

HomeVision / HomeVision-PC FAQ

NOTE: The following questions and answers apply to both HomeVision and HomeVision-PC, except where noted otherwise.

General Information

- Does HomeVision require a TV?
- Does HomeVision require a PC?
- How do I choose between HomeVision and HomeVision-PC?
- Can HomeVision be installed by a do-it-yourselfer?
- Is HomeVision "Year 2000" compliant?
- Can I get voice recognition with HomeVision?
- Do you have an Apple version of the PC software?
- Will there be any software upgrades to add more features?

Installation and Equipment Questions

- What accessories do I need?
- Can HomeVision be installed in an existing house or apartment?
- What wiring should I run?
- Where should I put the HomeVision controller in my home?
- Can I use a long serial cable to connect to HomeVision?
- Is the HomeVision video overlaid on top of the TV picture?
- What do I need to view the HomeVision video output?
- Can I control HomeVision throughout my house with a remote?

Question: Does HomeVision require a TV?

Answer: No. Although the video menu system that can be displayed on a TV is HomeVision's most unique feature, you don't have to use it. HomeVision can be controlled in many ways, including by computer, infrared remote, X-10, and digital inputs. Many people choose HomeVision because of its powerful non-video capabilities, and don't use the video system.

Question: Does HomeVision require a PC?

Answer: HomeVision requires a PC for initial configuration and downloading a schedule into the controller. After that, the PC may be disconnected. Alternatively, you can leave the HomeVision controller connected to the PC to provide more capabilities.

HomeVision-PC does require a PC to be operating at all times.

Question: How do I choose between HomeVision and HomeVision-PC?

Answer: The vast majority of users would prefer HomeVision, as it provides much more power and can run "stand-alone" (i.e., without a computer running).

HomeVision-PC may be preferable if all of the following conditions are met:

- You've selected a PC-based program (such as HAL2000, ECS, or others) to be the "brain" of your system.
- You're willing to have your system dependent upon the PC (i.e., your system will go down if the PC crashes or shuts down).
- You're on a budget and can't afford HomeVision (HomeVision-PC typically sells for about \$200 less than HomeVision).

If you meet all these conditions, you may prefer to use HomeVision-PC as the hardware interface to the PC. HomeVision-PC provides the X-10, infrared, I/O, and video interfaces, while the PC software acts as the "brain". If you choose HomeVision-PC and later decide you need the more advanced capabilities of HomeVision, you can easily upgrade.

Question: Can HomeVision be installed by a do-it-yourselfer, or is professional installation required?

Answer: The choice is yours. Physically installing and connecting HomeVision is quite simple in comparison to installing other automation devices you may have (X-10 wall switches, thermostats, alarm panels, drapery controllers, etc.). HomeVision does require "programming" in order to control your house. However, no computer programming experience is needed. You'll simply be "pointing and clicking" to tell the controller what you want it to do.

If you prefer, professional installation is available from most home automation installers around the country.

Question: Is HomeVision "Year 2000" compliant?

Answer: Yes. HomeVision will work fine when the year 2000 arrives, and far beyond!

Question: Can I get voice recognition with HomeVision?

Answer: You can run HAL2000, Home Voice, or Dragon Dictate on your PC to provide voice recognition. We recommend Home Voice for voice recognition and response, and HAL2000 if you also need it's many other capabilities like Internet access, phone control, etc. Home Voice can also "speak" upon command from HomeVision.

Question: Do you have an Apple version of the PC software?

Answer: No. However, you can run VirtualPC on your Apple computer, which in turn can run the HomeVision software. You may need an adapter to connect the HomeVision serial port to your computer. Note that there is a bug in VirtualPC (related to floating point numbers) that causes an error with the HomeVision software. However, we have a Beta version available that overcomes this bug and works properly. Contact us if you need this version.

Question: Will there be any software upgrades to add more features?

Answer: We are regularly developing new upgrades of software and firmware (a PROM chip in the controller) to add features. All PC software upgrades are distributed free of charge on our Internet site. One firmware upgrade is provided free of charge to all registered users. Subsequent firmware upgrades may have a slight charge to cover the part cost and shipping. Naturally, firmware upgrades to fix any bugs are free.

Question: What accessories do I need?

Answer: HomeVision is the central controller for a house. You need to provide all the systems to be controlled and any inputs you want to use. For example, you may want any or all of the following:

- X-10 devices (wall switches, lamp modules, drapery controllers, etc.)
- Thermostats
- Alarm systems
- Motion sensors
- Door/window contacts or similar switches
- Whole-house audio/video distribution system
- Whole-house infrared distribution system
- Infrared remote control
- Relays to control sprinklers, motors, etc.
- LCD displays
- Keypads
- Computer

Question: Can HomeVision be installed in an existing house or apartment?

Answer: Yes. HomeVision's primary control method is X-10, which uses your existing AC power lines to communicate with other devices. Some of HomeVision's other capabilities may require dedicated wiring, depending on how you choose to use it. See the following question for more details.

Question: I'm building a new house. What wiring should I run to take advantage of HomeVision's capabilities?

Answer: See our page at TBD for suggestions.

Question: Where should I put the HomeVision controller in my home?

Answer: Two locations are most popular:

- 1) In an entertainment center. This works best for relatively simple installations and provides several advantages:
 - Easy to connect HomeVision's video output to your TV.
 - Easy for HomeVision to transmit infrared signals to A/V equipment located in the same area.

- Ideal location to use your TV remote to control HomeVision.
- Easy to connect to A/V equipment sensors.

2) In a “wiring” closet or “mechanical” room. This works best for complex installations, and installations where other equipment (security panel, A/V distribution system, IR distribution system, etc.) is located there also. This provides several advantages:

- Easy to wire HomeVision directly to the security system and other co-located equipment.
- Easier to run wires from other areas of your home into here than into an entertainment center.
- Easier to access than if the equipment is buried within an entertainment center.

Question: If I put HomeVision somewhere distant from my computer, can I connect them with a long serial cable?

Answer: Yes. The main issue is the allowable cable length. The original RS-232 standard (for serial communications) specified a maximum length of 15 meters (nearly 50 feet). This was later changed to specify a maximum capacitance of 2500pF. Many HomeVision users use Cat-5 cable runs of 100 feet or more with excellent results. We’ve tested HomeVision with 200 feet of inexpensive twisted-pair wiring without any problems.

If you make your own cable note that HomeVision uses three wires of the serial port:

- Pin 2 - TXD (transmit from unit)
- Pin 3 - RXD (receive input into unit)
- Pin 5 - Ground

Question: Is the HomeVision video overlaid on top of the TV picture, or does it have it’s own background (thereby obscuring any underlying picture)?

Answer: HomeVision can work either way. If you don’t input a video signal into HomeVision, HomeVision will display the text/menus on a solid background (default color is blue). If you input a video signal, HomeVision can overlay the text onto the video or display the solid background.

Question: What do I need to view the HomeVision video output?

Answer: The video output is through an RCA-type connector. If your TV has audio/video input jacks, you can connect the HomeVision output to one of the video inputs. To watch HomeVision, you simply select that input source (just like selecting a VCR connected to the A/V input jacks).

If your TV doesn’t have A/V inputs, you could connect the HomeVision output to A/V inputs on a VCR. Tune your TV to watch the VCR, and select the A/V input for the VCR (since HomeVision can transmit infrared signals, this can all happen automatically).

If you want to view HomeVision on all your TVs, use a whole-house A/V distribution system and put HomeVision on its own channel.

Note that HomeVision doesn't have any audio outputs, so you don't need to connect to the audio jacks on the A/V input. However, you could use the audio inputs to connect a PC sound card output. Whenever the HomeVision A/V input is selected, you could have the computer provide audio output (for messages, confirmation of actions, etc.).

Question: Can I control HomeVision throughout my house with a remote?

Answer: This can be accomplished with an infrared distribution system. Several types of systems are available, listed in increasing order of power/reliability/cost (since they usually go together!):

- X-10 Powermid. This is a two-piece system with a transmitter in one room that converts the IR signal from your remote to RF and a receiver near HomeVision that converts the signal back to IR.
- Remote control extender. This is a two-piece system with a small device placed on the end of the remote that converts the IR signal to RF, and an RF receiver located near HomeVision that converts the signal back to IR.
- Through-the-cable system. This is a more elaborate system with IR receivers located in different rooms that send the signal over your existing coax cable line. Another device near HomeVision extracts the signal from the coax, converts it back to IR, and transmits it to HomeVision (or to your other A/V equipment). These are often available as part of a whole-house A/V distribution system.
- Hard-wired system. This is similar to the "through-the-cable" systems, except dedicated wires are used instead of the coax cable. This is usually the most expensive system and must be run while the house is being built, but provides the highest reliability. It also allows IR "zoning" usually not possible with the other systems. Zoning allows the IR output from HomeVision to be directed only to specific zones, and may be necessary if you have multiple devices that use the same infrared remote. For example, if you have two Sony TVs that use the same remote, you can't control them individually unless you zone the IR output.

USAGE TIPS

- How can I schedule an event to occur only one time?
- How can I have an event run immediately after a schedule download?
- How can I have a periodic events run at unique rate?
- How can I tell whether a phone is on or off hook?
- When editing a schedule, is there an easy way to determine everywhere that a particular object (like a flag) is used?
- How do the X-10 “power failure” states work?
- How can I run Home Voice and HomeVision software programs simultaneously?

Question: How can I schedule an event to occur only one time?

Answer: Create a scheduled event and set it for the desired time. In the event’s actions, use an If-Then statement to make the actions happen only on the desired day (for example, only on “Saturday”, or only on “July 4”). Then, add the command “Disable Scheduled Event”. After the event runs, it will be disabled and won’t run again.

Question: How can I have an event run immediately after I download a schedule into the controller, but never again?

Answer: Create a periodic event, set it to run “Every Loop”, and enter the desired actions. In the actions, include the command “Disable Periodic Event”. After the schedule loads, the event will be enabled and run immediately, after which it will be disabled and won’t run again. The next time you load the schedule, it will run again once.

Question: I know that I can have “periodic events” run at certain specific rates (every 1 minute, 5 minutes, etc.). Is there a way to run event at other rates (like every 30 seconds)?

Answer: Yes, but not with periodic events. Instead, use a timer. In the timer actions (which run when the timer goes off), enter the actions you want to run. Also include a command to reload the timer with the desired frequency (like 30 seconds) and restart the timer. Each time the timer goes off, the actions will run, the timer will restart at the same value, and the process will repeat forever. You can stop the event at any time by halting the timer.

Note that you will need a command to start the timer the first time. There are several ways to do this:

- Create an event that runs immediately after a schedule is downloaded, and have it start the timer. See the previous question to learn how to do this.
- Create a periodic event that runs every loop. Have the event use an If-Then statement to determine if the timer is running. If the timer is not running, load it with the desired frequency and start it.
- Have another event (perhaps a scheduled event) start the timer at the appropriate time.

Question: I know that HomeVision doesn’t have a telephone interface, but is there any way to tell whether a phone is on or off hook?

Answer: Yes, by using a "loop sensing relay". You can get one from Mike Sandman...Chicago's Telecom Expert (630-980-7710, <http://www.sandman.com/wizard.html>). Their part is called the "Standard Sensitivity Loop Sensing Relay 1 Form C," part number WTB-860617-10. Cost is \$14.95. Connect it in series with the "ring" side of the telephone circuit, and use the other three leads for a normally closed or normally open relay. The relay can directly connect to a HomeVision input port (or a digital input on most other home controllers).

Question: When editing a schedule, is there an easy way to determine everywhere that a particular object (like a flag) is used?

Answer: Yes. Open the "View Schedule" screen under the "Other" menu. Then use the "Find" option to search for the desired object.

Question: The PC software's "X-10 Object Summary Screen" can set a "power failure" state for each X-10 address. I set these, then removed power from the HomeVision controller. After plugging it back in, my X-10 devices didn't go to the correct "power failure" state. Why not?

Answer: There is an error in the owner's manual regarding how the X-10 "power failure" states work. The manual says that the controller will transmit X-10 signals after a power failure to put the X-10 devices in the specified states. This is incorrect. The controller actually sets its internal state table to the specified power failure state, but it does not transmit X-10 signals.

This feature was designed so you could tell HomeVision how your X-10 devices behave after a power failure. By default, HomeVision assumes that an X-10 device returns to its previous state after power is restored. If your device actually stays off (as is most common with X-10 modules), you can set its power failure state to "OFF" so HomeVision knows it will be off after a power failure.

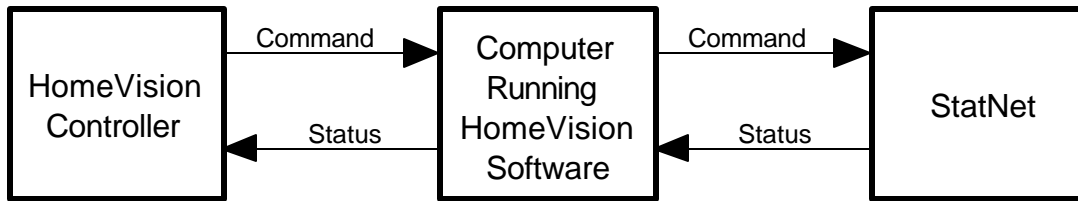
You can have HomeVision set X-10 devices back to the state (ON or OFF they were at before the power failed. To do this, use the "Power failure recovery event" under the "Objects/Events" menu. Enter a "Refresh X-10 Module" command for each X-10 address you want restored to its prior state. Each time power is restored, this event will run and transmit the necessary X-10 ON or OFF signals. Note that this may not put lights back to their previous level. For example, if a light was on at 50% when power went out, the "Refresh X-10 Module" command will send an ON command. Some X-10 modules will respond by going on to full brightness. Other newer modules will go back to where they were (i.e., to 50%).

Question: I want to use the Home Voice software program to add speech recognition to HomeVision. I also want to run the HomeVision software at the same time. Both programs require a serial port, and HomeVision only has one. Can I do this?

Answer: Yes, with a little bit of effort. You can run both programs simultaneously, each using a different PC serial port. The HomeVision controller must be connected to both ports. The easiest way to do this is with a serial port splitter. The controller can then safely send data to and receive data from both PC ports. B&B Electronics makes these devices, as well as several other companies. Note that these devices put a diode in the transmit line (data line into HomeVision) to protect the serial ports. If you wire both transmit lines from the two PC serial ports together and into the HomeVision receive port without diodes, and both PC ports try to transmit at the same time, they could be damaged. Therefore, we recommend using a device made for just this purpose.

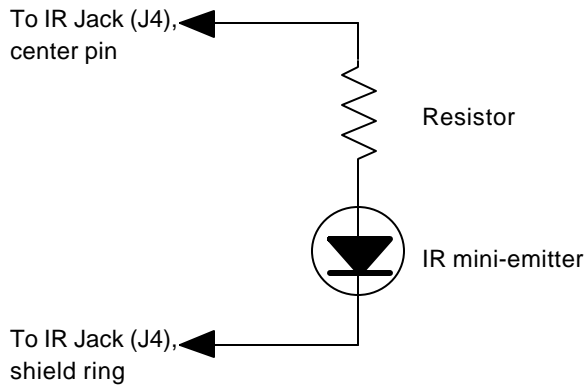
There are two “gotchas” to this approach:

- 1) The Home Voice software doesn't like receiving all the serial messages that the HomeVision controller sends during a schedule download. Therefore, we recommend that you either shut off Home Voice or disconnect its serial cable when downloading a schedule.
- 2) If both the HomeVision and Home Voice programs transmit data at the exact same time, the data received by the controller could be corrupted. In this case, one or both of the desired actions would be skipped. Thus, this isn't a perfect solution. However, “collisions” should be very rare, especially if one of the programs transmits infrequently. For example, assume the HomeVision software only transmits when reporting caller ID information, and you get about 30 calls per day. Assume also that you use Home Voice to send 150 commands per day to the HomeVision controller. On average, there would be a collision once a year. This would be a very minor inconvenience, especially considering that voice recognition itself isn't perfect and you'll occasionally have to repeat yourself anyway.



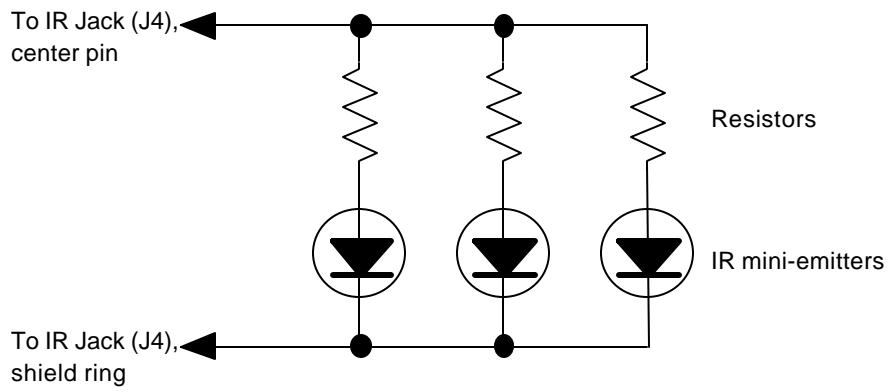
The infrared transmit jack (J4) on the rear of HomeVision is designed to drive IR connecting blocks or distribution systems. It can also directly drive IR “mini-emitters” if you use care to limit the total current flow.

The drawing below shows how to drive a single mini-emitter:



A resistor is used in series with the emitter to limit the current. Mini-emitters usually need 2mA to 20mA of current (it doesn't have to be real precise; anything in this range normally works fine). Some emitters will come with a built-in resistor and can therefore be directly connected to the HomeVision IR jack. However, most emitters do not have a built-in resistor. For these, you must add a resistor. If you do not, a high current could flow, damaging the emitter and/or HomeVision. HomeVision's IR output (at the center pin of J4) will be approximately 5V when transmitting. Resistor values between 200 and 1200 Ohms will usually work fine, with 470 Ohms being a good choice. The actual current flow will depend on the resistor value and the voltage drop in the mini-emitter.

To drive multiple mini-emitters, connect them in parallel, like this:



Note that each emitter has its own resistor. Don't omit these and place a single resistor in series with the group. If you do, the emitters may not work properly (or they'll work OK for a while, but eventually stop functioning).