com](http://wi-ex.com)

[wilsonelectronics.com](http://wilsonelectronics.com)

[enginustech.com](http://enginustech.com)

[level1.com](http://level1.com)

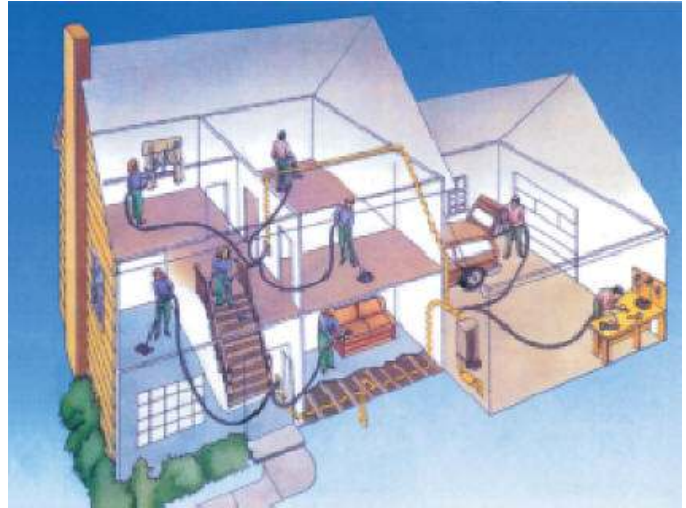
## Installation Packages

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# Central Vacuum

A central vacuum system is a complete cleaning system that is built within the home with the main unit located typically in your garage, basement, or utility room and PVC pipe running through the walls via the attic or crawl spaces. You will find most of the modern homes or newly built homes having a central vacuum system. The most important question, however, is why should you invest in a central vacuum system when you can get a standard vacuum cleaner for half the price? The average central vacuum unit can last over 10x longer than your average conventional vacuum.

There are many companies which manufacture central vacuum systems. Most of them sell quality products, although who makes the best models is up for debate. Most systems consist of power units, central vacuum power brushes, tool sets, hoses, accessories, vacuum inlets and tubing, and much more. Most companies have the specs for the suction power, wattage, airflow CFM; sound decibel, type of motor, filtration, and dirt capacity, on their website. Most central vacuum systems have at least a 10 year warranty, with many having a warranty of 20 years or longer.



## Features

Some of the outstanding features of central vacuums which make them a “must have” include:



**Reduced Noise:** Unlike in traditional or standard vacuum cleaners, the central vacuum does not have any loud and deafening noise. Central vacuum units have stronger and silent motors, with an average decibel level of 61. One of the major benefits of installing a central vacuum system is that it will always be situated away from your living area.

**Deep Cleaning:** A central vacuum unit is built for power cleaning. These machines have powerful motors that are at least 10-times stronger than your traditional portable vacuum cleaners or hand-held vacuums. All central vacuums can clean your home of air pollutants like pollen, dust mite, feces, candle char, cockroaches

and more. It will also clean VOC's (volatile organic compounds) like chemicals released from plastic, paints, glue, perfumes etc. Deeper cleaning means that the air in your home will be fresher and healthier for you and your loved ones. Researchers at the University of California at Davis school of medicine revealed that the use of a central vacuum system reduced nasal allergy symptoms by as much as 47%, eye symptoms by as much as 61% and improved indoor air quality by 52%.

**Versatility:** One of the biggest advantages of using a central vacuum is that it is a versatile machine and easy to use. Because the power unit is built-in, you don't have to lug a heavy vacuum cleaner around, plugging and unplugging as you go. Another feature is that it will help you to clean every nook and corner of your home, kitchen, and garage since all the top brands offer long hose pipes. Most companies offer different types of nozzles to reach and clean different parts of your home right from the ceiling to the rear of the book rack, any surface really.



**HEPA:** Most better central vacuums provide HEPA air filtration. HEPA stands for high efficiency particulate air and it is a standard that has been created by the US Atomic Energy commission. According to the standard, the filtered air should have no more than 99.97% of particulates of 0.3 micron size. Most top-of-the-line central vacuums have a HEPA filter for making your home & family free of harmful particulates.



**Value Addition:** Installing a central vacuum system means that the return on investment will be higher. One of the important things to note is that a home with an installed central vacuum system will always have a higher market value where real estate is concerned. Central vacuum units are one of the top 5 items influencing home sales. Apart from this, central vacuums have long-life, are durable, require one-time investment, and low maintenance.

**Accessories:** There are many accessories offered that make vacuuming easier than ever before.

- Long hoses which allow a person to clean every corner of their house and garage.
- Powered carpet units which are low-profile to allow you to get under most furniture.
- Hardwood floor attachments which make quick work of your wood and tile floors.
- VacPan inlet ports in the baseboard, so you can sweep the crumbs straight into the vacuum system.
- Pet brushes so you can vacuum your pet's hair while brushing them.
- Car and upholstery attachments.

## Research

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Vacuum Reviews	<a href="http://www.vacuumwizard.com/central-vacuum-systems.html">http://www.vacuumwizard.com/central-vacuum-systems.html</a>
Imperium	<a href="http://www.imperiumvac.com">http://www.imperiumvac.com</a>
Beam	<a href="https://www.buybeamonline.com">https://www.buybeamonline.com</a>
Eureka	<a href="http://www.zuumbyeureka.com">http://www.zuumbyeureka.com</a>
Drainvac	<a href="http://drainvacuae.com">http://drainvacuae.com</a>
Electrolux	<a href="http://www.electroluxcentralvac.com">http://www.electroluxcentralvac.com</a>
Drainvac	<a href="http://www.drainvac.com">http://www.drainvac.com</a>
Duovac	<a href="http://www.duovac.com">http://www.duovac.com</a>
Purvac	<a href="http://www.purvac.net">http://www.purvac.net</a>
Canavac	<a href="http://www.canavac.com/">http://www.canavac.com/</a>
Valet	<a href="http://www.valetsystems.com">http://www.valetsystems.com</a>
AirVac	<a href="http://www.linearcorp.com/central_vacuum_system.php">http://www.linearcorp.com/central_vacuum_system.php</a>
Hayden	<a href="http://www.haydenvac.com/">http://www.haydenvac.com/</a>

## Installation Packages

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### Advanced

Basic Central Vacuum Unit w/ 4 outlets, long & short hoses, hardwood floor and upholstery attachments

### Premium

More powerful central vacuum unit w/ 8 outlets, garage outlet, long & short hoses, hardwood floor and upholstery attachments, powered carpet attachment, VacPan baseboard vents

# CCTV

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Closed Circuit Surveillance Systems are not just for mansions and commercial buildings anymore. The reasonable costs of the cameras now allow every homeowner to have a surveillance system. Whether it's a camera at the front door to see who is there before letting them in or being able see what that sound was in the backyard from the comfort of your room, these simple systems can make your life easier. Some cameras will allow you to see color during the daytime, and with its own infrared light source allows you to see what is happening in the dark as well. Interested in a permanent record of what goes on when you aren't looking? Then a DVR Recorder hooked up to the cameras will provide that option. There are even packages which use a computer as a DVR and Recognition Software that can make decisions about what the cameras are seeing and take action on its own.

There are a number of other options available including different camera styles, including covert cameras which no one will be able to recognize. We also offer stationary or pan-tilt-zoom cameras.

There are three different methods of viewing what the cameras see. One way is on a dedicated television which only receives the camera signals, no TV programming signals. This can be with or without a DVR component. A second method is too use a computer with special software. The third method is to use a filter with your cable television, blacking out the television programming on certain channels and showing the camera signal instead. This can be very convenient to view the camera signals from multiple places in the house.

## Research

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[www.swannsecurity.com](http://www.swannsecurity.com)

[www.closeoutcctv.com](http://www.closeoutcctv.com)

## Installation Packages

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### Basic

1-4 Indoor or Outdoor Color Daytime Cameras connected to a dedicated television

### Advanced

1-4 Indoor or Outdoor Color Daytime/B&W Night-time cameras connected to a filter in the Media Panel for access through any cable television on a specific channel

### Premium

1-16 Indoor or Outdoor Color Daytime/B&W Night-time cameras connected to a DVR Recorder or Computer with Recognition Software. Stationary or Pan-Tilt-Zoom cameras available.

\* includes materials and installation



Dome



Bullet



Box



Smoke Detector



Motion Sensor



Hidden – 1.5”x1.5”

1 to 16 camera surveillance system w/ DVR and Recognition Software



BLUEFIN Enterprise Video Recorder



# HVAC Network Thermostats

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## *Save Money and Conserve Energy with Proliphix Network Thermostats*



- **CUT HEATING AND COOLING COSTS**
- **PREVENT PROPERTY DAMAGE**
- **CONSERVE ENERGY**
- **REDUCE ENVIRONMENTAL IMPACT**

Tired of high energy prices? Did you know most homeowners expend more energy on heating and cooling than all other uses combined?

That's why energy-conscious consumers are turning to Proliphix Network Thermostats to cut heating and cooling costs. Proliphix combines the features and functions of a programmable thermostat with the convenience and power of the Internet.

Proliphix Network Thermostats are easy to install and program. Just connect the thermostat to your broadband router, then check and manage temperature settings from any location using a friendly browser interface.

Traveling? No need to worry about broken pipes or property damage. Proliphix will proactively monitor your home and send you an immediate email or mobile text message if we detect a temperature problem while you are away.

And Proliphix Network Thermostats are the ideal solution for property managers, builders, and vacation homeowners looking to protect their properties and increase the value of their investments.

- **FLEXIBLE TIME-OF-DAY SCHEDULING**
- **INTUITIVE BROWSER INTERFACE**
- **FREE INTERNET MONITORING**
- **EMAIL AND SMS ALARMS**
- **UL AND ENERGY STAR RATED**
- **EASY TO INSTALL**
- **AFFORDABLE**



For more information, go to – [www.proliphix.com](http://www.proliphix.com)

# Keyless Front Door Locks

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## Biolock 333 - Keyless Entry Security Door Lock Fingerprint Scanner

**\$250**  
+ installation

### Features

- Adopts optical fingerprint sensor, CMOS chip, fingerprint sensor resolution 500 dpi
- Auto-delete User's finger when date expired
- Blue LED Display
- Compatible with cylinder door
- Convenient accessing mode: Verify with registered fingerprint - no need to carry a key
- Easy operation menu - intelligent navigation for easy setup accessing query
- Emergency unlock - emergency key to open & external power supply port for urgent situations
- Fingerprint can't be duplicated
- IR Remote Control - unlock the door from inside from any direction within range
- Power is economized - battery life is monitored and a warning signal will light when the battery is low (4xAA batteries required)
- Reversible handle - handle can be converted to be used on either a right-hand or left-hand door
- Setup with Supermaster/Master/User - Each grade has different authorization
- Simple user interface (Easy operation keys)
- Users capacity up to 99 users



## Morning QKK-01 3-In-1 (Keypad + Remote + Key) Keyless Lock

**\$200**  
+ installation

### Features

- Auto re-locking latchbolt (may be set to 'passage' mode where door knob will latch shut, but not lock - nice feature if having a get together and you don't want everyone to enter their code each time to come in)
- Brilliant satin nickel finish. See polished brass, antique brass, and oil rubbed bronze
- Ideal for home entry doors, master suite door, door to basement stairs, & home study or den
- Wire-free keypad & radio frequency remote keyless door knob
- 30 feet range for locking and unlocking with remote
- Accept 10 different keypad codes (2-8 digits in length) and 10 different radio frequency remotes
- Add or delete individual user in seconds right at the lock
- Backlit for night-time entry
- Audible tones when locking, unlocking, jamming and low batteries
- Intruder alarm - sounds after 4 failed attempts
- Non-volatile memory - user codes and remotes remain when changing batteries
- One (1) radio frequency remote and two (2) traditional keys (Schlage® 'C' keyway) included (additional remotes available) Limited lifetime warranty

# Structured Wiring Services and Rates

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## Service Calls/Troubleshooting

\$75/hr + materials  
3 hour minimum

## System Design and Plans

\$100-750

Includes an on-site meeting, a comprehensive overview of your needs and interests, a full explanation of the different options available, help with product choices, an exact scope of work, graphical plans, and a package/cost comparison of the other estimates you receive. Exact Cost depends on size of project.

\*\*\* With the different options available with low voltage wiring systems and the likelihood of receiving estimates from different contractors with different scopes of work, we offer to do an “apples-to-apples” comparison of your different estimates. We can usually match or beat any other licensed competitor’s prices and offer the same top quality service and installation that we always provide.

## New Home Construction

Includes rough-in and final w/ 8 lines or more. Ballpark costs based on 2500-7500sq.ft. home w/ a centrally located media panel

### Distributed Structured Wiring

Basic Installation (2-Cat5e/2-RG6)	\$200-300 per line
Mid Installation (2-Cat6/2-RG6)	\$300-450 per line
Premium Installation (2-Cat6/2-RG6/1-Fiber)	\$400-700 per line
Media Panel	\$700-1500

### Distributed Home Audio System – 4 rooms

Basic Installation	\$2000-3000
Mid Installation	\$2500-4000
Premium Installation	\$3000-4000+

5.1 Surround Sound – Not including cost of speakers (\$40-200 ea.)  
Components and hook up is extra

\$700-1000

7.1 Surround Sound – Not including cost of speakers (\$40-200 ea.)  
Components and hook up is extra

\$900-1200

Intercom Systems – 4 station with front door unit

\$1500-2500

Central Vacuum Systems – Main unit and 6 ports

\$3000-5000

CCTV – 4 camera Daytime/Nighttime with cable TV filer

\$1500-2500

4-16 camera BlueFin System w/ Recognition software

\$3000-5500

HVAC Network Thermostats

\$800-1000

## Remodel Construction

Usually the same cost to 50% more than new construction rates for the installation.

Drywall repairs will probably be required, but we choose our routes carefully to minimize the drywall and painting work.

# Catalogs

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## Structured Wiring, Home Audio, and Other Low Voltage Product Catalogs

OnQ	<a href="http://lna.onqlegrand.com/ebook/">http://lna.onqlegrand.com/ebook/</a>
ADI	<a href="http://www.adilink.com/services/productCatalog.php">http://www.adilink.com/services/productCatalog.php</a>
Leviton	<a href="http://www.leviton.com">http://www.leviton.com</a>
Nutone – Intercom	<a href="http://www.nutone.com/product-category.asp?CategoryID=701">http://www.nutone.com/product-category.asp?CategoryID=701</a>
Hubble-Premise	<a href="http://www.hubbell-wiring.com/netSelect.html">http://www.hubbell-wiring.com/netSelect.html</a>

## Speaker and A/V Component Catalogs

Pioneer	<a href="http://www.pioneerelectronics.com/PUSA/Products/HomeEntertainment">http://www.pioneerelectronics.com/PUSA/Products/HomeEntertainment</a>
JBL/Harman	<a href="http://www.jbl.com/EN-US/Products/Pages/MarketGroup.aspx?MID=HOM">http://www.jbl.com/EN-US/Products/Pages/MarketGroup.aspx?MID=HOM</a> <a href="http://www.harmanaudio.com">http://www.harmanaudio.com</a>
AudioSource	<a href="http://www.audiosource.net/">http://www.audiosource.net/</a>
Sony	<a href="http://www.sonystyle.com">http://www.sonystyle.com</a>
Klipsch	<a href="http://www.klipsch.com">http://www.klipsch.com</a>
Yamaha	<a href="http://www.yamaha.com/yec/">http://www.yamaha.com/yec/</a>
Panasonic	<a href="http://www.panasonic.com/">http://www.panasonic.com/</a>
Polk Audio	<a href="http://www.polkaudio.com/">http://www.polkaudio.com/</a>
Samsung	<a href="http://www.samsung.com/us/">http://www.samsung.com/us/</a>
JVC	<a href="http://www.jvc.com/">http://www.jvc.com/</a>
Nutone - Audio	<a href="http://www.nutone.com/product-category.asp?CategoryID=684">http://www.nutone.com/product-category.asp?CategoryID=684</a>
Nuvo	<a href="http://www.nuvotechnologies.com">http://www.nuvotechnologies.com</a>
Niles Audio	<a href="http://www.nilesaudio.com">http://www.nilesaudio.com</a>
IntelliControlCS	<a href="http://www.intellicontrol.com">http://www.intellicontrol.com</a>

## Central Vacuum Websites

Imperium	<a href="http://www.imperiumvac.com">http://www.imperiumvac.com</a>
Beam	<a href="https://www.buybeamonline.com">https://www.buybeamonline.com</a>
Eureka	<a href="http://www.zuumbyeureka.com">http://www.zuumbyeureka.com</a>
Drainvac	<a href="http://drainvacuae.com">http://drainvacuae.com</a>
Electrolux	<a href="http://www.electroluxcentralvac.com">http://www.electroluxcentralvac.com</a>