INTEGRATED HOME AUTOMATION SYSTEMS

LIGHTING – SECURITY – ENERGY MANAGEMENT – ENTERTAINMENT - SURVEILLANCE

- There is a home automation system for every lifestyle. Simply choose the automation features you want based upon your individual needs and budget. All home automation features may be installed in new construction or retrofitted into existing homes. It controls and monitors various home systems to maximize safety, entertainment, convenience, and savings addressing:
  - Access Control
  - Energy Management
  - Lighting and curtain control
  - Security and Surveillance

Convenient:
Multiple options exist to control your home, whether you're inside or outside. Check and adjust lighting, temperature, security, audio and most of home automation system offers video surveillance and recording, which gives you the power to check on your home via PC, PDA, or web – enabled phone. Home automation software choices, you can make changes to your home’s status from practically anywhere in the world. Call to check on and change the status of your home, or directly control from your cell phone. Home automation offers many solutions, each designed to simplify your life.

Imagine a Life with Less Worry
Home Automation Systems Offer Peace of Mind

Easy to Use:
Home Automation systems are simple to understand and operate; young children can learn and understand basic features of these systems

Reliable:
Most home automation system products can operate in a standalone fashion so they are not dependent on any other devices in the house, including computers. Light switches and thermostats communicate with the automation controller, but do not depend on it for normal operation.

Protect Your Loved Ones, Home and Property Around the Clock
Security and Fire Protection
Intrusion, smoke, fire, carbon monoxide, water and other hazards are detected by either wired or wireless sensors. Individual user codes can be set up of certain access on certain days. This is very useful for your maid service or a landscaper.

In an emergency home automation system can communicate with a central monitoring station and provide voice notifications.
**Surveillance Automation**
Keep a watchful eye around your home, even when you're away from it. Most of home automation system records video based upon time, event, or motion. Play back video and view full screen surveillance at your convenience. Cameras can be viewed on screens, over the internet, or on your web-enabled phone. When the doorbell rings or motion is detected outside, the video feed can automatically appear. Want to invite your guest in? Simply press and hold the camera selection button to open the door or gate.

**ACCESS CONTROL AUTOMATION**
Limit admission to designated areas. Swipe the card to activate pathway lighting and additional safety features. Swiping a card can disarm the alarm, release the door lock, light a pathway into the house, change the temperature, and turn on several zones of a whole home audio system.

**SET ELEGANT LIGHTING THROUGHOUT YOUR HOME TO ENHANCE ITS BEAUTY**

**Lighting Automation**
Lighting control enhances the enjoyment and value of your home and contributes to savings on your energy bill. Control your home’s lighting by schedule, motion detection, door openings, sunrise, sunset, alarm activation, and more. Just touch one button to turn every light in a room or whole house on or off. Same home automation systems can even be retrofitted into existing homes without adding new wiring.

**ENTERTAINMENT AUTOMATION**
A revolutionary way to enjoy all your media, all around your home, One Unified System for all Sources without compromise, you can now achieve total control of all A/V systems through one interface. Additional automated features can be integrated for complete environmental control. Use one button on a screen to close the curtains / shades, lower a screen, and turn on the appropriate A/V equipment. Even automatically adjust the lights and set the room temperature for the perfect theater experience.

**CERTIFIED RELIABILITY**
To ensure the highest reliability and safety, the home automation systems that certify its products through extensive industry testing. It should include Underwriters, Laboratories (UL), the most stringent test lab in North America, and or (BS) British Standard, (EN)
WHAT IS A HOME AUTOMATION SYSTEM MADE OF?
There have been many attempts to standardize the forms of hardware, electronic and communication interfaces needed to construct a home automation system. Some standards use additional communication and control wiring, some embed signals in the existing power circuit of the house, some use radio frequency (RF) signals, and some use a combination of several methods. Control wiring is hardest to retrofit into an existing house. Some appliances include USB that is used to control it and connect it to a domotics network. Bridges translate information from one standard to another, e.g., from X10 to European Installation Bus.

The elements of a domotics system are:
- hardware controllers or software controllers - sensors - actuators

A centralized controller can be used, or multiple intelligent devices can be distributed around the home.

Interconnection can be:
- **By wire:** optical fiber - cable (coaxial and twisted pair) - powerline, (X10)
- **By Wireless:** radio frequency, including:
  - Wi-Fi - GPRS and UMTS - Bluetooth - ZigBee - Z-Wave
- **By infrared:** Consumer IR

Control and automation nets are many, but to name few: KNX (European Installation Bus) - ZigBee - Z-wave - Ethernet - X10 - WiFi - LonWorks - INSTEON

Centralizing control
Besides the upcoming standardization of home automation hardware, there is also the issue of the control software. In older systems (and some contemporary ones), the control of each home automation system needed to be done separately, and there was thus no central control system. This sometimes led to a great amount of remote controls, one being needed to control each individual part of the system. However, with the new generation of home automation systems, central control can be foreseen. Software applications are available now and allow the control to happen from a single computer or television screen, and/or even from a smart phone (e.g. iPhone)

WIRELESS AND WIRED TECHNOLOGIES: ZIGBEE, Z-WAVE AND KNX
The main advantage of wireless technology is the fact that it can be fitted to already wired houses, requiring no buses such as the European Installation Bus (EIB). 802.15 is a standard for wireless personal area networks (WPAN), operating over frequency band 2.4GHz, and using very low-power radios to send small amounts of data. Same as Bluetooth, ZigBee and Z-Wave are all kinds of WPAN, based respectively on 802.15 and 802.15.4. Those networks bring wireless home automation and control to homes, especially when coupled with Wi-Fi, where create an eco-system that stretches from your laptop all the way to your light switches.

Both enable intelligent mesh networking, so the more devices added to a WPAN the better. Eventually, every switch, thermostat, and motor in your home could have a chip that lets it communicate, and you would control them all from a single interface, whether a remote, an LCD panel on a wall, or your laptop, offering the usual home controls, adding to alarm monitoring panel automation functions.

Konnex (KNX) is based on the EIB communication protocol but enlarged with the physical layers, configuration modes and application experience of BatiBUS and EHS. KNX defines several physical communication media:
- twisted pair wiring (inherited from the BatiBUS and EIB Instabus standards)
- Powerline networking (inherited from EIB and EHS - similar to that used by X10)
- Radio (KNX-RF)
- Infrared
- Ethernet
  (also known as EIBnet/IP or KNXnet/IP)
WiredKNX transmission is based on Twisted Pair, using differential signaling with a signaling speed of 9600 bit/s and bus power with 30 V DC and 25 mA. Devices are addressed with 8-bits, and could either automatically configure themselves (which makes them intended to be sold to and installed by the end user), have configuration parameters that need to be tailored to the user’s requirements by specialist technicians.

Systems and Equipment cannot be reliable unless properly maintained by professionals on a yearly basis.
BENEFITS OF HOME AUTOMATION

**Internet Access & Control**
Multiple programs allow you to control and see the status of your home from anywhere via the Internet.

**Energy Management**
Be comfortable at home; save energy when away. Control temperatures in greenhouses, humidors, wine cellars, aquariums, & attics. Communicating programmable thermostats for heating and cooling control easily monitors energy use.

**Motion Detection**
Detect intrusion, automatically turn on lights, and activate automation functions when entering a room.

**Home Theater**
Use a HAI Touchscreen or a Philips Pronto remote to control your theater and home automation functions.

**Irrigation**
Control irrigation solenoid valves for lawn sprinklers, plus inputs for rain sensing.

**Access Control**
Limit admission to designated areas. When you swipe a card or key tag, security arms or disarms and door strikes are activated.

**Multi-Room Audio**
Share your favorite music throughout every zone of your home. No audio rack or expensive proprietary components required.

**Pool & Spa**
Secure pool areas with access control. Control pumps, filters, timers, heating, temperatures, solar control, and more.

**Lighting**
Set warm and comfortable moods for dining, movies or entertaining. Have lights automatically turn off when leaving your home. Provide architectural quality lighting control and passive security for the "lived-in" look when on vacation.

**Surveillance Cameras**
View and/or record guests arriving at the front door, or check on kids in the pool from any Touchscreen or the Internet.

**Security**
If desired, can integrate with an existing security system.

**Vehicle Detection**
Announce visitors, turn on lights, and switch on a television to view the driveway or other outdoor area.

**Telephones**
Check and adjust security, temperatures, and lights via any phone at home or away. Monitor and control with your Smart phone or iPhone.