(H)armony® 890

Advanced Universal Remote

Reviewer's Guide

Logitech

Logitech 890 Reviewer's Guide
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1. A Note to Reviewers

This guide provides information to help you craft your independent review of the Logitech Harmony 890 Advanced Universal Remote. The communications team at Logitech hopes you'll find our efforts helpful; we would appreciate your feedback.

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Product Images:
Images are available online by visiting http://www.logitech.com/pressroom

2. Product Overview

The Harmony 890 Advanced Universal Remote is Logitech's first retail remote to use radio frequency (RF) wireless technology, allowing people to control home-entertainment components hidden behind closed cabinets, or even those that are in other rooms of a house. The Harmony 890 remote offers the same ease of use and one-touch, activity-based control that has helped Harmony quickly become the most popular brand of advanced universal remotes in the U.S. marketplace – but by using a combination of infrared (IR) and RF wireless technologies, this remote offers a new level of flexibility and control in the home.

The Logitech Harmony remote controls comprise the No. 1 selling brand of advanced programmable remotes in the U.S.

Typically, the device-specific remote controls that ship with consumer electronics products work solely with infrared wireless signals – light waves that are easily blocked by furniture or walls. Using an IR remote, people must point the remote directly at the IR sensor on the components they want to control. If the component is behind a cabinet door, or if furniture or any other obstacle blocks the beam, the remote can't communicate with the device, and thus can't control it.

The Harmony 890 remote communicates with Logitech's RF Wireless Extender, included in the retail package, by using RF signals. Unlike light waves, these radio waves can travel through solid objects – such as cabinets, doors, furniture, and walls. Located within range of the home-entertainment components that users want to control, the RF Wireless Extender receives the RF signals and then, based on this information, blasts out the necessary IR commands to control the components.

It may sound complicated – after all, the technology is sophisticated. But using the Harmony 890 remote is easy. People don't need to worry about aiming the Harmony 890 remote at their entertainment systems, or opening up the cabinet doors to expose their components to receive infrared signals. And as with all Harmony remotes, pressing one button on the Harmony 890 remote puts the entire entertainment system in the right state to watch TV or movies, or listen to music – making it simple for any family member to enjoy the modern home-entertainment experience without frustration or guesswork.

3. Industry Overview

3.1 The Problem: The Growing Complexity of Home Entertainment

Until recently, most home-entertainment systems were confined to a single room of the house – a living room or media room with only a few components. In nearly all cases, these components were out in the open, so that conventional IR-based remote controls could operate them.

But today's home may feature entertainment consoles and systems concealed inside of cabinets or other furniture. And today's consumers often enjoy music, video, games and other home entertainment throughout home. Many high-end music systems include speakers built into several rooms – a scenario in which walls prevent conventional IR remote controls from controlling the equipment in another room.

This state of affairs has left many consumers frustrated – while they may spend thousands of dollars for top-of-the-line home-entertainment technology, the experience is tainted by their lack of complete and flexible control over their systems. They resort to using several remote controls, often in several rooms, to operate their equipment. Worse, the proliferation of multiple remotes throughout the house makes it all the more difficult for family members to both learn and remember how to operate everything.

3.2 The Opportunity

Several companies have tried to solve the problem of home-entertainment complexity with universal remotes. However, most third-party programmable remotes have been inadequate for these reasons:

> • They are difficult to set up. They require consumers to program complicated infrared codes into the remote, so they must have deep technical knowledge or hire an installer.

> • They control components individually, even though most entertainment activities involve more than one component. They require pressing an elaborate sequence of buttons to simply watch television or a DVD, or listen to music.

> • They do not work with all components. Many remotes only work on a limited number of popular devices. On some remotes, information that the remote uses to control components is stored internally, at the time it was manufactured, and quickly becomes outdated, forcing people to teach these codes to the remote via a confusing, laborious process.

> • IR dependent remotes don't work through cabinets, where today's components often reside, and they can't work through walls or floors to operate equipment in other rooms of the house.

As a result, some consumers have turned to elaborate whole-house automation systems that provide operation of all remote-controllable electronics throughout the home. Unfortunately, these systems are typically custom installed and programmed by a professional, extremely costly and still complex to operate.

3.3 The Logitech Family of Harmony Advanced Universal Remote Controls

The first Harmony advanced universal remote was brought to market in 2003, and Logitech has since introduced a complete line of these remotes. Each solves many problems with its easy setup and use, its one-touch activity-based control, and its complete control of the most complex and unusual entertainment systems.

Simple One-Touch, Activity-Based Control

All Harmony remote controls feature buttons that, when pressed, send a sequence of infrared commands to set up the entire entertainment system for an activity. For example, to watch high-definition TV on a cable system with a digital video recorder (DVR), the TV, high-definition receiver, cable receiver, and DVR box may all have to be powered and set to the appropriate inputs – which could require pressing 10 or more buttons on several remote controls. With the Harmony remote, one button – **Watch HDTV** – launches all of the correct components with the correct input settings in the correct sequence. After starting an activity, the remote knows how to control any of the components used during that activity. If the volume for watching television is controlled through a home-theater receiver rather than through the television, the Harmony remote knows to send infrared commands to the receiver when the **Up** or **Down** volume buttons are pressed.

By using activity-based control, Harmony remotes work the way people think. Nobody sits down to switch on the TV, change the input, turn on the DVD player and A/V receiver, switch the input and sound field setting and adjust the volume. They simply want to sit down to watch a movie. With the Harmony remote, they need to press only one button to do so.

Smart State Technology

Logitech's patented Smart State Technology® powers every Harmony remote control. This technology allows the remote to recognize all the current states and settings of the entertainment components it has been programmed to control. For example, at any given time, a Harmony remote knows whether the television's power is on or off, and which video input it is currently set to, based on the activities that were entered by the user. This capability is the backbone for a Harmony remote's ability to deliver complete, simplified control of an entire entertainment system. For a complete description of how Smart State Technology works, see Logitech's **Smart State Technology Innovation Brief**.

Easy Setup Wizard

The Logitech Harmony remote is configured through an intuitive online setup wizard. People create a profile as they go through the setup, answering simple questions about the equipment they own and how they prefer to use it. Once all the questions about the system have been completed, data is downloaded from the online Logitech database to the remote. When the update is complete, the Harmony remote is now a customized controller that has been tailored precisely for the person and his or her equipment.

Because there are intricacies with everyone's setup, Logitech maintains a toll-free tech support line, available seven days a week, and a quick-response e-mail support system.

The Most Complete Online Database of Equipment Codes

One reason why the setup of Harmony remote controls is so easy is Logitech's comprehensive online database, which contains information for more than 120,000 components (from more than 3,300 manufacturers) and the unique infrared signals that control them. When people enter a component model number during setup, the Harmony wizard matches it with infrared codes for that device, which are already stored in the database. These codes are then downloaded into the remote as an update.

This industry-leading database is unique in that many thousands of Harmony remote owners have contributed to providing the codes and device details. During a Harmony remote owner's setup, the database occasionally lacks information about a particular electronics component or a unique feature. In these cases, the wizard walks the person through a process that teaches the Harmony remote about the component as the person presses a few buttons on the component's original remote control. The Harmony remote then captures these commands, and uploads them to the person's online account, where the commands are stored and can be accessed or updated at any time. This new component information is then validated by the Harmony customer support team, ensuring its accuracy, and is then published in the database for use by other Harmony members. The next time a Harmony customer enters that component model number, the new information will be available in the database. This approach ensures that the database has the most current and accurate information, whether the components are new or old, popular or obscure.

3.4 Harmony Family Overview

Model	Features/Function	MSRP (U.S.)
Harmony® 890	Delivering the complete set of advanced Harmony features, the Harmony 890 remote adds radio frequency (RF) control, providing consumers the ability to control home-entertainment systems that are hidden behind closed doors or in other rooms. Unlike remotes that use only infrared technology, the Harmony 890 remote doesn't require a direct line of site to control entertainment systems.	$399.99
Harmony® 880	The flagship of Logitech's infrared remotes, the Harmony 880 remote is rechargeable, features a color LCD with eight programmable buttons, and has a sleek design that complements today's living rooms. Optimized for complicated HDTV and DVR systems, the Harmony 880 remote helps to tame sophisticated home-entertainment systems.	$249.99
Harmony® 550	The Harmony 550 remote delivers one-touch activity control, easy setup, simple for anyone to use – in a budget-friendly design.	$149.99
Harmony® Remote for Xbox 360	The Harmony Advanced Universal Remote for Xbox 360 makes gaming easy, with **Play Xbox 360** one-touch activity control and dedicated X, Y, A and B buttons that can be used to navigate the Xbox 360 interface.	$129.99
Harmony® 890 Pro	This modular product allows installers to create custom multi-room solutions using wireless extenders. Multiple remote controls and enhanced support of lighting and home-automation devices using Z-Wave wireless technology.	$449.99
Harmony® 880 Pro	Includes additional hard buttons to the Harmony 880 remote design that provides enhanced control of advanced A/V features such as aspect ratio and audio settings.	$349.99

4. Key Features in Detail: The Harmony 890 Remote

RF Wireless Operation with Z-Wave

The Harmony 890 remote transmits RF signals using the Z-Wave wireless standard. Developed by Zensys, the Z-Wave standard allows electronic devices to communicate with each other using low-power radio waves. The same technology is featured in some advanced home-automation systems such as lighting, climate control, and security.

By using this RF technology, the Harmony 890 remote can transmit signals through closed cabinets and cases that contain home-entertainment components. It also can be used to control components in other rooms of the house, even through walls and floors. In addition to the one RF Wireless Extender that comes in the retail package, Logitech offers additional wireless extenders for those who want to use the Harmony 890 remote to control components in multiple rooms.

The Harmony 890 remote can send RF signals as far as 100 feet, more than enough range to cover most households. By being able to control components in other rooms of the house, the Harmony 890 remote effectively becomes a multi-room home-entertainment controller.

Customizable Color Display Screen

A vibrant, color display on the Harmony 890 provides information that can be instrumental to the user as he/she controls the entertainment center. The screen can be personalized in the following ways:
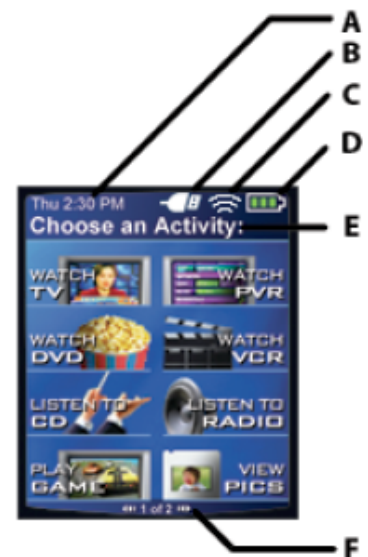- Up to eight custom activities or controls can be defined for each screen; these functions are linked to the eight buttons surrounding the display
- A background image can be uploaded from the PC
- Images for favorite channels can be uploaded from the PC
- Images can uploaded from the PC and run as slideshows

Rechargeable Design Means No More Changing Batteries

Unlike conventional remote controls that quickly run through AA and AAA batteries, the Harmony 890 remote features a rechargeable lithium-ion battery and a sleek docking station that keep the remote fully charged for up to a full week of normal use. The horizontal docking station allows the remote to be used while it is charging, and also provides family members with a convenient and easy-to-remember place to put the remote, so they'll always know where it is.

Backlighting Keeps the Show Going, Even in the Dark

The Harmony 890 remote has a built-in motion sensor and a lighting sensor. The color display adjusts brightness based on a built-in lighting sensor – staying bright during daylight and dimming when it is darker. When the remote is motionless, the screen dims, and when picked up, the screen automatically brightens. Users never have to fumble in the dark to access a function while watching a movie.

The Harmony 890 remote's LCD displays the following status information:
A. Date and time
B. Indicator if the USB is attached
C. Indicator when commands are being sent to devices
D. Battery indicator (battery's power)
E. Current screen/activity label
F. The number of screens available in a menu, and the screen currently displayed

Simplified HDTV Control

Today's sophisticated digital video formats, including SDTV, EDTV and HDTV, arrive at the consumer's home in a variety of resolutions and screen shapes. Establishing the correct settings to view these programs is often difficult, resulting in misshapen, distorted images that don't deliver the full potential of these premium video sources. Optimized for playback of these sophisticated programs, the Harmony 890 remote makes it simple to establish the correct picture and sound settings as part of a one-touch activity button. The remote also allows users to add optional settings for each activity. For example, it's easy to customize buttons for toggling between different picture and sound modes.

Stylish, Comfortable Design

Featuring a stunning industrial design, a color display and a low-profile recharging station, the Harmony 890 remote matches even the most-sophisticated entertainment room's décor. Featuring a comfort-grip shape and a centered directional pad, the remote fits easily in the hand and naturally guides people to the most frequently used controls. The remote is fully backlighted so it's easy to navigate in the dark. Even while watching their entertainment with the lights out, people can find the buttons they want effortlessly, by touch. Important buttons are easily identified by feel, thanks to their varied sizes, shapes, and location.

4.1 The Harmony 890 Remote: Features and Benefits

FEATURES	BENEFITS
RF Wireless Operation	Controls components throughout the house, even through cabinets, walls and floors. No line of site needed to operate equipment. Remote provides 100 feet of range.
Color LCD Display	Vibrant color screen offers a customizable interface; images can be uploaded for background, slideshow or favorite channels.
One-Touch Activity Buttons	Send out sequence of commands to multiple components at one time; with one touch, remote can send all commands needed to **Watch HDTV**, **Listen to CDs**, **Watch DVD**, **Listen to Radio**, etc.
HDTV Optimization	Automatically calls up correct aspect ratio and audio settings for HDTV, with toggle capability for picture and sound options.
DVR Control	Complete functionality for DVRs. Logical button layout and extensive customization capabilities unleash the full potential of any DVR.
Smart State Technology	This patented Logitech technology enables the remote to remember the operating status of any component at any time. This allows one-touch switching between activities without having to turn on or adjust components for different entertainment activities.
Recharging Station	Rechargeable lithium-ion battery means no more running out of batteries; attractive charging station provides a convenient location where the whole family can find the remote.
Web-Based Wizard for Easy Setup and Customization	People simply tell the wizard the brand and model of the components they want to control. The wizard does all the programming and downloads information to the remote via the supplied USB cable.
Comprehensive Internet Database of Control Codes	Online database contains codes and characteristics for more than 120,000 components from more than 3,300 manufacturers.
Help Button	If any component doesn't respond properly at any given time, the simple Help button diagnoses the current state of the components and walks the user through the simple steps to correct everything.
Learning Ability	In addition to its huge database of command codes, the Harmony 890 remote can learn any infrared (IR) command from any device.
Seven Days a Week Tech Support	E-mail and toll-free phone support: Monday through Friday 9 a.m. – 10 p.m. EST Saturdays and Sundays, noon – 6 p.m. EST Toll-Free Telephone: 1-866-291-1505 **Harmony_Customer_Support@Logitech.com**

4.2 Logitech Harmony 890 Remote Layout

1) **USB CONNECTOR**: Information downloaded from Harmony database through this port.

2) **OFF**: Turns all devices off with one button press.

3) **HELP**: Asks simple questions so that the Harmony remote can troubleshoot when a component is not in the correct state.

4) **ACTIVITIES**: Pressing the **Activities** button tells the LCD screen to display the activities that have been programmed on the remote.

5) **COLOR DISPLAY**: Shows activities, devices, features and settings, as well as on-screen help and TV listings.

6) **ON-SCREEN BUTTONS:** The buttons on the left and right side of the screen can select the corresponding commands and activities listed on the screen.

7) **DEVICE**: Lists all devices in the entertainment system on the remote's LCD screen, and allows you to select and fully control any feature from any device.

8) **MENU BUTTONS:** For most cable or satellite TV services, this opens the main menu from which to choose themes or search for program information.

9) **GUIDE:** Provides television program listings on TV screen for services with that feature.

10) **MEDIA:** In the **Watch TV** activity, press this button to view a selection of favorite channels on the LCD screen.

11) **LEFT/RIGHT Arrows:** Navigates among Harmony LCD screen pages when there are more than eight choices for a given menu.

12) **GLOW**: Produces backlighted glow for instant illumination.

13) **INFRARED LEARNING PORT:** Includes infrared receiver so the remote can learn commands from other remotes that are not in the Harmony database.

4.3 Harmony 890 Remote Product Specifications and System Requirements

Price

The Logitech Harmony 890 remote has a suggested retail price of **$399.99** in the United States and Canada, including the RF Wireless Extender. Additional wireless extenders can be purchased separately for $149.95.

Product Specifications

• 2 MB flash memory
• USB communication
• Hardware: Color 64K LCD screen LCD 84 x 48 pixels, 53 buttons, Infrared sensor, USB communication.
• Power: Rechargeable Lithium-ion batteries; included charging platform
• Dimensions: 8.1x 2.3 x 1.3 inches
• Weight: 5.8 oz

Warranty

Logitech offers the following warranty for new products purchased directly from Logitech, or from a Logitech Harmony Authorized Dealer (with proof of purchase): A one-year repair/exchange warranty for factory assembly defects only, not normal wear and tear over time (including UV light), acts of nature (rain, animals as examples), buyer's remorse, commercial or institutional use, or any user mishap or misuse.

System Requirements

The minimum recommended Windows® system configuration is:

• Microsoft Windows 98SE/Me/2000/XP operating system
• USB plug-and-play support
• 10 MB free hard drive space
• CD ROM drive
• Internet connection (dial-up, cable, DSL, LAN, etc.)

The minimum recommended Macintosh system configuration is:

• Mac with USB plug-and-play support
• Mac OS X 10.2 or later operating system
• 10 MB free hard drive space
• CD ROM drive
• Internet connection (dial-up, cable, DSL, LAN, etc.)

4.4 Reader Info Box

Many product reviews provide a product overview with pricing, options and vendor contact information. If your review contains a reader information chart, you may find the following table useful.

Reader Information

Logitech® Harmony® 890 Advanced Universal Remote

By using infrared (IR) and radio frequency (RF) wireless technology, the Logitech Harmony 890 Advanced Universal Remote Control delivers one-touch control of sophisticated home-entertainment systems, even for components hidden behind closed cabinet doors or located in other rooms. The remote can be customized to control any setup or suit any personal preferences. The Harmony 890 remote does it all – upstairs or downstairs, even through walls, floors and cabinets. With simple, one-touch activity controls, the Harmony 890 remote is easy for the entire family – and even the babysitter – to use. With an intuitive, clean Web interface and USB connection, the Harmony remote is extremely easy to set up. Its rechargeable design means no more changing batteries.

Price: Harmony 890 remote (retail) - $399.99

In the box: The Harmony 890 Advanced Universal Remote Control; RF Wireless Extender; recharging station; mini-USB cable; software CD; installation guide; AC power adapter for charging station and RF Wireless Extender.

Compatibility: Windows XP, Me, 2000, 98SE; Mac OS 10.2 and above

Warranty: One-year limited hardware warranty

Vendor: Logitech Inc.

Web site: www.logitech.com/harmony

5. Setting Up the Harmony 890 Remote

The Harmony 890 remote control setup is a six-step process, estimated to take approximately 45 minutes to 1½ hours, depending on the complexity of the system being controlled and the user's familiarity with the system.

First, install the software and drivers from the CD, and follow the onscreen instructions. The software will then connect you with the Harmony Web site. You will first be prompted to set up a user account. Your progress will be shown on screen throughout the setup process in the form of a grey and green status bar**.**

Step 1: Creating a Harmony Account

At the end of software installation, you will be taken automatically to the Harmony Web site (if not, please visit logitech.com/harmony and click on **New User Login**). You will be asked to enter your User ID and password, which you will use to log in each time you want to update your Harmony remote control (fig. 1).

Step 2: Testing the Connection

At this point, the Web interface will ask you to plug in the Harmony 890 remote with the provided mini-USB cable. This is simply to make certain the hardware is functioning properly and is able to upload and download information. When you've arrived at Step 5 of the process – updating the remote – you will plug the USB cable into the rear of the RF Wireless Extender (fig. 2).

Step 3: Setting Up the Devices

During this step, the wizard helps identify the various entertainment components you want to control with the Harmony 890 remote. First, you'll be asked to select the kinds of components you are using (fig. 3), and then choose brand names by using the pull-down
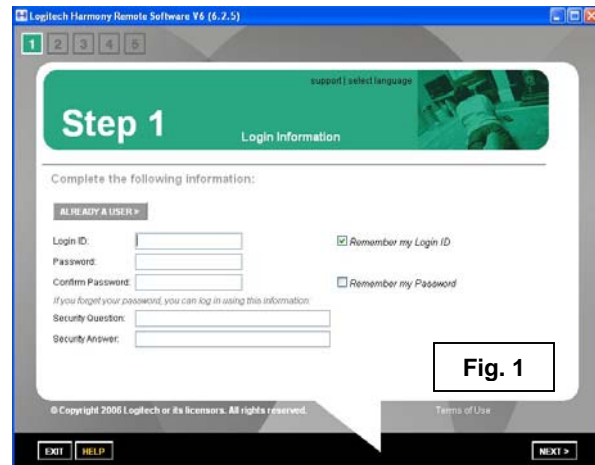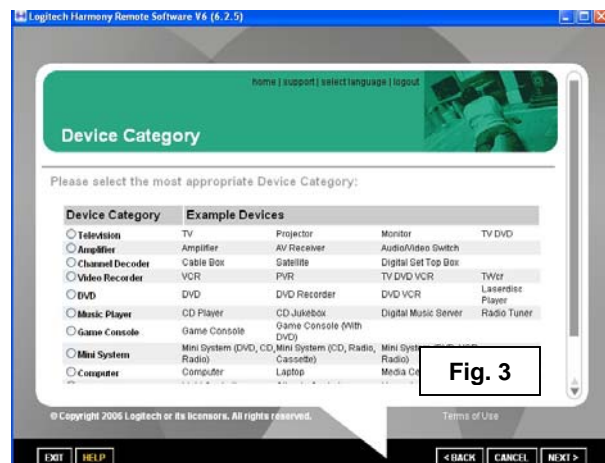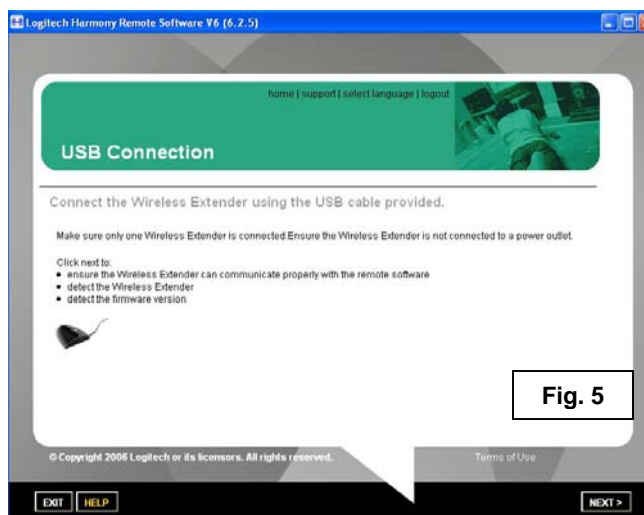
Fig. 1

Fig. 2

Fig. 3

menus (fig. 4). After making your selections, press **Next**.

The following screen asks for the specific model numbers of the components you have selected. The model numbers provided are then compared with the component information already stored in the Harmony database. At this point, the Harmony database will move all of the matching information into your online account, and make it ready to update your remote.

In the unusual event that there is no record of your particular component model(s) in the database, the wizard will launch the **Device Tutor**. The Device Tutor will ask you to point the original component remote toward the back of the Harmony 890 remote, where there is an infrared receiver in the **Learning Port**. The Harmony remote should remain connected to your PC via the USB cord. You will be instructed to press a few buttons on your original device-specific remote. This process allows the Harmony remote control to learn the exact kinds of codes needed to control the component. These codes are then uploaded into your account, where it is stored and then downloaded to the Harmony remote at the end of the process.

Fig. 4

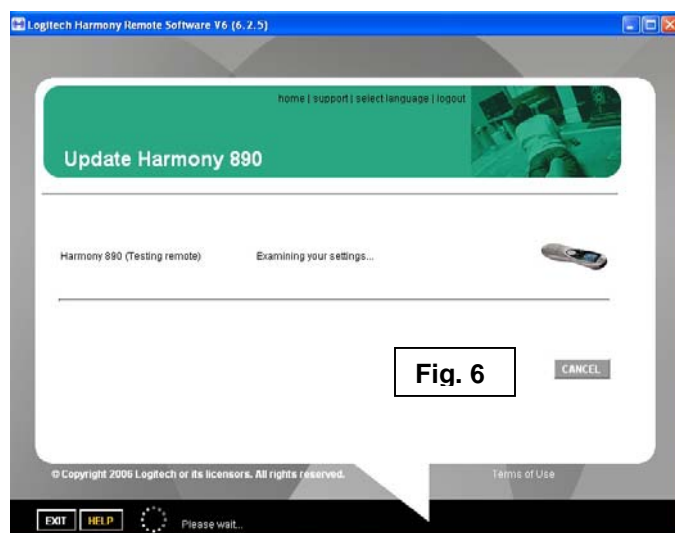Fig. 5

Step 4: Setting Up Activities

During this step, the setup wizard will ask questions about how your entertainment devices are connected, and how they are used during each activity, such as **Watch a DVD, Listen to Music,** or **Watch TV**.

As the setup wizard sets up each activity, it asks simple questions such as, "To watch a DVD, what setting does your television need to be on?" Based on what the Harmony database already knows about your television, it will provide a recommended choice of inputs. If none of these first choices appear correct, simply click on the **Adjust the Inputs** button within the **Tip Center** on the right side of your browser window to add more options. When you've answered the questions and your activities are set up, you are ready for the final step of the process: updating the RF Wireless Extender and then the Harmony 890 remote.

Step 5: Updating the Harmony Remote and RF Wireless Extender

Once you have finished the first four steps, your account has been prepared with all of the information the remote needs to control your entertainment system. At this point, connect the RF Wireless Extender to the USB cord, and click **Update**. Next, follow the instructions to update the RF Wireless Extender (fig. 5). Don't plug in the AC power cord for the RF Wireless Extender – you'll do that in just a moment. Click **Next** to download your system information into the RF Wireless Extender. The progress bar of the Harmony wizard interface will show you the status of the download as it happens. When this process is complete you'll be prompted to connect the USB cable to your remote control (fig. 6). Make the connection and begin the update of the remote. After the updates, all of the data to control the home-entertainment system is stored in flash memory within the remote and the RF Wireless Extender. This ensures that in the event the remote's battery is depleted, the system configuration will not be lost.

Fig. 6

Step 6: Connecting the Remote to the RF Wireless Extender

After a successful update of the remote and the extender, a message on the remote's display screen will prompt you to connect a Z-Wave module; in this case the module is your RF Wireless Extender. Plug the RF Wireless Extender into a power outlet nearby the components you want to control, and press the **Connect** button for at least one full second. Your Harmony 890 remote will then recognize that the RF Wireless Extender is part of the Z-Wave wireless network. Confirmation of this process is shown in the remote's color display with a green check mark. Place the RF Wireless Extender near the components you want to control, and you can then control the components from up to 100 feet away.

After basic setup is complete, you may decide to customize the buttons or the color display options of the Harmony remote. At any time, you can go back to your Harmony member page and adjust the settings. The Web page can be reached by simply connecting the remote over USB or clicking on the Harmony logo that should be located in your system tray of a Windows OS PC or DOCK bar on a Mac OS X.

6. Using the Harmony 890 Remote

After the Harmony 890 remote has been programmed for the first time, turn the power off all of the devices in your entertainment system. Now, you're ready to play – here are some suggested activities and customizations that will help illustrate the power of the Harmony 890 remote:

6.1 The One-Button Activity

For starters, try pressing one of the activity buttons on the side of the color LCD screen. Pressing **Watch DVD** sends a sequence of customized commands that launch all of the devices and establish the correct state of each those devices for this activity. On ordinary remotes, you'd normally have to press multiple buttons on different remotes to watch a DVD, such as:

• Turning on the DVD player
• Turning on the television
• Turning on the A/V receiver, if you use one
• Setting the television to the correct input to see the DVD player
• Setting the A/V receiver to the correct input to hear the DVD player
• Setting the correct picture aspect ratio for the TV so the picture isn't distorted
• Setting the correct sound field setting for the audio

As you can see, this simple activity would normally take at least seven steps, with as many as three different remote controls. With the Harmony 890 remote, you simply select one button and all of your equipment adjusts to operate in the selected activity as you requested.

If at any time an activity doesn't launch correctly, use the **Help** button above the LCD screen, and it will ask a series of questions to help put your entertainment system into the correct state.

6.2 Controlling Devices Behind Cabinet Doors or in Separate Rooms

If you have equipment behind closed doors, place the RF Wireless Extender in front of the components to be controlled and ensure that the AC adapter is plugged in. Close the cabinet doors, and simply select one of the on-screen activity buttons. The commands to control the system will be sent over the Z-wave network to the RF Wireless Extender and then converted into infrared signals that are transmitted to the individual components. You should be able to control the components from another room, up to 100 feet away. If the RF Wireless Extender can't be positioned to send IR signals to all of the components, try using any of the eight IR blaster node cables that plug into the base of the extender. These nodes can be positioned within a direct line of sight to the IR receiver in each component. Each node has an adhesive backing so that it can be applied directly to the IR receiver or to the back of cabinet doors.

6.3 Switching Between Activities

There's no need to power off all the devices that are in use to switch activities. For example, if you're watching TV or listening to a CD, simply press any one of the activity buttons to jump directly to that activity. The Harmony 890 remote will automatically

power on or off the necessary components and change input settings accordingly.

With the Harmony 890 remote, it takes just one button to launch – or change – an activity. With conventional macro-based universal remote controls, the entertainment system will need to be reset, with every component turned off, before it can launch a new activity.

6.4 Controlling Individual Devices

The Harmony 890 remote can work in two different modes: through programmed activities, as discussed above, or through individual device mode.

Here's one example of where you may want to use the **Device** control. Let's say you want to listen to music through your satellite TV or digital cable service, which runs through both your audio system and your television. You may want the TV screen to be on during this activity, to see what music you're listening to. But then again, maybe you don't – you just want a nice relaxing time with music and don't need to have an obtrusive TV picture.

Once you've called up the music you want, press the **Device** button, and the remote's screen will display the option to select any device in your system (if the device you are looking for is not on the initial screen, press **More**). Once you select the TV, the remote will be set up to control the television only – now you can simply turn it off or make any other adjustments.

7. Optimizing and Customizing the Remote

One of the strengths of the Harmony remote is the adjustable level of programming. Some people may choose to run only the basic setup and have all of their primary needs fulfilled. But people may choose to run setup options and make adjustments that can further customize how the Harmony remote is used to control the given system. For example, some of the more advanced capabilities of the remote include:

7.1 Customizing the Color Display

The Harmony 890 remote's color display can be customized in several different ways to suit personal preferences.

Choosing a Background
To change the background image on the remote, log in to your Harmony account and go to the home page. Click on **My Remote Preferences**, then choose **Set a Background**. From there, you can browse your computer for the image you would like to set as your background picture. Files in the .png, .bmp, .jpg, or .gif formats are accepted, up to 160 KB file size.

Choosing a Theme for Font/Icon Appearance
Choosing a different theme can change the appearance of the Harmony 890 remote's display menu. From the home page, click on **My Remote Preferences**, and then choose **Select a Theme**. From there, you can choose from different font styles and whether or not to include the icons in the display.

Creating a Slideshow

You can create a custom slideshow that runs on the LCD show while the remote is charging. Launch this on the remote by pressing the **System Options Activity**, then **Start the Slide Show**. To load images from the PC, click on **My Remote Preferences** from the Harmony home page, and then choose **Set Up a Slide Show**. The next window will allow you to browse and upload images from your PC.

Choosing Images for Favorite Channels

The Harmony 890 remote allows you to create a list of favorite channels, and then choose icons to represent those favorites. From the Harmony home page, choose **Set Up Favorite Channels** within the **Watch TV, Watch PVR** or **Watch HDTV** activities. The next window allows you to designate your favorite channel numbers, and then add icons for those channels. If you choose not to add an image for a channel, the channel number will appear on your **Favorite Channels** screen. To access your favorites while watching television, click the **Media** button just below the LCD screen on the Harmony remote.
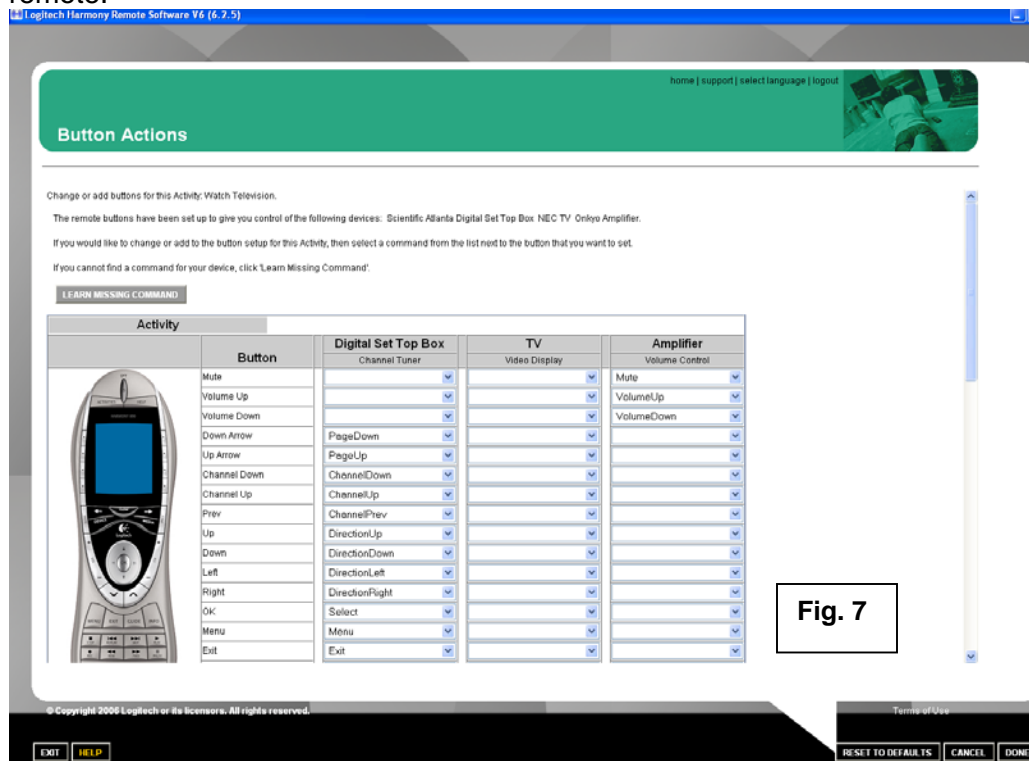

Fig. 7

7.2 Creating a Custom Button

It's easy to add custom buttons on the Harmony 890 remote color display or change any button's function on the remote. Custom buttons can be created for a specific activity, or for a specific device.

To try an example, log in to your Harmony account to enter the home page. Click on an activity, such as **Watch TV**, and then select **Change the Behavior of Buttons**. In the left column, you'll see the names of the buttons (Fig. 7). A column to the right shows you the functions of the buttons that are assigned to the cable box. And farther to the right,

	Custom Button Label	Digital Set Top Box Channel Tuner	TV Video Display	Amplifier Volume Control
	C	C ▾	▾	▾
	List	List ▾	▾	▾
	Aspect	▾	Wide ▾	▾
		▾	▾	▾
		▾	▾	▾
		▾	▾	▾
	MORE CUSTOM LABELS			

If you would like to add a Custom Button Label for this Activity, then enter the label that you want to appear in the display,and select a command from the list.

Terms of Use

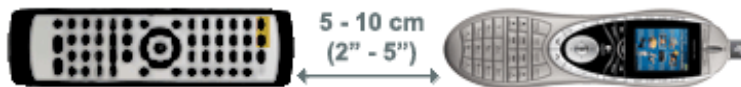EXIT HELP   RESET TO DEFAULTS CANCEL DONE

you may see another column (or more) of other components that are used during the Watch TV activity, such as an A/V receiver. Simply change the function selection in any of the drop-down windows to alter the task of the buttons associated to that function. If you scroll down to the bottom of the page, you will see custom button labels that correspond to the LCD button assignments (Fig. 8) – there are eight of these soft buttons visible at any given time. Change any one to the name and function of your choice.

7.3 Teaching the Harmony 890 Remote an Infrared Command

Occasionally, a function or feature button on a component's original remote control may not appear as a default on the Harmony remote. In particular, new digital devices, such as DVRs and audio servers often have functions that are unique to that product and its remote control. If this situation is encountered, it is simple to teach the Harmony remote the new commands.

As an example, try adding a button to enhance your control of the television. From your Harmony home page, click **More Options** under the **Television** device. From there, click **Customize the Device, Sound, and Picture commands for this TV**. At the top of the next window, you will see a **Learn Missing Commands** button. Click it, and you will see a grid of commands already represented in the database. If you scroll to the bottom of the page, you will see a **Learn a New Command** window. There you can name the function you are going to add. Click **Learn New Command**, then point your TV remote at the base of the Harmony 890 remote and push the button you would like your Harmony to learn. After completing the process, you can assign the command to any button on the remote control, including those next to the color LCD.

7.4 Adjusting the Speed Settings

Different components respond to infrared control signals at different speeds. Some power on almost immediately, while others take as long as a few seconds to respond. The Harmony remote compensates for this, allowing people to adjust the speed settings of the various sequences the remote can send out. In most cases, you only adjust the speed settings on the Harmony 890 remote when there's a problem, such as components not turning on or switching inputs correctly when an activity button is pressed. To change speed settings, click on **More Options** under any of your devices from the Harmony home page. Then click on **Adjust the Delays**, which will bring you to a screen (Fig. 9) where you can change the following:

Fig. 9

Power On Delay
How long the device takes to warm up and respond to any more signals that are invoked after the component's power comes on.

Inter-key Delay
How many seconds the device needs to accept one signal and be ready for the next.

Input Delay
How long the device takes to respond to input signals. Sometimes TVs take a second or two to switch between one input setting and another.

Inter-Device Delay
Some devices get confused when infrared signals sent to it are followed closely by signals sent to other devices. Increasing this setting provides a buffer between those signals.

7.5 Custom Activities

Everyone likes to do things in their own special way. The Harmony remote's ability to be custom programmed gives people the opportunity to take control of anything that accepts infrared commands. And with the addition of RF wireless capability, they can control components in any room in the house, from anywhere in the house. Here is an example of a custom activity that most people wouldn't think about, but is possible using the Harmony remote.

TV and Music At the Same Time
The playoffs are on, but you have company over and your spouse wants to turn on some music. With the Harmony 890, it's no problem. You can set up a custom activity – call it **Background TV** – in which you can have the television on (without audio) and music playing at the same time.

From the home page, select **Add an Activity**, and then **Add One Activity**. From the displayed list, choose the primary activity listed that is closest to what you want – for this new activity, we'll choose **Watch TV**.

At the next window, select **Custom**, which asks you a series of questions about which devices you want to use for this activity. When you're done answering the questions, return to your home page and rename the activity by clicking **Customize**, and then **Rename**. You can also set up the buttons on the controller to give commands to the various devices in this new activity. For example, you might want some optional controls for the TV, such as picture-in-picture. You can define which buttons on the Harmony 890 refer to these and other functions, and you can also add additional custom soft buttons on the remote's screen. Once the new configuration is downloaded into the remote, you can access the new activity like any other. Then it's just one click of the custom **Background TV** activity button to achieve video and music play back at the same time and keep every member of the family happy.

8. Frequently Asked Questions

What types of devices can be controlled by the Harmony 890 remote?
The Harmony 890 remote can control most types of devices that come with an infrared (IR) remote control. It is also capable of extending the capabilities of conventional infrared control by being able to send IR codes via another wireless technology called RF.

What's the difference between infrared and RF wireless technology?
Infrared signals are actually light pulses that are too low in frequency for human eyes to see. Like any other beams of light, infrared signals are directional, and can be blocked by obstacles. RF wireless technology works on the principle of radio waves. They are not directional and not affected by obstacles, so people don't have to point RF remotes at the components they want to control, and the signals can travel through walls, floors and cabinets.

Does the Harmony 890 send RF or IR signals to control my gear?
It sends both. The infrared signals can control equipment in the same room, within the remote's line of sight, but the 890 can also send the IR codes via a wireless RF stream to components hidden behind closed doors or in other rooms in the house. An RF Wireless Extender receives the RF signals, and then translates them back into IR codes that the equipment can understand. The RF technology being used at this time is based on the Z-Wave standard.

On which frequency does Z-Wave operate on?
Z-Wave uses the 900 MHz frequency band. This band was chosen because it has a range that's approximately 2.5 times greater than the 2.4 GHz frequencies used by common household cordless phones. By working within the 900 MHz range, Z-Wave networks not only offer longer-range operation, but aren't subject to interference from cordless phones and Wi-Fi home networks.

What is the Logitech RF Wireless Extender?
The Logitech RF Wireless Extender is an example of what is sometimes referred to as a "bridge receiver" – it takes an RF signal and converts it to IR commands. On its own, each RF Wireless Extender will command up to eight devices through its own IR emitter

system. The RF Wireless Extender also comes with eight cabled IR blaster nodes that plug into the base of the extender, and can be positioned more closely to components with IR receivers that are not in a direct line of sight with the extender.

How do I use the IR nodes?
Simply plug the node into the RF Wireless Extender and aim the blaster's emitter toward the IR receiving window of the gear you want to control. Each node has an adhesive attached to it, so you should have no problems lining up the node with the component you wish to control. The node provides a flexible extension of the IR signals.

How do I know that the information I receive from the Harmony database is accurate?
There is a two-step verification process that takes place for information entered by Harmony customers. First, Harmony engineers validate the commands before allowing them to enter the public profile for a device. Second, Harmony customers may verify the commands when they repeatedly enter the same information about new devices.

Can I set up my Harmony remote with operating systems besides Windows?
All Harmony remotes support both Windows (98 SE & Later) and Macintosh (OS X & later) operating systems.

9. About Logitech Inc.

Logitech designs, manufactures and markets personal peripherals that enable people to effectively work, play, and communicate in the digital world. The company's products combine essential core technologies, continuing innovation, award-winning industrial design and excellent price performance.

Logitech International is a Swiss public company traded on the SWX Swiss Exchange under the symbol LOGN and on the Nasdaq National Market System under the symbol LOGI. The company has manufacturing facilities in Asia and offices in major cities in North America, Europe and Asia Pacific.

Logitech's origins lie in the OEM sector, which remains an important part of its business, and represented 13 percent of the company's total sales in Fiscal 2005. To meet the demands of its OEM customer base, which includes most of the world's largest PC manufacturers, Logitech offers high-volume manufacturing with focused quality control, worldwide distribution and logistics, and the ability to leverage its infrastructure under changing demand conditions.

Logitech continues to broaden its product offering and its presence in the retail sector. This is fueled by a trend among consumers to enhance their basic PC systems with more fully featured personal peripherals that add functionality and cordless freedom to their desktops. They are also purchasing supplementary devices designed for new applications and specific purposes such as gaming, multimedia, or audio and visual communication over the Internet. Further, Logitech's retail business includes personal peripherals for platforms beyond the PC, such as gaming consoles, portable music players, mobile phones and home-entertainment systems.

Today, Logitech's retail business accounts for 87 percent of its revenue. To provide the market with a broadening array of best-of-category products, Logitech's business model calls for supplementing its internal engineering and manufacturing strength with additional products and technologies through a combination of strategic acquisitions and industry partnerships.

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