



HOME THEATER MASTER®
Entertainment Made Simple™

Presents:

Guide to Programming the MX700 Dual Remote System

By



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Prequalifications

You Need a Personal Computer With Serial Port

MXEditor will run on any Pentium II or faster Windows PC. Your PC should be equipped with an adequate amount of RAM for the operating system you use. MXEditor is compatible with the Windows 98, ME, 2000, XP and XP Pro operating systems.

Note that many modern laptops do not come equipped with a serial port. If there is no serial port, purchase a USB to Serial adapter. Although many manufacturers supply adaptors or hubs for this purpose, we can vouch for the operation of Belkin and Keyspan hubs and adapters.

MXEditor is installed via a self extracting installer file download from www.hometheatermaster.com. You need a connection to the internet to download the file or to update MXEditor.

You Need an RS232 Connecting Cable & Adapters As Necessary

Universal offers a pre-made cable suitable for connecting a Serial port to a Home Theater Master remote control. However, should you wish to make your own, here is the pin configuration for a serial cable:

DB 9	DB25	Function	Stereo 3.5mm Plug Connection
Pin 3	Pin 2	Host Transmit	To Tip
Pin 2	Pin 3	Host Receive	To Middle Ring
Pin 5	Pin 7	Host Ground	To Base Ring

You Need to be Skilled With Windows and Home Theater Configuration

Before attempting to learn MXEditor you should have a working knowledge of Windows. We assume that you understand how Windows programs open, close, minimize, maximize and save files. If you do not know how to use a mouse or navigate through Windows Explorer and My Computer, please stop now, go to a bookstore and purchase a basic Windows "How To" manual. You will not understand any of the following instructions until you have these fundamentals mastered. In addition, we assume that you understand home theater operation and configuration in great detail. Many of the tricks of programming automated home theaters have nothing to do with programming remote controls and everything to do with how the system is hooked up!

How To Use This Book

Read the planning guide first with the Operations Manual and the remote control itself beside you. After familiarizing yourself with its basic capabilities, dive in. Using the step by step instructions most installers complete their first basic configuration very quickly.

If you have questions about a specific feature, use the INDEX or the TABLE OF CONTENTS for page numbers for the feature. When you are ready to see how you can stretch the MX700 to fit unusual requirements with its advanced features, read the Advanced Programming section. If you use this manual on screen electronically, both the index and the table of contents is HYPERLINKED. Simply click on the page number in the table of contents or index and you are immediately jumped to the page you clicked.

Overview

The Goal - Minimize Training Time and Effort

Training your clients has traditionally taken too much of an installer's time and effort. Creating hand written cheat sheets and instruction books for your customers is a waste of your time. The MX700 Dual Remote Control system is designed to save your time. With each remote control, Home Theater Master includes a pre-printed Operation Manual. Unlike other remote controls, this manual has nothing to do with setup or programming. It is a guide to operating the client's home theater! Although the flexibility of the MXEditor software enables you to program remote controls in thousands of different ways, the operations manual will show your customer how to operate their home theater if you follow a few tips as you program.



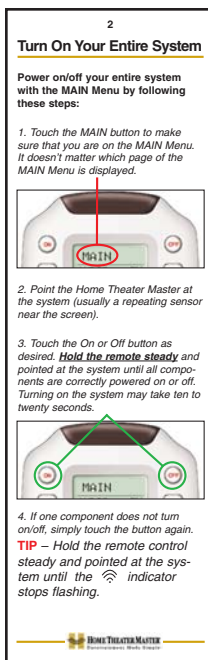
The owner's manual for the MX700 Dual remote control system was created to be a "cheat sheet" for the entire home theater.

TIP - Program To Operate As Shown In The Guide to Operation

The key things you have to program are:

- 1 You have created a DEVICE (a set of hard buttons and 1 to 4 dedicated LCD pages) for each remote control in the system. You have used the IR database or IR learning so that the MX700 replaces all the remote controls for normal operation.
- 2 The MAIN Power On and Power Off buttons turn on and off the entire system with a macro.
- 3 Each of the MAIN LCD Device buttons issues a macro that reconfigures the system inputs and modes as necessary for the client to watch or listen to the selected source.
- 4 Punch Through Volume and Mute have been programmed for all devices so that the client can always adjust the volume regardless of which device has been selected.

MAIN Power On and Power Off



Since most systems will require some delays in the macros you program to turn the system on, you will make operation much smoother for your customers if you have them turn everything on first with one long macro. Then, after the system is on, they can switch between activities like DVD and Satellite without lengthy delays in the macros.

In a system that responds instantly (no long power on delays before responding to input or mode commands) you might opt to program power on commands for each activity macro as well. The manual describes a two step operation:

- 1) Go to MAIN and press Power On.
- 2) Choose your activity and tap the correct button.

The manual emphasizes the need for the client to point the remote during the macro at the TV or the sensor near the TV. You need to spend time explaining the time needed for each macro. Encourage the client to be careful to hold the remote control steady and pointed at the equipment or sensor until the macro is finished.

Page 2 of the Owners Manual describes Powering On/Off.

MAIN Activity based macros

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Using the MAIN Menu

The MAIN Menu enables you to either select a new Activity or simply select a new Device to control.

When you select a new activity, the Home Theater Master will issue a MACRO (a timed sequence of many commands from many different remote controls). This MACRO was custom programmed for your system by your installer. It will issue all of the commands necessary to switch the sound and picture of your system.

When you select a device, the Home Theater Master becomes the remote control you select WITHOUT affecting the home theater.

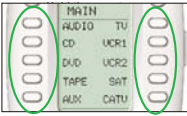
Select a New ACTIVITY

1. Touch the MAIN button to make sure that you are on the MAIN Menu. Touch the PAGE button if you don't see the activity you want.



2. Point the Home Theater Master at the system (or at the repeating INFRARED sensor if one is installed).
3. Touch the activity button next to the desired screen label. For example if you wish to watch a DVD movie, touch the DVD button.

4



The MAIN Menu buttons issue MACROS that reset the sound and picture of your home theater to a new activity.

TIP - Hold the remote control steady and pointed at the system until the indicator stops flashing.

If the sound or the picture still are not correct, repeat steps 1 - 4.

Select a DEVICE Only

1. Touch the MAIN button to make sure that you are on the MAIN Menu. Touch the Page button if you don't see the activity you want.
2. Press and hold the MAIN button. While holding the MAIN button down, touch the button next to the desired screen label. The remote control will now display the name of the selected device and all buttons will operate the device, however, the sound and the picture of your system have not been changed.

Page 3 and 4 of the Owners Manual describe how Activity macros automate their system.

MAIN Punch Through Volume and Mute

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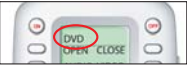
Controlling the Volume

For your convenience, the VOLUME Up, VOLUME Down and the MUTE buttons will always control the surround sound system, regardless of what activity or device you are controlling.



Operating any Device

You can see the name of the device at the top of the screen. If it is not the one you want, return to the MAIN Menu and select a new device or activity.



All of the printed label buttons on the remote operate just like the original remote control (with the exception of Volume Up, Volume Down and Mute which operate your surround sound system).

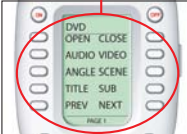


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The Power ON and OFF buttons now operate only the selected device (to turn the entire system on/off, return to the MAIN Menu).



The ten screen labeled buttons are now labeled with any commands that do not fit one of the buttons with printed labels.



Up to 40 screen labeled buttons are available for each device. To view the additional buttons, press the PAGE button to display additional pages. The Home Theater Master can display up to four pages of screen labeled buttons for each activity or device! As you scroll through the pages, notice that the bottom title bar displays which page you are viewing (PAGE 1, PAGE 2, etc.).

Page 5 of the Owners Manual describe how volume always adjusts the surround sound system. Page 5 and 6 describe normal operation of any device.

The device LCD buttons on MAIN are automatically programmed with a navigational "jump" to the device they correspond to.

The device LCD buttons on the MAIN menu should be programmed with a macro that issues every command necessary to reconfigure the home theater for the activity (inputs, modes, play, channel etc.). This macro will be issued every time the client presses the button. This is described in the manual.

Remember to train your power user clients to hold down the MAIN button while they press a device LCD button. That way, the macro is not sent, the MX700 simply jumps to the device.

If you are willing to make your own cheat sheet, you can program the activity macro to only be issued if the client presses and holds the button. This requires the use of the Advanced Programming technique Press and Hold Macros on page 44.

Use the Punch Through programming step (step #6) to program Volume and Mute to operate the surround sound processor regardless of what device is active.

It has been common in the past for installers to program a way for the customer to watch TV using the internal speakers of the TV rather than the surround sound system. There is a good way to accomplish this on the MX700 system. You could program TV internal volume on two of the LCD buttons on the TV device.

FAV Channel Macros Are Optional

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The thumbpad is a Home Theater Master exclusive control for both right and left handed operators. When you are operating a device with any kind of on-screen menu, guide or display, the thumbpad offers you easy one-handed control with your thumb.



To SELECT or say OK, simply press your thumb straight down. You'll feel the click as the OK/SELECT/ENTER command is sent.

Using FAV - Favorites

The favorites menu is created uniquely for you by your custom installer. The screen labeled buttons now issue timed sequences of commands that will reset your system with one touch. Typically, the favorites menu is programmed with one touch "shortcut" buttons that issue all of the necessary commands to change the channel of your satellite dish or television. Thus, instead of entering a two or three digit number (which you must remember) and the enter command, you simply select the favorite button labeled HBO, CNN, TNT etc.

The Favorite menu can be programmed with any favorite activity. It is not limited to channel favorites. Your custom installer may invent a feature unique to

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your system. Discuss any non-channel favorite label with your installer, so that you understand how to use it.

To use the FAVORITE Menu:

1. Press the FAV button. The top title bar will now display FAV.



Use the FAV button and the PAGE button to navigate through your various pages of FAVORITES. The FAV button scrolls up from Page 1 to Page 5, using the PAGE button scrolls down from Page 5 to Page 1. As you select a new page, the bottom title bar will display the page number (page 1, page 2, etc.)



To EXIT Fav and return to the last activity/device selected, press the MAIN button ONCE. To EXIT Fav and go to the MAIN Menu, press the MAIN button twice.

Universal Remote Control

Page 7 and 8 of the Owners Manual describe how the FAV button navigates to the Favorites pages.

The SideKick

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Backlighting



Turn on the backlighting by pressing the LIGHT button on the right side of the Home Theater Master remote control. The backlighting will stay on briefly, then turn off automatically. If you wish to turn it off without waiting, simply tap the LIGHT button again.

* Note that your battery life is reduced by how often you use the backlighting.

Changing Contrast

Press and Hold BOTH the MAIN and the UP thumbpad button at the same time to make the screen DARKER.



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Using the SideKick™



The SideKick™ remote control offers the simplest way to enjoy watching one of your favorite activities. Typically programmed for either TV or Satellite viewing, it does not replace the MX700™, but it does offer a comfortable, ultra simple interface perfect for casual users or children.

The ON button turns on your entire home theater and sets it up to watch TV or Satellite (whatever is your favorite). The OFF button turns the entire system off. Remember to hold the remote steady and pointed at the system until all components are correctly powered on or off. Turning on the system may take ten to twenty seconds.

TIP – You can tell when to stop pointing the SideKick™ when the command LED indicator stops flashing.

CHANNEL and VOLUME control buttons will operate the device programmed into these buttons. There are also three Favorite buttons that take you directly to your three favorites (typically channels) with one button press. The LIGHT button will light up the SideKick buttons for easy visibility in low-light conditions.

Universal Remote Control

Page 9 of the Owners Manual describes how backlighting and contrast adjust. Page 10 describes how to use the SideKick.

A channel lineup change in the future will require a service call to reprogram a few pages of channel macros for your client. If the client approves the costs of reprogramming whenever the channel lineup changes then by all means program channel macros in FAV. However, there are many other uses for FAV that will not be affected by channel line up changes.

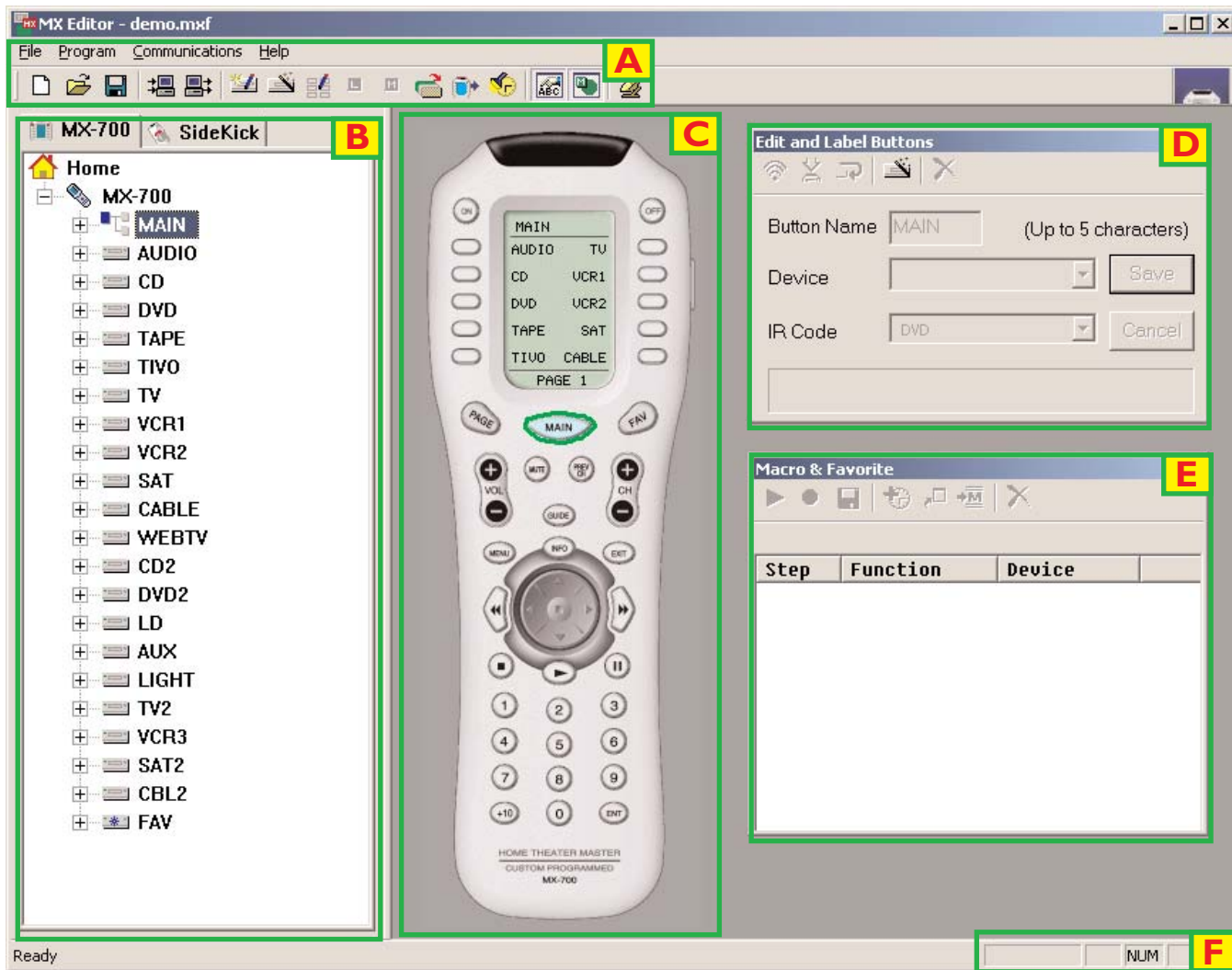
Remember the advantage of FAV. Whenever you press the FAV button, the MX700 remembers the device you were last on. So, when you are finished using FAV, you simply tap the MAIN button. The MX700 will return to the device and page you were last using!

FAV LCD buttons can do a macro with 1 to 190 steps. Thus it can issue (by programming a MACRO of one step) any single IR command that is learned or preprogrammed with one exception. FAV LCD buttons cannot issue an IR code that must be sustained when the user presses and holds the button, like volume up. This makes FAV the perfect place to program one step macros to all of the system components Power commands. You train your customer to go to FAV to turn individual components on and off. This is the recommended technique when the lack of discrete on and off codes makes macros unreliable.

In most systems, you will program the SideKick for watching TV or satellite. The button labelling of the SideKick is best suited for that. However, the manual does say "typically". Sometimes, a customer may rarely watch TV and usually watches DVD movies. Feel free to program the Channel up and down buttons with the DVD Chapter commands, the A, B and C buttons with Play, Pause and Stop. The Power On button can easily be programmed with a turn on macro that configures the system to watch DVD's.

Each of the SideKick's buttons can be programmed with the IR command or macro of ANY MX700 button. All can be macros, all can be IR commands, or any mix you can imagine. However, there is only one "page" of SideKick commands.

The Programming Window



- A** Menus and Shortcut buttons for common tasks. The Program Menu activates each task in the correct order.
- B** Tree view of the MX700 configuration. Tabs enable you to switch to program the MX700 or the SideKick. Tree view enables quick navigation, Sidekick enables drag and drop programming of the SideKick.
- C** The MX700 Simulator is used to navigate and to select a button to program, edit or record a macro to.
- D** Floating Edit and Label Buttons window is used to label buttons and move IR commands via shortcuts.
- E** The floating Macro and Favorite window is used to view and edit macros.
- F** The information bar displays whether your keyboard is cap locked or num locked.

The important thing to remember as you program is that most windows conventions hold true in MXEditor. Explore the program menus. Hover your mouse over most of the buttons and controls and a balloon will appear with a hint as to purpose. Navigate around the program window and explore a little before you begin programming.

The Menu Bar and the Menus

Like all windows programs, the menu bar reveals menus of commonly used tasks. Simply click on the menu title and the menu appears. Move the mouse cursor over the menu choice you wish to select and click.

File Menu

Configurations for particular clients are saved as files on your PC. Thus the file menu enables you to open, save and save copies of configurations.

New - Use this to start programming a file from scratch.

Open - Use this to open a file anywhere on your computer.

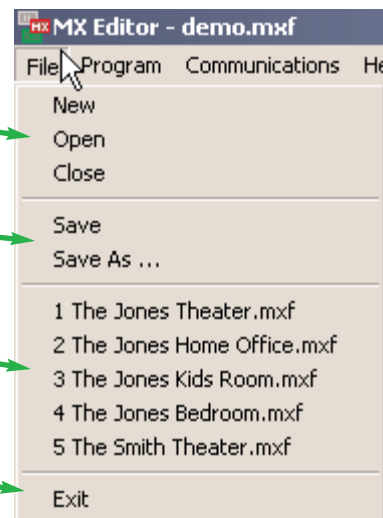
Close - Closes only the current file, not MXEditor.

Save - If you wish to save your work to the current file.

Save As - If you wish to save a new copy of the current file with a new file name.

Recently opened files appear here for you to reopen with a click.

Exit - To exit MXEditor completely.



Program Menu

Many of the Program Menu steps will open a new window in front of the main window. Simply click on Cancel to close these windows if you open them in the course of exploring MXEditor.

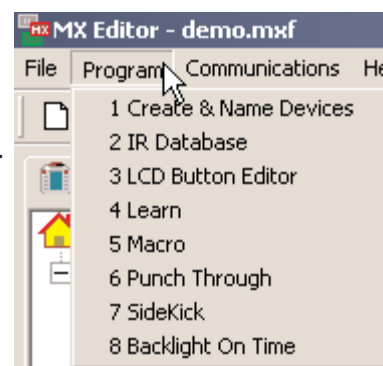
1. Create & Name Devices - Opens a new floating window for creating and naming Devices. You'll need a grouping of hard buttons and LCD pages for every remote control that you are replacing. That is called a device. With the Create & Name Devices window, you will be able to create, name and rearrange up to twenty devices.

2. IR Database - Opens a new floating window to test and program IR code sets from the Universal IR database

3. LCD Button Editor - Opens a new floating window that allows you to arrange, label and program the LCD buttons for MAIN, Devices and your Favorites.

4. Learn - Greyed out until you select a button. Once you have selected a button, selecting LEARN on the Programming Menu activates the LEARNING function (which is a button on the Edit and Label buttons window) on whatever button is currently selected.

5. Macro - This menu choice is greyed out until you select a button capable of being programmed with a macro (Power On, Power Off or an LCD button only).. Once you have selected a button, selecting Macro activates the MACRO recorder. Now, use the MX700 Simulator to select each step of your macro. The recorded steps appear in the Macro window.



6. Punch Through - Opens a floating window that enables you to program a button to “punch through” to another device. Typically used to program Volume Up, Down and Mute to always operate the surround sound receiver/pre-amp.

7. Sidekick - This switches the left hand tabs from TREE VIEW of the MX700 to a simulator of the the SideKick. Once the Sidekick is in view, you can drag and drop any button of the MX700 to the SideKick.

8. Backlight On Time - Opens a new window for adjusting the amount of time the backlighting will stay on.

Communications Menu

Upload - Get the programming from a remote control and open it in MXEditor as a new file. Once it is uploaded, you can save it, edit it and/or export the devices in it.

Download - Send the currently open file to the remote control.

Settings - Choose a different com port for the cable connecting the remote control to your computer.



Help Menu

Go to website - This will open your internet browser, connect to the internet and link the HomeTheaterMaster website for additional technical support and resources.

Live Update - Click on this after connecting to the Internet to download the newest version of MXEditor.



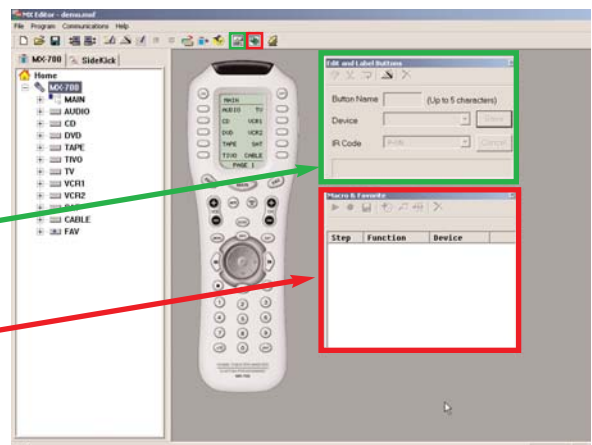
Firmware Version - Connect your remote control to the PC and click on this to identify the firmware version of the remote control when asked to do so by technical support.

The Toolbar and Shortcut Buttons



Hover your mouse over the Shortcut buttons, you will see a popup flag displaying the function of the shortcut. Click on the button to activate it. The most common functions of the menus are displayed on the toolbar, plus the two icons for displaying the Edit and Label Buttons Window , and the Macro Window .

When you click on these shortcut buttons you turn the corresponding windows display on and off.



The Simulator

Navigating and Selecting Buttons

The Simulator is the center of programming. You use the Simulator to **SELECT** a **BUTTON**. When a button is selected it has a green circle around it. Once a button is **SELECTED**, you can use the Edit and Label Buttons Window or the Macro Window to program it.

- When you want to switch to a new device, first, click on the MAIN button.
- Choose the new device from the MAIN MENU by **double clicking** on it. On a real MX700, the double click is not necessary. But within MXEditor you sometimes will want to program an LCD button on the MAIN page and single clicking the button enables you to select it for editing or macro programming.
- Cycle through Pages 1 to 4 of any device by clicking on the PAGE button.
- Navigate to the FAV device by clicking on the FAV button.
- Hover your mouse over a button to see the drag and drop flag.
- Click on a button to **SELECT** it.



Button Capabilities and Flags



A button with no flag will not do anything when pressed. It is empty and has no programming yet.



A red dot indicates that the button is programmed with an IR database code. An IR database code can be tapped or pressed and held for a sustained burst. All buttons except the hard buttons within the MAIN or FAV devices can be programmed with IR database codes (you cannot program the navigation buttons-PAGE, MAIN and FAV either).



An L flag indicates that the button is programmed with a learned IR code. A learned code can be tapped or pressed and held for a sustained burst. All buttons can be programmed with learned codes (including all MAIN buttons, hard and LCD) except the buttons on FAV pages and the navigation buttons themselves.



An M flag indicates that the button is programmed with a Macro. Only the LCD buttons and the Power ON and Power OFF buttons can be programmed with MACROS. Hard buttons cannot be programmed with MACROS directly (they can issue a macro, if you program the macro on an LCD button and create a shortcut from the hard button to the LCD button). A macro with a single step cannot be pressed and held for a sustained burst.



A black arrow on yellow indicates that the button is programmed with a shortcut to another button. A shortcut programs the button to do whatever is programmed on the button the shortcut points to (thus if it shortcuts to a learned or preprogrammed code, the button can be pressed and held for a sustained burst; while if it points to a macro with a single step, it cannot). A shortcut can point to any kind of button. FAV buttons cannot be programmed with shortcuts.



A PT flag indicates that the button is programmed to "Punch Through" to another device.



The drag and drop flag appears when you hover your mouse over a button. It will reveal the device and the button label plus indicators for pre-programmed, learned, etc. This aids programming the SideKick.

Tree View

Devices and Pages

Tree View controls what you see in the Simulator. It serves as the quickest way to navigate (especially when programming macros) and enables you to cut, copy and delete devices and/or pages via the right click context menus.

A Page refers only to a group of ten LCD buttons, not to the hard buttons in the same device.

A Device is comprised of up to four pages of LCD buttons and one set of functions for the hard buttons.

- Click on a device to **SELECT** it (the highlighting indicates it is selected) and the corresponding MAIN LCD button (the green circle indicates that a button is selected).



- Double Click on a device to expand or collapse your view of its pages (or you can single click on the +/-).



Collapsed

Expanded

- A single click on a page in tree view will change the SIMULATOR to the selected PAGE and DEVICE.



- Right click on a device to reveal the Device Context Menu:

Insert Page will insert an additional page to the device (to a maximum of 4).

Cut will copy the entire device and when pasted will delete the original.

Copy will copy the entire device without changing the original.

Paste will paste the copied or cut device into the selected device, completely replacing whatever previous programming you had.

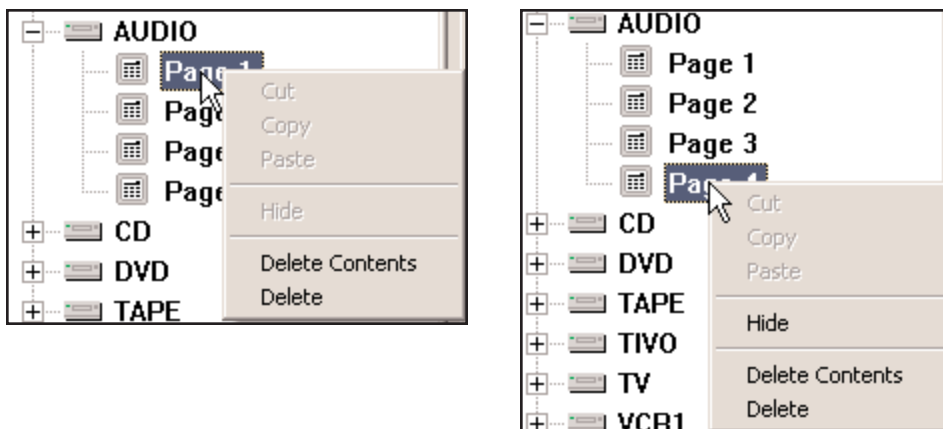
Import Device will enable you to import a device you have previously exported, replacing the selected device.

Export device will allow you to save the selected device for future import.

Delete contents will delete all labels and codes but not the pages of a device or the name of the selected device.

Delete will delete everything about the selected device.

Right click on a page to reveal the Context Menu for pages:



You can delete the contents of a page, or delete the entire selected page. When you select the last page (4 of 4, 3 of 3, 2 of 2 or 1 of 1) you can HIDE a page. A page that is hidden can still be used to hold commands that are used for macros. However, the end user will not be able to navigate to a HIDDEN page, so will never accidentally issue codes that you place there.

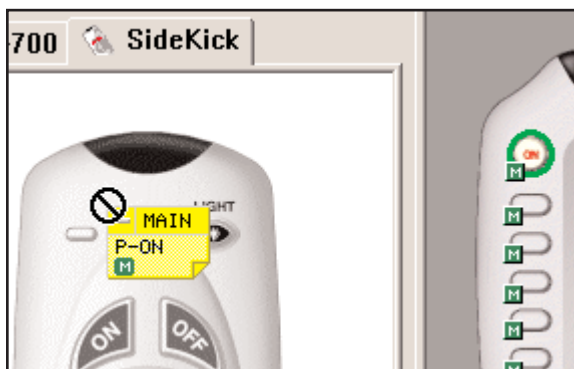
Cut, copy and paste are always greyed out, you cannot cut, copy and paste PAGES.

MX700 Tree View or SideKick Via Tabs

Switch between the two views by left clicking on the tabs. MX700 tree view is useful for navigating while programming the MX700. Sidekick view is used to program the SideKick.



SideKick programming is done via drag and drop. You simply drag any button on the MX700 to one of the SideKick's buttons.



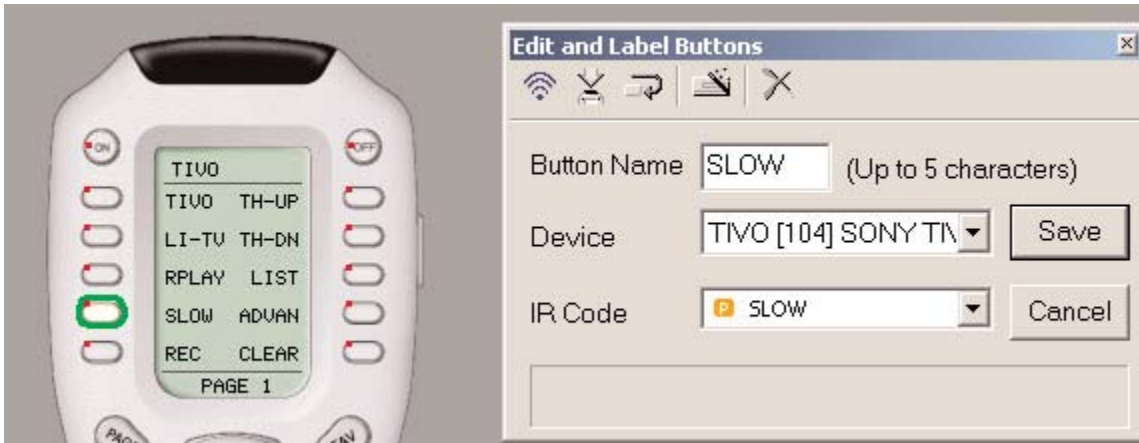
A macro from MAIN Power On is dragged to the SideKick.



In this illustration, you can see that the MACRO from MAIN power on has been successfully dropped into the SideKicks ON button.

The Edit and Label Buttons Window

If the Edit and Label Window is closed, reopen it by clicking on the  shortcut button on the toolbar.



Whenever you **SELECT** a button, the Edit and Label Buttons window displays the label, Device and IR code that is programmed.

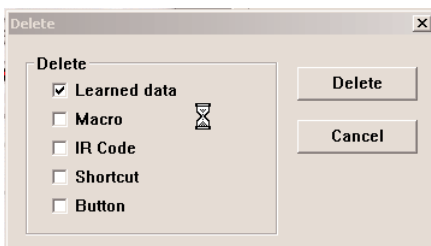
The Edit and Label Buttons Toolbar



Like the main toolbar, the shortcut buttons will display a hint if you hover your mouse over them. A single click activates their function.

-  **TEST** - For learned codes. Will only test pre-programmed codes if you have downloaded to the remote.
-  **LEARN** - Puts the software into learning mode, if an MX700 remote control is connected to the PC. See p 23
-  **CONTINUE** - When you are learning a number of IR codes, use CONTINUE mode to automatically save and select the next button of that device. This saves tremendous time. See the section on LEARNING on page 24.
-  **IR DATABASE** - Another way to open the IR database window.
-  **DELETE** - Opens up the DELETE BUTTON window, which enables you to selectively delete any part of a button's programming.

The Delete Window



Simply click on the function you want to delete. For example, you can selectively delete just a **MACRO**, leaving the button to perform a previously programmed learned IR command.

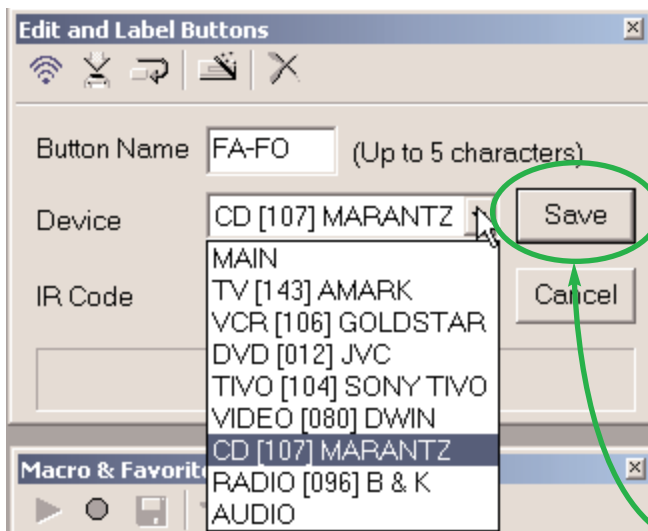
Or, you can delete all programming by selecting **Button**.

Labels

Button Name (Up to 5 characters)

You can change the name of any button. When you change the name of a button, it not only affects how the button appears in an LCD display, it also changes how the button displays in the pull down Code list.

Shortcuts - Copying Buttons



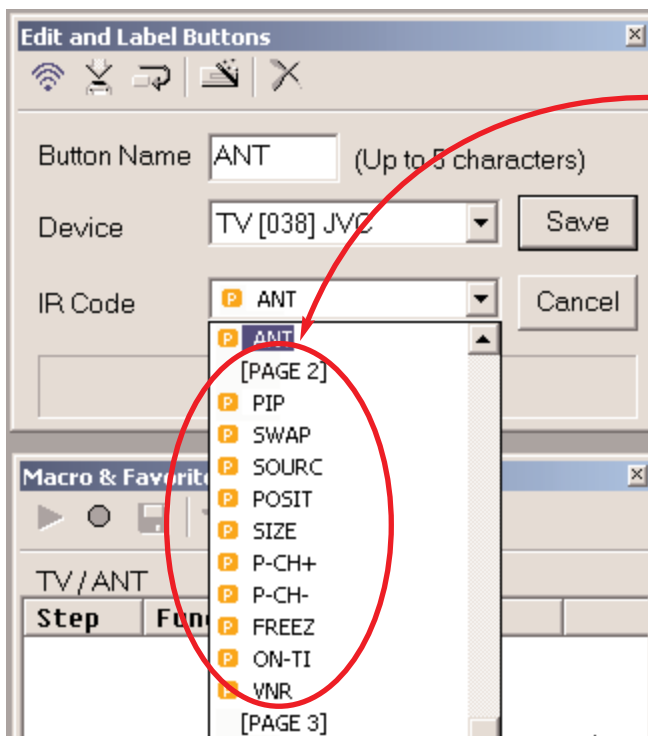
You can create a **SHORTCUT** to another button by selecting it via the pull down lists under Device and IR Code.

A **SHORTCUT** is simply a duplicate of whatever is programmed in the button you select via the two pull down lists.

You **CAN'T** program **SHORTCUTS** in FAV buttons.

You can make a hard button issue a macro by programming the macro on an LCD button somewhere, then creating a shortcut to the LCD button.

You must press **SAVE** to make a **SHORTCUT**.



Each page of LCD buttons is listed in the pull down IR Code list..

The Macro/Favorite Window

If the Macro Window is closed, reopen it by clicking on the  shortcut button on the toolbar.

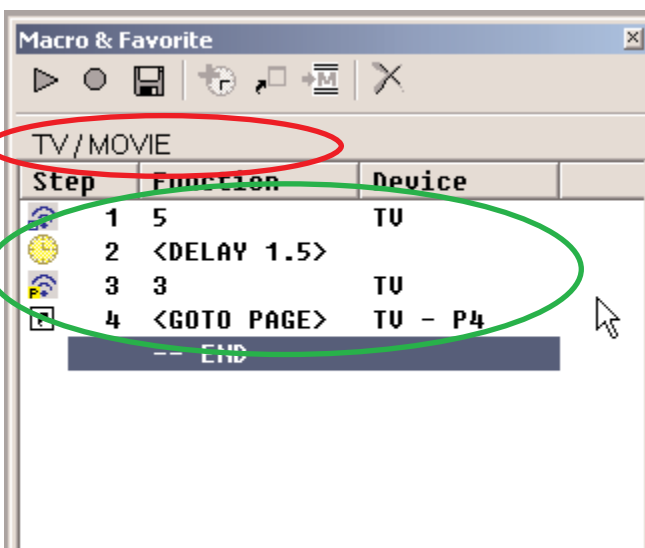
The Macro Toolbar

-  **TEST** - You must select the first step you want played back first, then connect the remote to the PC. All steps after the selected step will play back, including any delays.
-  **RECORD** - This starts and stops a recording of macro steps.
-  **SAVE** - Any macro programming you do will be discarded unless you press the SAVE button.
-  **DELAY** - Opens the Delay window so that you can specify a delay in between macro steps. If you place a delay as the first step in a macro, the user has to hold down the button for that much time before the macro will be issued. If the user does not hold down the button for the specified delay, the macro is not issued.
-  **JUMP** - Enables you to jump to any PAGE of any DEVICE at the end of the MACRO.
-  **INSERT MACRO** - If selected before recording a macro, will allow you to import an entire macro.
-  **DELETE MACRO STEP** - You must select the first step you want deleted first, then click on DELETE.

Re-Ordering Macro Steps

You can simply drag and drop steps to any order once they are programmed. Just click on  if you want the changes you made SAVED.

Macro Details



The location (Device/Page/Name) of the button that will issue the macro when pressed.

A Macro Step indicates the type of step with an icon, the # of the step, the function (name) of the step, and the Device it is sourced from.

Tip - There is more information on Programming Macros in the Tutorial on p XX.

Programming Overview

A. New File, Existing File on PC or in Remote

- **NEW** - Starting from scratch on a new job, go to the File Menu, choose New from the File Menu and pick the type of template you would like to use to program with. None of the templates have any IR codes, just prelabelled empty devices (although the Audio device has codes for factory testing in both the I0 device and the 20 device templates). Any of the three is ok, since you can quickly make an empty configuration have twenty devices, and just as quickly make a twenty device configuration completely empty! It's just personal preference whether you rename a list of devices or create new ones in an empty configuration.
- **OPEN** - Open a configuration that you have worked on before and saved onto the PC hard drive.
- **UPLOAD** - Get a file from a client's remote control that another installer created. Now, you can save the file on your laptop, make any edits or changes as the client requests or the jobsite requires.

B. Use SAVE AS

The templates files are simply configuration files that have been preprogrammed for you. They will keep any changes you make. Utilize Save As to make a new file with a new file name. All configuration files are saved with the file extension .mxf; all device files are saved with the extension .mxd (see D. Save and Export, below).

TIP — Always use File | Save As to rename the file before doing any programming!

Use the customers name and a rev # (i.e. SmithTheaterRev1.mxf)

C. Use the Program Menu

- 1 Create & Name Devices
- 2 IR Data Base
- 3 LCD Button Editor
- 4 Learn
- 5 Macro
- 6 Punch Through
- 7 Sidekick
- 8 Backlight On Time

The Program Menu is your lifeline to a fast, easy programming experience. Follow the steps in the order shown in the Menu for the best results. Typically, you will download to the remote control several times throughout this process and test what you have done so far. You'll need to download after finishing all programming. For macro playback to work, you need to have downloaded. These downloads are not listed in the steps here in the Program Menu and are not automatically done for you.

It is important that you do all of the tasks for each step before moving on to the next step. Keep this manual handy so that you can verify that you have completed all of your tasks.

D. Save and Export

Archive and save your customer files. In addition, you can export devices as .mxd files. Programming systems with similar components gets even faster when you don't have to redo your work over and over. You have your own ideas about what buttons should be labeled and how they should be arranged. You'll save all of your work in a unique and time saving way by exporting the device stand alone. That way, you can import just the device in any new configuration.

E. Download to both Remote Controls

For once, you have a pre-printed cheat sheet and an instruction manual for the entire Home Theater! Enjoy a brief training with your client and get home on time tonight!

Creating, Naming and Arranging Devices

A device is the basic grouping of a set of hard buttons and up to 4 LCD button pages. You will need one device group for each remote control that the MX700 is replacing. You can have a maximum of 20 devices in your configuration. Every device is automatically linked with a jump-link to the device via the MAIN MENU (see operation manual for more detail).

Open the Create and Name Devices Window

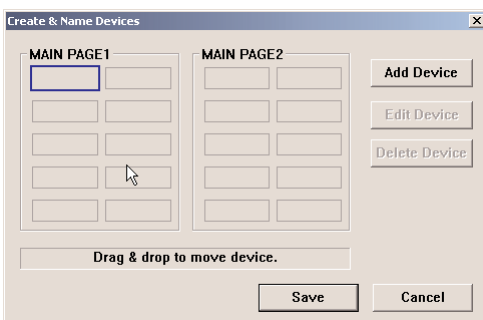
You can open the Create and Name Devices window by clicking on the first item of the Program Menu or by clicking on the Toolbar icon as shown here.



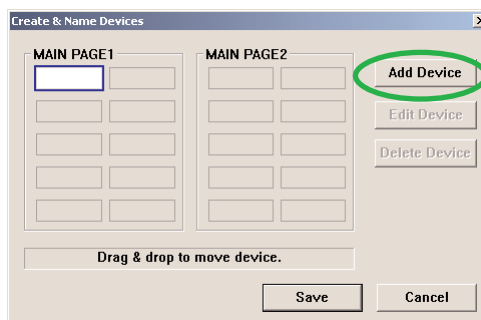
TIP - Hover the mouse over the Toolbar buttons and a pop-up label identifies it!

Creating Devices

- 1** A single click on an empty device label only selects it for drag and drop movement. Double click or hit the Add Device button (after selecting the location) to select for naming and creating. A created device location is white and the naming cursor blinks inside it.

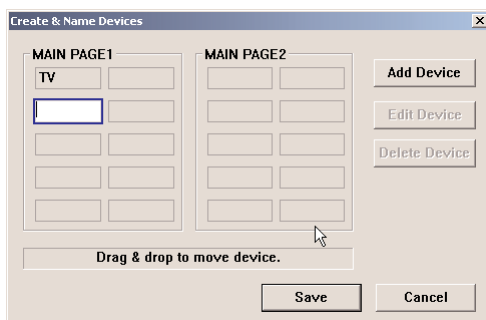


Selected for drag and drop movement not creating and naming.

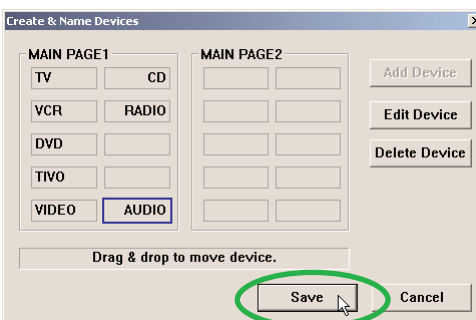


Double click on the device location you want to create and name or click on the Add Device button after selecting the spot.

- 2** Type in a five character name for the device. Then double click on the next location you wish to create another device in.

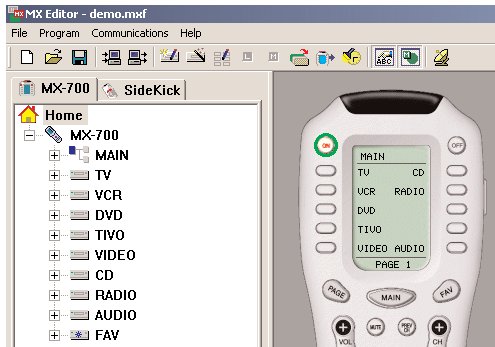


Keep double clicking on locations you want to name (or RENAME) and create and name all of your devices.



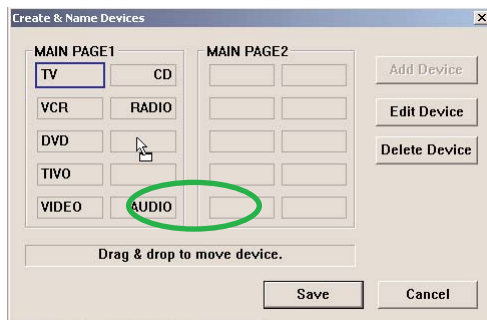
Once you have finished creating all of the devices, then click on the Save button or hit the Enter key of your keyboard.

- 3** Tree View reveals the new devices you've created and the simulator shows the new MAIN MENU LCD button names. Try the simulator out now. If you click once a MAIN MENU button, you'll simply select the button, if you click again you will jump link to the device group. Once at the new device group, you can touch the MAIN button to return to the MAIN MENU etc.



Both Tree View and the MX700 Simulator show the newly created devices.

- 4** Open the Create and Name Device window again, and experiment with rearranging devices by simply dragging them to an empty location.



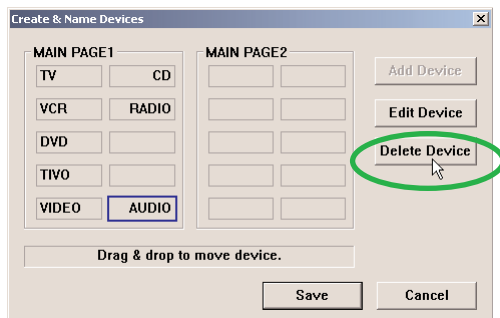
Here the TV device is successfully dragged to the empty spot.



In this example the TV device cannot be dragged to the Radio spot. You must move the RADIO device first, then move the TV.

TIP - When all positions are filled, you must delete one to do any rearranging of devices.

- 5** To delete a device, simply select it by clicking on it once, then click on the delete Device button.



To delete a device, select it first, then click on the Delete Device button.

Using the IR Database

Discrete Codes, Toads, Toggles and other New Words

The MXEditor database is unique in the industry because it includes “secret” discrete codes that are not on the actual remote controls for many components. These codes are highly sought after by professional installers because they make automation of the home theater possible via reliable macros! Here’s the facts you need to know:

Discrete Commands versus Toggle Commands

When a remote control’s only button to turn on and off a TV set is labeled Power, it is usually a “toggle” command. Test it by pressing the button twice. If the power button turns on the TV, then turns it off, it is a toggle command. That is a big problem when you are programming macros! If you program a macro for watching TV with a toggle, then the macro is essentially point and pray (if the TV was off, it will turn on, if it was already on, it will turn off). On the other hand, if a macro is programmed with a discrete Power ON command, the macro will work every time (if the TV was off, it will turn on, if it was already on, it will stay on).

So the term “discrete command” or “discrete code” means that the code will only do ONE THING to a component. For example:

A single “Input” command is a toggle type command if it simply changes the input to another input when issued, while separate buttons for Antenna A, Antenna B, Ext 1, Ext 2 and Ext 3 are discrete input commands if, when issued, the TV goes directly to the named input (and if you give the same command again, it stays on the selected input).

Here’s some important facts about Discrete commands:

“Secret” Discrete Codes exist for some components. Why are they secret? Because the manufacturer wants the remote control that accompanies the component to have the simplest appearance (fewest buttons). Since toggles reduce the number of buttons, they make the remote control appear easier to operate. Many manufactures understand the needs of custom installers and build their components to also respond to discrete codes. They distribute the discrete codes via service remotes etc. For the first time, those codes are collected and integrated into our database.

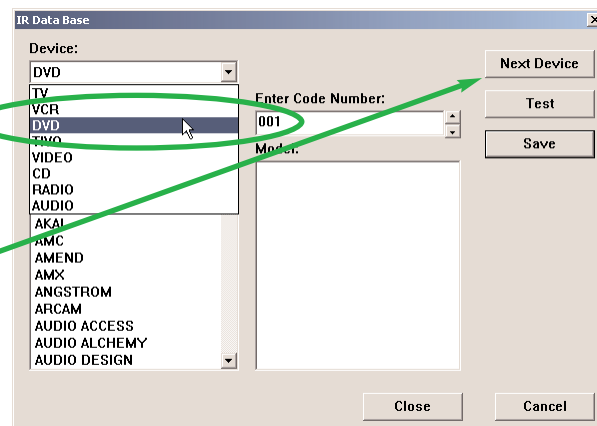
Not all components respond to the discrete codes in the Database. A component has to be BUILT to respond to discrete codes. The fact that other models from the same Manufacturer do respond to discrete codes is the reason the codes are added to a codeset. However, some models will not respond, because the manufacturer did not build it to respond through budgetary considerations, time constraints or a simple oversight.

Selecting a Code Set from the Database

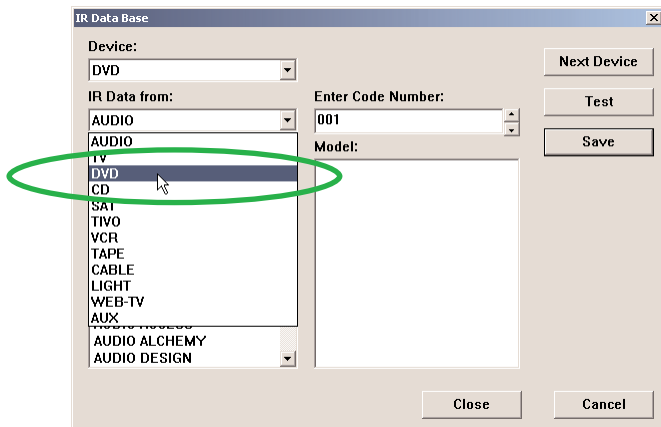
1 Open the Database Window - Select IR Database from the Program Menu or the Toolbar.

2 Select the device - selecting it from the list box as shown:

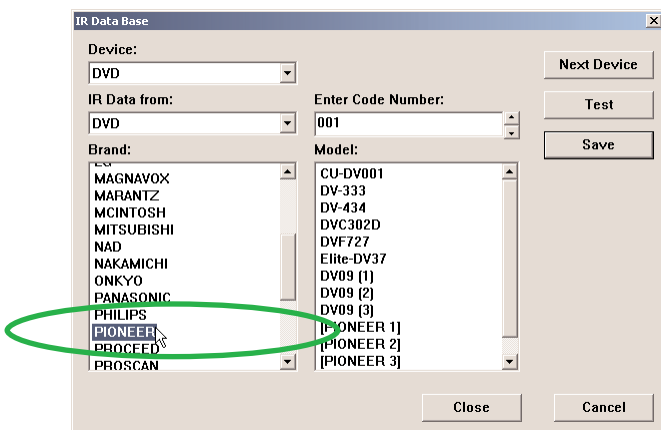
TIP - Start with the top Device first, so that after you have programmed the first device, you can avoid pulling down the menu again, simply tap the Next Device button.



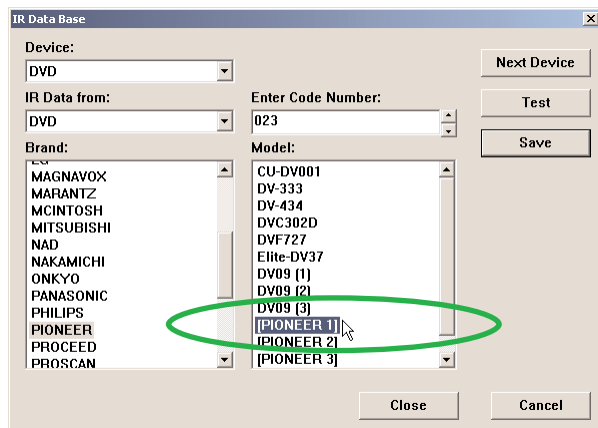
- 2 Category** - Select the type or category of component (i.e. TV, VCR or DVD player).



- 3 Brand** - Select the company that made the component (i.e. B & K, Sony, Krell)

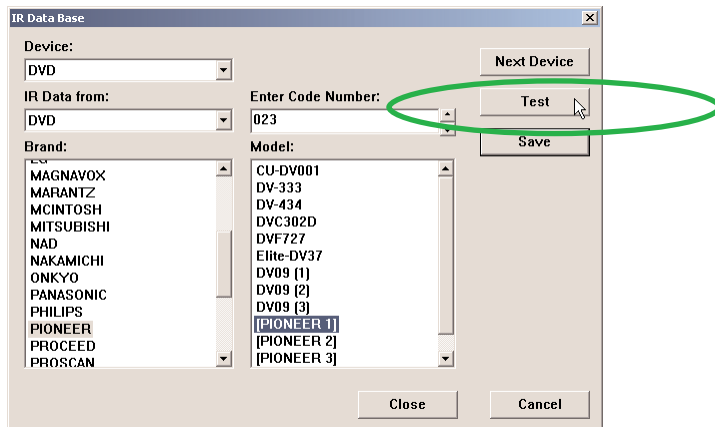


- 4 Model** - Select the model or the Code Set number (sometimes the actual model, sometimes a generic # assigned by us to a code set that operates many models over the years).

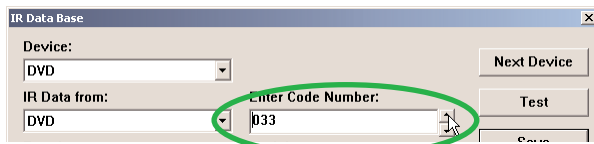


5 Test the Code Set

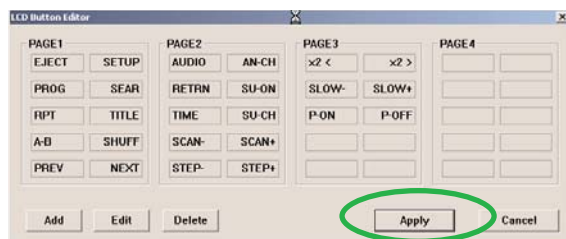
- Verify the MX700 is loaded with fresh batteries and connect the MX700 to the PC via the serial port.
- Turn on the Component
- Point the connected MX700 so that it is in range and within line of sight of the component.
- Click on the Test button as shown here:



- Observe the component. If it stays on, click on another Model and continue until you find the Code Set that turns the component off. When it turns off, Click on Save.
- If you know the Code Set # from prior experience, enter it in the text box, or use the up and down arrows to change the code number. If you have to test all of the code sets, this is probably the fastest way to test all code sets (usually learning codes is much quicker, try that first).



- After you find the correct Code Set, click on SAVE. When you do, the LCD Button Editor window pops open. Check the buttons on the original remote and compare to those on the LCD Button Editor. You can correct any labels that you think could be more user friendly. Feel free to rearrange buttons as you wish. Moving LCD buttons with the LCD button Editor is exactly like moving Devices, simply click and drag to an empty location. Once you are reasonably satisfied with the arrangement, click on the Apply button.



- Continue with the rest of the devices you need, using the Next Device button to move to the next device (or manually picking them from the Device list box).

Testing

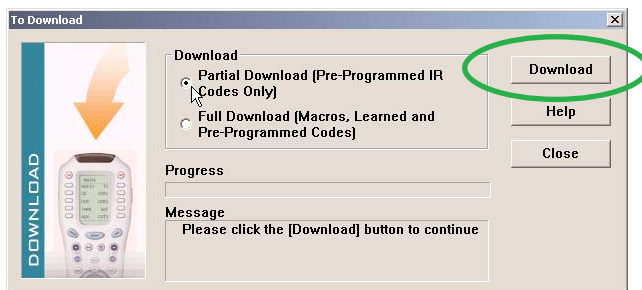
In most home theater systems, you will find that some codes have to be learned. You may have a brand new component whose codes are not yet in the Universal Database or you may have most of the codes for a component, but a few are missing. To find out what you'll need to learn, you must rigorously test all of the codes you have programmed using the IR Database and correctly label the buttons that have to be learned. Of course you can simply test a button and if it doesn't work, go into learn mode, test the command, relearn as necessary and so on. However, this wastes much time. The best approach is to download, test all the commands, make a list, then use MXEditor to modify labels, delete un-necessary codes

Downloading to TEST Pre-Programmed IR Commands From The Database

When you choose Download from the File Menu or click on the Download button of the Toolbar, the Download window appears. There are two choices for downloading:

Partial Download - This quickly downloads all of the pre-programmed codes from the database. This stage of programming (before any learning or macro programming has been accomplished) is really the only time you can use this option. It does save you time!

Full Download - This is the normal download you will use most of the time. It takes a little longer, but all commands, macros and programming are downloaded to the remote control.

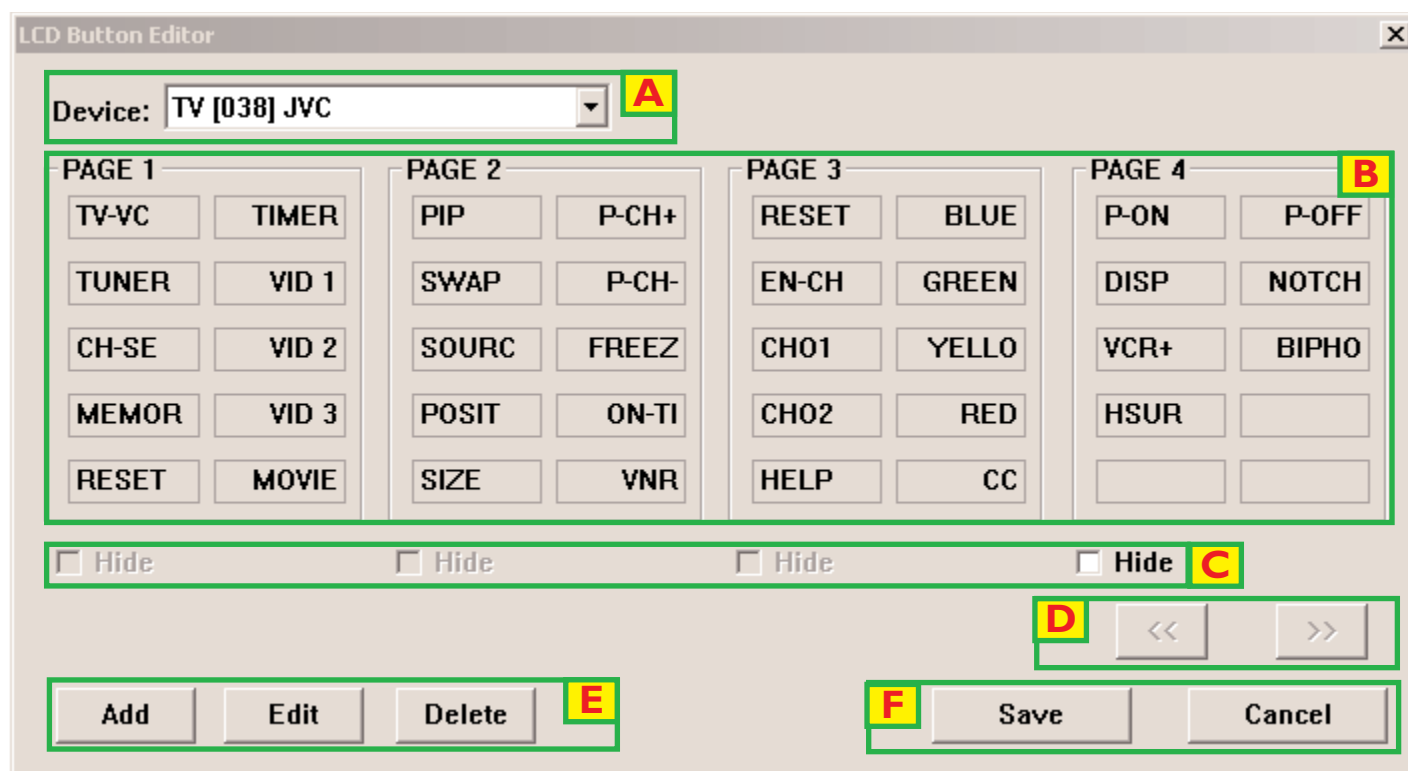


Once you've selected a Partial or Full download, click on the Download button.

Preparing the List of Buttons to be Learned

- 1 Test ALL Buttons
Begin testing the codes you downloaded to the MX700 remote control. Make sure that you test all buttons (hard buttons and the LCD buttons on each page or every device). Don't try to learn new commands yet, wait until you can do all of them at once systematically.
- 2 Make a List of all buttons that don't work.
- 3 Compare the original remote control to the MX700 - Add missing functions that need to be learned to the List.

Using LCD Button Editor



- A Device List** - Select the device whose pages you would like to edit.
- B Button Labels** - Select the button you would like to rename by double clicking. To delete, single click then click on the Delete button in E.
- C Hide Page Check Boxes** - You must hide pages back to front. If you want page 1 hidden, move the buttons to page 4, then hide page 4. See Hiding pages section on the next page for more detail on HIDDEN pages.
- D Scroll Pages** - Since you can only view four pages at a time, the scroll pages buttons become active in FAV, which has five pages.
- E Add, Edit & Delete Buttons** - Select the button location where you would like to add, edit or delete a button, then simply single click on the desired action. In fact, there is no difference in function between Add and Edit. There are two buttons to prevent confusion.
- F Save and Cancel** - Only by clicking on SAVE, will your work be saved. No matter how many buttons you move or edit, hitting CANCEL will discard all work you have done.

Labeling and Deleting Buttons

Use the LCD Button Editor to correct labels for LCD buttons on each of the devices you've created.. Label empty buttons for codes that you need to learn. To LABEL a button, SELECT it by single clicking on it, then click the EDIT button to label OR simply double click on the button you would like to relabel. Delete a button by selecting it with a single click and then clicking on the Delete button.

TIP - If you label a button on a blank page, a new page will be added after you save.

Dragging and Dropping Buttons

You can drag and drop a programmed button/label to any empty button. If there are no empty buttons, simply delete unused buttons first, then re-arrange as desired. Drag and drop requires that you click and hold on a button, then move to the new location and let go of the mouse button.

Hiding Pages

A hidden page is accessible during MACRO programming but the end user cannot manually access the page using the PAGE button. If all pages are hidden, the end user cannot access the hard buttons of the device either, essentially creating a HIDDEN DEVICE.. This is the only way to prevent the automatic jump action that occurs on the MAIN menu for any DEVICE LCD button. You HIDE pages using the HIDE checkbox. However, you must hide pages from **THE BACK TO THE FRONT**. You cannot hide page 1, you must move buttons to page 4 and hide page 4. Once page 4 is hidden, you are allowed to hide page 3; after page 4 and page 3 is hidden, you may hide page 2; and only after page 4, 3 and 2 are hidden may you hide page 1.

Tip - You can still program a Macro to jump to a HIDDEN page for special purposes!

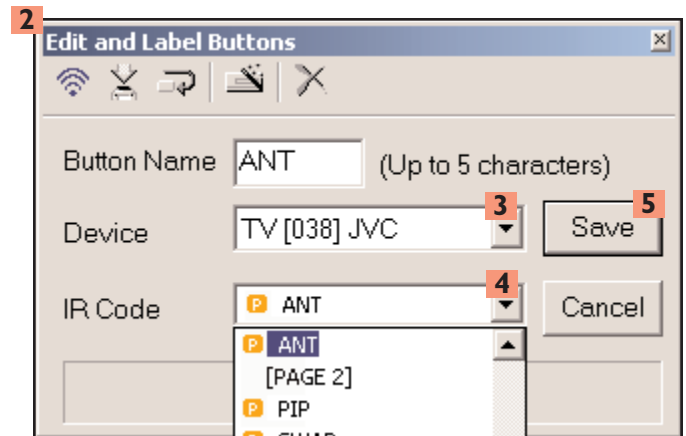
Moving Through Pages In Favorites

FAV or the Favorites device has five pages, thus you cannot view all pages at once in LCD button editor. However, two scroll buttons (normally greyed out) become active when you are editing FAV. By utilizing these buttons, you can edit and view pages 1 through 4 or 2 through 5.

Shortcuts - Copying Existing Buttons

Any button on MAIN or a Device (not FAV buttons) can be programmed with a shortcut to another button. When you program a shortcut the  icon will appear next to the button. When a button is programmed with a shortcut, it is essentially an exact copy of the other button regardless of how it is programmed (Learned IR, IR Database or Macro). Since a shortcut can copy a macro, it is the only way you can get a hard button to issue a macro (you program the macro on an LCD button on a hidden page somewhere, but the end user issues it by pressing a hard button programmed with a shortcut). To program a shortcut::

- 1 Select the button you want to program.
- 2 Open the Edit and Label Buttons window if it is closed.
- 3 Pull down the Device list and select the device where the button you want to copy is located.
- 4 Pull down the IR Code list and select the button you want by clicking on it.
- 5 Click on SAVE.



Learning Tips



Start with the remote controls an inch apart. Vary the learning distance from 1" to as much as 4 feet if the code doesn't test correctly. Make sure the remotes are pointed head to head!

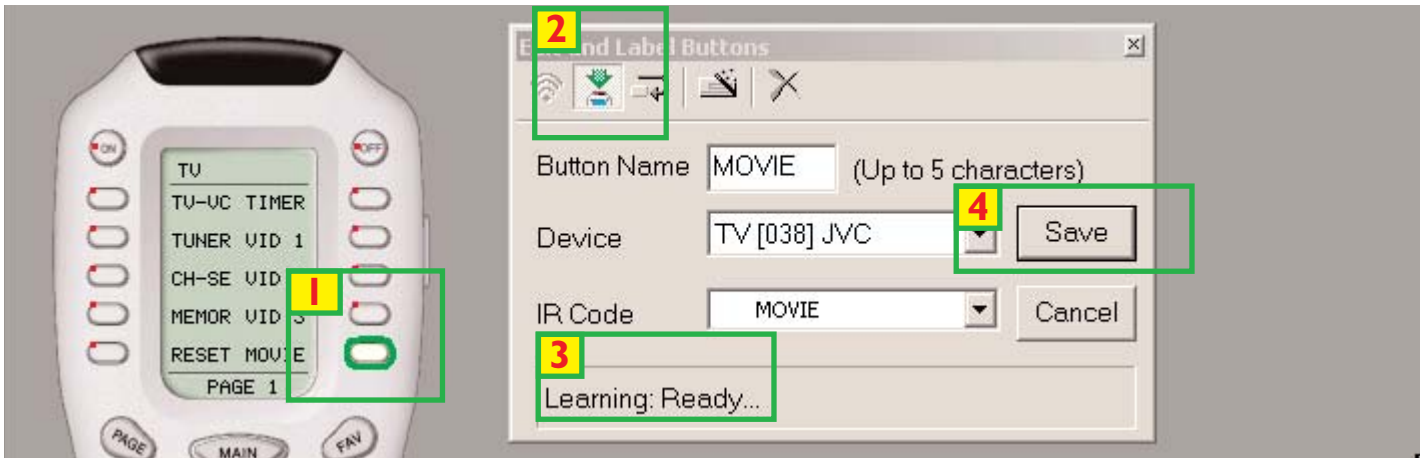
Fresh Batteries in the Original Remote Control - Weak batteries will cause MXEditor to fail to correctly learn. Note that EVEN if the original remote still operates the component the batteries can be too weak to produce a strong enough carrier for any learning remote control to detect!!!! When a code fails, replace the batteries FIRST!

Tap instead of Pressing and Holding - With some codes, this will produce better results. Normally, you should press and hold.

The "Flutter" Technique - If you are having problems with a Code that has to be sustained (like volume up or down), sometimes fluttering the button while in learn mode will reduce errors.

The "Semaphor" Technique - Use a book or another opaque object inbetween the two remotes. Press the button on the original remote, then remove the obstruction for a moment, then put it back. Experiment with different timings.

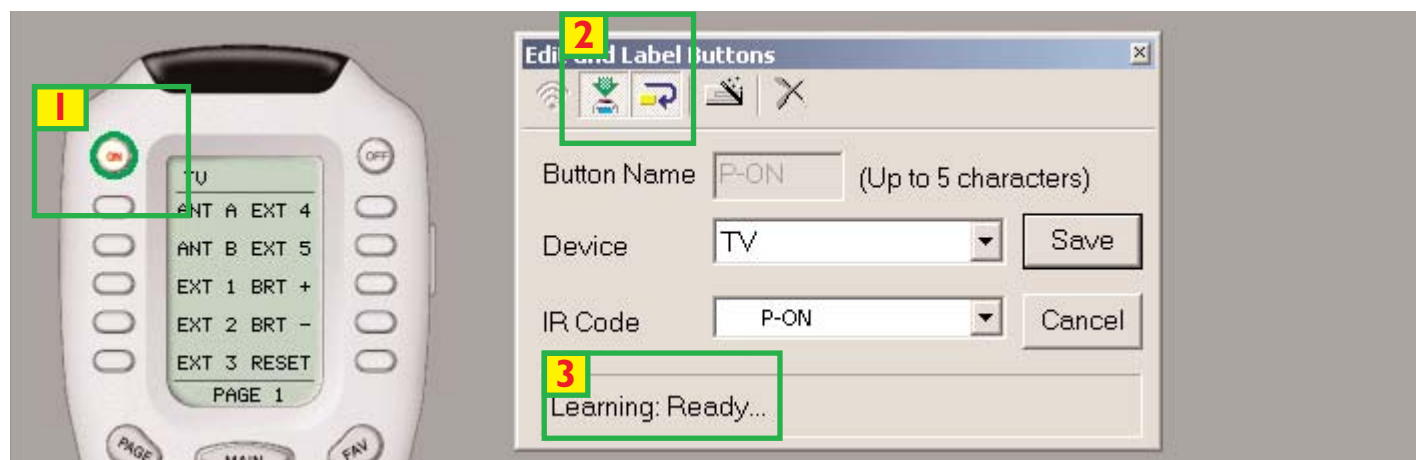
Learning IR Codes One at a Time



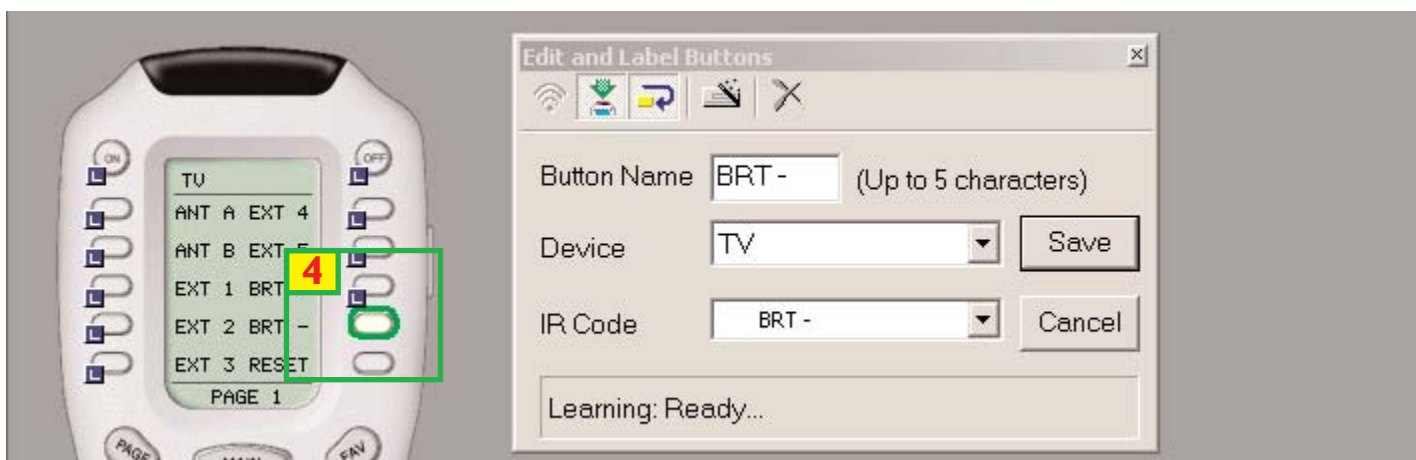
- 1 Select the Button** - Select the button that you want to teach to by single clicking it.
- 2 Click on the LEARN Shortcut Button** - The Learn shortcut button stays depressed to indicate that you have selected LEARN mode.
- 3 Wait for READY to Appear** - The MX700 (not the SideKick) must be connected to the PC. Once you see the READY indicator, press and hold the corresponding button on the original remote control while pointing it at the TOP of the MX700. When the code is successfully learned, the window will say GOOD, confirming that the code learned "correctly". Actually, the GOOD means that the code *might be good*... Press the test icon  and point the connected MX700 at the component to test if it really is good! Reteach as necessary.
- 4 Click on SAVE** - You must click on SAVE to save the LEARNED command.

Learning a Batch of Buttons Efficiently

Tip - Find the correct “learning distance” using single code learning before beginning batch learning...



- 1** **Select the STARTING Button** - Select the button that is the top left of the buttons you want to teach to. When learning a batch of buttons, MXEditor starts at the top left, moves down the LCD buttons on the Left, then goes to the top right LCD button. When learning Hard buttons, MXEditor starts at the top left, moves across each row, then moves down.
- 2** **Select both the LEARN and the CONTINUE shortcut buttons** - The combination activates the batch learning capability of MXEditor.
- 3** **Watch the INFO Window** - When the info window says READY, press and hold the button on the original remote control. When it says GOOD, release the button.

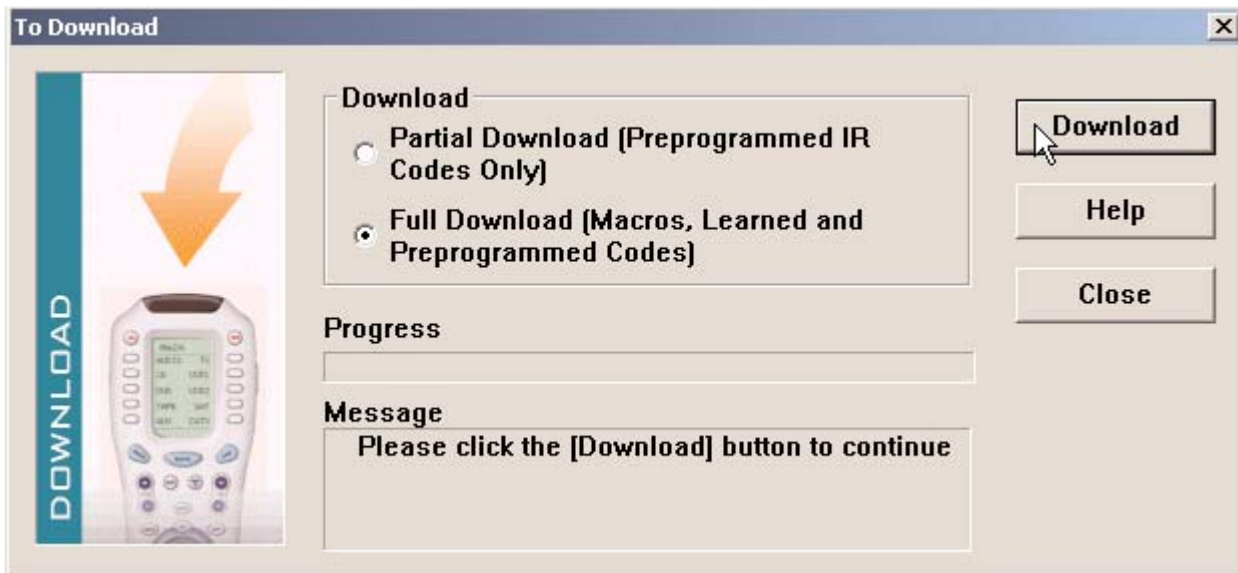


- 4** **Automatic SAVE and ReSelect** - During batch processing, MXEditor automatically saves and then reselects the next button. When you see that a new button has been selected and the INFO window says READY, then teach the corresponding button on the original remote control. This greatly speeds the learning process.

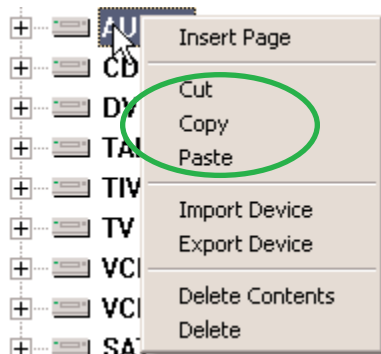
Tip - To skip a button in the automatic sequence, simply select a new button.

Download and Test All Learned Buttons

This time when you download, make sure that you choose **FULL DOWNLOAD**, otherwise your learned codes will not download to the remote control. Test all the learned buttons, and go ahead and correct the problems as you find them.



Copying and Pasting Devices



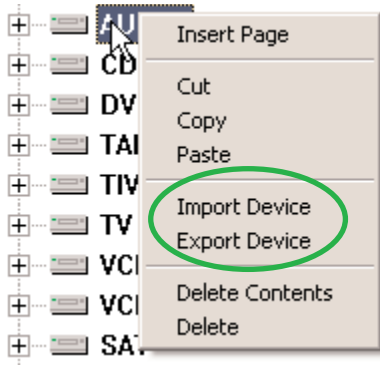
If you right click on a device in Tree View, a context menu appears that enables you to **Copy** a device. When you select another device, right click and select **Paste**. The entire contents of the selected device will be erased and replaced by the contents of the device you copied. The original copy stays in place unchanged.

If you wish to delete the original then choose **Cut** instead of **Copy**. When you choose **Cut**, then the original device is deleted when you **Paste** into a selected new device.

Tip - Use Copy and Paste to create a duplicate of your customers receiver device, then rename the duplicate "Tuner" or "Radio". Then use LCD button editor to eliminate all of the surround sound and input buttons in the RADIO device and all of the Tuner functions from the "RCVR" device. This creates a very simple RADIO device that is much easier for your clients to understand.

Many installers go a step further and HIDE all the pages in the RCVR device, so that their clients cannot readjust and accidentally ruin the surround sound calibration. Remember, buttons on hidden pages are still programmable as macro steps!

Importing and Exporting Devices



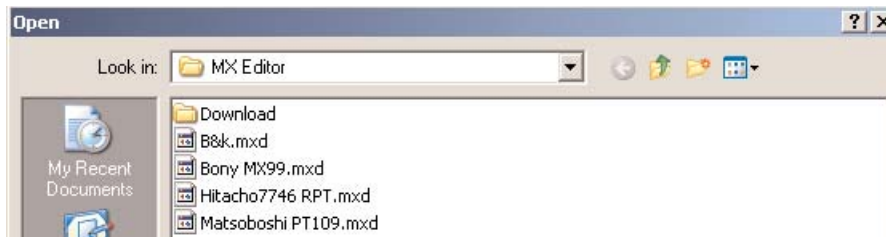
If you right click on a device in Tree View, a context menu appears that enables you to **Import or Export** a device. When you select a device, right click and select **Export**. The entire contents of the selected device will be saved to your PC with a new file name. The original copy stays in place unchanged.

If you have some saved DEVICE files, choose **Import** to add the device to your client's remote control.

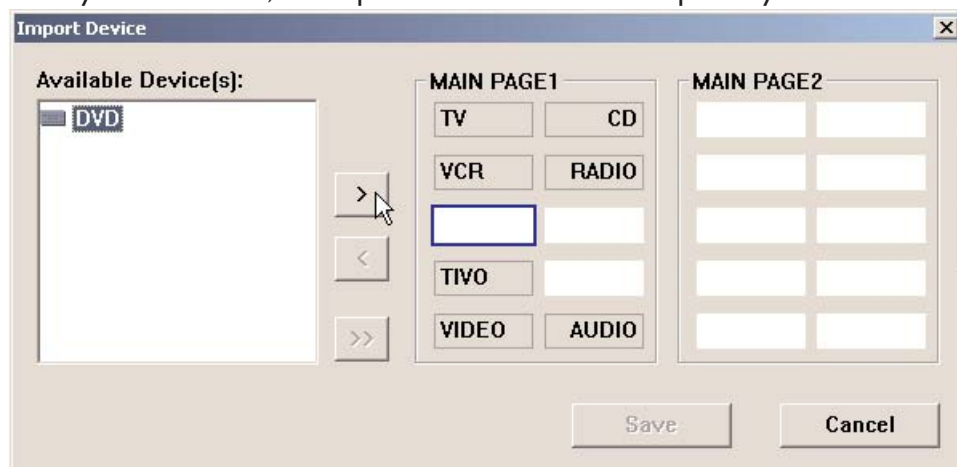
Tip - Name your EXPORTED device files by Category, Manufacturer & the Model #.

Importing Step by Step

- 1 Right click on tree view and choose Import Device.
- 2 When the Open dialog window appears (as you see below), navigate to the folder you stored your device files and select the one you want to import.



- 3 Once you select a file, the Import Device window will open as you see below.



- 4 In the Available Devices window, select the device you see (it will have the original 5 letter LCD label from the original configuration, rather than the Manufacturer/Model/Category name you filed it as).
- 5 Now select an EMPTY position on either MAIN page 1 or MAIN page 2. You cannot replace an existing device only an empty spot.
- 6 Click on the ARROW pointing to the right at the MAIN pages, then click on SAVE.

Macro Programming

What is a Macro?

A macro is a recording of a sequence of commands that is played back when the user presses a single button. A macro can have up to 190 steps. A step can be:

- **IR Command** - Any IR command on any hard button, LCD button on any device. IR commands in the IR Database are not available to Macros until they have been programmed into a button somewhere within the configuration.
- **Delay** - Adjustable delay between steps of .1 and 30 seconds. Longer delays can be created by using more than one delay. If a delay is programmed as the first step in a Macro, the macro will not be issued until the button is pressed and held for the specified amount of time.
- **Jump** - As the last step in a Macro, you can specify a jump to any page of any device. However, an LCD button on MAIN is automatically programmed to jump to the first page of the device as the first step in a Macro (unless all pages are hidden). You can program another jump in the macro, so that the automatic jump will happen at the beginning of the macro and the manually programmed jump will happen at the end of the macro. See Advanced Programming Tips on page xx for examples of how you can utilize this feature.

What Buttons Can Playback a Macro?

Only LCD buttons and the Power On and Power Off buttons can be PROGRAMMED with a Macro. However, any button can playback a Macro by using a shortcut to a button that has a Macro in it. Thus, if you need a Macro on a hard button (i.e. Prev CH), you can program the macro on an LCD button (could be in a hidden page somewhere) and simply shortcut to it (see page 22 for step by step info on shortcuts).

Discrete IR Codes VS. Toggle IR Codes

Manufacturer's program their products to respond to IR codes with one action or many:

Toggle - More than one action can occur when the code is sent by a remote control. An example is a POWER button. The manufacturer programs the TV to respond to a POWER command by turning it on if it was off and turning off if it was on. So one button can do two things. This requires that the user "know" or "see" that the television is on or off before pressing the button.

Another example is a television with an "INPUT" command. When the code is issued, the television changes its input. Since the television has 5 inputs, the single "INPUT" command can have five different results, depending on what input was previously selected. The user has to "know" or "see" what input was previously selected, before deciding how many times to push the INPUT button.

Discrete - Only one action can occur when the code is sent by a remote control. An example is television with a POWER ON button and a POWER OFF button. If the television is already on, the POWER ON command has no effect. If the television is off, the POWER ON command will turn on the television. Another example is a television with five discrete input commands (ANT A, ANT B, EXT 1, EXT 2 and EXT 3). No matter what input was previously selected, any of these commands will change the television to the desired input WITHOUT the end user "knowing" or "seeing" what the previously selected input was!

Tip - Not all components have "discrete" codes on their original remotes, check the IR Database!

Toggle Commands create “Point ‘n Pray” Macros

Imagine a system with three components (a TV, a VCR and a surround sound Receiver). Each has a toggle type POWER command on the original remote control. You program a macro with the three power commands on the MAIN Power ON button and tell your client to turn on their system with this button. Here's what will happen:

The client will pick out a videotape and insert it in the VCR (the VCR will now automatically turn on). The client sits down, picks up their MX700 and presses the MAIN Power On button. The three toggle type power commands are issued. So, since the TV and the Receiver were Off, they turn on, however the VCR was already on from inserting the tape, so it turns off. The client is puzzled that they don't see a picture, so they press the MAIN Power On button again. The three toggle type power commands are issued again. This time the TV and the Receiver turn off and the VCR turns on. The client begins to get frustrated...

TIP - For systems with lots of toggle Power codes, create a “Power” help list.

You cannot successfully train a family to use a Point'n Pray macro. It is too inconsistent. You are better off to create a help list device named “POWER”. On the Power Page 1, create shortcut buttons to all of the components toggle power commands. Train the customer to turn on the system by pressing the Power button on MAIN, then turning anything that they need on one at a time. Once the system is on, they press MAIN and decide what they want to watch or listen to.

Professional Installations Require “Bullet-Proof” (Reliable) Macros or a help list. The use of point'n pray macros will create service calls and a lot of bad will. Never leave a customer with a remote programmed to “maybe” work...

Finding Workarounds for Toggle Commands in Macros

By creatively experimenting you may find that you can workaround the lack of discrete codes. This takes time and there is no guarantee that you will find a workaround for any given component. Here are some common examples:

DVD and VCR Power Workaround

Most DVD players will turn on when off when they receive a Play command. Thus you can workaround like this:

DVD ON = 1) Play	DVD OFF= 1) DVD Play
2) DVD Stop	2) Delay (amount of delay varies with brand and model, typically 1 or 2 seconds)
	3) DVD Power

TV scrolling “INPUT” Workarounds

Many televisions respond to a channel up or a channel number command by changing to the Antenna input regardless of what input was last selected. This creates an “anchor” action that puts the television in a known input. Thus you can create a workaround as follows:

EXAMPLE - CH Up takes TV to the ANT A input (and the TV has 5 inputs -Ant A, Ant B, EXT1, EXT2 and EXT3)

TV to EXT3 = 1) Ch Up (takes TV to ANT A regardless of what input was last selected)
 2) Input (takes TV to next input - ANT B)
 3) Input (takes TV to next input - EXT 1)
 4) Input (takes TV to next input - EXT 2)
 5) Input (takes TV to desired input - EXT 3)

EXAMPLE 2 - Any channel number and ENTER takes TV to the ANT A input (and the TV has 5 inputs -Ant A, Ant B, EXT1, EXT2 and EXT3)

- TV to EXT3 = 1) "0"
 2) "2"
 3) "Enter" (takes TV to ANT A)
 2) Input (takes TV to next input - ANT B)
 3) Input (takes TV to next input - EXT 1)
 4) Input (takes TV to next input - EXT 2)
 5) Input (takes TV to desired input - EXT 3)

Programming the Power On Macro

Set up your laptop and the connected remote within operational range of the home theater system while programming the power on macro. Power On macros usually require extensive testing of delays and you can expect to do a lot of experimenting while programming.

- 1 Select the Power On button on the MAIN page.



- 2 Click on the RECORD icon

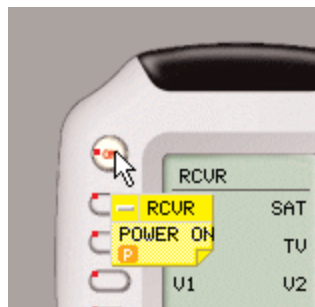


- 3 Take a look at the MAIN page (both pages if you have two MAIN pages). Decide which components you want to power on. Start adding their power on commands to the list by navigating to the device and page where the codes are located and clicking on the buttons with the power on commands.

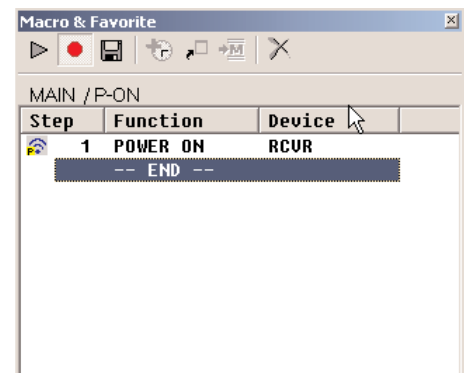
Select the device by clicking it's button on the MAIN menu.



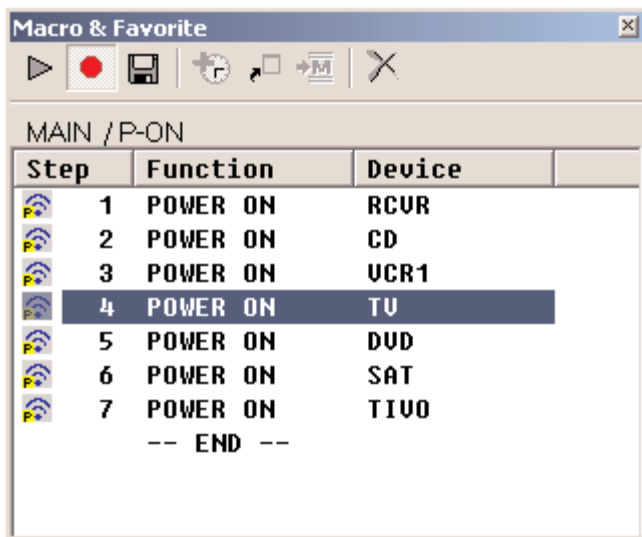
Now, click on the button with the device's Power On command.



The new step appears in the list.

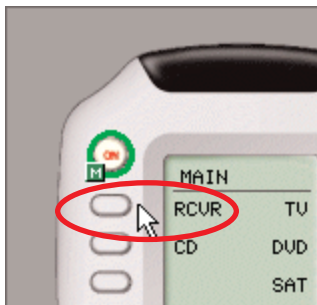


- 4 Once you have all of your Power On Commands in the list, re-arrange them as desired by clicking and dragging them into whatever order you want.

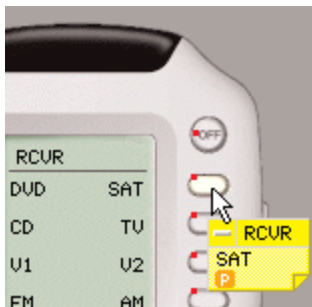


- 5 Ask the client what they think they will watch most often (TV, satellite, dvd etc.). Program steps to select the correct TV and Receiver input for that activity. In this example, both the television and the receiver have discrete input codes and the client's favored activity is watching Satellite.

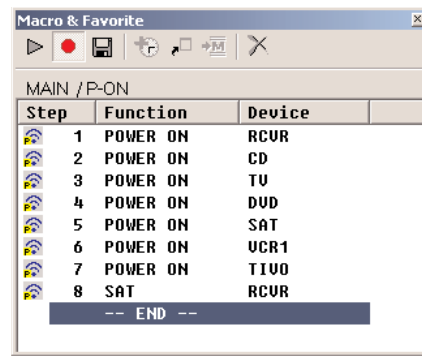
Select the RCVR by clicking its button on the MAIN menu.



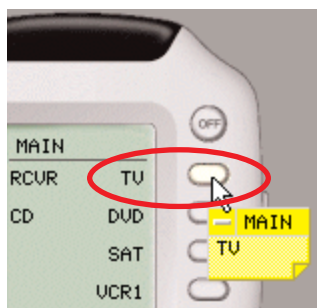
Now, click on the button with the SAT input command.



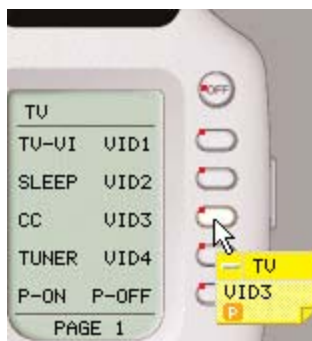
The new step appears in the list.



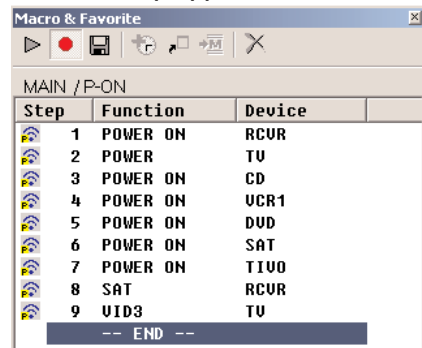
Select the TV by clicking its button on the MAIN menu.



Now, click on the button with the correct input command.

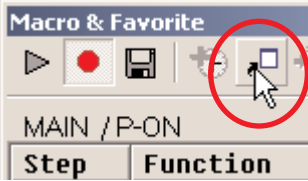


The new step appears in the list.

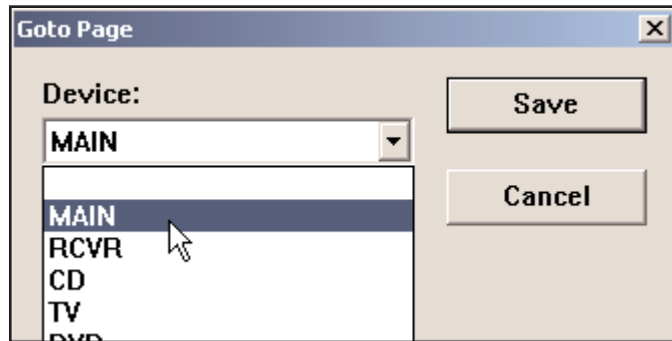


- 6** OPTIONAL - Program a jump to the MAIN page you would like them to choose their favorite activity from. This ensures that if they were on MAIN page 2, after they power up, they will automatically be on MAIN page 1.

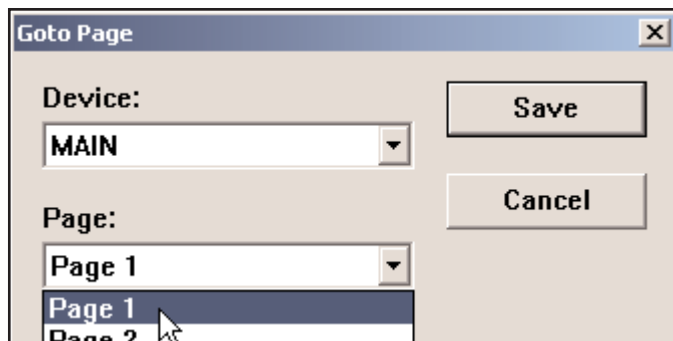
Click on the JUMP icon.



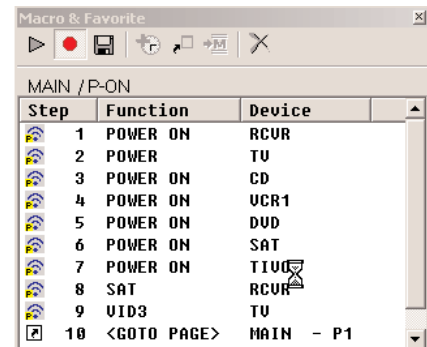
Select the MAIN device.



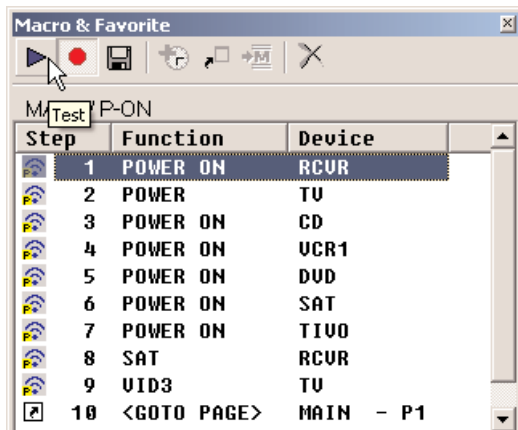
Select PAGE 1 by clicking it's button on the MAIN menu.



The new step appears in the list.

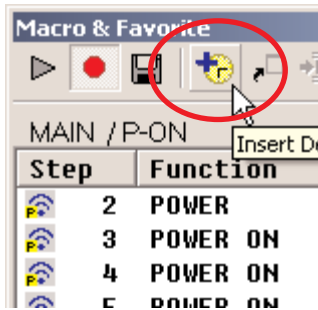


- 7** First, turn the TV and the Receiver to the wrong input, then turn off everything in the theater. Point the connected MX700 at the system. Select the first step in the list by clicking on it. Now, click on the TEST button. Observe the television and the receiver. Did they both switch to the correct input?

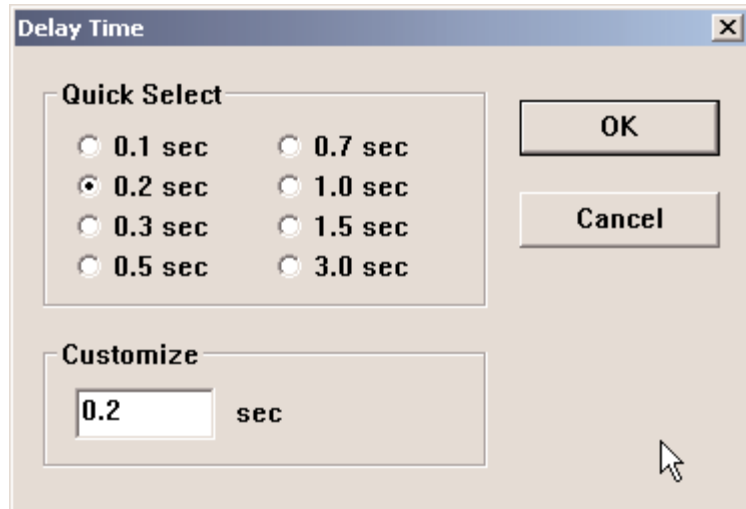


- 8 Programming additional delay in the macro is sometimes necessary. Each macro step usually takes some time, so there may be enough built in delay for the television and the receiver to both be fully active by the time the input commands are sent. Sometimes the component is not fully awake. It is fashionable for many modern televisions and receivers to require 5 or more seconds of warm up time before they are responsive to new commands. In a case like that, you will need to add more delay between steps.

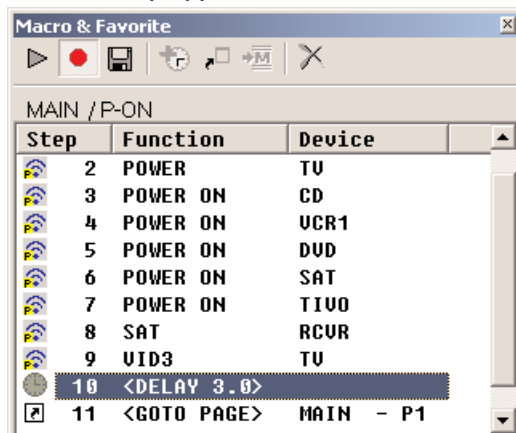
Select the Delay icon



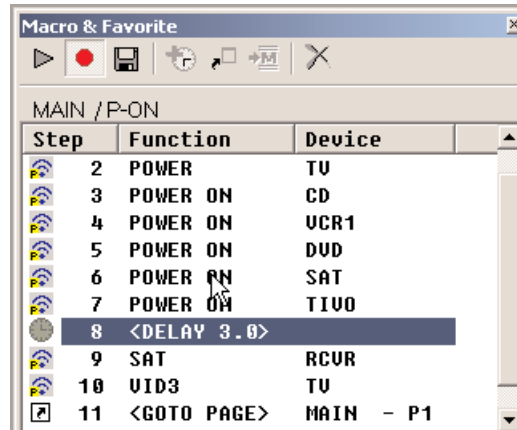
Now, click on the preset amount of delay or enter any time between .1 second and 30 seconds in the "Customize" window.



The new step appears in the list.



Now, drag the delay step to the correct location.



TIP - Sometimes a change in order can provide the delay you need...

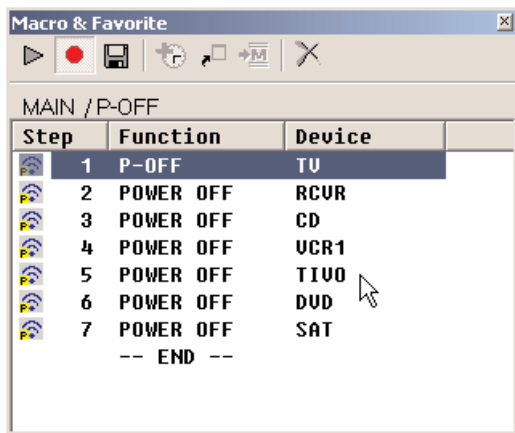
- 9 Again, turn the TV and the Receiver to the wrong input, then turn off everything in the theater. Point the connected MX700 at the system. Select the first step in the list by clicking on it. Now, click on the TEST ► button. Observe the television and the receiver. Did they both switch to the correct input? Continue to revise the macro with delays or changes in order and test until the macro ALWAYS correctly turns everything on and switches the surround sound receiver and television to the correct input.

When the macro is perfect, click on the SAVE  shortcut button.

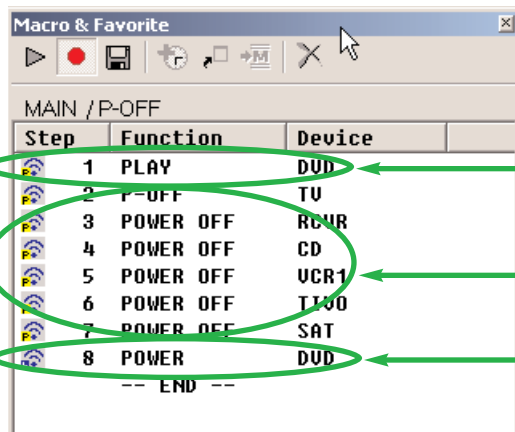


Programming a Power Off Macro

The Power Off macro is much simpler than a Power On macro, since there are rarely any delays to test etc. Usually, to give the client some feedback that the macro is working, the TV is turned off first.



When you are forced to “workaround” a DVD player or VCR without a discrete off command, you will make the macro more reliable if you place the time consuming anchor (the play command) at the beginning of the macro. Make sure that you turn the DVD player off before testing this kind of workaround. You are testing the worst case, you know that a toggle type power command will turn the DVD player off, you are concerned about an event that might happen. The DVD player is already off, but the client presses the MAIN Power Off to turn everything else on. If you only programmed a toggle Power command, everything else would turn off, but the DVD player would turn on. This “workaround” ensures that the DVD player turns off.



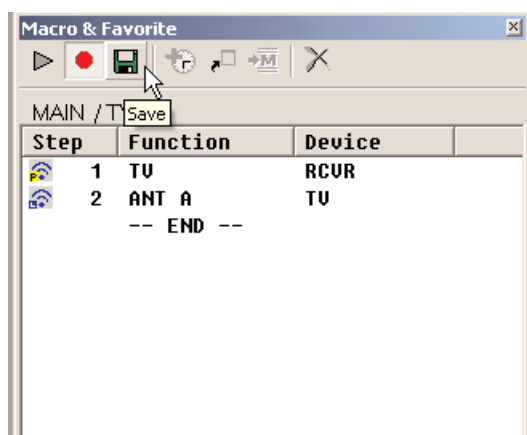
Play command turns on DVD player if OFF. If it is already on, it stays on.

Other power commands provide enough delay that the DVD player will respond to a Power command if the play command just turned it off.

Power command turns off DVD player.

Programming Activity Macros on MAIN LCD “Device” Buttons

An activity Macro is typically programmed to be as fast as possible. They simply select the correct input on both the television and the surround sound receiver, since all the components have already been powered on by the Power On macro.

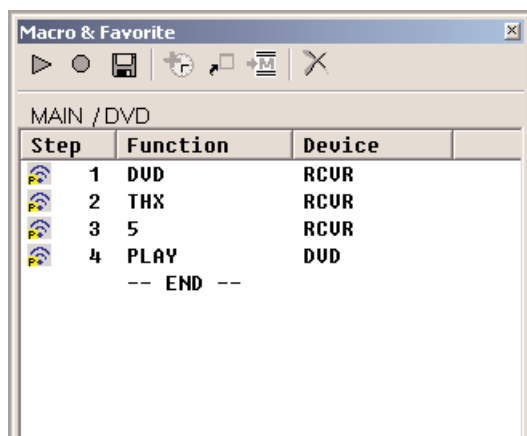


There is no need to program a JUMP to a page in a MAIN LCD “Device” button. They are automatically programmed to JUMP to the Device.

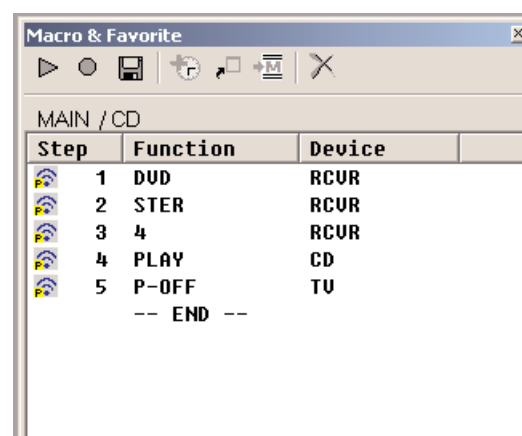
Sometimes activity macros will share the same input settings. Here, a DVD player doubles as a CD player. The programmer has copied the DVD device, named it CD, so that there are two identical devices (with the same DVD player IR codes). The only difference between them is the Activity Macros you see below. The DVD Activity macro selects THX Surround Sound with 5 speakers with the TV on, while the CD Activity selects Stereo with 4 speakers and forces the TV off. For components that have play commands it is typically ok to have a “Play” command in the macro. Watch out for components with toggle type play/pause buttons. That kind of “Play/Pause” command should not be placed in an Activity Macro without a preceding “Stop” command, to make sure that the toggle can only play the component!

One DVD Player - Two Devices and Two Activity Macros

DVD Activity Macro



CD Activity Macro



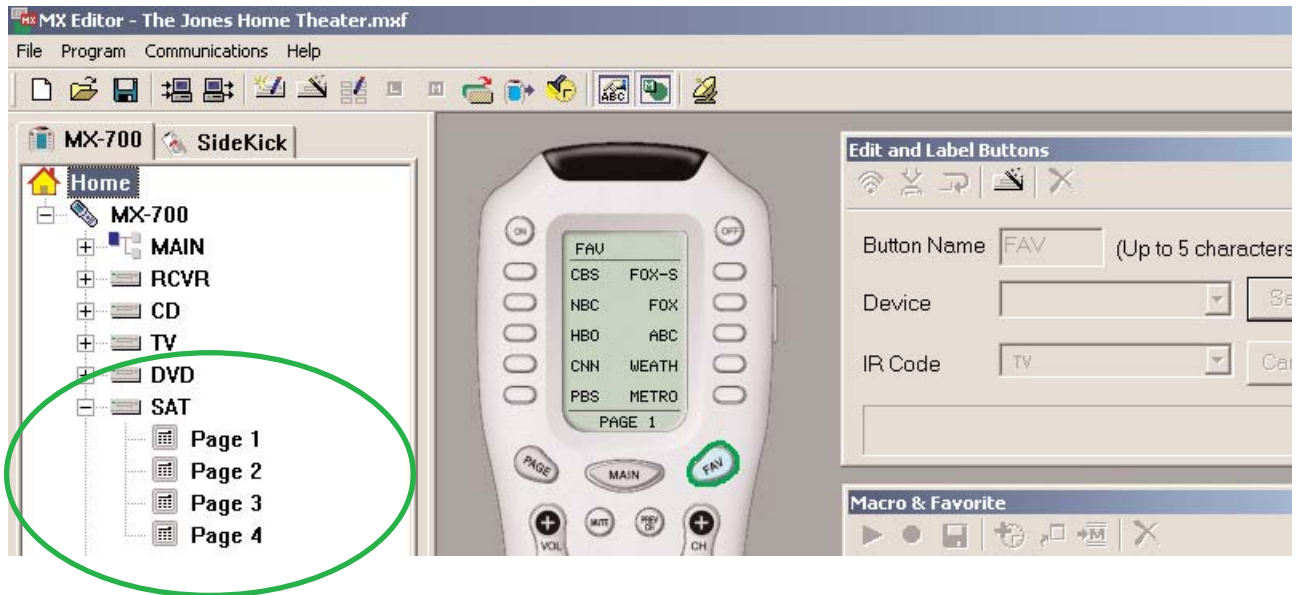
Note how the programmer is using the same DVD input on the surround sound receiver for both activities, the macro simply changes the surround sound settings...

TIP - Don't OVERAUTOMATE, make sure that every step is truly useful!

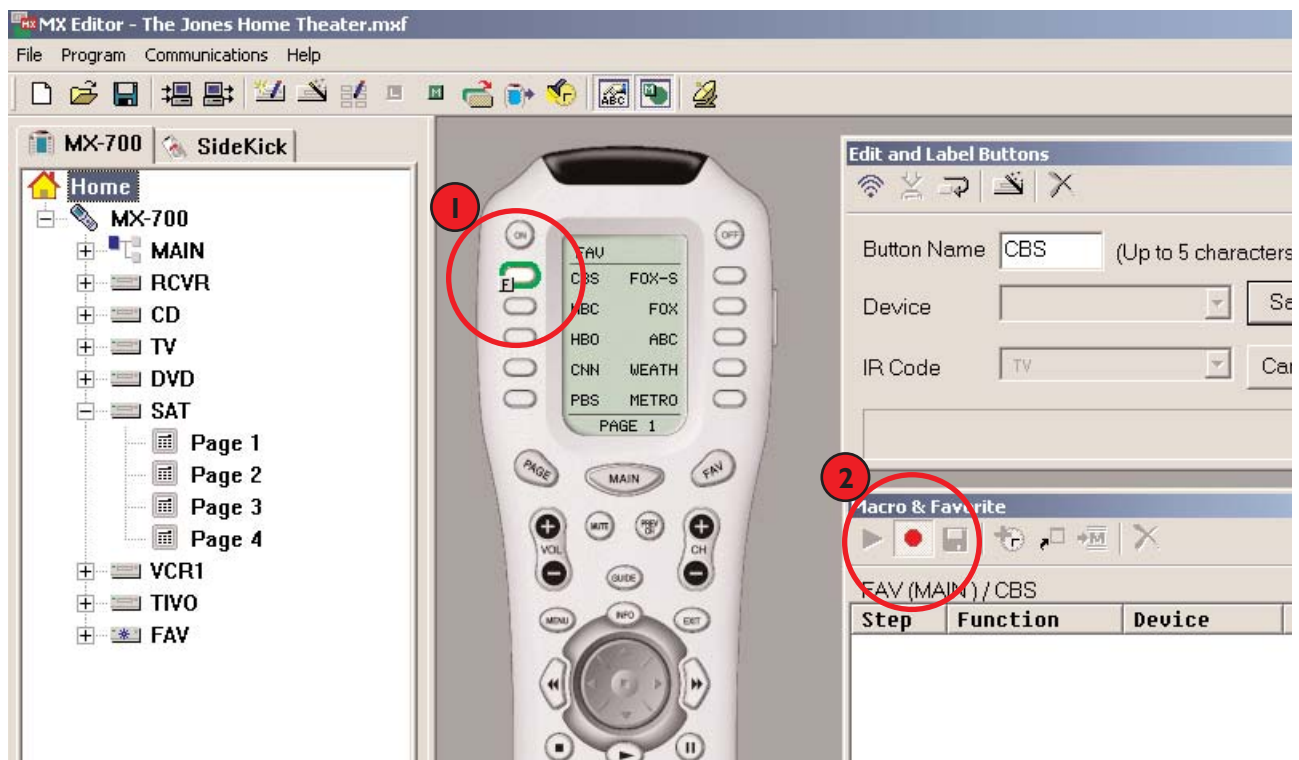
Programming FAVORITE Macros

Programming fifty favorite channels may sound like a lot of work, but if you take advantage of MXEditor's time saving capabilities, you can program all fifty in five minutes or less! First, get a program guide for the satellite service or cable tv provider your client uses. Have them mark their favorites for you. Use LCD Button Editor to relabel as needed and hide any un-necessary pages (likable clients are allowed 50 favorites, snotty clients get 10 favorites). Now, you are ready to program:

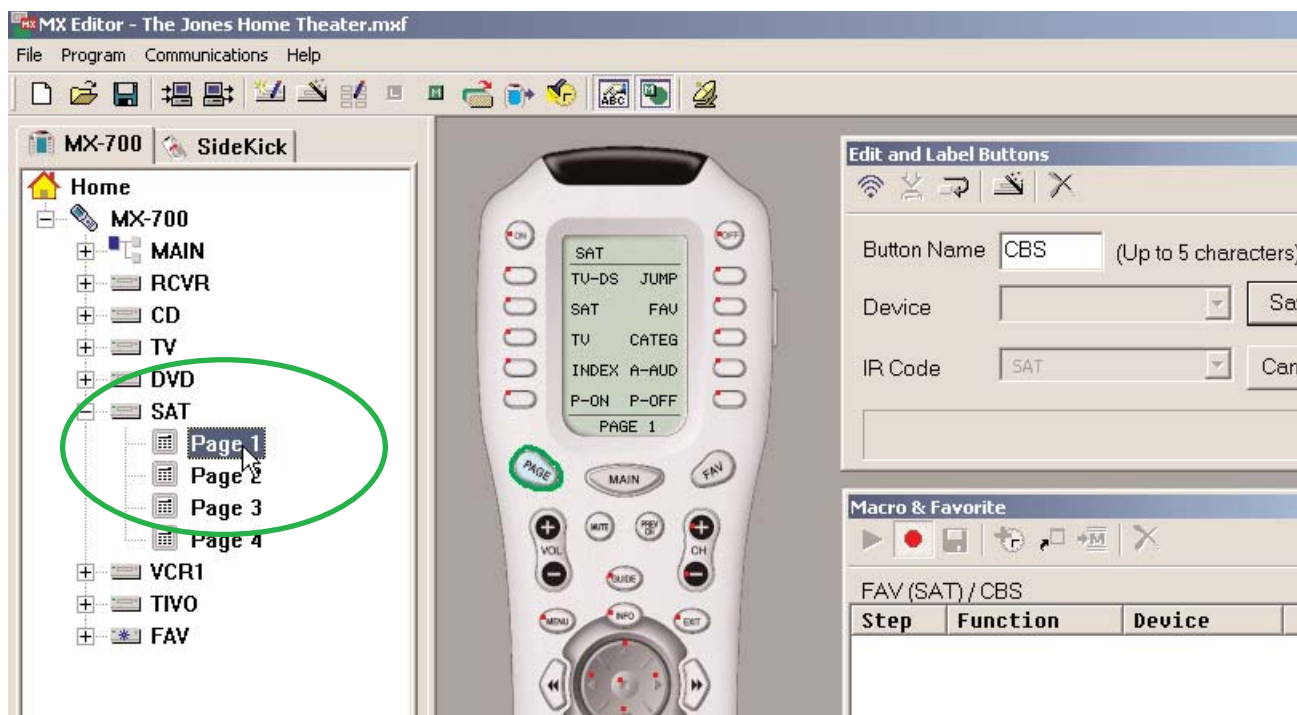
- 1 In Tree View, click on the + sign next to the Device (SAT, CABLE) that you will need to program the favorites from. This expands the device, so that you can see the Pages.



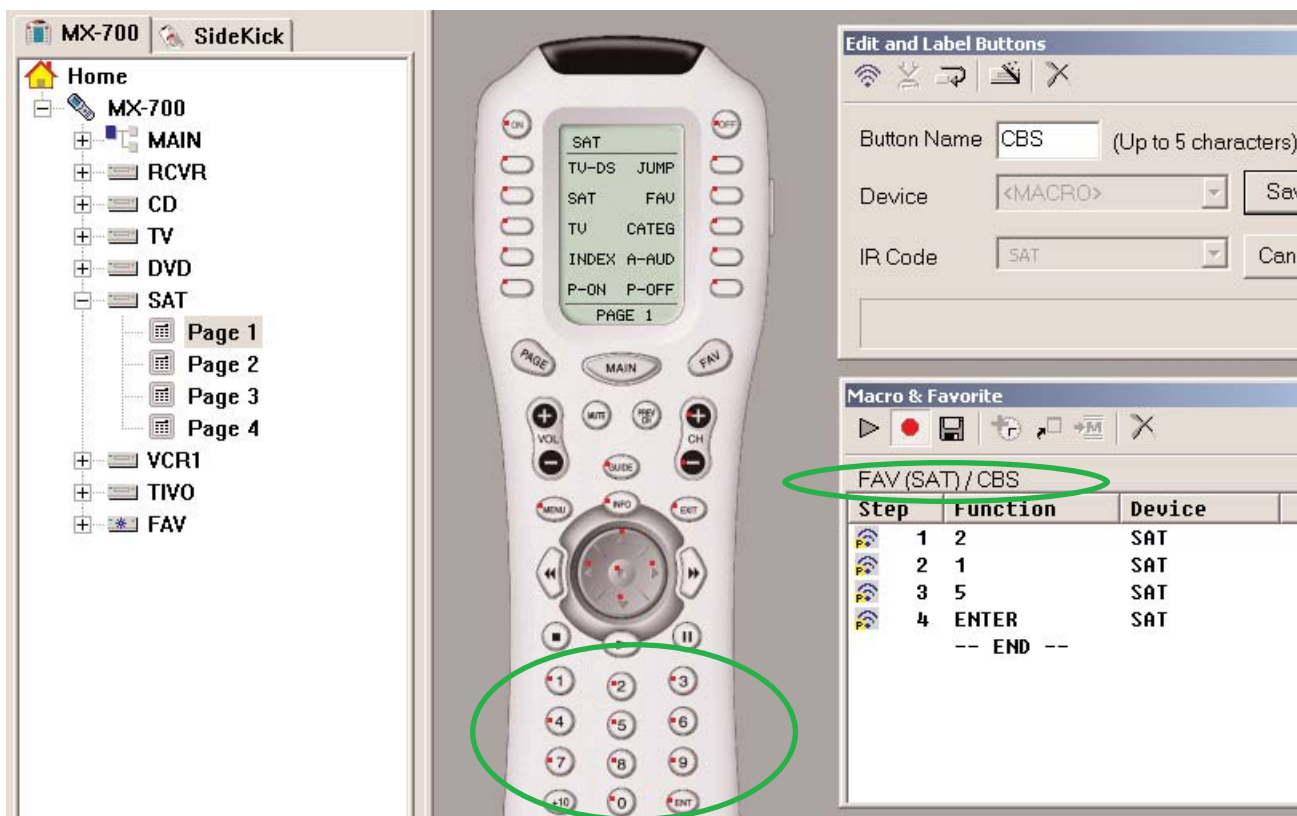
- 2 On the Simulator, click on the Favorite you would like to program and click the RECORD button.



- 3** In Tree View, click on one of the Pages of the device (SAT, CABLE) you are using to make the favorite. This instantly changes the Simulator from FAV to the device, whereas using the Simulator to navigate would have taken several mouse clicks.

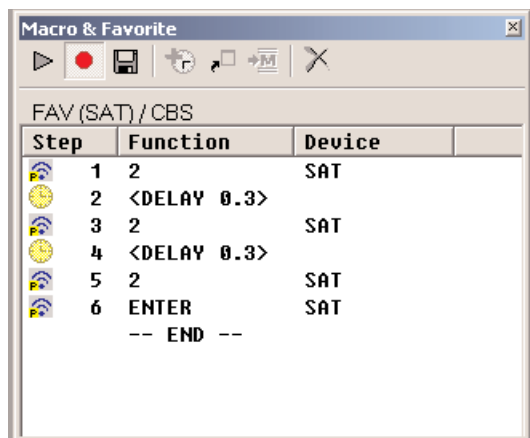


- 4** Click on the hard buttons to record the channel number you want. If you forget which favorite you are programming, remember that the name of the favorite is displayed above the macro list of steps.



- 5** Add delay if needed. You should test the first favorite thoroughly for any need for delay. Components vary widely in their response time. Some brands will be fine with no delay step in between IR commands. Other brands require delays in the interval between commands.

However, if the channel favorite has two identical digits, you will almost certainly require some delay between the two identical commands.

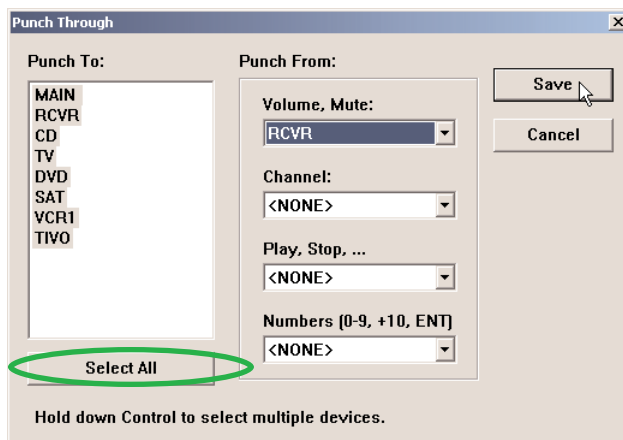
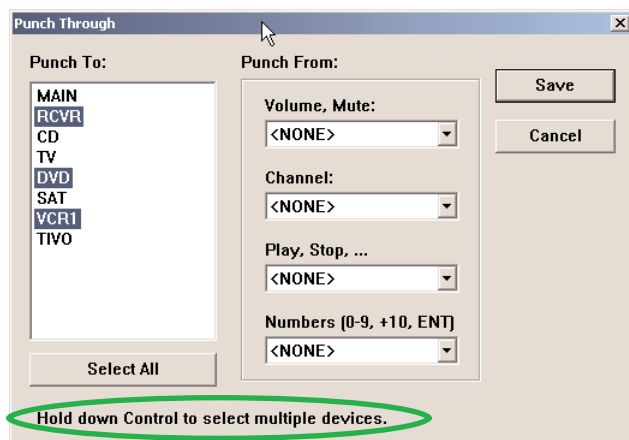


- 6** Click on the SAVE icon and continue to the next Favorite until all are complete.

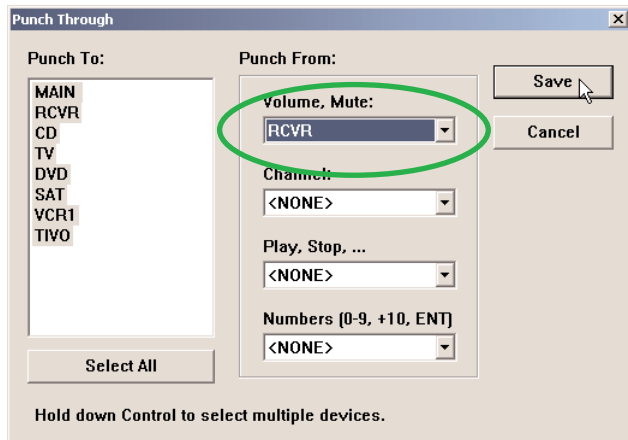
Programming Punch Through

MXEditor enables you to quickly set up common functions on all devices for the hard buttons. Though principally used for Volume Up, Down and Mute, some systems require other groupings to be punched through. You may find it convenient to punch through to the VCR transport controls on the TV device, so that your client can rewind and cue up videotapes while he/she is watching TV. The Punch Through window makes any configuration you can imagine very fast to accomplish.

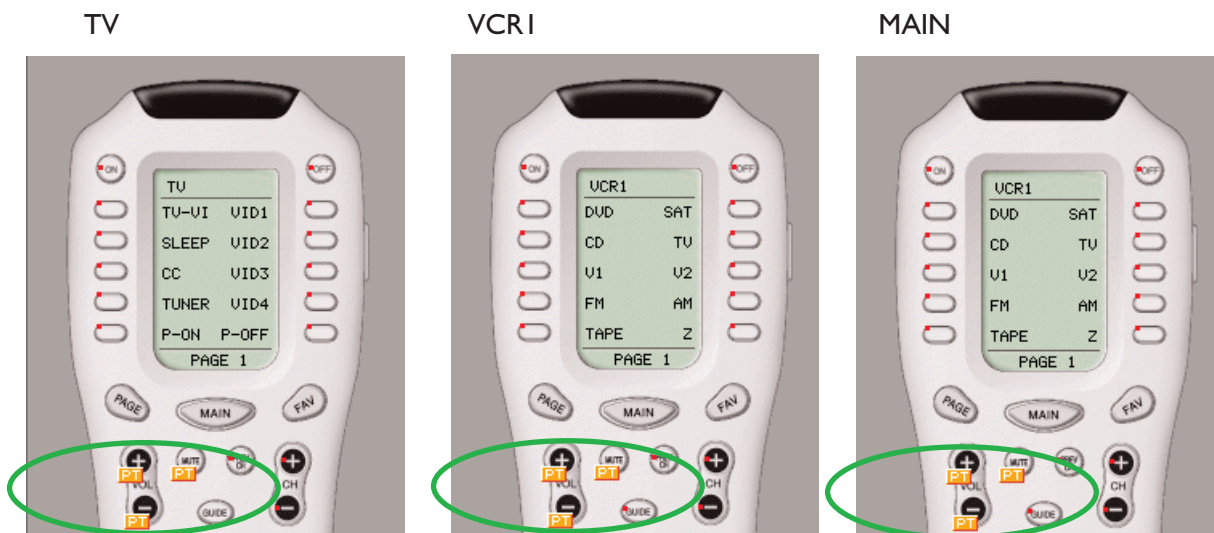
- 1 Open the Punch Through window by clicking on the shortcut button in the toolbar or by selecting Punchthrough from the Program Menu.
- 2 Select the devices which you want to change programming by clicking on them while holding down the CONTROL key on the keyboard. If you want them all selected (normal for Volume Up, Down and Mute), simply click on the Select All button. Any device you select will be HIGHLIGHTED in the "Punch To" list.



- 3 Select the device that has the codes you want used:



- 4 Click on SAVE. Check the devices you programmed, you should see the yellow PT (punch through) flag on every button affected on all the devices you programmed:



- 5 Repeat for any other groups of codes as you like.

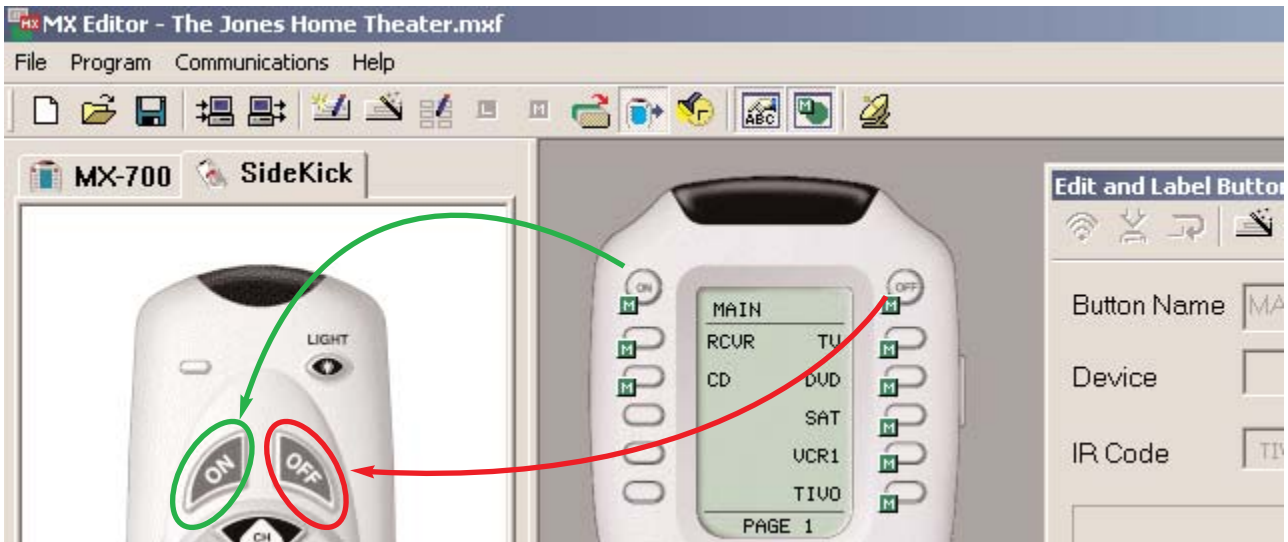
Programming the SideKick

- 1 Switch from MX700 Tree View to SideKick view using the tabs above Tree View.

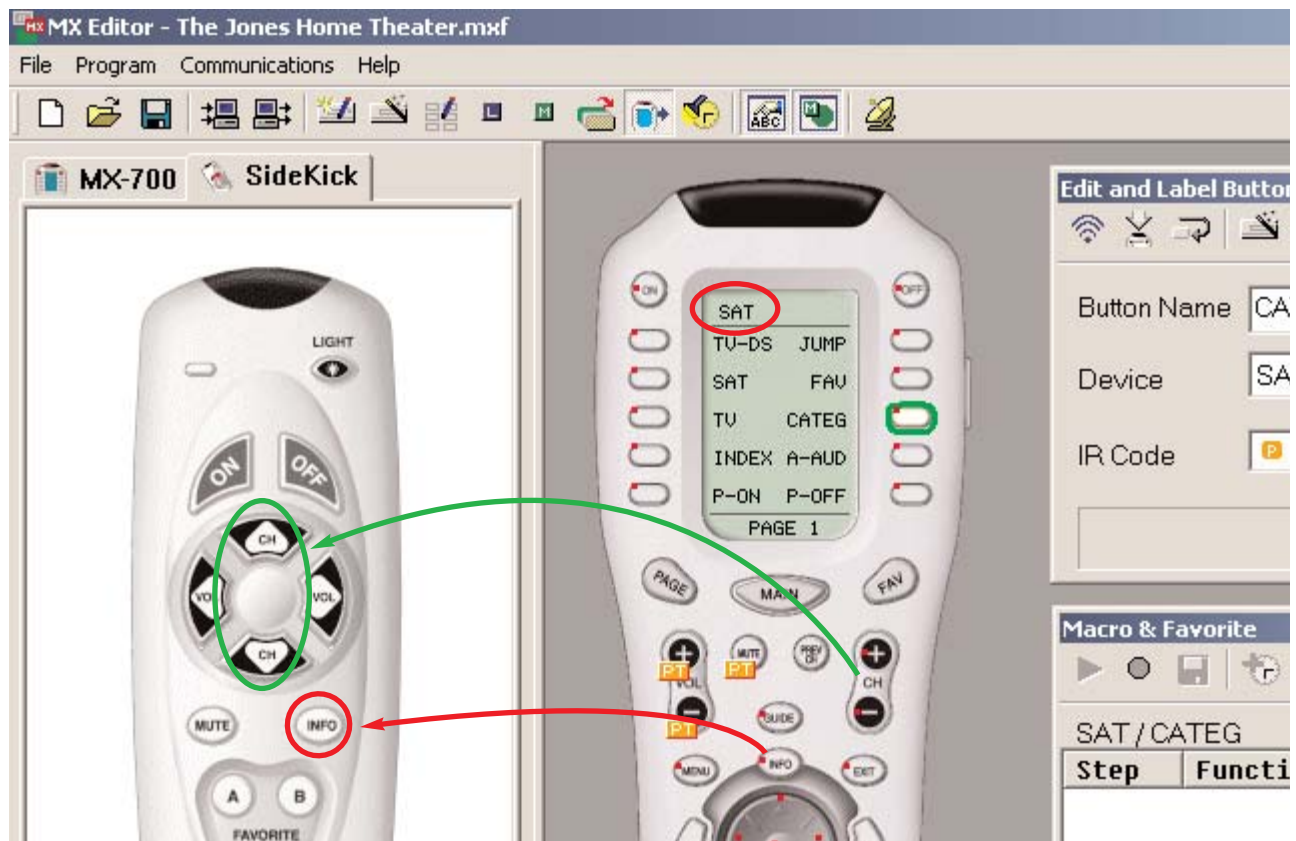


- 2 Navigate to the MAIN page and drag the MAIN Power On and the MAIN Power Off macros to the SideKick's On and Off buttons. This is assuming that you have programmed the MAIN Power On macro to select TV or Satellite as the favorite activity. If you have not, program an LCD button somewhere (can be on a hidden page) to turn on the system and select the source you plan to use for the SideKick.

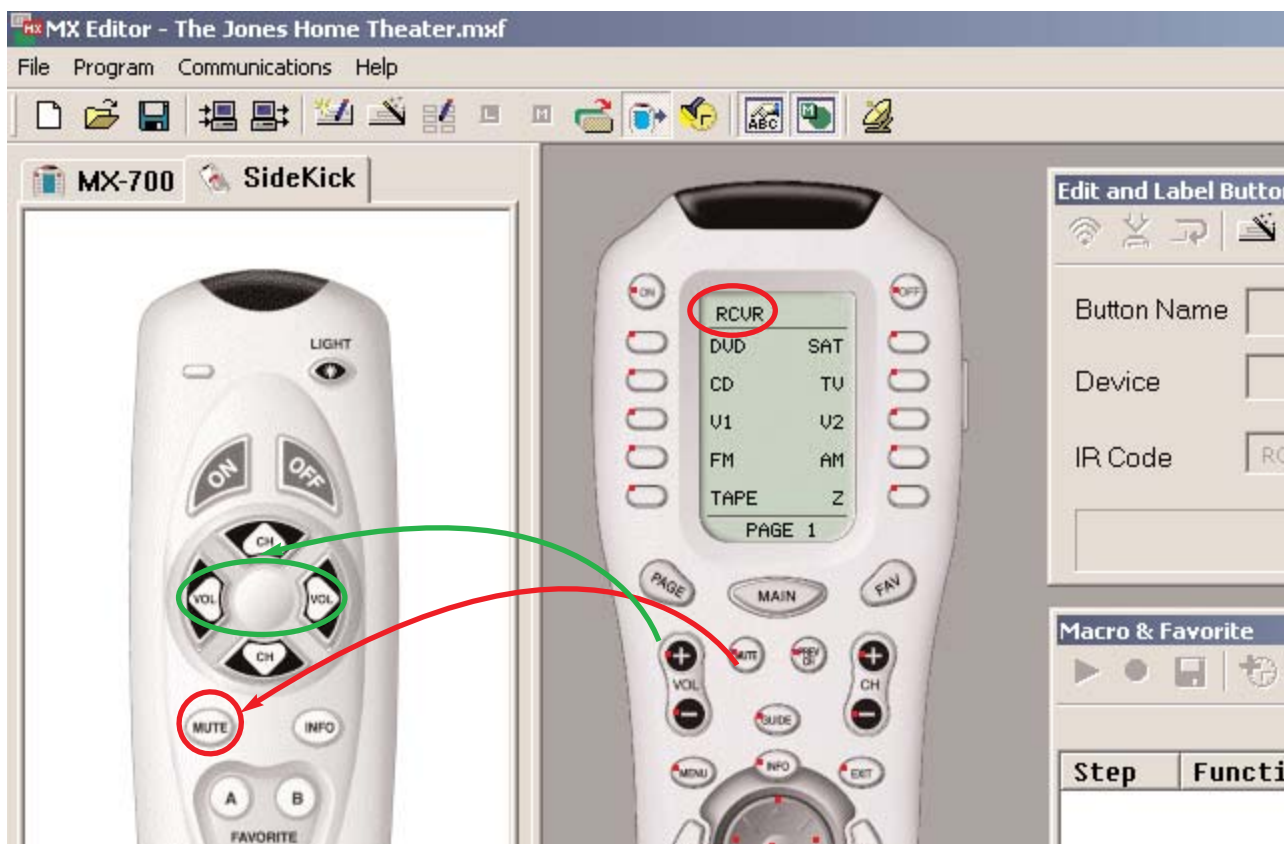
Drag them by clicking on the Simulator button (a yellow drag and drop label will appear). Keep the mouse button depressed and drag the mouse over to the SideKick. Once the mouse pointer is hovering over the desired SideKick button release the mouse.



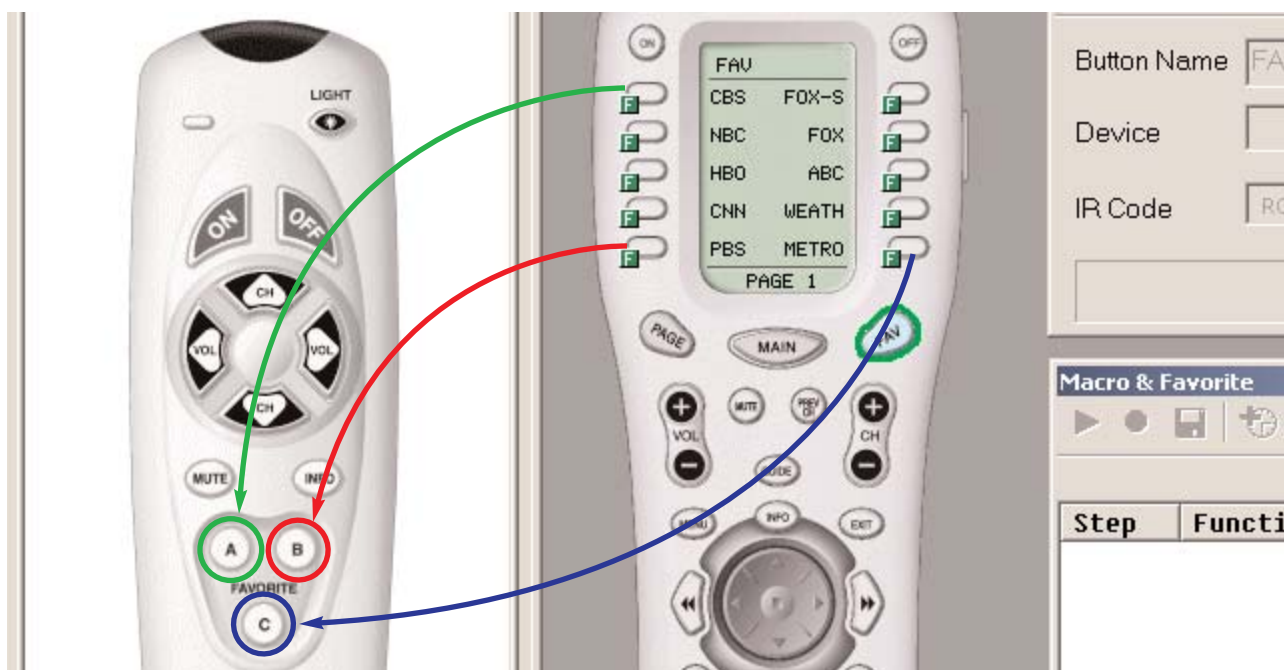
- 3 Navigate to the device with the correct Channel Up/Down and Info (Display) commands. Drag and drop them to the SideKick.



- 4 Navigate to the device with the surround sound receiver codes and drag and drop Volume Up/Down and Mute to the SideKick.



- 5 Navigate to the Favorites pages. Drag and drop the three favorite channels into the appropriate SideKick buttons. Typically, you pick three favorites that are spread around the dial, so that the client does not get frustrated trying to surf up and down through all of their channels. By judiciously spreading out the three favorites, the client can skip up a third of the way through the channels using a Favorite, then skip one at a time to the channel he/she wants.

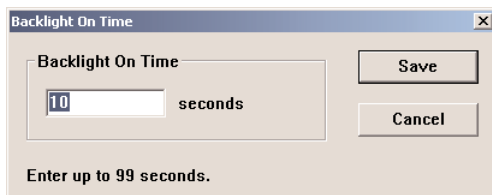


- 6 Click on the SAVE button.



Backlight On Time

- 1 Open the Backlight On Time window by clicking on the shortcut button on the toolbar or selecting it from the Program Menu.
- 2 Enter the amount of time you would like the backlighting to stay on (after the backlight button is pushed).



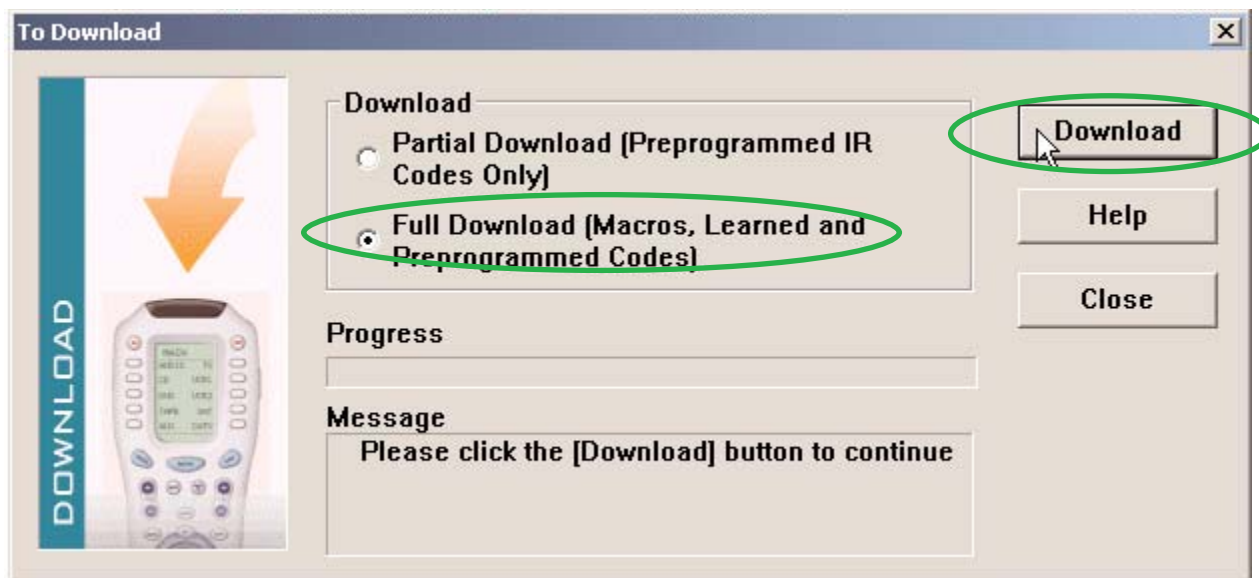
Downloading to MX700 and SideKick

You download to both remote controls the same way:

- 1 Make sure the remote control has fresh batteries inserted correctly.
- 2 Connect the cable between the PC and the remote control.
- 3 Verify that the file you have open in MXEditor is the one you want to download to the remote control.



- 4 Click on the Download to Remote Control shortcut button on the toolbar or choose Download from the Communications Menu.



- 5 When the Download window appears, select the Full Download checkbox and click on the Download button. Do not move the mouse or touch the keyboard during the download.

Downloading Failures

Should you have a download failure, try repeating the download. In certain circumstances, the remote control can become locked up and might display an error message. If this occurs, do the following:

- 1 Remove the batteries until the display fades away. a Replace the batteries and connect to the PC.
- 2 Do a PARTIAL Download.
- 3 If successful, do a FULL Download. If not successful go to step 4.
- 4 Save your work and restart Windows.
- 5 Do a PARTIAL Download.
- 6 Do a FULL Download.

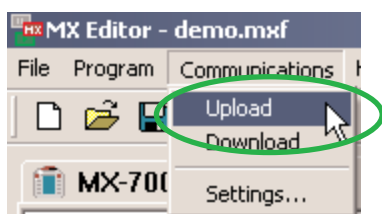
TIP - Make sure that the cable plug is solidly pushed all the way in to the connector.

Uploading from the Remote to PC

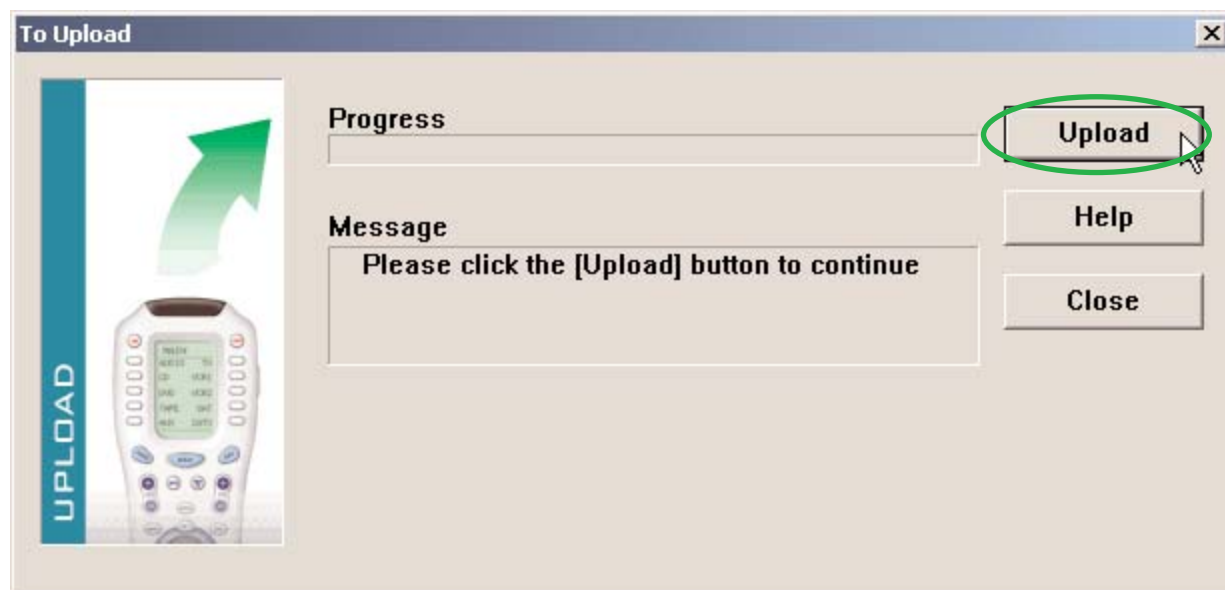
Uploading is necessary when you arrive at a job site with an existing MX700 system that you would like to service, edit or clone. Simply upload the file to your PC, save it with a new file name and you can edit the file, send it to other remotes, make a touch up and download back into the customers remote....

TIP - You cannot upload from the SideKick, only from the MX700...

- 1 Make sure the remote control has fresh batteries inserted correctly.
- 2 Connect the cable between the PC and the remote control.
- 3 Save any work and open a NEW empty file.
- 4 Click on the Upload from Remote Control shortcut button on the toolbar or choose Upload from the Communications Menu.



- 5 When the Upload window appears, click on the Upload button. Do not move the mouse or touch the keyboard during the Upload.



Push and Hold Macros

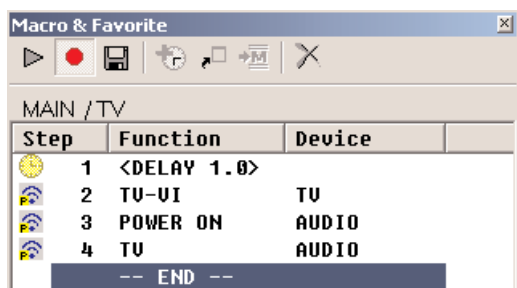
Any macro can be programmed so that nothing will happen if the button is simply tapped. You can force the client to press and hold for any time between .1 and 30 seconds to issue a macro. For most clients, this would be a bad idea since it makes things more difficult and more time consuming. However, here is an application that we think you might find useful for particular clients:

Push and Hold for Activity Macros and Tap to Switch Devices

If you have a hobbyist client, a power user who is constantly switching devices and making adjustments to different components, this can improve operation for him/her.

Here's how this application works:

- Program all of the MAIN LCD Activity macros with a 1 or 2 second delay as the first step. This ensures that the client will have to Press and Hold the button to issue the Macro.



- When the client simply taps a MAIN activity button, he/she simply switches devices.

Two Functions on One LCD Button

If the LCD button is programmed with an IR code from the Database, then a tap will issue the code, while a press and hold will issue a macro. However, this two functions on one button "feature" will not work with shortcuts. You might have just the surround sound receiver's input if you tap, and a macro if you press and hold the button. The only caveat is that if the normal action is a Learned Code, you select LEARN & MACRO from the Device list in the Edit and Label Buttons window. This enables two functions on one button for a Learned code.

No special action is required for Pre-Programmed codes from the database. Just program the Macro AFTER the database code is programmed.



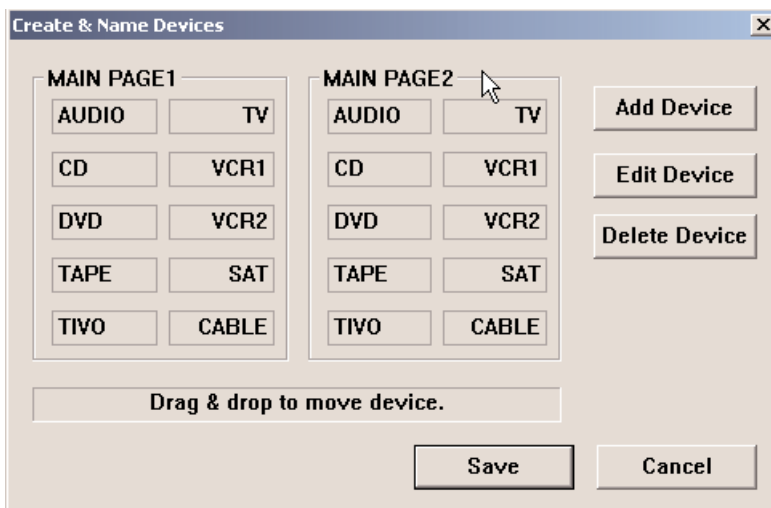
Status Messages for Impatient Clients with Long Macros

For clients who have problems waiting for long macros to finish, it is helpful to design the system to give a dramatic status message while the macro is working, otherwise they may put the remote down in the middle of the macro, frustrating themselves. This is possible for a system with UP TO 10 DEVICES. Here's how to do it.

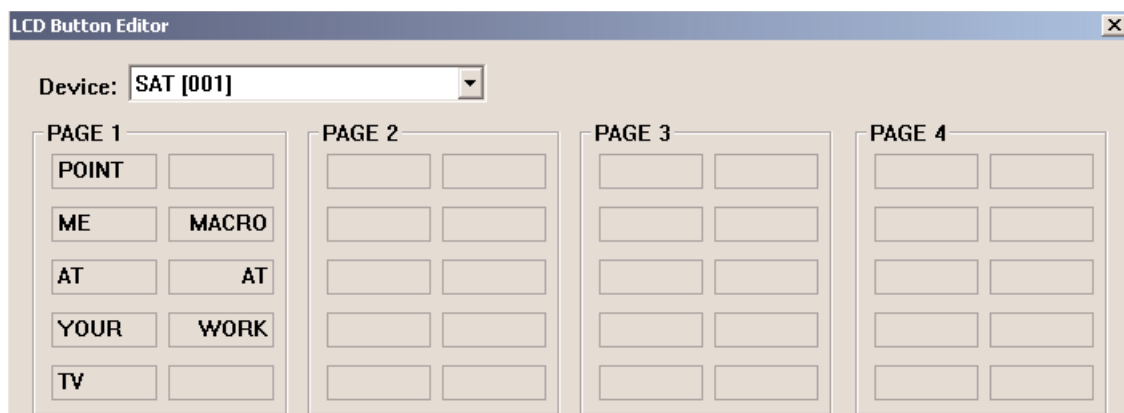
This is the kind of status message you can have the remote display WHILE a macro is being issued!



- 1 Move all of the devices with their IR programming to MAIN Page 2. Just drag and drop them using Create and Move Devices (Program Menu #1).
- 2 Now, create new devices on MAIN Page 1. Duplicate the exact order of MAIN Page 2.



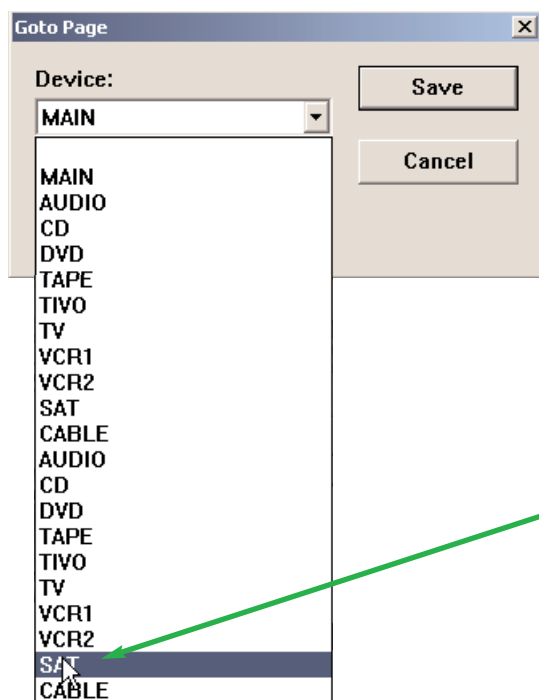
- 3 Use LCD Button Editor to label page 1 of each of the first ten devices (the ones on MAIN Page 1 without IR codes) with a message that will be visible as long as the macro is working:



- 4 Program activity macros normally on all the MAIN page 2 buttons.
- 5 On Main Page 1, import the corresponding Macro from Page 2 to each LCD button on Page 1:



- 6 Add a page jump to each of the MACROS on MAIN Page 1 to the Devices with the IR Codes programmed in them:



As you can see, when you pull down the list of devices, there are two of each device.

You want to create a jump to the second device on the list, they are the page 2 devices with codes, rather than the ten phony devices you created with status messages.

- 7 In operation, the only inconsistency that occurs is that if the client goes to MAIN page 2 and operates from there, they will not get the status message during the macro. That will probably be rare, so this is a fairly workable strategy for impatient clients.

Helping Confused Clients

When do clients get confused? When their system is full of old gear they couldn't afford to replace! When the salesmen sells components without discrete codes! When the manufacturer of a cool new product blows it and incorporates hard to use, but vital feature!

In any event, by using MXEditor you can often solve some problems very effectively.

TV Input “Scrolls” or “Toggle” and has no Workaround

When you have a component that is really miserable to automate, it helps to call it names (TOAD, for Toggle Only Actuated Device has been suggested). Once you have vented your feelings, get out MXEditor and go to work. There is a relatively simple way to make operation of a device like this much less confusing. Here's how to go about it:

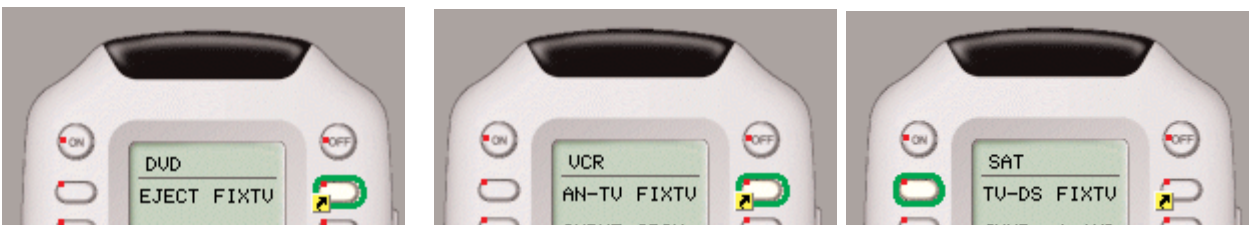
- 1 Using LCD Button Editor, move the top right button in every device that uses the TV to another location on another page if necessary.



- 2 Now, program each empty button on each device to shortcut to the TV Input command. In this example, the Satellite device's top left button is programmed with the TV's scrolling Input command.



- 3 Using LCD Button Editor relabel each of these shortcut buttons an easy name for the client to remember.



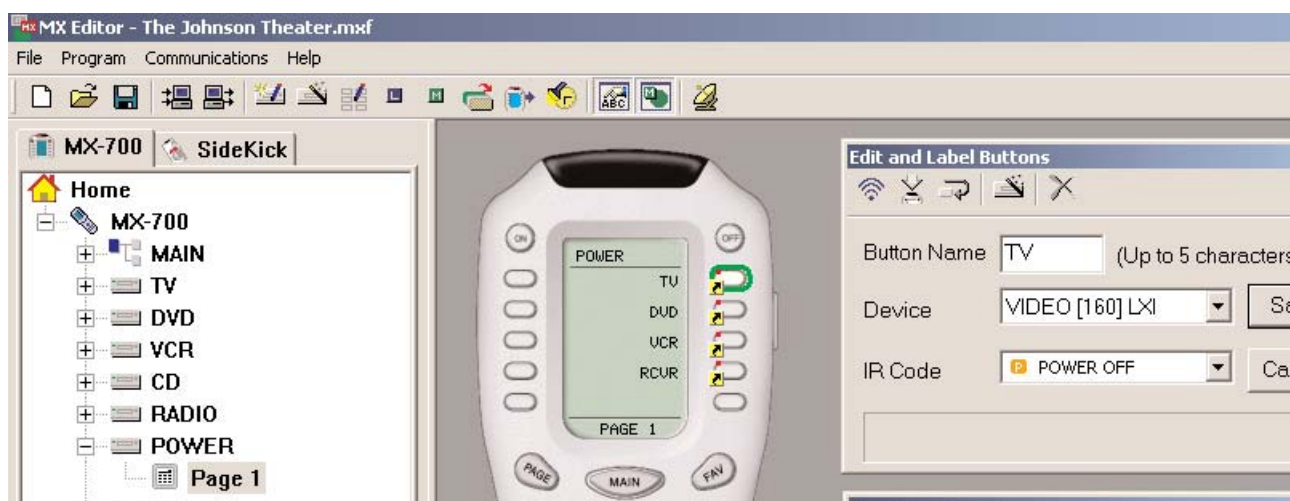
The end result is a client who always knows how to fix his TV...

All the Components Have “Toggle” Power Commands

- 1 Create a new device named “Power”.



- 2 On the new device's first page, create a shortcut to each problem components power command, by pulling down the device list, then the command list.



- 3 After the shortcut is created, rename it for the component it controls as shown above.

Using this system of a “list” that helps your client through a difficult process, you can create devices that help them through any complex process. For example here is a help list for a client who wants to occasionally record and cannot remember all of the steps to the process. The installer creates a list of shortcut buttons that indicate the order of the steps top to bottom.



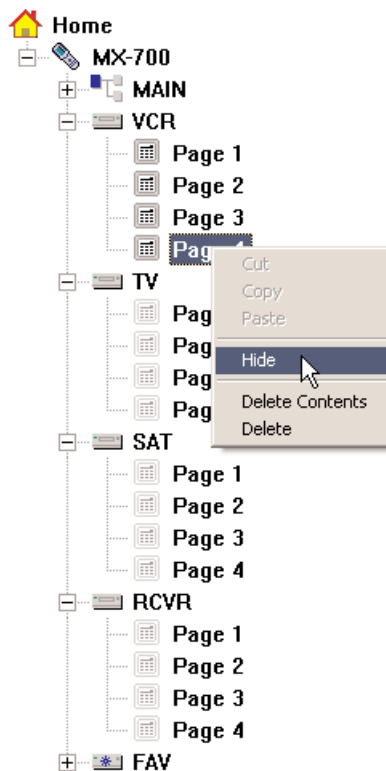
MAIN Page Only - Changing Devices Confuses Client

With a small system, you may opt to program the MX700 so that it never changes devices. By keeping the set of commands to the minimum necessary many systems that consist of nothing more than a surround sound receiver, a TV, a satellite receiver and a DVD player can be completely operated from the MAIN page. By making all of the pages on the devices holding the complete IR database code set HIDDEN, the MAIN menu LCD buttons no longer jump to the associated device. Thus, they become shortcuts to power commands and any other needs.

- 1 Create the devices for each component and program them normally using the IR database, imported devices or by learning the IR commands.



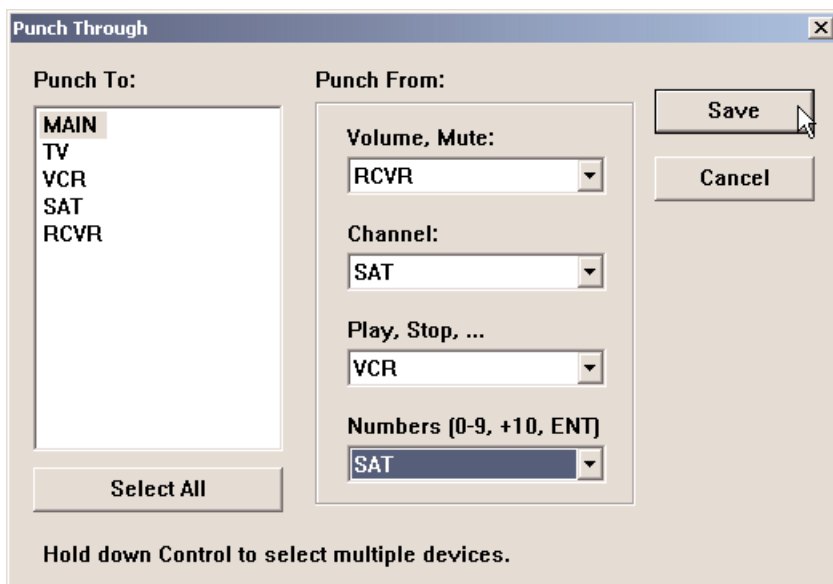
- 2 In tree view, work from the bottom up. Expand all of the devices, then beginning with the last page of the last device, right click and choose Hide from the context menu. Hide all of the pages of all of the devices.



Make sure that ALL of the pages of each device are hidden. You can tell that a page has been hidden at a glance since its icon  will be greyed out .

TIP - Hide all of the pages of a device to disable the autojump from MAIN buttons.

- 3 Program the MAIN pages to punch through to the other devices as desired:



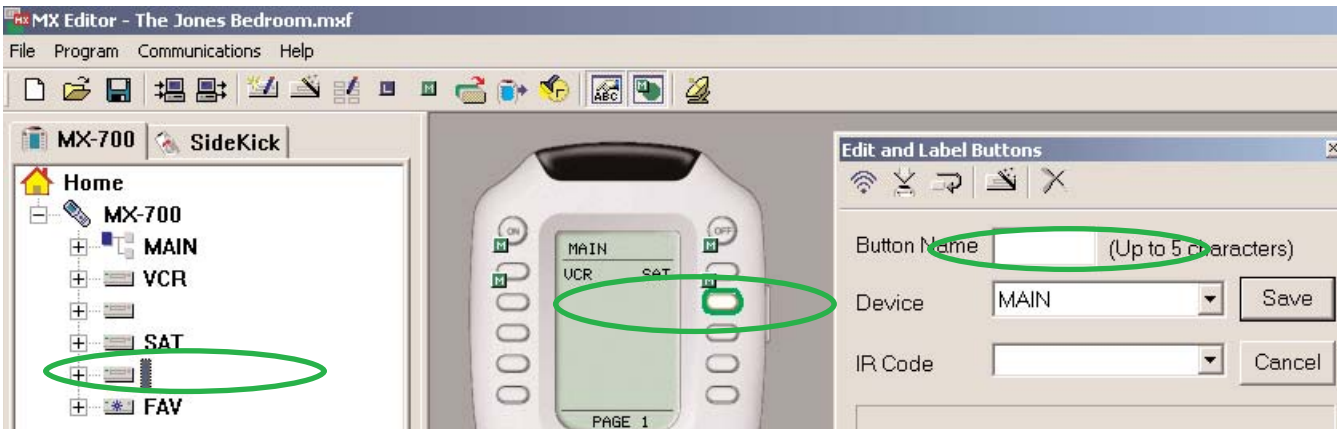
- 4 Only a few hard buttons need to be programmed with shortcuts. In the example system, the Menu, Guide and cursor buttons are programmed with SAT commands.



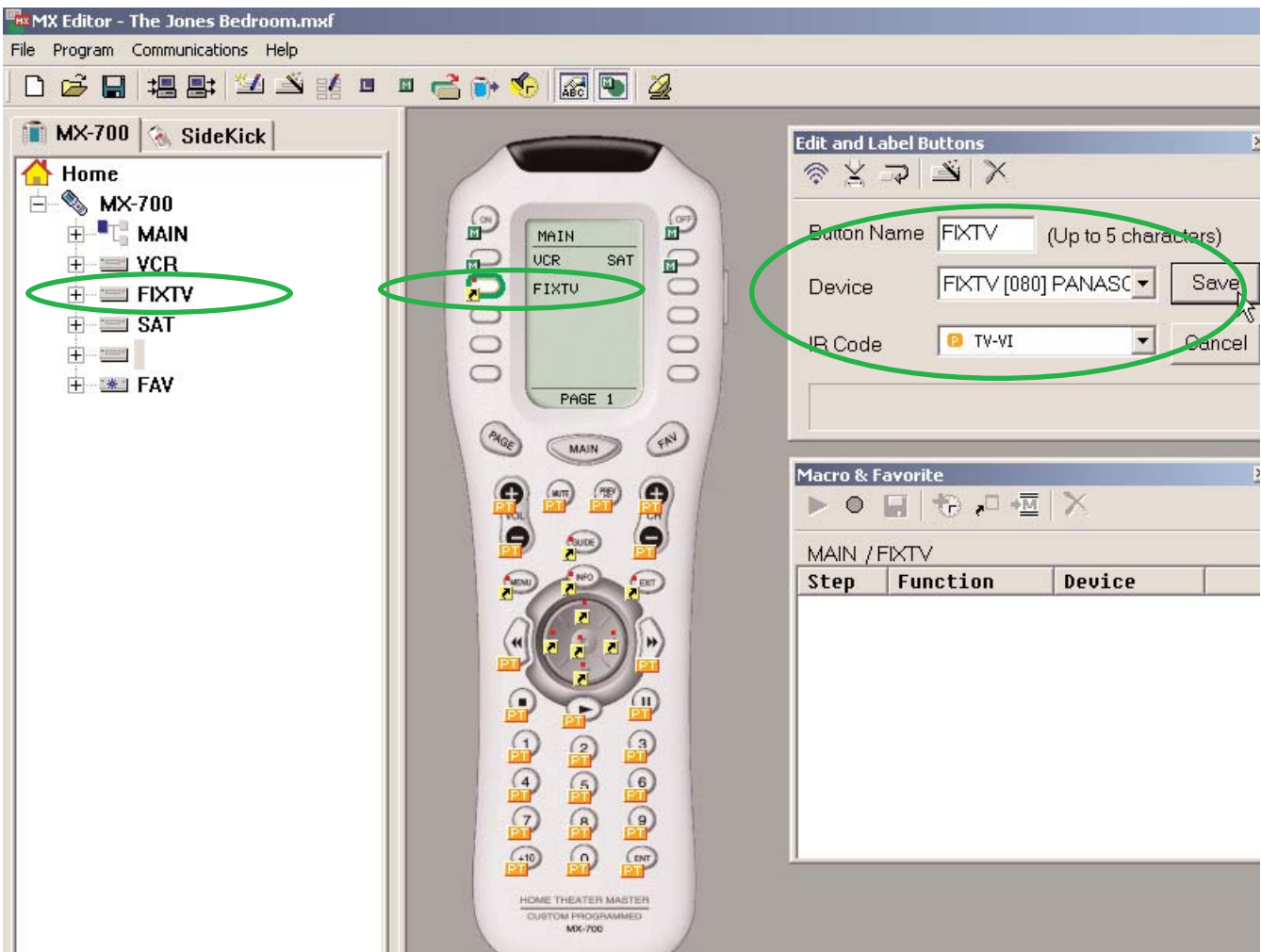
- 5 Program Power On and Activity Macros as needed. In this example system, there are only two activities (watching VCR or watching SAT), so the only macros are power on and off (which actually turns on four components: the TV, the VCR, the Satellite receiver and the surround sound receiver) and the activity macros for watching VCR or watching Satellite (which simply switch inputs on the surround sound receiver).



- 6** To avoid confusing the client, delete the LABELS of devices you don't want them to see. In the example system, the labels for the surround sound receiver and the TV have been backspaced and saved.



Backspacing and saving empty labels is only one strategy. Another is to use the device location as a shortcut to a useful IR command. For example, if this system's TV needed to have its input changed and had no discrete Input commands, one would program the LCD button on MAIN that actually represents the TV device "FIXTV" and program the button with a shortcut to the TV device's Input command. Your Tree View now is pretty confusing, the device you renamed FIXTV is actually the TV. You must remember what you've done, unfortunately there is no way to notate in the program what you have done.



- 7** You can continue to use the LCD buttons on MAIN for other purposes, as long as you remember that any button you LABEL will create a new empty device of the same name in tree view. Make sure that each device's pages are all HIDDEN! This is critical. Otherwise, touching the button will jump to the empty device. In this example, a DVD player was added to the bedroom system and the codes were put one at a time into MAIN LCD buttons, thus creating a number of empty devices.



In this example, a system with a VCR, a DVD player, a Satellite receiver, a TV and a surround sound receiver has all of the basic commands on one page. No button ever changes its function. For some users this is simpler to understand and they do not require the hobbyist functions.

Tip - Replacing the DVD Menu controls with a Macro is required. Many DVD discs will freeze on the opening menu and a Play command will not always get them to play. In a system like this, the user will not appreciate having to navigate menus. Write the DVD activity macro with a few additional steps to bypass DVD title menus:

Step 1 DVD Play (turn on DVD)

Step 2 Delay (long enough for the DVD to find the menu.)

Step 3 Stop

Step 4 Delay (typically .5 seconds)

Step 5 Stop

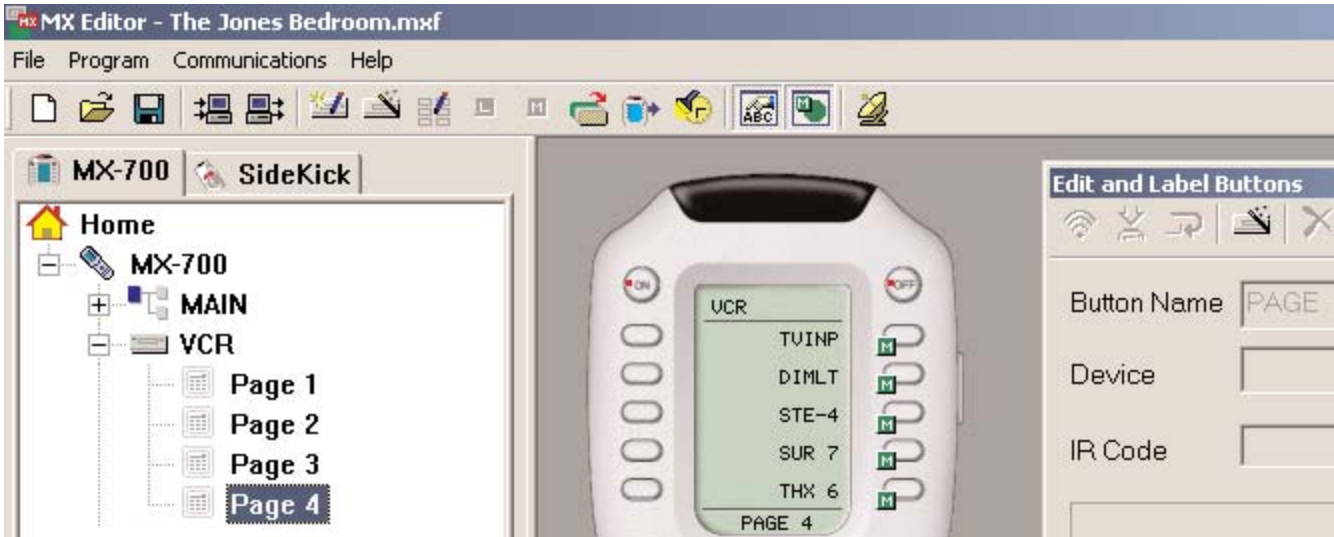
Step 6 Play

This macro bypasses DVD title menus and plays the movie on most DVD players.

Modular Macro Programming

Utilize the Import Macro feature for speed in programming. The only catch to using Import Macro is that you must do it before you press record. By first programming macros on an unused device page (you can delete them after you are finished programming your macros), you can break up long macros into modules and greatly speed the macro recording process.

For example, if you have a system with components that require long sections within each activity macro for anchoring the TV input, dimming the lights, or setting up the surround sound precisely write the sections first, then import each section into each of your Activity macros, edit as required in RECORD mode and SAVE.



In this example, macro components are arranged on an empty VCR page. After all the MAIN Activity macros are programmed, these macros can be deleted or left on a hidden page as you see fit.

Building A Device Library

MXEditor's ability to import and export devices is a powerful programming accelerator. Remember, when you export a device you export all of its learned IR codes and custom labels. Whenever you find that you have done extensive learning and/or labelling EXPORT the device and save it for use in other systems. Always save it with a name that gives all three database fields Category (VCR), Manufacturer (SONY), and Model (SLV5000). Whenever you are starting a new system, peruse your saved devices (.mxd files) and IMPORT any that are previously configured.

TIP - Export FAVORITES that you have relabeled and Import them at similar jobs.