

## Using HomeVision's Custom Video Menu System

HomeVision features a wide variety of video screens that can be displayed on your TV and controlled using your TV remote. This article focuses on using the "custom menu system". It shows how you can quickly and easily create a personalized menu system to control your home. It also shows how the different types of video screens can be used together to create an extremely powerful control system.

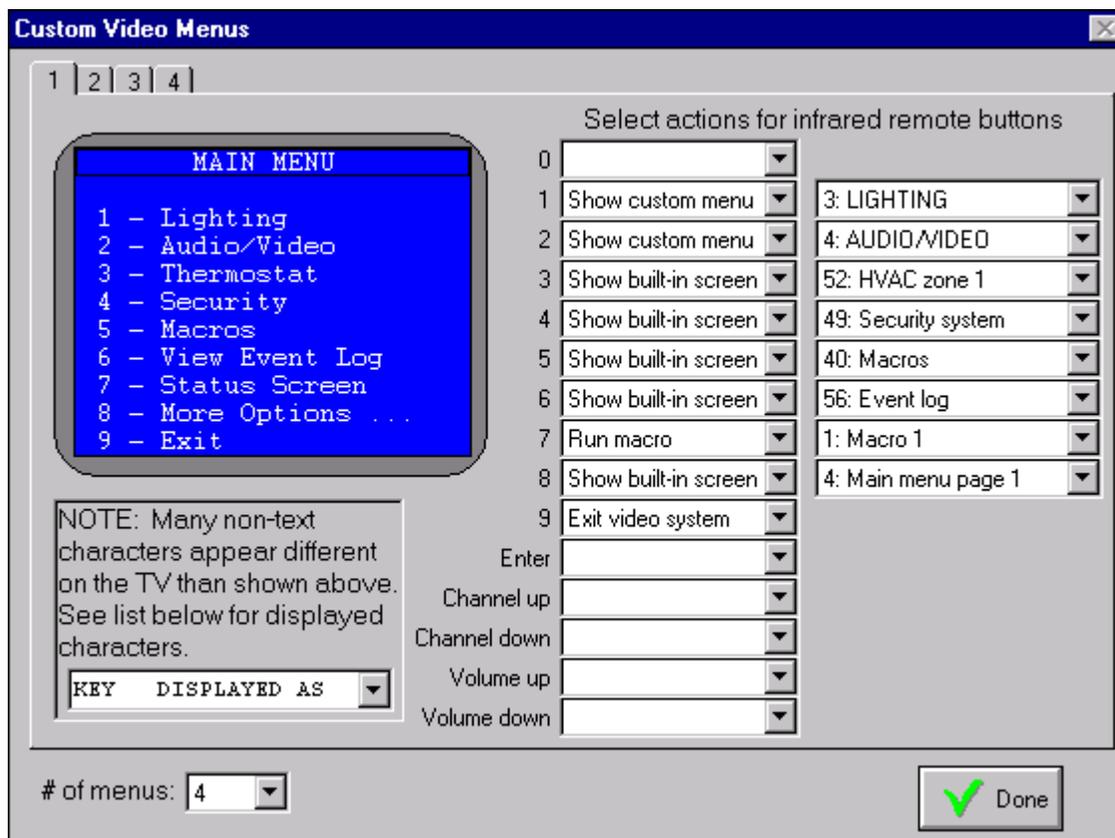
### BACKGROUND

One of the main features of HomeVision is its ability to display video screens on a TV, and control them with a standard infrared TV remote. Since its debut in 1996, HomeVision has contained a "built-in" video menu system that provides over 50 predefined TV menus and screens. There are screens for controlling X-10, macros, input/output ports, thermostats, security systems, and much more. Since these are built into HomeVision, they're always available for your use.

While these built-in screens are quite powerful and easy to use, automation enthusiasts always want more. So, HomeVision also includes the ability for users to create "fully-custom" screens. Such screens can display anything the user wants, and can respond to infrared remote button presses in any way the user desires. The one drawback to such fully-custom screens is that they take a bit of effort to create. To overcome this, we introduced "custom menus" in HomeVision version 2.61. These can be customized to a much greater extent than the built-in screens, and are much easier to create than fully-custom screens.

### CUSTOM MENU SYSTEM DESCRIPTION

These are easy-to-create menus (or "screens", if you prefer that term) that display whatever text you want. You can have up to 16 of them. You create them by simply typing the desired text on the simulated TV screen in the PC software, which looks like this:



For each screen, you can then define actions for 15 different infrared remote buttons:

- The 10 number keys
- Enter key
- Channel up and down keys
- Volume up and down keys

You select the desired action for each button using the drop-down list on the software screen. Allowable actions for each remote button are:

- Run a macro
- Display another custom menu
- Display a built-in screen
- Exit the video system

## **EXAMPLE MENU SYSTEM**

Here is an example video menu system to control your home that uses many of the HomeVision video features. Figure 1 shows five video screens, plus the actions that are assigned to the infrared remote buttons for each. Four of the screens are custom menus, and the fifth is a fully-custom screen. Many of the menu items will, when selected, will display a built-in screen. This shows how easily they can be integrated into your custom video system.

Following is a discussion of each screen, plus some general comments on how to use this system. You could easily expand this to include many more screens and capabilities.

### **Starting the Menu System**

First, you must decide how you want the video system to start (in other words, what causes it to be displayed on your TV). One convenient way that I like is to use the “Power” button on my remote to start and stop it. Here are the actions I have HomeVision perform when it receives the Power button signal:

```

If
  Video Mode is not active
Then
  Video: Stop video mode
  Transmit IR signal #10 (TV Channel Return) once
Else
  Video: Start video menu system
  Transmit IR signal #9 (TV 9) once
  Transmit IR signal #0 (TV 0) once
End If

```

If the video system is currently off (not active), this turns it on. If the custom menu system is enabled, this will automatically display the first menu. The macro then switches my TV to channel 90, which is where the HomeVision video is displayed. So with just one button press, the video appears on my TV. If the video system is already on when the Power button is pressed, it will be shut off. HomeVision will also transmit a “Channel Return” signal to my TV so it switches back to where it was before I started the video system.

### **Menu #1**

This is an introduction screen that appears first (it is not really used as a “menu”). If you’re an installer, you might put your company name and phone number here. That way, your customer knows who to call if they need assistance. Naturally, you don’t have to use such a screen if you don’t want to.

The actions are set up so that pressing any of the number keys on the remote switches to displaying screen #2 (the main menu). This way, as soon as the user presses a button, the screen changes. You could also program it to automatically switch to screen 2 after a few seconds. For example, your commands that starts the video system could do this:

```

Start video menu system

```

```
Wait 10 seconds with timer #1 (video screen timer), Then
  Display video screen #85
End Wait
```

You'll notice that this waits 10 seconds before displaying screen number 85. What the heck is screen 85? Each of HomeVision's screens has a unique ID number. The built-in screen starts at one and count upward. The 16 custom menus are numbered 84 through 99. The first custom menu is 84, the second is 85, and so forth. So to display the second custom menu, you command HomeVision to display screen 85. The numbering system is admittedly a little awkward, but you don't have to do this very often.

## **Menu #2**

This is your main menu. Some of the infrared remote buttons (1 and 2) are set up to switch to another custom menu (lighting and audio/video, in this example). Other buttons (3 through 6) switch to built-in screens. This is a cool capability, as you can use any of the built-in screens in your custom menu system with virtually no work on your part. In fact, button 8 on this screen switches to the main menu of the built-in video system, from which you can access any other built-in screen. When you return from the built-in screens, you'll come back to the same screen you left from. Button 7 runs a macro to display a custom status screen (this is a "fully-custom" screen discussed later).

Button 9 shuts off the video system. You may or may not want to exit the system in this manner. When you shut the system off this way, HomeVision will switch to outputting whatever video it's receiving (assuming you've connected a video source, such as a VCR, to HomeVision's input). However, if you had to switch your TV to another channel, or to a different A/V input, to view the video in the first place, this command won't return the TV to the original state. So, you'd then have to use your TV remote to change back. You can avoid this step by using a macro to shut off the video system *and* switch the TV back to the previous state. For example, your macro may look like this:

```
Video: Stop video mode
Transmit IR signal #10 (TV Channel Return) once
```

To use this, you can setup remote button 9 to run this macro (instead of having it just turn the video system off). This way, as soon as the user presses the button, the TV switches back to where it was before you started the video system!

## **Menu #3**

This is a lighting control menu. Most of the remote buttons are set up to run macros. You must write the macros to perform the desired actions. For these, the macros would probably just transmit a couple of X-10 signals to control the lights (the actual macro listings aren't shown here). This example screen also uses button 8 to switch to the X-10 screen of the built-in video system. This gives the user access to all X-10 addresses without the need to create custom menus for each (although you may prefer to use more custom menus, which is fine). Button 9 returns the user to the main menu.

## **Menu #4**

This is an audio/video system control menu. As with the lighting control menu, most of the remote buttons are set up to run macros. You must write the macros that perform the appropriate actions.

## **Fully-Custom Screen**

This is a "fully-custom" screen. Notice how, unlike the custom menus, this screen can display variable data (temperature, security system status, and house mode, in this case). Like the custom menus, it can also perform actions in response to remote keypresses. For example, pressing button 1 runs a macro, and the macro cycles through the various house "modes" (like Home, Away, Sleep, and Party). Button 2's macro toggles the security system between Armed and Disarmed. Buttons 3 and 4 run macros to raise and lower the thermostat setpoint. For all of these, this screen would immediately display the new status, providing real-time confirmation of your actions. Button 5 displays the built-in "TV event log" screen (which can log whatever events you want).

This type of fully-custom screen is the most flexible video screen that HomeVision offers. However, it also takes the most work to create. An explanation of creating such screens is beyond the scope of this article. Refer to the "How To" file installed in the HomeVision software directory for a detailed description of creating such screens.

## **CONCLUSION**

This article should give you a few ideas of how to use the HomeVision custom menu system. Most new HomeVision users will want to start by using the built-in video menu system first. After becoming familiar with it, they may then switch to using custom menus. Later, they may find a need for a couple of fully-custom screens, which they access from the custom menu system. Thus, users can progress from the built-in system to a custom system at their own pace, and create as powerful a system as their imagination allows!

## EXAMPLE TV SCREENS

### MENU #1:

```
THE SMITH FAMILY'S  
AUTOMATED HOME  
  
- Press any number key -
```

### MENU #2:

```
MAIN MENU  
  
1 - Lighting  
2 - Audio/Video  
3 - Thermostat  
4 - Security  
5 - Macros  
6 - View Event Log  
7 - Status Screen  
8 - More Options ...  
9 - Exit
```

### MENU #3:

```
LIGHTING  
  
1 - Family Room On  
2 - Family Room Off  
3 - Entry Light On  
4 - Entry Light Off  
5 - All Lights On  
6 - Theater Scene  
7 - Late Night Scene  
8 - More Lights ...  
9 - To Main Menu ...
```

### MENU #4:

```
AUDIO/VIDEO  
  
1 - Watch TV  
2 - Play VCR  
3 - Play CD  
4 - Play FM Stereo  
5 - Start Theater Mode  
6 - Record "Friends"  
7 - Record Now For 1 Hr  
8 - Turn Equipment Off  
9 - To Main Menu ...
```

## EXAMPLE REMOTE CONTROL BUTTON ACTIONS

- 0 - Show custom menu #2 (Main menu)
- 1 - Show custom menu #2 (Main menu)
- 2 - Show custom menu #2 (Main menu)
- 3 - Show custom menu #2 (Main menu)
- 4 - Show custom menu #2 (Main menu)
- 5 - Show custom menu #2 (Main menu)
- 6 - Show custom menu #2 (Main menu)
- 7 - Show custom menu #2 (Main menu)
- 8 - Show custom menu #2 (Main menu)
- 9 - Show custom menu #2 (Main menu)

- 1 - Show custom menu #3 (Lighting)
- 2 - Show custom menu #4 (Audio/Video)
- 3 - Show built-in screen #52 (HVAC zone 1 screen)
- 4 - Show built-in screen #49 (Security system screen)
- 5 - Show built-in screen #40 (Macro screen)
- 6 - Show built-in screen #56 (Event log)
- 7 - Run macro #1 (Display custom status screen)
- 8 - Show built-in screen #4 (Main menu page 1)
- 9 - Exit video system

- 1 - Run macro #2 (Family room on)
- 2 - Run macro #3 (Family room off)
- 3 - Run macro #4 (Entry light on)
- 4 - Run macro #5 (Entry light off)
- 5 - Run macro #6 (All lights on)
- 6 - Run macro #7 (Theater lighting scene)
- 7 - Run macro #8 (Late-night lighting scene)
- 8 - Show built-in screen #7 (X-10 screen)
- 9 - Show custom menu #2 (Main menu)

- 1 - Run macro #9 (Setup for watching TV)
- 2 - Run macro #10 (Setup for playing VCR)
- 3 - Run macro #11 (Setup for playing CD)
- 4 - Run macro #12 (Setup for playing FM stereo)
- 5 - Run macro #13 (Start home theater mode)
- 6 - Run macro #14 (Setup recording of "Friends")
- 7 - Run macro #15 (Start recording VCR now)
- 8 - Run macro #16 (Shut off A/V system)
- 9 - Show custom menu #2 (Main menu)

### EXAMPLE TV SCREENS

#### CUSTOM SCREEN:

```
STATUS
1-House Mode   : Party
2-Security     : Unarmed
  Outside Temp : 85
  Inside Temp  : 77
  HVAC Setpoint: 76
3-Raise Temp 1 Degree
4-Lower Temp 1 Degree
5-View Event Log
6-To Main Menu ...
```

### EXAMPLE REMOTE CONTROL BUTTON ACTIONS

This is a fully-custom screen. You must program HomeVision to draw this text and to respond to the infrared signals. See the "How To" file installed in the HomeVision software directory for a detailed description of creating such screens