MX3000 Programming Manual

MX-3000 RF/IR Touch Screen Remote Control

Universal Remote Control®

Table of Contents

MX3000 TOUCH SCREEN REMOTES

HOME THEATER MASTER®
Entertainment Made Simple™

USING MX3000 EDITOR TO PROGRAM

Universal Remote Control®

MX3000 TOUCH SCREEN REMOTES

USING MX3000 EDITOR TO PROGRAM

Universal Remote Control

Read This First!

You Need a Personal Computer With a USB Port

MX-3000 Editor 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. It is not compatible with Windows 95 or previous versions of windows.

MX-3000 Editor is installed via a self extracting installer file downloadable from www.hometheatermaster.com. You need a connection to the internet to download the file or to update MXEditor.

Installing MX-3000 Editor and Microsoft ActiveSync

MX-3000 Editor installs with a companion program for communication, Microsoft ActiveSync. You must install both programs and if uninstalling, uninstall both programs. To install the two programs, follow these steps:

1   Connect to the internet and go to this website address:
       http://www.hometheatermaster.com/mxeditor/downloads/mx-3000setup.exe

2   A file download Window will open. Click on OPEN.

3   The InstallShield Wizard Window for the MX-3000 Editor will open. Click on NEXT
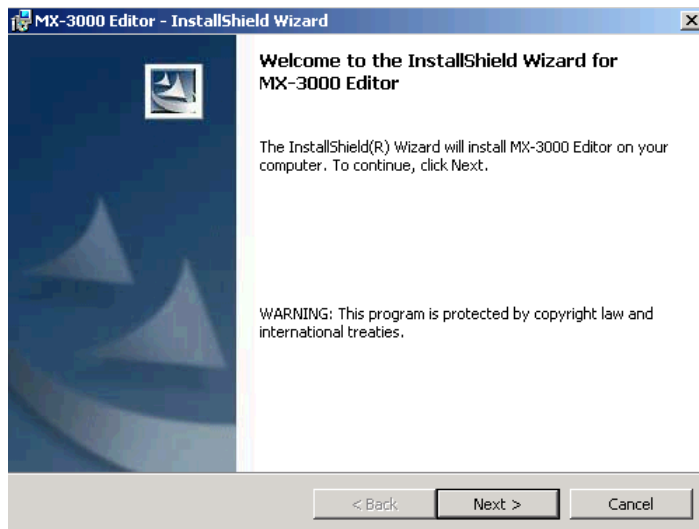
4   The Install Destination Window will then open. Click on NEXT.

5   The Ready to Install Window will open. Click on INSTALL.

6   The program will install and then show that installation has been completed. Click on FINISH.

7   A new small window will open asking, "Install the Microsoft Active Sync 3.7". Click OK.
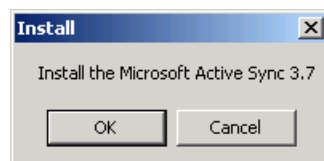
8 A new set up window will open for ActiveSync 3.7. Click on NEXT.
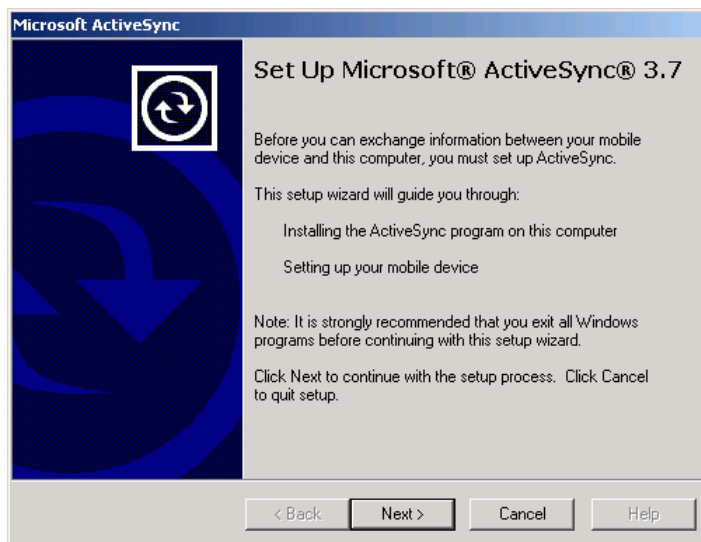
9 A new window will open to select the installation folder. Simply click on NEXT.

10 A new window titled "Get Connected" will open. Do not do click on any button in the Get Connected window yet.
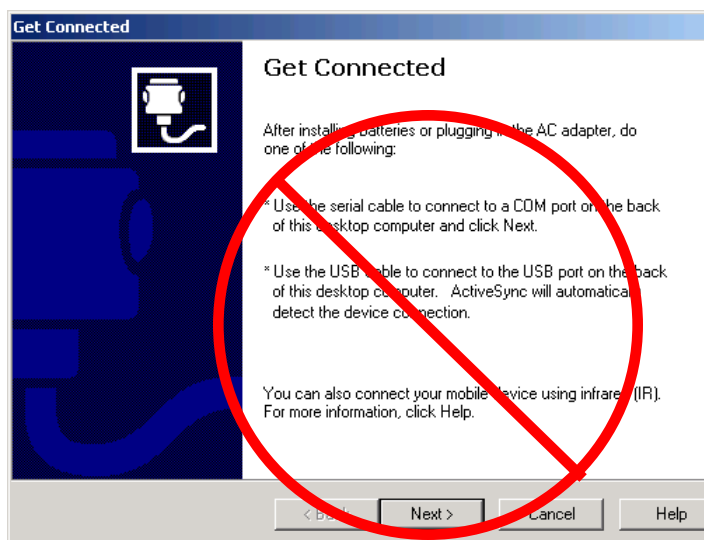
The Get Connected window will automatically update. Do not click on NEXT.

11 After the Active Sync Installed window opens, Click OK.

12 At this point plug the USB cable into your computer and then the MX-3000 Remote.

Universal Remote Control

13 The Get Connected Window will close and then a "Set Up a Partnership" Window will open. At this point you can make two choices. Please read and make sure that you understand both choices before proceeding:

Yes - This will set up a partnership with that particular MX-3000. This is ideal for an end user, as they typically will not be programming multiple MX-3000's. Every time the same MX-3000 is plugged in, it will automatically establish the connection.

After choosing Yes, a new "Select Number of Partnerships" Window will open. Chose "Yes, I want to synchronize with only this computer" and then click NEXT.

A "Select Synchronization Settings" Window will open. Un-check all of the boxes as these features do not pertain to the MX-3000 and then click NEXT.

The Set Up Complete Window will then open. Click FINISH. A new window will open showing that a connection to the MX-3000 has been established.

No - This is best for installers, as they will be programming multiple MX-3000's. This is considered a "Guest" partnership. Each time that the MX-3000 is plugged in, it will open the get connected window and the programmer will need to click "No" to establish a connection with the MX-3000.

After clicking No, the Microsoft ActiveSync Window will open and show that a "Guest" connection has been established.

Keep Your Database Up to Date — USE LIVE UPDATE

MX-3000 Editor includes a vast library of IR codes for hundreds of brands and models of A/V components. This database is constantly growing with the inclusion of new devices every month. Keep your software up to date by using the Live Update feature. Rather than un-installing and re-installing the software, you download updates to the software from the internet. Simply follow these steps:

1 Connect to the Internet normally.

2 Open MX-3000 Editor

3 From the Communications Menu, select Live Update

4 In the Live Update window, click on Update Now.

5 Wait for the window to indicate the download is completed. Close the Window.

6 Close and re-open MX-3000 Editor. You do not need to restart Windows.

MX3000 TOUCH SCREEN REMOTES

The Programming Window
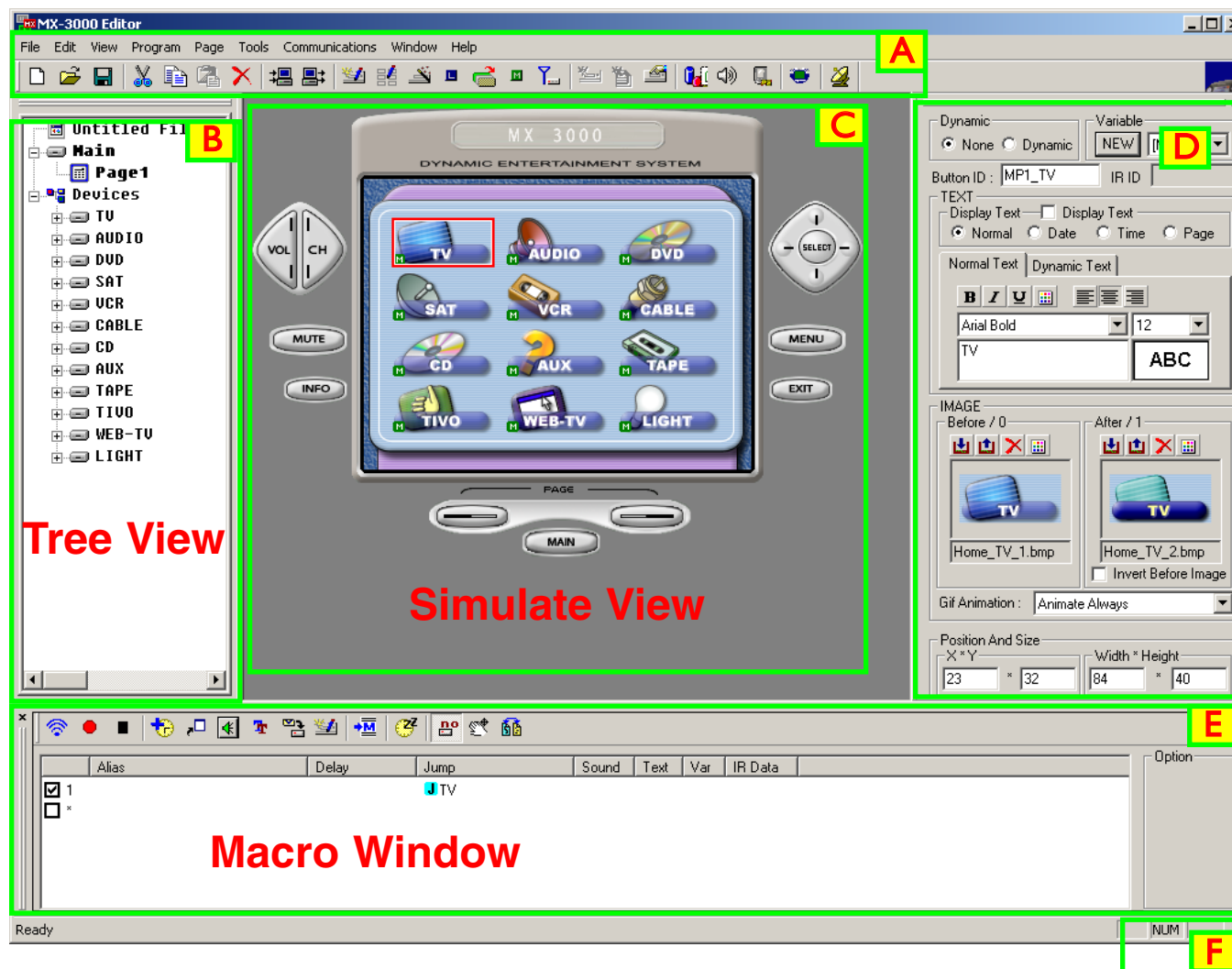
A Menus and Shortcut buttons for common tasks. The Program Menu activates each task in the correct order.

B Tree View of the MX-3000 configuration. Double clicking on any page enables you to quickly display that page on the simulator view. Right clicking on a device or page activates a context menu.

C The MX-3000 Simulate View is used to navigate and to select a button to program, edit or record a macro.

D Edit and Label Buttons window is used to control a buttons graphics, text and activation.

E The Macro 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 MX3000 Editor. 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.

Universal Remote Control®

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 .rcc files on your PC. Thus the file menu enables you to open, save and import all or part of a configuration.

New - Use this to start programming a file from scratch.
Open - Use this to open a file anywhere on your computer.

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.

Import - Import Devices from other MX-3000 configurations.
Export - Export Devices from the current configuration.
Import Learn IR - Import only the learned IR commands from another MX-3000 configuration. The learned commands import to the embedded Learned IR list, where they can be dragged to any button.

User Preference - Opens the Preferences window, where you can set defaults for this configuration.

Recently Files appear here for you to reopen with a click.

Exit - To exit MX-3000 Editor completely.
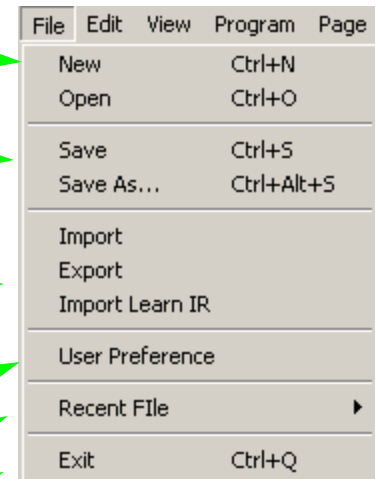
Edit Menu

Once you have "selected" an item in Tree, Page or Simulator View, you can copy and paste, group and ungroup or move the selected item. The item can be a device, page or button.

Undo - Use this to remove the effect of the last action you made.
Redo - If you have used undo, you can cancel with redo.

Cut - Use this to copy and delete the item selected.
Copy - Use this to copy without deleting.
Paste - Use this to paste a new copy of the last item copied.
Paste Action - Use this to paste only the action list of a button.
Paste Special I- Use this to paste only the image, the text, the position, the action or the IR ID of the last item copied into another button.
Paste from Clipboard - Use this to paste an image you copied from another windows program into a button's Before or After position.
Delete - Deletes the selected item completely.
Delete Contents - Deletes only the contents of the selected item.
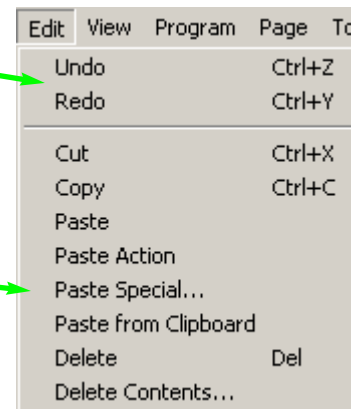
Select All - Selects all the buttons on the currently displayed page.
Select None - Cancels the current selection without selecting anything new.

Group - Groups a number of selected buttons into one group arrangement that can be moved, copied and pasted as one. You select multiple buttons by holding down shift key, then clicking on as many buttons as you like.
UnGroup - Cancels the grouping of buttons so that each button can be moved independently.

Move Up List - Moves a selected Page or Device up the list in tree view.
Move Down List - Moves a selected Page or Device down the list in tree view.

Select All	Ctrl+A
Select None	
Group	Ctrl+G
UnGroup	Ctrl+U
Move Up List	Ctrl+Up
Move Down List	Ctrl+Dn

View Menu

The workspace inside the MX-3000 Editor window can be arranged as you like.

Macro - Opens and closes the Macro window.
Edit & Label Buttons - Opens and closes the Edit & Label Buttons window.

Simulate Mode - Most useful mode for programming button actions since you can see hard buttons and the flag on each button denoting its programming type. Only one page at a time can be viewed.
Page View Mode - Useful for extensive editing of images. Programming flags are not visible, multiple pages can be viewed at once and page Zoom controls enable zooming in on a page.
Both Simulated and Page View - Allows both views to be active.

Toolbar - Opens and closes the toolbar of shortcut buttons.
Status Bar- Opens and closes the status bar at the bottom of the window.

View	Program	Page	Tools	
✔ Macro			F3
✔ Edit & Label Buttons			F4
✔ Simulate Mode			F5
Page View Mode			F6
Both Simulated & Pages			F7
✔ Toolbar			F8
✔ Status Bar			F9

Program Menu

Many of the Program Menu steps will open a new window in front of the main window. You can exit any of these windows without making any changes by clicking on the Close button.

1. Create & Name Devices - Opens a new window for creating and naming devices. You'll need to name a device (a grouping of hard buttons and pages) for every remote control that you are replacing.
2. Create Button Layouts - Opens a new floating window to select the button arrangements for each of your devices from the pre-built templates.
3. IR Database - Opens a new window to test and program IR code sets from the Universal IR database. You can drag an individual code or the entire set of codes.
4. Learn - Opens a new window for organizing, labeling and learning IR codes.
5. 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 a/v surround sound receiver.
6. Macro Programming - Opens the Macro window if it was closed. Starts the MACRO recorder if a button was selected.
7. RF Control - Opens a new window for configuring the MX-800's radio control options.

Program	Page	Tools	Commu
1. Create & Name Devices			
2. Create Button Layouts			
3. Pre-Programmed IR Databas			
4. Learn IR			
5. Punch Through			
6. Macro Programming			
7. RF Control			

Universal Remote Control®

Page Menu

Add New Page - Add a new page to the selected device (tree view).
Add New Button - Add a new button to the displayed page (simulate or page view).
Is Hidden - Make the currently selected button or page hidden from view when in use. If the page or button is already hidden, a checkmark will appear. To make a page or button visible again, simply select the item, then select Is Hidden, the checkmark will disappear and the item is visible again.
Zoom - Only useable in Page View mode. The Zoom menu enables you to enlarge the view of any page by 2x, 3x or 4x.
Grid - Enables you to view, adjust or select a grid as an aid to alignment of your buttons.

Move to Front - Moves the currently selected button in front of all other buttons.
Move to Back - Moves the currently selected button in back of all others.

Tools Menu

Image Gallery - Opens a window of button art. You can drag buttons from the gallery to any page.
Sound Gallery - Opens a window of sounds. You can drag sounds onto any button. The sound will appear as a macro step in the selected button.
Personal CCF Gallery - Opens a window that will allow you to open any ccf file. You can drag any LEARNED IR command from the Gallery to any button.

Make My IR DB - Opens a window that enables you to customize the IR Database so that you only see the brands and models you use on your installations.

Record Timer- Opens a window that enables you to specify that any button's macro can be automatically issued at a particular time of day (every day, weekly, monthly or only once).

Run Emulator - Opens a new window emulating the MX-3000 for testing of navigation. Close the Emulator by right clicking and choosing exit.

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.
Remote Control Setup - Opens a new window for you to adjust Backlight time-out, brightness, volume, low battery warning and pick up sensor.
Time Sync from PC - Sets the MX-3000 internal timer to the clock setting of your PC.

Live Update - If your PC is connected to the internet, clicking Live Update will open a new window enabling you to update the MX-3000 Editor software with any new database entries and or programming improvements.

Remote Control Version - If you are connected to an MX-3000, a new window will open, displaying the OS and the Program version number. This may be useful to technical support.

MX3000 TOUCH SCREEN REMOTES

Home Theater Master
Entertainment Made Simple

Window Menu

The window menu is used when in Page View mode to control the many windows you can open at once:

Cascade - This will cascade all open windows from left to right.
Arrange Icons - This will minimize all open windows and arrange the minimized icons at the bottom of the window from left to right.

Close - This closes the selected window.
Close All - This closes all Page View windows, but leaves MX-3000 Editor open.
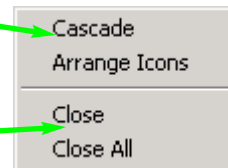
Help Menu

Tutorial - This will open a new window with an interactive tutorial, complete with movies that demonstrate how to program an MX-3000.
Go to Website - Click on this after connecting to the Internet to go to the Universal Remote Control website for more on line learning resources.

About MX-3000 Editor - This opens a new window displaying the versions of MX-3000 Editor installed on your PC.
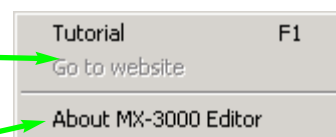
The Toolbar and Shortcut Buttons

Hover your mouse over the Shortcut buttons, you will see a pop-up 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.
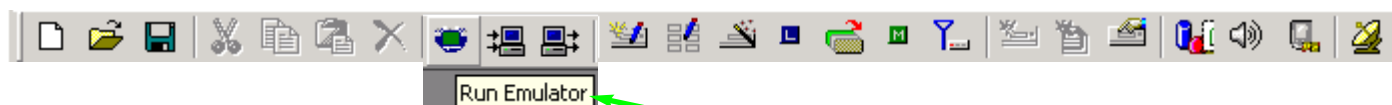
When you hover the mouse over a shortcut button, a pop-up flag will display it's purpose.

The Simulate View Mode

Opening Simulate View

The Simulate view mode is the center of programming activity. To open this view, go to the View Menu and select Simulate Mode as shown or press the shortcut key F5.

Universal Remote Control®
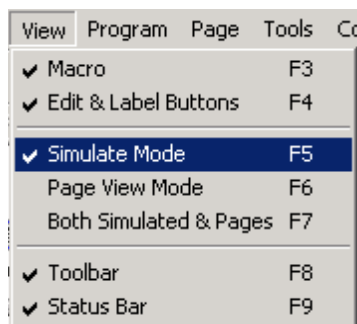
Selecting Buttons in Simulate View

You use the Simulate view to SELECT a BUTTON by clicking on it with the mouse. When a button is SELECTED it has a red rectangle around it. Once a button is SELECTED, you can move it, copy or cut it, delete it or use the Edit and Label Buttons Window or the Macro Window to program it.

The red rectangle indicates that the TV button is SELECTED.

- 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 MX-3000, the double click is not necessary. But within MX-3000 Editor you sometimes will want to select it for editing or macro programming.
- Cycle through the pages of any device by clicking on either of the PAGE button.
- Hover your mouse over a button to see the drag and drop flag.
- Click on a button to SELECT it. A red rectangle will appear around it.

Button Flags in Simulate View Mode

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

A P 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 can be programmed with IR database codes (you cannot program the navigation buttons - either PAGE or the MAIN button).

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 soft) except the navigation buttons.

An M flag indicates that the button is programmed with a Macro. All buttons can be programmed with MACROS except the navigation buttons. A macro with a single step cannot be pressed and held for a sustained burst.

A PT flag indicates that the button is programmed to "Punch Through" to another device.
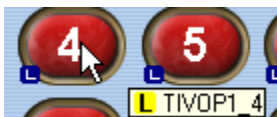
The pop-up flag will appear after you have clicked on one of the buttons on the page. Thereafter, whenever you move the mouse over a button with a learned or a pre-programmed IR command in it, a pop-up flag appears, displaying the actual code name.

Tree View

Devices and Pages

Tree View controls what you see in the Simulator or Page view. 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 soft buttons, not to the hard buttons in the same device.
A Device is comprised of up to 255 pages of soft buttons and one set of functions for the hard buttons.

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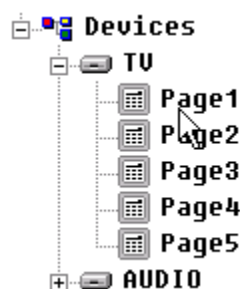
Collapsed   Expanded

A Double click on a page in Tree View will change the SIMULATE view to the selected device and page.
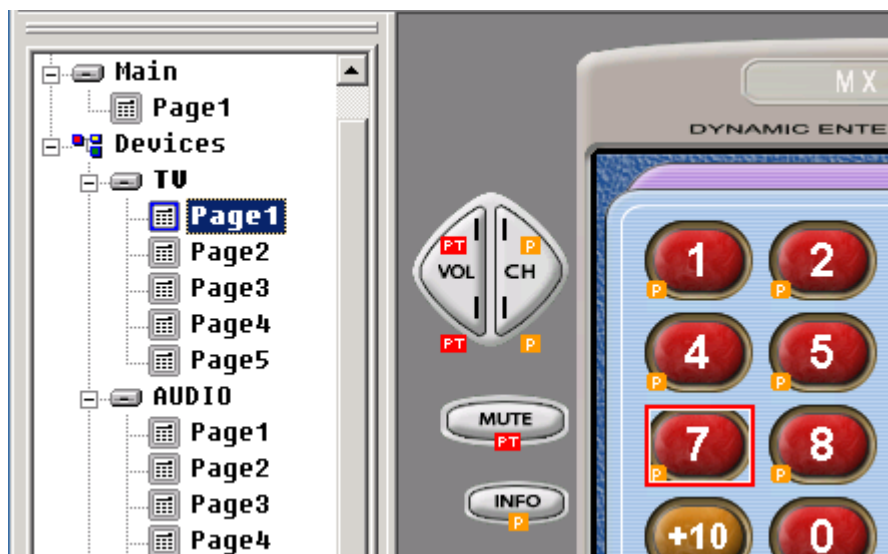
The quickest way to navigate is to keep tree view expanded, so that you can double click on any page to display it in Simulate view mode.

Universal Remote Control

■ Right click on MAIN to reveal the Device Context Menu:

Add New Page	Ins
Paste Page	Ctrl+V
Delete Contents...	
Tools	▶

Add New Page enables you to insert an additional page to the MAIN Menu (to a maximum of 255 pages).

Paste Page will paste the last copied page into the MAIN menu.

Delete Contents will delete all labels and codes but not the pages.

Tools > Image Replace will open a new window allowing you to browse to a folder with new images for all of your button graphics. Any image with the same name as the images in your current configuration will be replaced.

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

Rename	F2
Cut	Ctrl+X
Copy	Ctrl+C
Paste	Ctrl+V
Delete	Del
Delete Contents...	
Move Device Up	Ctrl+Up
Move Device Down	Ctrl+Dn
Add New Page	Ins
Paste Page	Ctrl+V
Tools	▶

Rename enables you to type in a new name for the device.
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 as a completely new device with the same name.
Delete will delete everything about the <u>selected</u> device.
Delete Contents will delete all codes and macros but not the labels, buttons or pages.
Move Device Up moves the device up the list of devices.
Move Device Down moves the device down the list of devices.
Add New Page will insert an additional page to the device (to a maximum of 255).
Paste Page will paste the last copied page into the device.
Tools > Image Replace will open a new window allowing you to browse to a folder with new images for this device's button graphics. Any image with the same name as the images in the current device will be replaced.

■ Right click on a page to reveal the Page Context Menu:

Rename	F2
Cut	Ctrl+X
Copy	Ctrl+C
Paste	Ctrl+V
Delete	Del
Delete Contents...	
Move Page Up	Ctrl+Up
Move Page Down	Ctrl+Dn
Is Hidden	Ctrl+H
Open Page	Enter

Rename enables you to type in a new name for the page.
Cut will copy the page and when pasted will delete the original.
Copy will copy the page without changing the original.
Paste will paste the page into the <u>selected</u> device.
**Delete** will delete the selected page completely.
Delete Contents will delete all codes and macros but not the labels, buttons or page.
Move Page Up moves the page up the list of pages.
Move Page Down moves the page down the list of pages.
Is Hidden will make the page invisible on the remote control yet still available for macro programming.
Open Page will display the page in the Simulate View or the Page View mode (whatever was last selected).

Page View Mode

Opening Page View

The Page view mode is only useful when doing extensive editing of your button layouts. To open this view, go to the View Menu and select Page View Mode as shown or press the shortcut key F6.

Button Layout Editing in Page View Mode

In page view mode, you can have as many pages as you like open at once. The larger your screen, the more pages you can fit. In the illustration below, you can see many pages open at once as well as opening the Image Gallery. This greatly speeds copying and pasting of buttons from one page to another and encourages direct comparison.
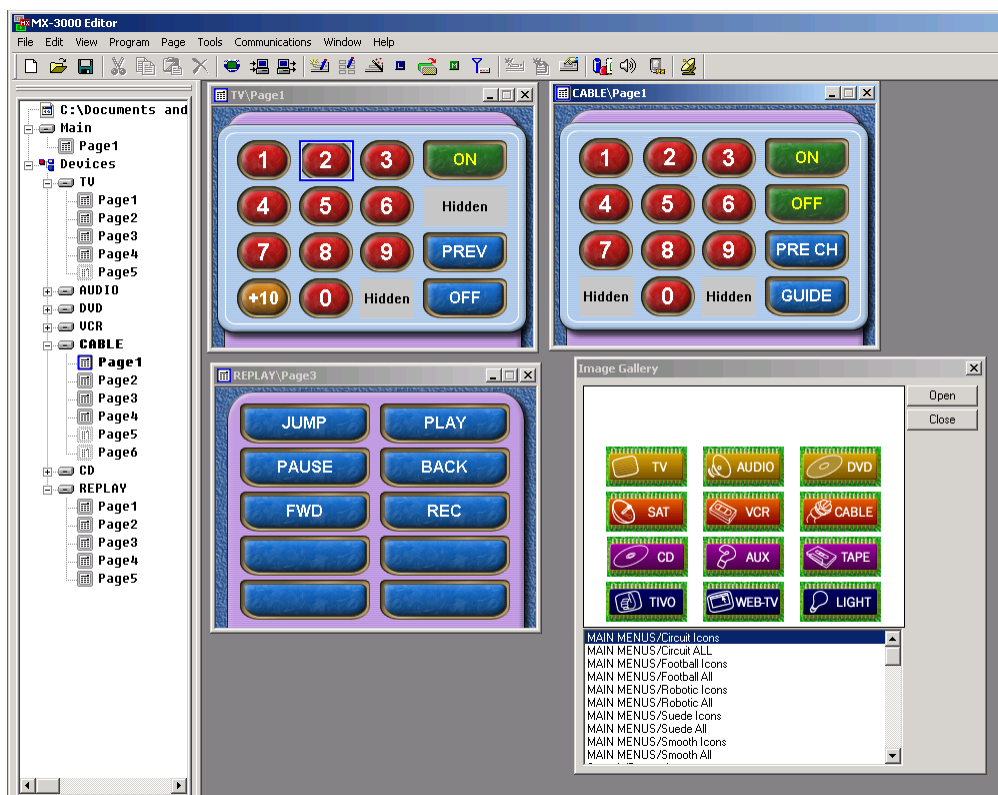
Using the Window Menu in Page View Mode

When you are in page view mode, the Window menu commands are extremely useful:

Cascade - This will cascade all open windows from left to right.
Arrange Icons - This will minimize all open windows and arrange the minimized icons at the bottom of the window from left to right.

Close - This closes the selected window.
Close All - This closes all Page View windows, but leaves MX-3000 Editor open.

Universal Remote Control®
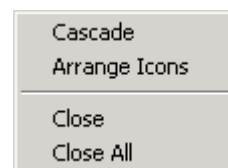
The Edit and Label Buttons Window

Opening The Edit & Label Buttons Window

If the Edit and Label Buttons Window is closed, reopen it by hitting F4 or selecting Edit and Label Buttons from the View Menu.

Editing Button Labels

Display Text
You must check off this box for the label to be displayed. Uncheck the box when you are using button art that has text as part of the image (like the icons for VCR, DVD etc.).

Normal Text
This is the label you see on the button before you press it. Simply click in the window and type to change the button label.
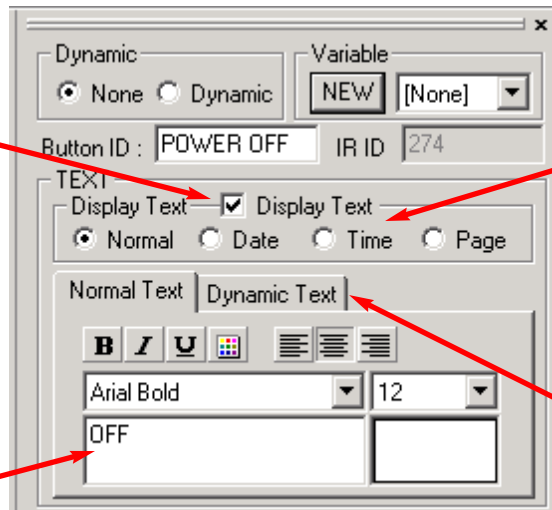
Normal, Date, Time or Page
You can have a button display the Normal Text, the date, the time of day or the page the button is on via these radio buttons.

Dynamic Text
This is the label you see on the button after you press it. MX-3000 Editor automatically copies whatever you typed in the Normal Text window, but you can overwrite it by clicking the Dynamic Text tab.

Button Text Controls

Color of Text
You can select any color by clicking the Color button, which opens the Color window.

Bold, Italic or Underline
You can select or combine the Bold, Italic or Underline styles with these buttons.

Font
You can select any of the fonts displayed in this pull down list box.

Normal Text Window
Click in the window and type. If you want more than one line, hit return to make a new line.
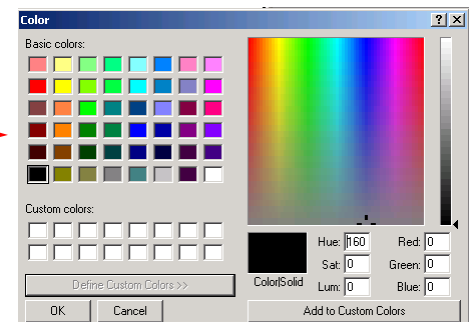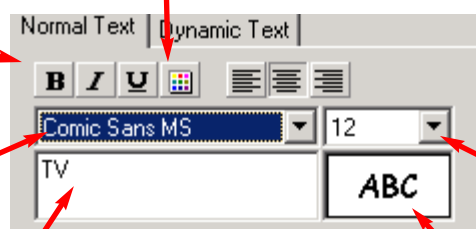
Font Size
You can select any of the sizes displayed in this pull down list box.

Font Preview
You can see a preview of your color, style and font settings here.

HOME THEATER MASTER®
Entertainment Made Simple™

USING MX3000 EDITOR TO PROGRAM

Button Image Control

You can import a BMP, GIF, JPG or animated GIF file from a image editing program (too many to list but one, Microsoft Paint, is distributed free with Windows, under Accessories in your Start|Programs list). The restrictions are that the art must be no greater than 24 bit color depth, 72dpi, and no larger than the screen (320 pixels by 240 pixels). Note that if you have already loaded an image into either the Before or the After positions the button will reject art that is a different size. Both the Before and the After image must be exactly the same pixel dimensions. If you do not load an image into a button, the button is resizeable anytime (it can only be a rectangle, but you can change the background color to any color).

Before Image

This is the image that will appear on the button before you press it.

After Image

This is the image that will appear after you press it (for as long as you press it). After you stop pressing the button, the button will return to the Before Image.

Animation Controls

If you import an animated GIF file you can override the default animation settings with this list box. If you choose Animate Once, the animation will loop one time. If you choose Animate Always, the animation will loop forever. If you choose Animate Default, the animation will loop for the number of times you specify in your image editing program.

Invert Before Image

As a shortcut you can opt to simply invert all the colors of the before image after the button is pressed.

Position and Size

You can type in new XY position for a button and you can resize a button without images by typing in a new size. If you have imported an image the width and height boxes cannot be changed.
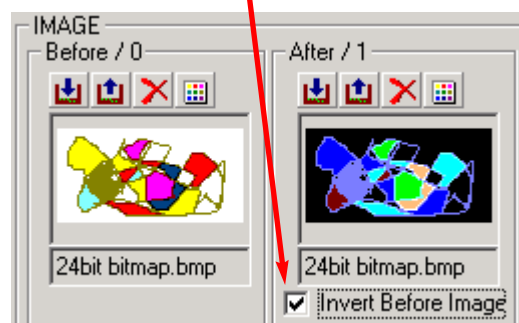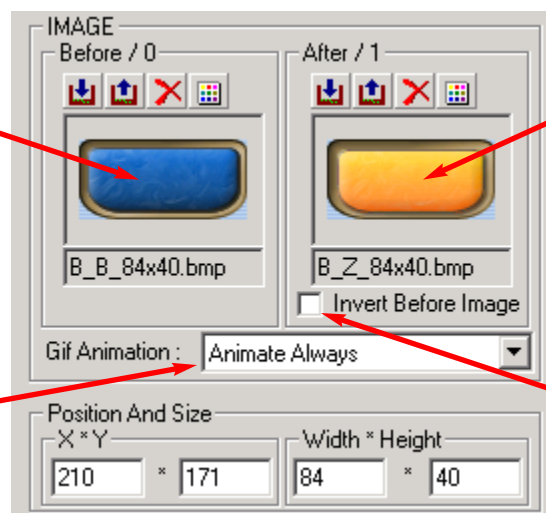
Button Image Import and Export

Import Image

Click on this button to browse your computer for a graphic you would like to import.

Export Image

Click on this button to browse your computer and save the existing image as a file anywhere on your pc.
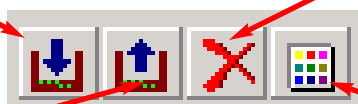
Delete Image

Click on this button to delete the currently loaded image.

Background Color

Click on this button to open the color window and pick a color for a rectangular button without art.

Universal Remote Control®

Advanced Applications - Variables and Dynamic Options Enable "Display" Buttons

Variables offer many additional programming possibilities to the imaginative programmer. There are several ways to utilize variables, one of them is by assigning a variable to a button. When you assign a variable to it and when the push of another button sets the variable to 1, the dynamic button will react by displaying it's After image for as long as the specified variable stays set to 1. When you set a button to be dynamic, any other button can ALIAS to it (see Macro recording on the next page) and trigger the dynamic button into displaying both its after image and its dynamic text. The dynamic button will pulse or flash its After image and text as long as the macro written to the dynamic button lasts (you can program delays as you like). This makes lots of interesting "display" buttons possible.

Dynamic Control

Normally, keep the **None** radio button checked. When you make a button Dynamic, it is possible to make the button flash its AFTER graphic and dynamic text by aliasing to it from another button. The dynamic button will continue to flash the AFTER graphic as long as the macro programmed in the dynamic button lasts.

Button ID

This is not the button label. The button ID is editable however. The button ID is the label you will see in the ALIAS window when recording macros. If you like, you can make a button easier to find by editing the Button ID to a more unique name.

Variable

If you would like to make a button dynamically change to its AFTER graphic when a variable changes to 1, select the Variable in the list box.

New Variable

If you haven't named a variable yet, click on NEW to name it. The NEW Variable window also enables you to delete variables that are no longer needed.

IR ID

This is not editable, except by dragging and dropping a new IR database code to this button. The IR ID assigns codes from the database to this button when you choose to SAVE ALL of the codes from a code set.

The Macro/Favorite Window

Opening Macro Window

If the Macro Window is closed, reopen it by hitting F3 or selecting Macro from the View Menu.

View	Program	Page	Tools
✔ Macro			F3
✔ Edit & Label Buttons			F4
✔ Simulate Mode			F5
Page View Mode			F6
Both Simulated & Pages			F7
✔ Toolbar			F8
✔ Status Bar			F9

The Macro Step Buttons

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 — Starts the macro recording process. This enables you to simply navigate to any page and simply click on a button to create an ALIAS to it. An "alias" is a copy of the button's command.

STOP — Stops the recording of macro steps

DELAY — Opens the Delay window so that you can specify a delay in between macro steps.

JUMP — Enables you to jump to any PAGE of any DEVICE at the end of a MACRO.

SOUND — Opens a Sound Window for you to select a sound as a macro step. Program a delay at the same time as the Macro step to enable another sound to play after the first.

TEXT — Opens a Text Window to type in text that will appear on the button as a macro step. Program a delay at the same time as the text to determine how long the new text will stay on the button. You can have as many text steps as you like (to the maximum of 255).

SET VARIABLE — Opens the Set Variable window, which enables you to pick an already-created variable and set it to 0, 1 or to simply Invert its status as a macro step. If you want to create a variable, you must click on NEW at the top of the Edit & Label Buttons window to open the new variable window.

IR DATA — Opens the IR Data window, which allows you to insert an IR command as a macro step without aliasing to it. This is slower than programming an alias, but has the advantage that you can control the IR commands burst length inside the macro, enabling sustained bursts of power on for projectors, or long busts of volume down at the end of a turn on macro. See Using the IR Data Window on page XX.

IMPORT — You must select the button you want the macro imported to, click on the Import button, then click on the button containing the macro you want copied. All of the macro steps are inserted into the new button in one step. Make any changes you want to the new macro, it is independent of the original (the original is not affected by any changes you make, nor is the copy affected by changes you make in the original).

SLEEP TIMER — Insert this as the first step of a power off macro. Label the button SLEEP TIMER. Each time the user presses the button, the MX-3000 displays "Go to Sleep in 90 Minutes", the next press it displays "Go to Sleep in 60 Minutes", next it displays "Go to Sleep in 30 Minutes", then "Go to Sleep in 15 Minutes" and finally "Cancel". Whenever the Sleep Timer runs out, the macro you programmed will be issued (unless the user hits the cancel display).

✸ Universal Remote Control®

Macro Mode Buttons

Every button has the potential to do two different macros based on either a variable changing, or how long the user presses the button. Play with these three Macro Mode buttons to get used to them. When you change from one mode to another, the Option bar changes its display. When the Option bar displays, you have the ability to program two different macros on one button as follows:
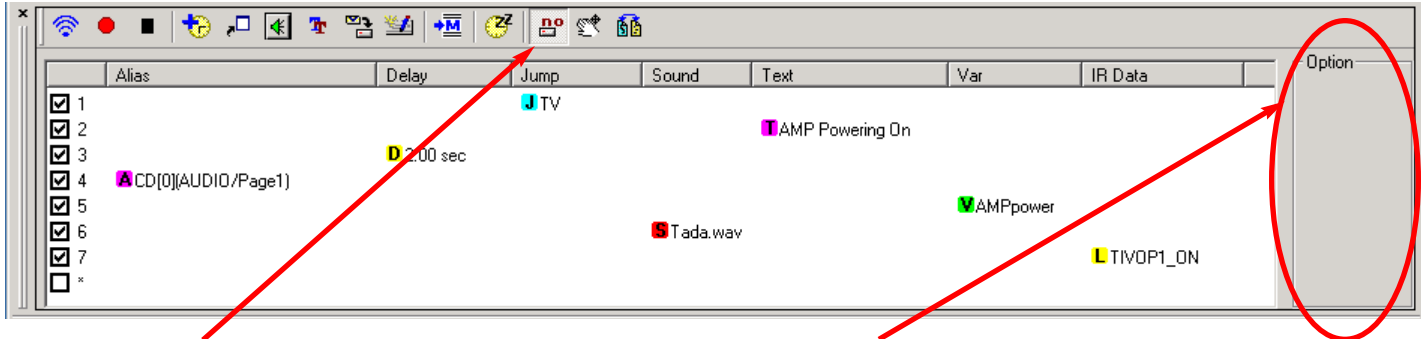
In normal mode, the macro window displays no options in the option bar. When you change to Press Time Mode or Variable Mode, the option bar displays options as shown below.

NORMAL MODE In normal mode, the macro will be issued every time the button is pressed.

PRESS MODE In Press Time mode, the button can have two different macros. A unique macro will be issued if the button is pressed less than the specified time (Before Option). A different macro will be issued if the button is held down more than the specified time (After Option). When programming the two macros, you switch between the two by using the Option bar at the far right of the Macro window.

When you click on After, the macro window displays the After Macro.
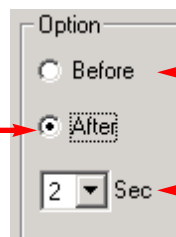
When you click on Before, the macro window displays the Before Macro.

When you set the time in the list box, you specify how long the user has to press the button to get the After macro.

VARIABLE MODE In Variable mode, the button can have two different macros. A unique macro will be issued if the button is pressed when the specified variable is "0" (0 Option). A different macro will be issued if the button is pressed when the specified variable is "1" (1 Option). When programming the two macros, you switch between the two by using the Option bar at the far right of the Macro window.

When you click on 0, the macro window displays the 0 Macro.

When you click on 1, the macro window displays the 1 Macro that will be issued if the specified variable is 1.

When you click on NEW, the Variable Manager opens and you can create a new variable.

When you select a variable in the list box, you specify the variable that determines which macro is sent.

U S I N G   M X 3 0 0 0   E D I T O R   T O   P R O G R A M

Using the "Spreadsheet" Macro Window

Other Home Theater Master remotes utilize a conventional macro list to program macros. However, the MX-3000 enables you to program macros with some types of macro steps occurring at exactly the same time as others. Because of this, the macro window is in the style of a spread sheet. At the top of the window, the first step is listed, then each row below represents the next group of steps. As you can see, in one row, only one step occurs, while in other rows, many steps may happen simultaneously.
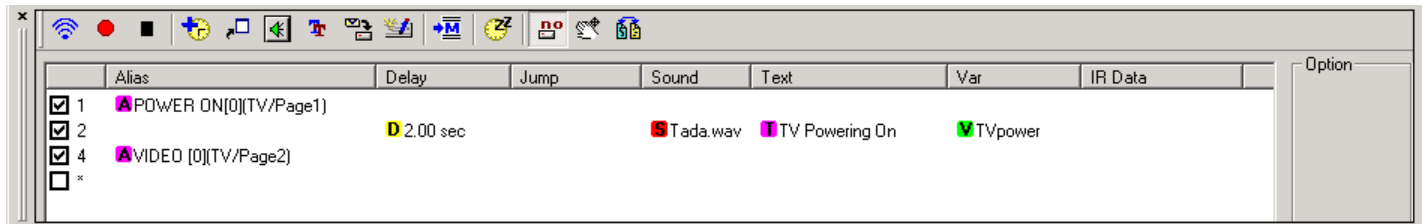
In this example, the first step is to issue the Power On command to a TV. The next row has four steps occurring at the same time; a delay of 2 seconds, a sound is playing, the text on the button is changing and a variable is being set to a new value (see using variables to track power on page xx). After the 2 second delay, the TV's input is changed. So six macro steps occured in 3 time intervals (represented by the rows numbered 1, 2, 3 etc.).

What is an Alias?

An alias is a macro step that in one step refers to the entire macro programmed in another button. If only one command is programmed in the other button, then the macro step will only perform that command. However, if the other button has a macro, the entire secondary macro will be played back as one step in the new macro. Thus, the Alias feature not only saves memory (since it is not copying the IR commands, only pointing to them), but enables you to program macros nested inside other macros. See advanced programming on page XX for some examples.

Two Ways to Record ALIASES

There are two ways to record macros. When you have many steps to record, the fastest method is to use the Record button, then click on pages in an expanded tree view to display them, then click on the button you would like to add as a step. Continue to navigate and click on buttons to record the macro.

When you just want to add one step to a macro you may prefer to use the Alias window. Select the button you would like to add a step to, then simply double click in the column labeled Alias (click on the row you would like the new step to be placed).
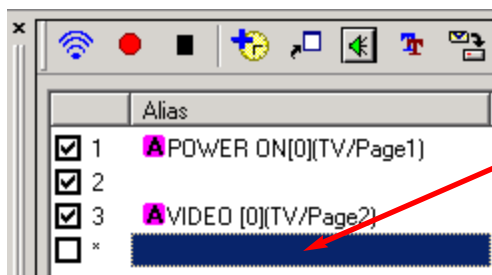
By simply double clicking on the "cell" you want to add an ALIAS to, the Alias window will be opened (without pressing record first).

The Alias window allows you to browse all of the pages and devices in your configuration, but requires more mouse clicks than normal macro recording most of the time. If your tree view is collapsed, then the Alias window is probably a little faster to use, since you don't have to press the Record button to add a step.

Universal Remote Control®
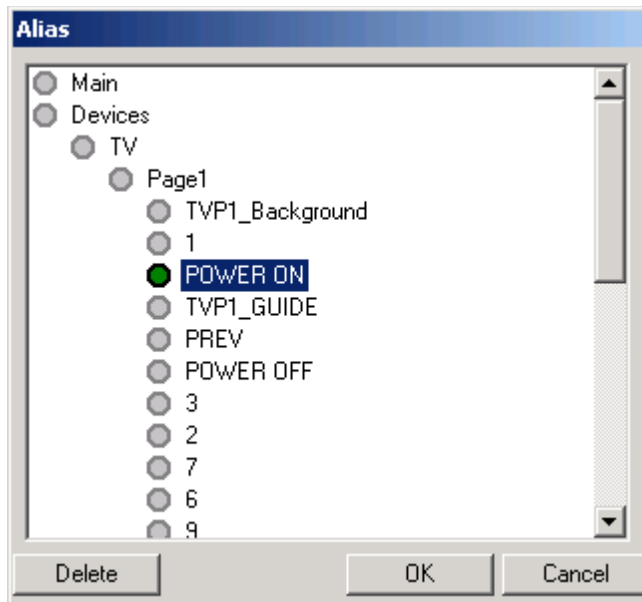
The Alias Window

By simply double clicking on each dot, you expand the tree, until you open the page you want. When you double click on the button ID of the button you want, the Alias window will close and the new step will appear in the macro window.

Recording Other Types of Macro Steps

For any other kind of step (other than Aliases), you do not have to click on record. Simply select the button you want to add a step to, then either double click under the column you want to open the appropriate window (Text, Variable, Sound, Delays, Jumps etc.) or click on the shortcut button in the macro toolbar.

Re-Arranging the Macro Step Order

You can drag any macro step to a new position by clicking and dragging.

Deleting any Macro Step

You can delete any macro step by selecting it first, then hitting the Delete key on your keyboard.

Tip - You can resize the Macro window by simply clicking and dragging the top of the window.

Home Theater Master®
Entertainment Made Simple™

The RF Control Window

If the RF Control Window is closed, reopen it by clicking on the ▢ shortcut button on the toolbar or selecting RF control from the Program Menu (Step 7).

Overview of Basic RF Options

Using the basic RF Control Window you can modify the RF properties of an MX-3000 as follows:

1. **Signal** from the Remote can be set to IR only, RF only or both IR and RF. The factory default is set to both IR & RF.

   NOTE! This must be set for each device individually!

2. **Receiver -** If you have multiple MRF-250's in the system, you can select which receiver a device will be connected to. The factory default is set to Default.

3. **Flashers -** You can choose which of the emitter ports a device is connected to. This is vital when your system includes some identical components using the same IR code set. If you are installing a typical system with an assortment of unique components using different IR codes, you can leave the Flashers set to the factory default selection of ALL, however if operation is intermittent try routing to one flasher only.
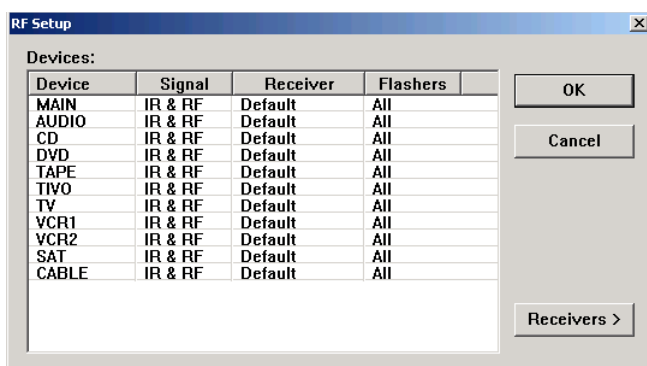
Set each device's basic RF properties by clicking on the row and column you want. When you do, a combo box will display the choices available. Click on the option you want:

Overview of Receiver RF Options

By clicking on the RECEIVERS button in the bottom left corner, you can extend the RF control window to display settings for the MRF-250s in your system. In the extended window you have the following options:

1. **Add Button -** If you have more than one MRF-250 base station, add and give each new receiver a unique name in the window that appears.

2. **Rename Button -** Before using the Rename button, you must click and select a receiver in the column under Name, then click on the Rename button.

3. **Receiver ID -** To prevent all receivers from receiving RF commands, you may opt to set a unique ID# to each. This is only useful when identical components are installed in different locations. If your system has an assortment of unique components using different IR code sets, you may leave the receiver ID # set to the factory default of ID 1.

4. **IR Blaster -** Each receiver has a built in IR blaster, useful when you have more than six components to be controlled. If you don't have any use for this, turn it off, since it may issue too much IR for nearby components.

Universal Remote Control
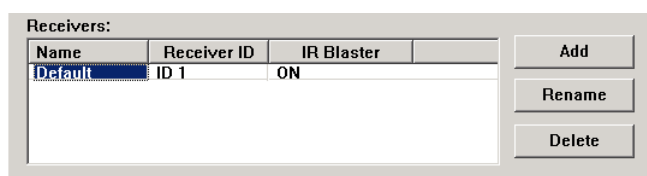
The Universal Browser Window

If the Universal Browser Window is closed, reopen it by clicking on the ▣ *shortcut button on the toolbar.*

Overview

Using the Universal Browser Window you can import LEARNED IR codes from a .ccf file. You cannot import gener-ated RC5, Database or generated NEC codes, only LEARNED codes. The browser works as follows:

1 Click on the File icon to navigate to the folder that contains the .ccf file.
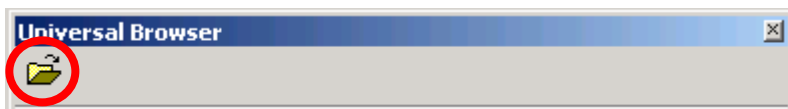
2 Use Tree View to Navigate to the Panel containing LEARNED IR codes you want.

3 Click on the panel name in Tree View to make the panel appear in Panel View.

4 Click on a button in Panel View and the Action List view will reveal whether it has Learned Data or not. Only buttons with Learned Data can be transferred.

5 Click and hold the left mouse button to drag a button with learned data to any programmable button on the MX-3000 in Simulate View Mode.

6 When you release the mouse, the blue ▣ indicating a Learned IR command is displayed on the simulate view of the button.

Programming Overview

U
S
I
N
G

M
X
3
0
0
0

E
D
I
T
O
R

T
O

P
R
O
G
R
A
M
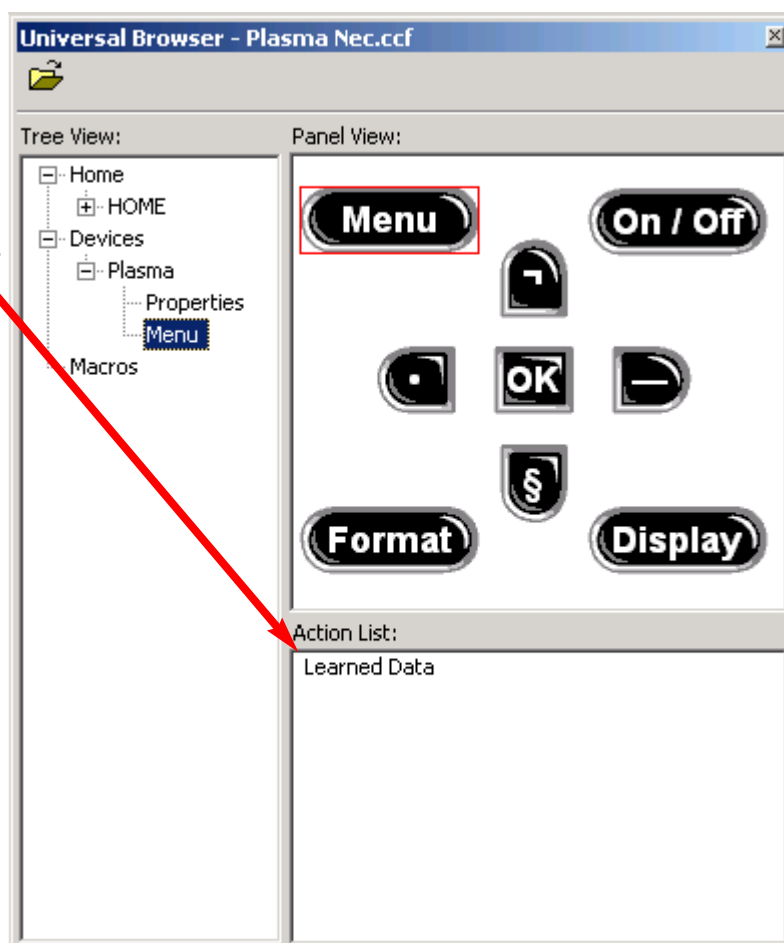
A. New File, Existing File on PC or in Remote

◼ 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 prelabeled empty devices. 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 .rcc; all device files are also saved with the extension .rcc (see D. Save and Export, below).

> **TIP** — Always use File | Save As to rename the file before doing any programming!
> Use the customer's name and a rev # (i.e. SmithTheaterRev1.mxf)

C. Use the Program Menu

Program	Page	Tools	Communica
1. Create & Name Devices			
2. Create Button Layouts			
3. Pre-Programmed IR Database			
4. Learn IR			
5. Punch Through			
6. Macro Programming			
7. RF Control			
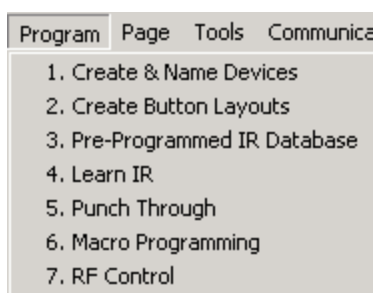
The Program Menu is your lifeline to a fast, easy programming experience. Follow the steps in the order shown in the Menu for best results. Typically, you will download to the remote control several times throughout this process and test what you have done so far. You'll need to download after finishing all programming. For macro play-back 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 .rcc files. Programming systems with simi-lar 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 summary 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 255 soft button pages. You will need one device group for each remote control that the MX-3000 is replacing. You can have a maximum of 255 devices in your configuration. When you create devices in the Create and Name Devices window, every device is automatically linked with a jump-link to the device via the MAIN MENU. If you create devices manually you have to create a jump link from the MAIN menu button to each device manually, however you have better control over graphics.

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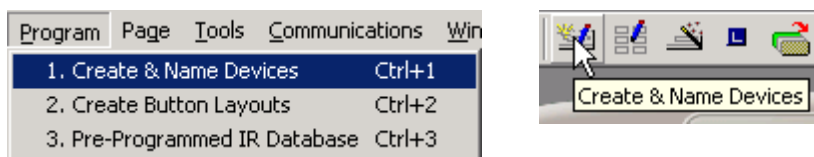
TIP - Hover the mouse over the Toolbar buttons and a pop-up label identifies it!

Creating Devices

1 Click on the grey button you would like to create a new device in or delete all the grey buttons and drag in some icons from the Icon display:
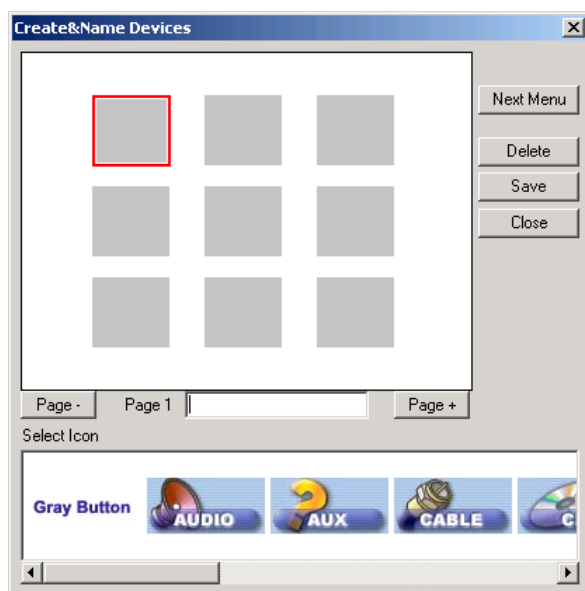
You must NAME the device to create it. First select the button that will represent the new device (either drag it in or select an existing button), then click in the NAME window and type the new name for the device.

After you have named the device, click on SAVE.

2 You must NAME the device to create it in TREE VIEW, simply dragging the button does nothing but add a button to the MAIN page.

3 You must hit the SAVE button to create all the new devices.

4 Once you have finished, you can simply click on Next Menu at the top of the window.

5 Tree View reveals the new devices you've created and the simulator shows the new MAIN page one with all the new buttons displayed.
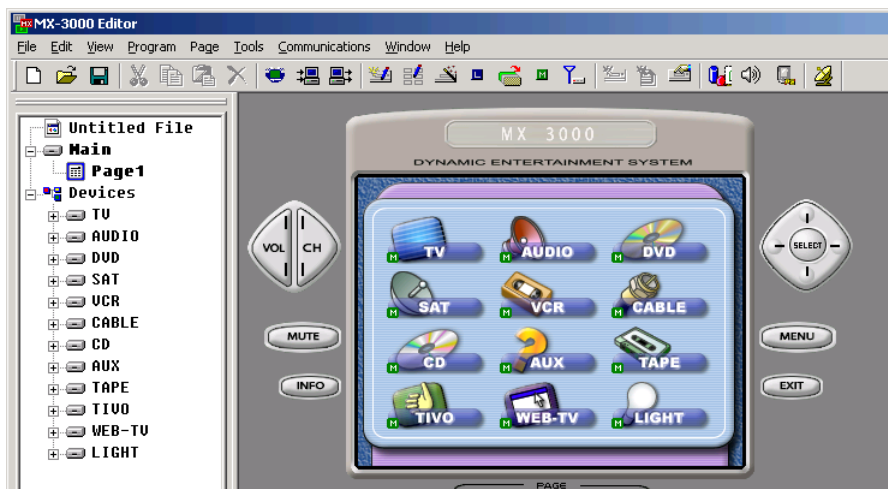
6 Try the simulate view mode out now. If you click once a MAIN MENU button, you'll simply select the button, if you double click you will jump-link to the device group. Once at the new device group, you can touch the MAIN button to return to the MAIN MENU, etc.

Creating, Naming and Arranging Devices Manually in Tree View

1 Select Devices in Tree View
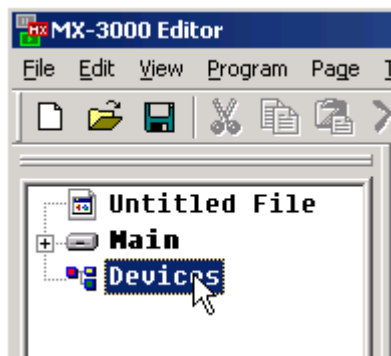
2 Press the Insert key on your keyboard. Each time you press it, a new device is created.
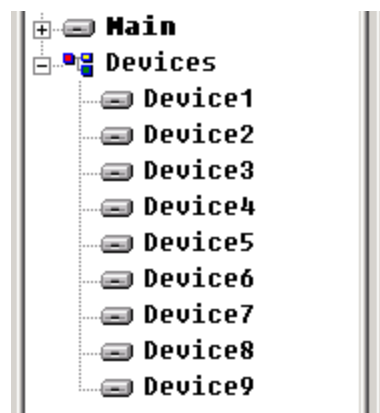
3 Select the first device and press the F2 key to name it.
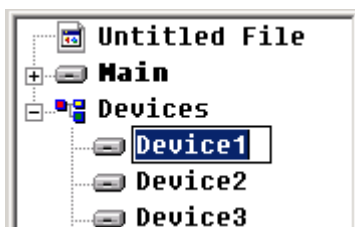
4 Type in a new name and hit enter.

5 Repeat steps 3 and 4 untill all your devices are named.

6 Right Click on MAIN in tree view.
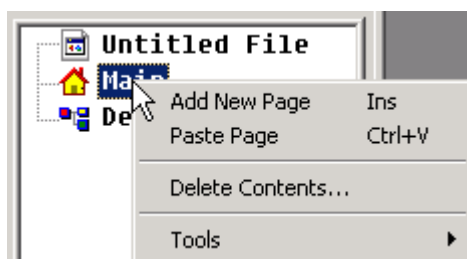
7 From the context menu choose Add New Page.

8 Double click on the new page in tree view to display it on either Simulate or Page view.

9 Open the Image Gallery by clicking on the shortcut button or select Image Gallery from the Tools Menu.

9 Navigate to the MAIN MENUS by using the scroll bar and click on different MAIN MENUS until you see the style you like.
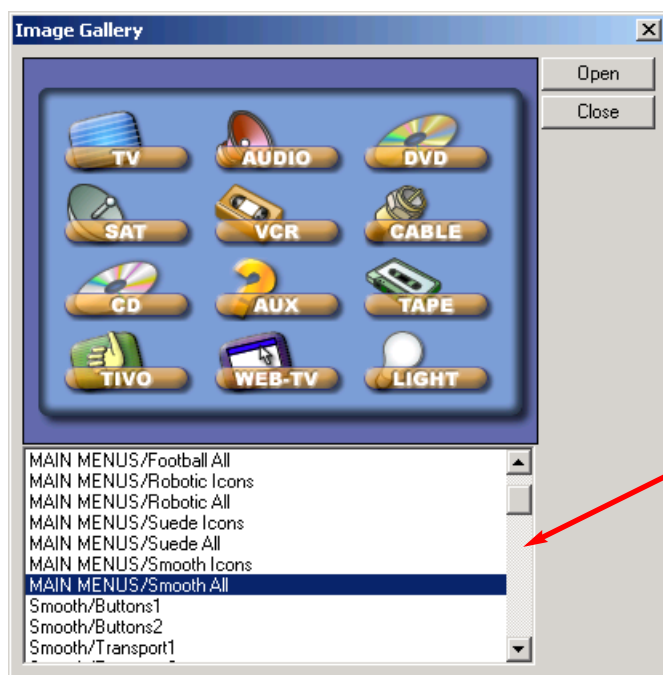
Use the scroll bar to navigate to the various MAIN Menus in the Image Gallery.

MX3000 TOUCH SCREEN REMOTES

U S I N G   M X 3 0 0 0   E D I T O R   T O   P R O G R A M

10 Pick one of the MAIN MENU ALL groups and click and drag the displayed group of buttons to the MAIN page 1 display (either Simulate or Page View Mode, we are showing page view mode below).
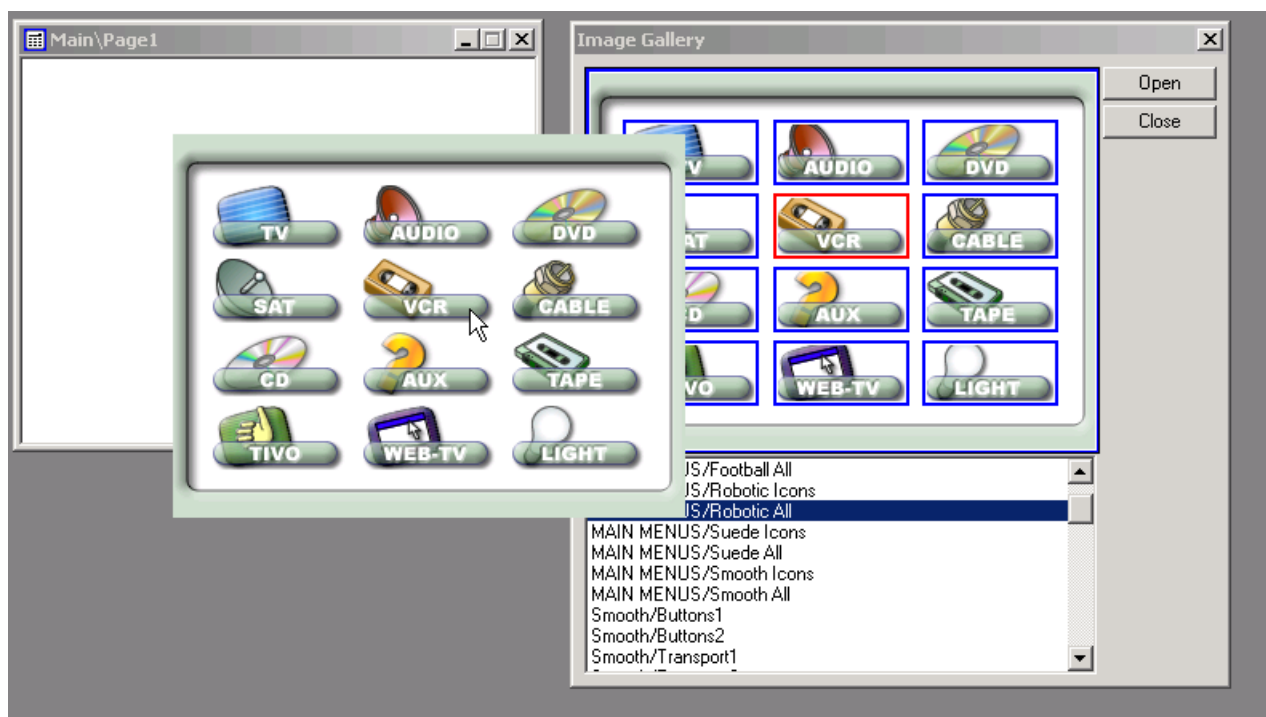
You don't have to drag a whole group from the gallery, you can choose to pick a background first, then drag any icon or button over. It is personal preference.

11 Arrange the buttons as you like, then select each of them in turn and uncheck the Display Text box if needed.
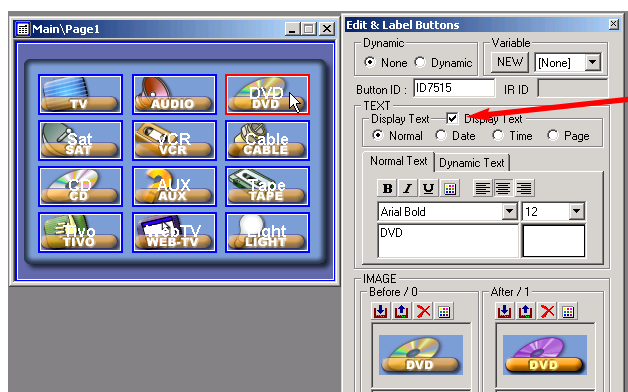
When icons are dragged from the gallery, the text labels need to be turned off by unchecking the Display Text check box.

12 Programming a jump to the appropriate device in each of the buttons.

13 When you are finished save your work by selecting Save from the File Menu or by using the keyboard shortcut Control|S.

Universal Remote Control®

Create Button Layouts

Although you can manually create your own artwork in an image editing application for every button and arrange the buttons in any way you want, it is not practical for most custom installation jobs. Thus, the MX-3000 Editor is equipped with many choices for different clients in automatically configured button layouts.

Open the Create Button Layouts Window

You can open the Create Button Layouts window by clicking on the item #2 of the Program Menu or by clicking on the Toolbar icon as shown here.

Selecting Button Layouts

1 Select the device you would like to create a layout for in the left hand column.
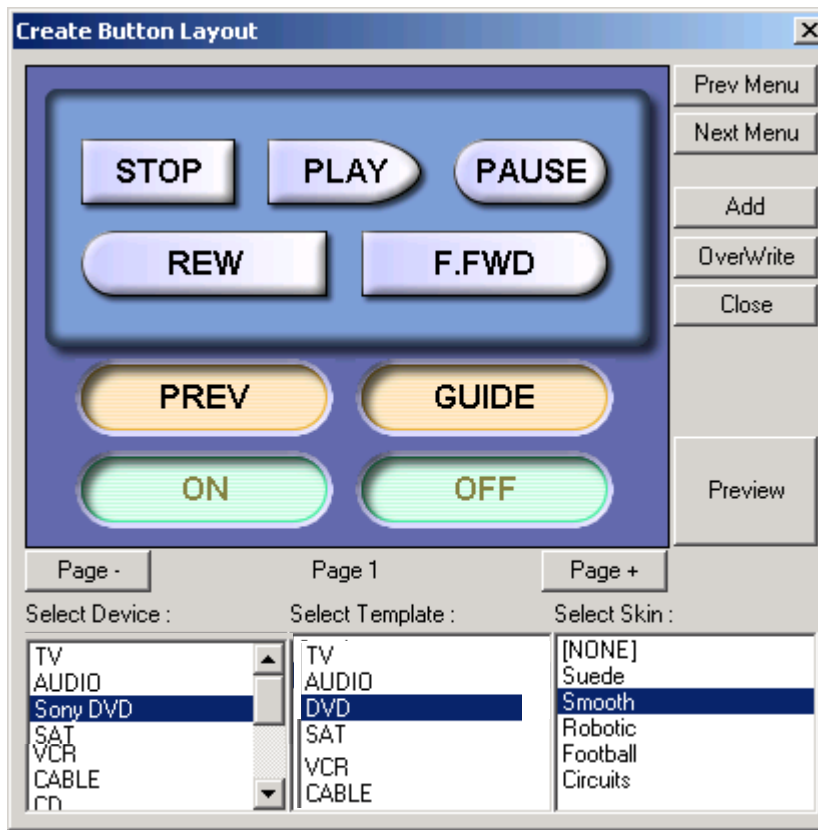
2 Now select the Template for the type of device it is.

3 In the Skin window, click on the different skins available and they will be displayed in the preview window.

4 Click on the Overwrite button to replace your existing pages. Click on Add to add to the existing pages.

5 Repeat for all of your devices. When you are finished click on close or Next Menu.

Using the IR Database

Discrete Codes, Toggles and other New Words

The Home Theater Master 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 are 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 are 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 manufacturers 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 code set. 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.
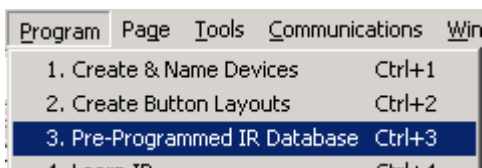
2 **Select the Device -** Selecting the device you'd like to add codes to from the first list box.

Universal Remote Control®

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).

The device you would like to add codes to:

The category of codes.

The brand of the manufacturer.

The model number of the device.

NOTE: Many models are controlled by generic code sets listed as Sony 1, Sony 2 etc. Beneath the listed models, every brand will have a few generic code sets. If you don't see your model number, try each of these until you find the right one.
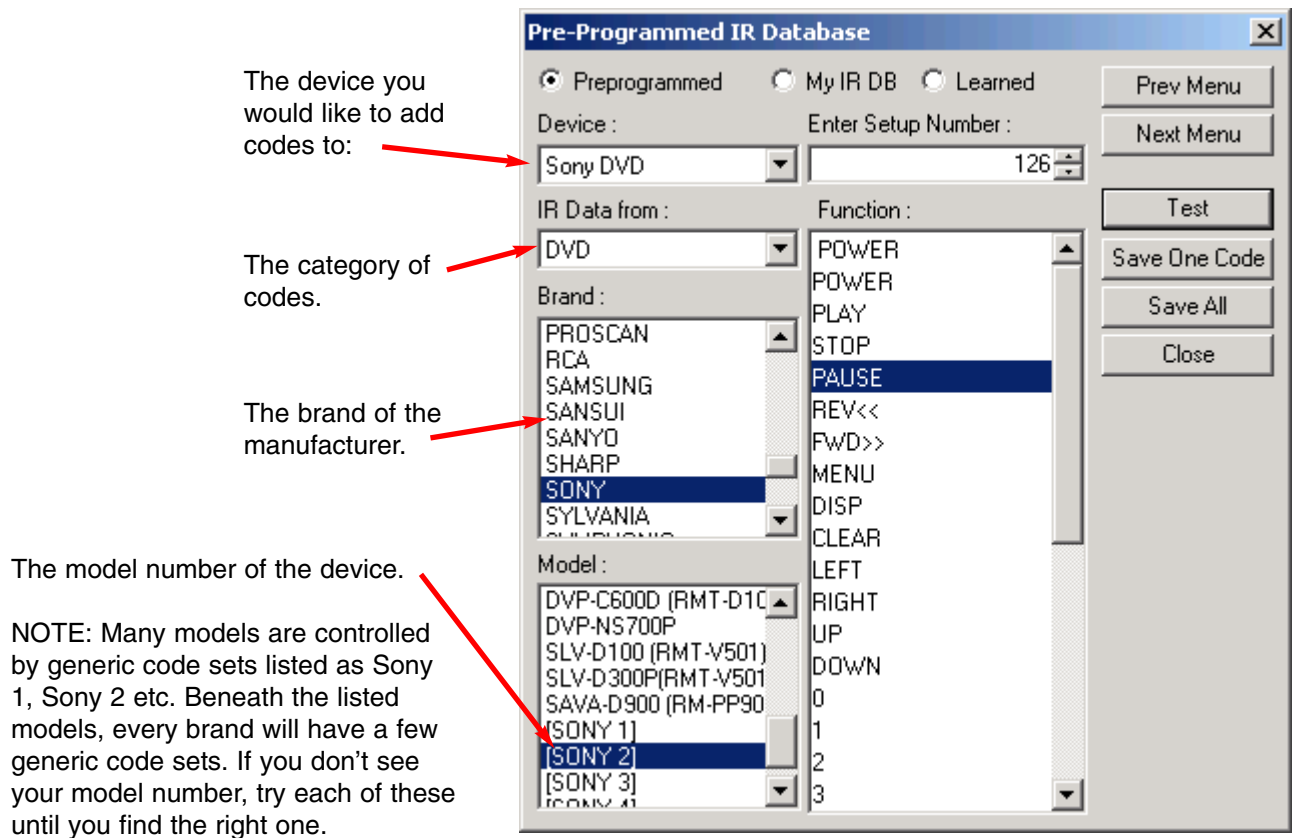
5 **Test any Code**

       A. Verify the MX-3000 is charged and connect it to the PC via the USB port.
       B. Point the connected MX-3000 so that it is in range and within line of sight of the component.
       C. Select the code you want to test from the function list.
       D. Click on the **Test** button as shown above.

6 Once you find the correct code, you can Save All the codes with one click by clicking on the Save All button, or you can drag and drop any single code to any button.

7 Continue with the rest of the devices you need, using the Device list box).

MX3000 TOUCH SCREEN REMOTES

USING MX3000 EDITOR TO PROGRAM

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 time. The best approach is to download, test all the commands, make a list, then use MX-3000 Editor to modify labels, and delete unnecessary 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 on the Toolbar, the Download window appears unless you haven't saved the file. If you haven't saved the file yet, you will be prompted to do so.

Preparing the List of Buttons to be Learned

1   Test ALL Buttons
    Begin testing the codes you downloaded to the MX Remote Controls. 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 button layouts you've created. Rename anybutton fro missing functions that need to be learned to the List. If you need to add pages, simply right click on the device and choose Add Page. If you need more button layouts, open the Image Gallery.

Hiding Pages

A hidden page is accessible during programming so you can teach commands to buttons on hidden pages and use them in macros. The interesting thing about hidden pages is that the end user cannot manually access the page using the PAGE button. You HIDE pages using the HIDE checkbox which appears in the Page Menu or by right clicking on a page in tree view.

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

Universal Remote Control

Learning Tips
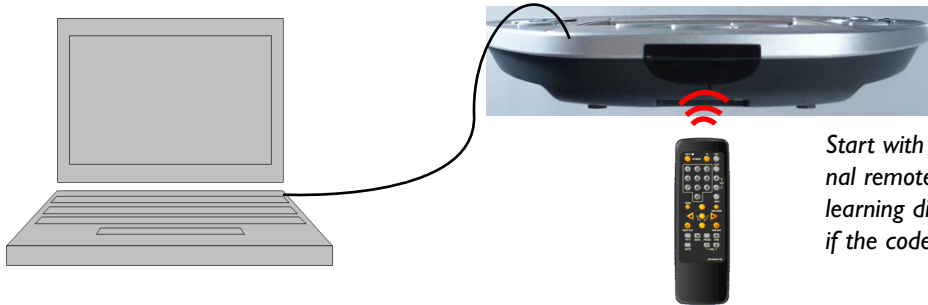
Start with the remote controls an inch apart. The original remote points at the back of the MX-3000. Vary the learning distance from one inch to as much as four feet if the code doesn't test correctly.

Fresh Batteries in the Original Remote Control - Weak batteries will cause MX-3000 Editor 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 "Semaphore" Technique - Use a book or another opaque object in between 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 or choose Learn from the Program Menu-** The Learn IR window opens.

3 **Click on the LEARN button at the bottom of the Learn IR window to open the LEARNING window.**
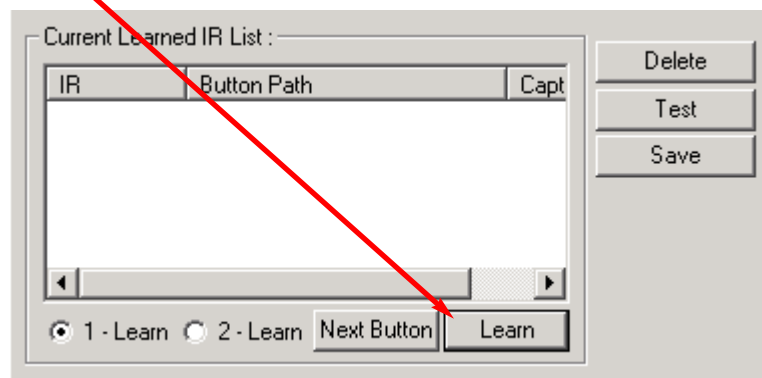
3 The Learn Window opens, Wait for READY to Appear **-** The MX-3000 must be connected to the PC. Once you see the 1rst Learning READY indicator press and hold the corresponding button on the original re
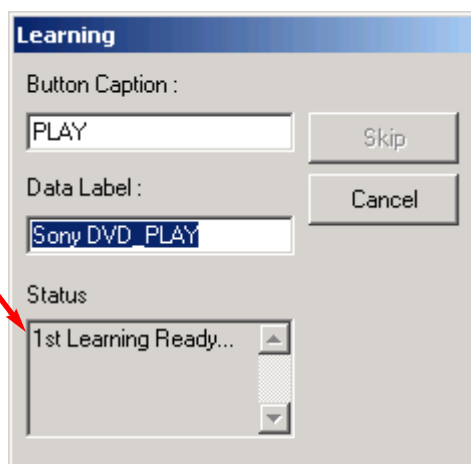
4 When the code is successfully learned, the window will say GOOD, confirming that the code learned "correctly." Actually, the GOOD means that the code might be good....You need to test it. Select the code in the Current Learned IR List, then click on the test button.
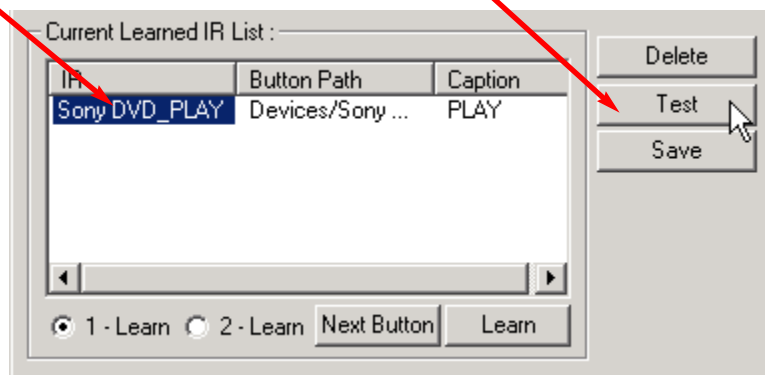
5 If the code doesn't operate the component you can try the DoubleTap learning method. This is particularly useful for components using the Philips RC5 'togglebit" protocol. Many high end audio companies use these codes. Just click on the 2-Learn radio button and you will be prompted to learn every code twice.
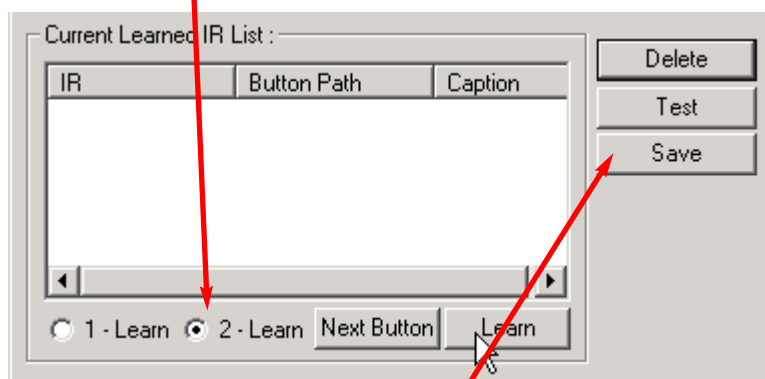
6 **Click on SAVE -** You must click on SAVE to save the LEARNED command.

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 hard buttons, MX-3000 Editor starts at the VOL up, moves down the hard buttons on the left, then goes to the top right hard button. When learning soft buttons, MXEditor starts at the top left, moves across each row, then moves down.

2 **Select NEXT BUTTON button before you press LEARN -** The combination activates the batch learning capability of MXEditor.
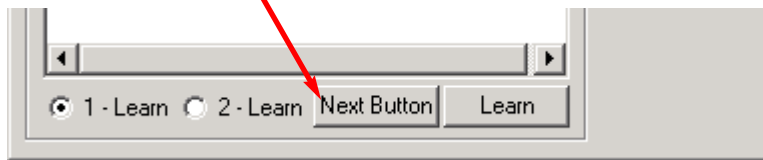
3 **Watch the LEARNING Window -** When the info window says READY, press and hold the button on the original remote control. When it says GOOD, release the button. During batch learning, MXEditor automatically saves and then reselects the next button. When you see that a new button has been selected and the LEARNING 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 click on the SKIP button.

4 You can opt to test any code by selecting it in the Currently Learned IR list. If it doesn't work, delete it before saving or relearning.

All the codes you learn appear in the Current Learned IR list.
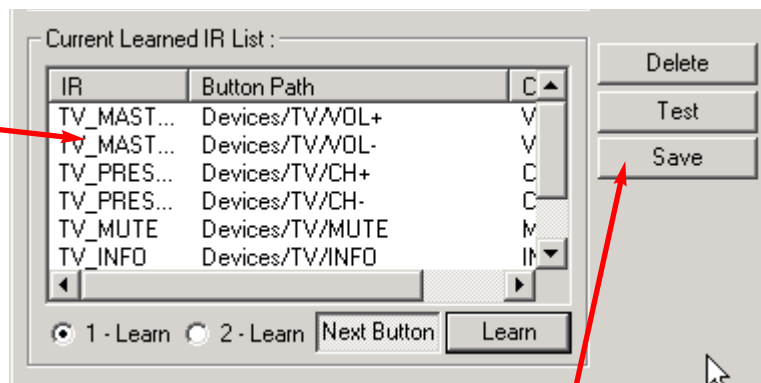
5 Save the Codes you've batch learned by pressing the SAVE button. All the codes are transferred to the top Embedded IR list. The buttons you taught commands to now show the blue L icon in Simulate View mode.

HOME THEATER MASTER®
Entertainment Made Simple™

USING MX3000 EDITOR TO PROGRAM

Advanced IR Code Manipulation

Modifying Carrier Frequency in a Learned Command

1 Open the LEARN window and select the command that is buggy in the Embedded IR List. Adjust the carrier frequency to the correct frequency here.
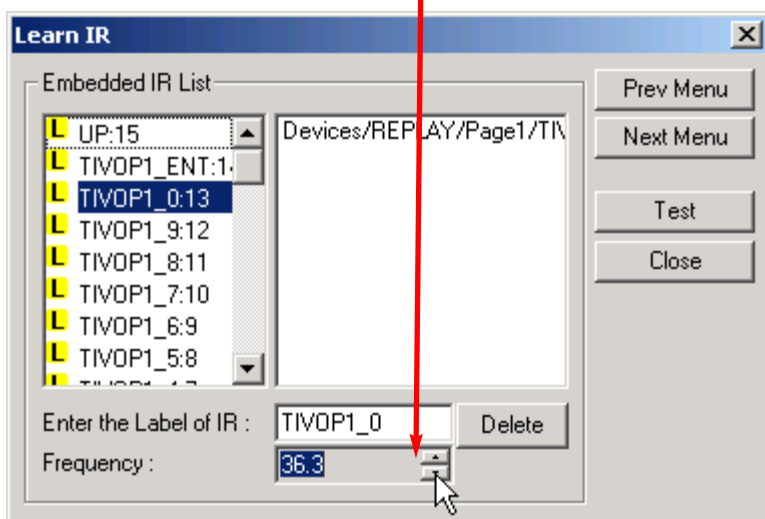
Note: Typically the reason that the carrier was not detected correctly was because of low batteries in the original remote control at the time of learning.

Creating a Button that Sustains the IR Code for Several Seconds (Pre-Programmed or Learned Codes)

1 Select the button with the code you would like to adjust. Many projectors require a two to four second burst to power on or off.

2 In the Macro window, double click on the command (learned or pre-programmed) to open the IR Data window.
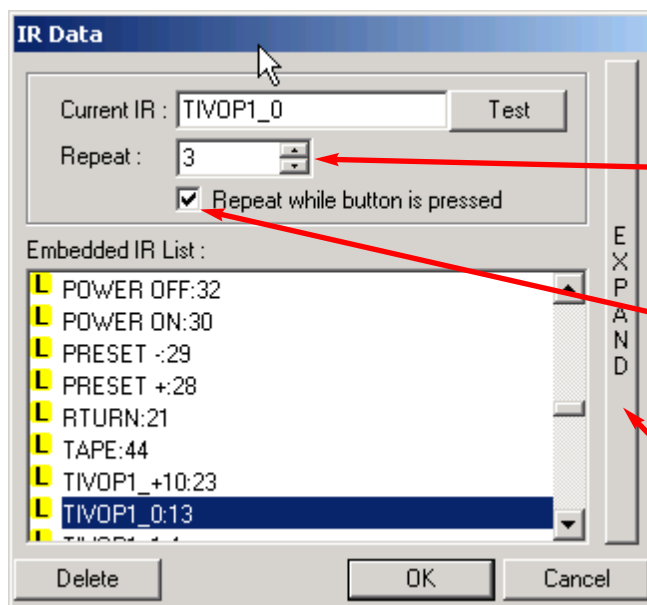
Adjust the number of repeats and test the code. With some brands, a two second burst might be 18 repeats, with another two seconds might be 50 repeats. You have to use trial and error to find out how many repeats you need.

If you no longer want the button to repeat while it is pressed and held, uncheck the Repeat checkbox.

If you would like to access another IR command, click on the Expand button. You can then select a command from any database or learned code.

Universal Remote Control

Importing and Exporting Devices

Save your work so that it can be easily used on other jobs with the same compoenents. You can just save files by customer name, but a better approach is to export devices one at a time. That way you can import just the device you want in another job, complete with all your artwork, button layouts, labeling, and macro programming.

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

Exporting Step by Step

1   From the File Menu choose Export.

File	Edit	View	Program	Page
New			Ctrl+N	
Open			Ctrl+O	
Save			Ctrl+S	
Save As...			Ctrl+Alt+S	
Import				
Export				
Import Learn In				
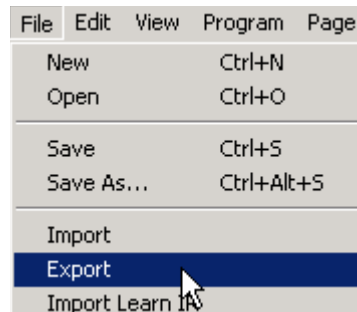
2   When the Export window opens, check off the device you want to export.

Export

```
[                    ] [ ... ]   [ OK ]
                                 [ Cancel ]

Devices
[ ] TV
[ ] AUDIO
[ ] DVD
[ ] VCR
[ ] CABLE
[ ] CD
[✓] REPLAY
```
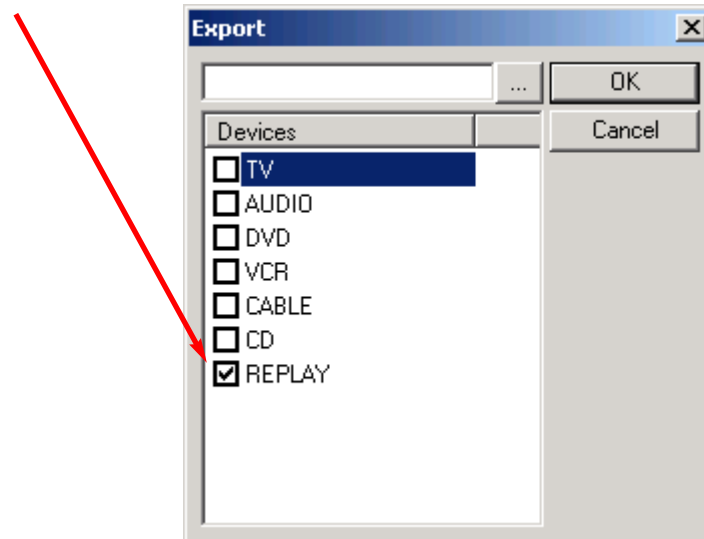
3   Click on the Browse button to open a browser window. Select the file destination and name the file according to the Category, Manufacturer and Model.

4   Click on the SAVE button in the Browser window. You now return to the Export window. You have not saved the file until you press the OK button.

HOME THEATER MASTER®
Entertainment Made Simple™

Importing Step by Step

1   From the File Menu choose Import. The Import window appears.
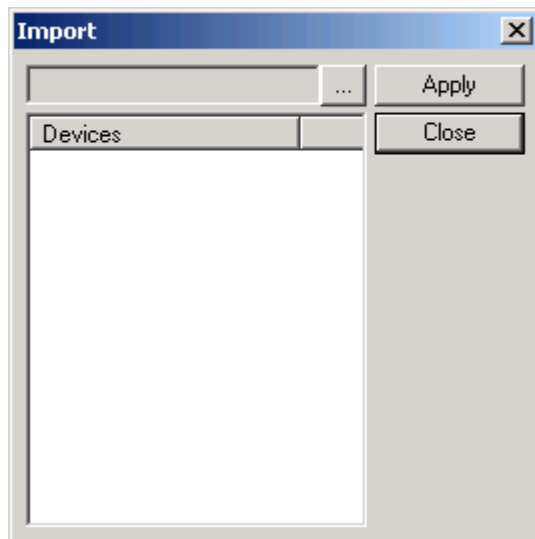
2   **Click on the Browse button (...) to open a browser window.** Navigate to the folder you keep your devices and select it.
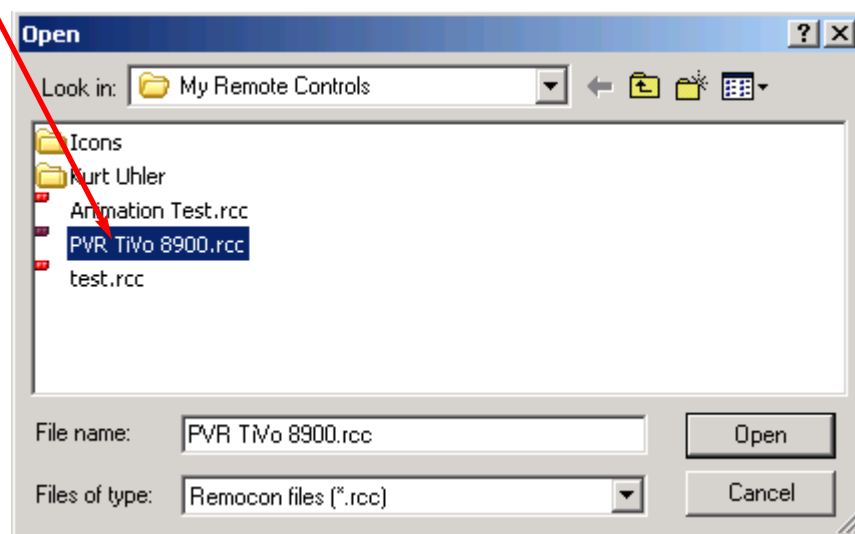
3   Click on the Open button and you are returned to the Import window.

4   From the list of devices, select the one you want by checking the check box, then clicking on Apply. The new device appears in Tree View. You can repeat as many times as you like.

Universal Remote Control®

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 255 steps. A step can be:

- **ALIAS-** Any IR command or Macro on any button on any device.

- **Delay -** Adjustable delay between steps of .1 and 99.9 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. You can program another jump in the macro to display a page with status feedback messages or animations.

- **Sound -** Any step can have a sound WAV file programmed. However, to program a second sound file in the same macro (so that there is a beep at the beginning and a "tada" at the end of a macro), you must program a delay in between the two sounds as long as the first sound or longer.

- **Text -** Any step can make the button label change. If you want the label to stay changed, insert a delay after the text step to keep the text on for enough time for your client to read it.

- **SET VARIABLE** Opens the Set Variable window, which enables you to pick an already-created variable and set it to 0, 1 or to simply Invert its status as a macro step. If you want to create a variable, you must click on NEW at the top of the Edit & Label Buttons window to open the new variable window.

- **IR DATA** Opens the IR Data window, which allows you to insert an IR command as a macro step without aliasing to it. This is slower than programming an alias, but has the advantage that you can control the IR commands burst length inside the macro, enabling sustained bursts of power on for projectors, or long busts of volume down at the end of a turn on macro. See Using the IR Data Window on page XX.

- **IMPORT** You must select the button you want the macro imported to, click on the Import button, then click on the button containing the macro you want copied. All of the macro steps are inserted into the new button in one step. Make any changes you want to the new macro, it is independent of the original (the original is not affected by any changes you make, nor is the copy affected by changes you make in the original).

- **SLEEP TIMER** Insert this as the first step of a power off macro. Label the button SLEEP TIMER. Each time the user presses the button, the MX-3000 displays "Go to Sleep in 90 Minutes", the next press it displays "Go to Sleep in 60 Minutes", next it displays "Go to Sleep in 30 Minutes", then "Go to Sleep in 15 Minutes" and finally "Cancel". Whenever the Sleep Timer runs out, the macro you programmed will be issued (unless the user hits the cancel display).

All Buttons Can Playback Macros except the MAIN and PAGE Buttons.

HOME THEATER MASTER®
Entertainment Made Simple™

U
S
I
N
G

M
X
3
0
0
0

E
D
I
T
O
R

T
O

P
R
O
G
R
A
M

Discrete IR Codes vs Toggle IR Codes

Manufacturers 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 a 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 & 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 MX remote control 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 & Pray macro. It is too inconsistent. You are better off creating 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 & Pray macros will create service calls and a lot of bad will. Never leave a customer with a remote programmed to "maybe" work...

Universal Remote Control®

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
          2) DVD Stop

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 a 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 System 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 its button on the MAIN menu or by clicking on an expanded tree view page.

HOME THEATER MASTER®
Entertainment Made Simple™

U
S
I
N
G

M
X
3
0
0
0

E
D
I
T
O
R

T
O

P
R
O
G
R
A
M

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

The new step appears in the Macro spread sheet:
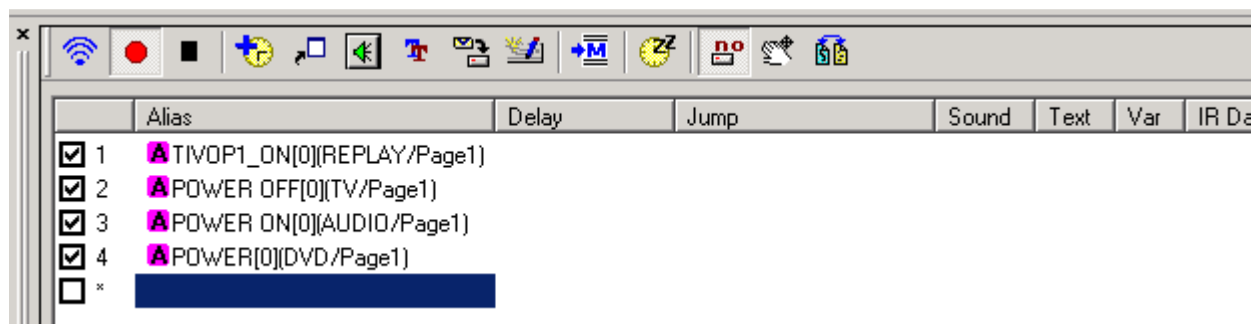
4 Once you have all of your Power On commands in the list, re-arrange them as desired by clicking and dragging them into whatever order you want.

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.

6   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. Press the Stop button to stop recording ALIASES.

7 OPTIONAL - Program a jump to the Device and Page they use for their favorite activity.
Click on the JUMP icon. Select the correct device and page from the Jump window. The jump appears in the Macro window in the column under Jump.
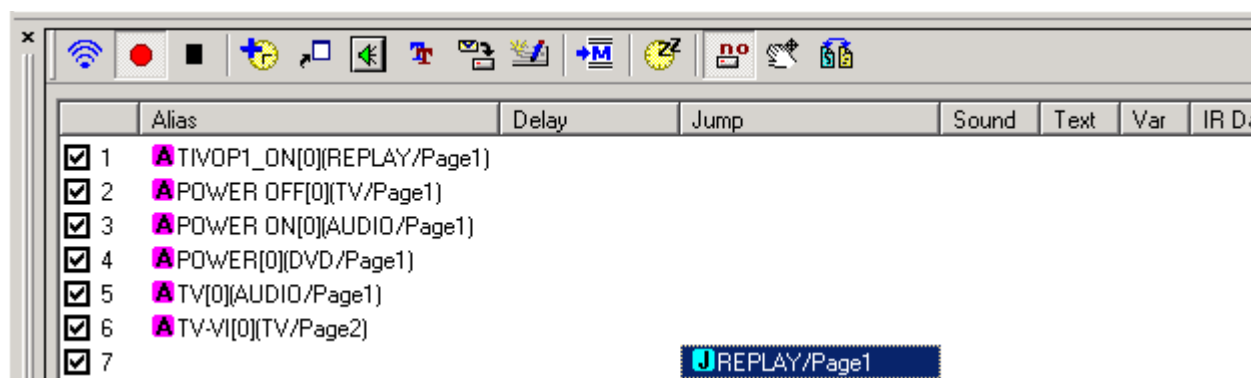
8 First, turn the TV and the Receiver to the wrong input, then turn off everything in the theater. Point the connected MX-3000 at the system. Select the first step in the list by clicking on it. Now, click on the TEST

button. Observe the television and the receiver. Did they both switch to the correct input?

9 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.

Universal Remote Control®

10 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.
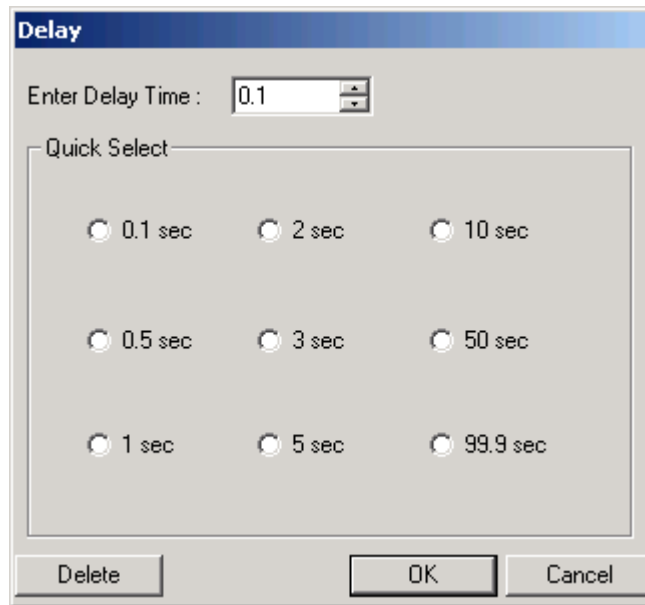
11 The new step appears in the list. Now, drag the delay step to the correct location.

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

12 Again, turn the TV and the Receiver to the wrong input, then turn off everything in the theater. Point the connected MX-700/800 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 in the File Menu.

M
X
3
0
0
0

T
O
U
C
H

S
C
R
E
E
N

R
E
M
O
T
E
S

HOME THEATER MASTER®
Entertainment Made Simple™

Programming a Power Off Macro

A 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.

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 "Device" button created by Create and Name Devices. 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!

Universal Remote Control®

Importing Macros (Copying or Cloning a Macro)

You can often speed programming by instantly inserting all of the steps of a previously programmed macro as the starting point of a new macro. The inserted steps are completely editable, without changing the original macro.

1 Do not start recording at the new location. Simply select the button where you would like the macro inserted. Then click on the IMPORT button.

2 Navigate to the device and page where the original macro is programmed. Click on the button that contains the macro. During navigation, you might click on a device button which happens to contain a macro. A popup window will appear asking if you want to insert this macro. Answer NO if you are simply using the device button to navigate. Answer YES if you want this macro copied/cloned/inserted.

3 When you click on the button that contains the original macro, all of the steps are copied/cloned into the new button location and the Simulate view jumps back to the new button's device and page.

4 Edit as needed and click on SAVE.

MX3000 TOUCH SCREEN REMOTES

HOME THEATER MASTER®
Entertainment Made Simple™

USING MX3000 EDITOR TO PROGRAM

Programming Punch Through

MX-3000 Editor enables you to quickly set up common functions on all devices for the hard buttons. Usually used only for Volume Up, Down and Mute; however, you may find it convenient to punch through to the satellite Menu controls and the Channel UP and Down.

1 Open the Punch Through window by clicking on the shortcut button in the toolbar or by selecting Punch Through 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.
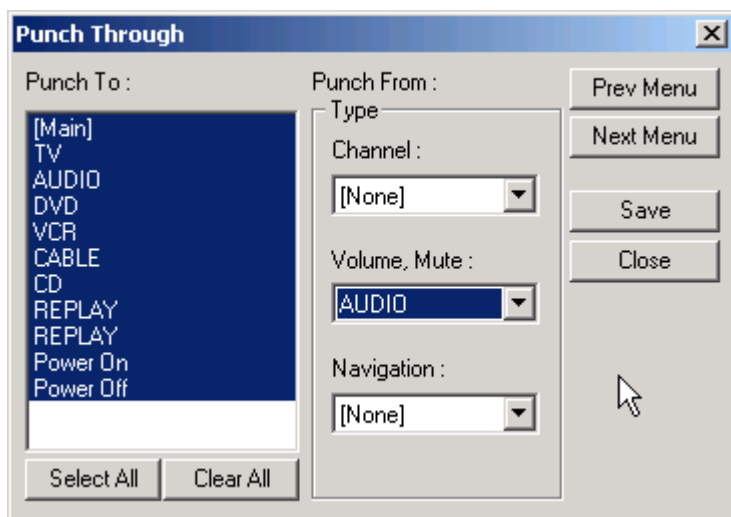
3 Select the device that has the codes you want used in the Punch From list.

4 Click on SAVE. Check the devices you programmed, you should see the red PT (Punch Through) flag on every button affected on all the devices you programmed:
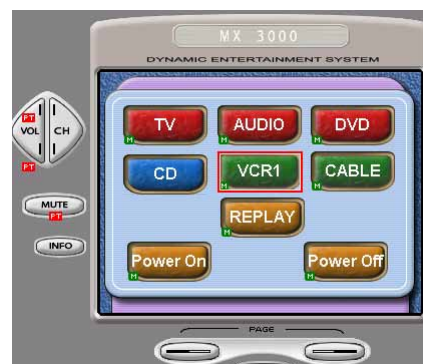
TV   VCR1   MAIN

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

Universal Remote Control®

Programming RF Control Options

The RF Setup Window

The RF Setup window opens after selecting RFControl from the Program Menu or clicking on the shortcut button.

Program	Page	Tools	Communications	W
1. Create & Name Devices				Ctrl+1
2. Create Button Layouts				Ctrl+2
3. Pre-Programmed IR Database				Ctrl+3
4. Learn IR				Ctrl+4
5. Punch Through				Ctrl+5
6. Macro Programming				Ctrl+6
7. RF Control				Ctrl+7

Adjusting Signal and IR Output Options

The RF Setup window enables you to adjust the properties of RF Control by clicking on the intersection of a row and a column and then selecting from the pull down list box the property you want. All of your devices are displayed. You can set each device individually to be controlled by clicking on the cell you want to change. After clicking, a list box of options will appear.

SIGNAL controls how the MX-3000 will send commands:

   IR and RF - Both RF signals and IR commands are sent from the MX3000. The RF signals will also be issued as IR commands by the MRF-250.

   IR - Only IR commands are sent from the MX3000, as a result the MRF-250 does not send any commands.

   RF - Only RF signals are sent from the MX3000, as a result only IR commands from the MRF-250 are received by the device.
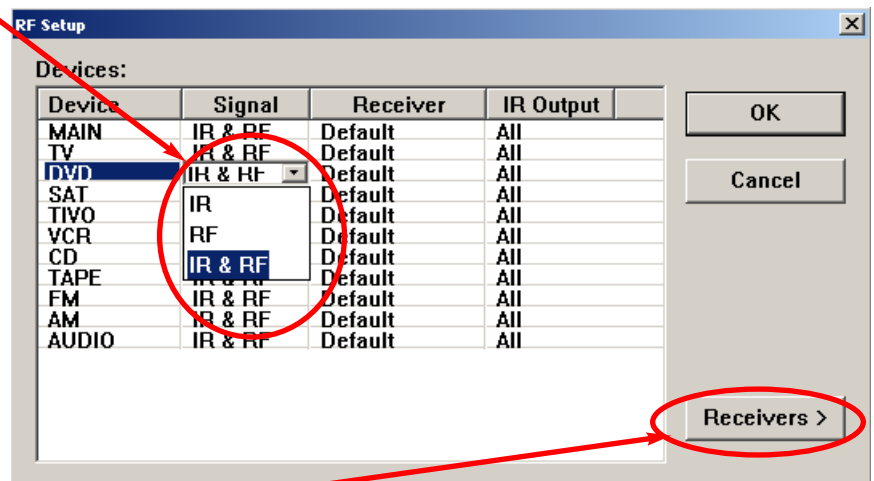
RECEIVER enables you to select which MRF-250 receiver will receive the commands for this device. Thus, you can send commands to a device in another location via a second MRF-250 placed in that location (up to 16 in one house).

Note: In a system with only one MRF-250 receiver, this does not need to be adjusted.

USING MX3000 EDITOR TO PROGRAM
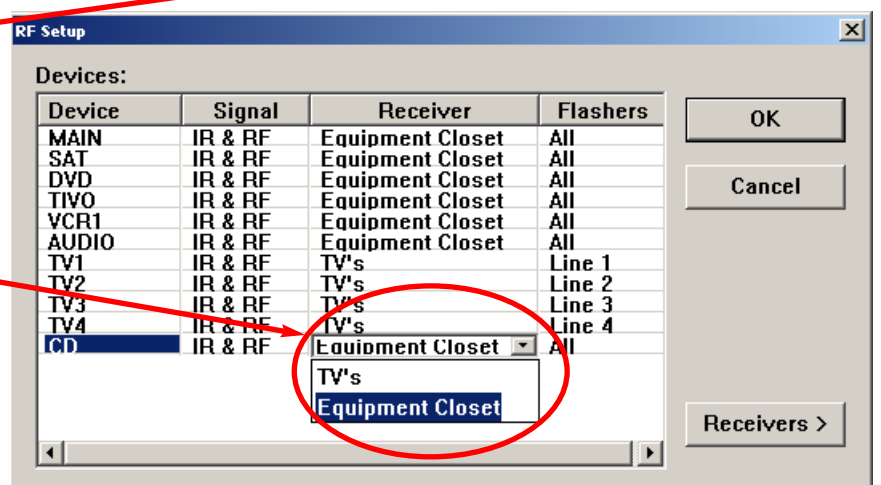
IR OUTPUT controls the Line Outputs for Flashers affixed to the front panels of components. You can opt to either send IR Commands to:

ALL - The commands are sent to all of the Flashers

1-6 - Just the specified Flasher receives the IR commands (Useful when identical TV's or VCR's are utilized in the system)

RF Setup

Devices:

Device	Signal	Receiver	Flashers
MAIN	IR & RF	Equipment Closet	All
SAT	IR & RF	Equipment Closet	All
DVD	IR & RF	Equipment Closet	All
TIVO	IR & RF	Equipment Closet	All
VCR1	IR & RF	Equipment Closet	All
AUDIO	IR & RF	Equipment Closet	All
TV1	IR & RF	TV's	Line 1
TV2	IR & RF	TV's	Line 2
TV3	IR & RF	TV's	Line 3
TV4	IR & RF	TV's	Line 4
CD	IR & RF	Equipment Closet	

All
Line 1
Line 2
Line 3
Line 4

OK

Cancel

Receivers >

Adding MRF-250 Receivers, Conguring ID#'s and Front Blasters

To add a new receiver to the list, to change the Receiver ID# of your existing receiver or to enable/disable the Front Blaster, click on the Receiver button of the RF Control window.
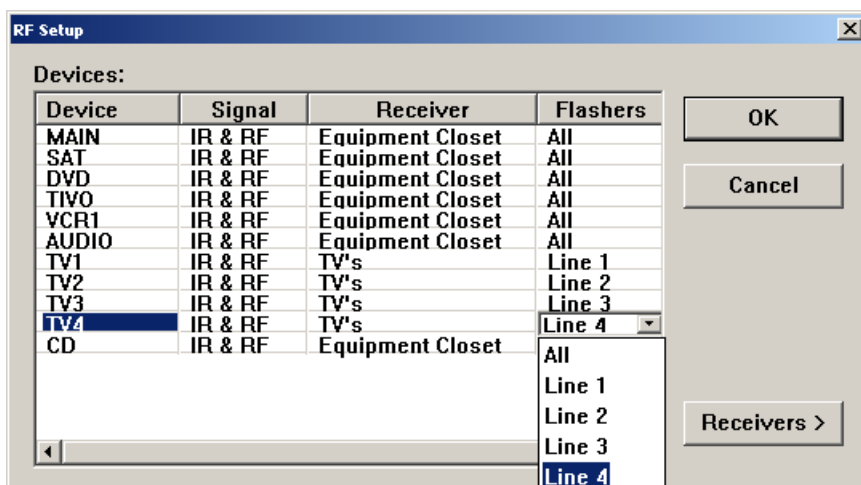
After pressing the Receivers button, the RF Control Window will enlarge revealing the Receiver configuration options. Again, you click on a cell to adjust.

RF Setup

Devices:

Device	Signal	Receiver	Flashers
MAIN	IR & RF	Equipment Closet	All
SAT	IR & RF	Equipment Closet	All
DVD	IR & RF	Equipment Closet	All
TIVO	IR & RF	Equipment Closet	All
VCR1	IR & RF	Equipment Closet	All
AUDIO	IR & RF	Equipment Closet	All
TV1	IR & RF	TV's	Line 1
TV2	IR & RF	TV's	Line 2
TV3	IR & RF	TV's	Line 3
TV4	IR & RF	TV's	Line 4
CD	IR & RF	Equipment Closet	All

OK

Cancel

Receivers <

The Receiver ID cells enable you to change the ID# of each receiver, so that commands for one will be ignored by the other if set to different ID's.

Note that in this system, the MRF-250 in the equipment closet is set to ID#2 and the MRF-250 connected to the identical TV's is set to ID#1.

Receivers:

Name	Receiver ID	IR Blaster
TV's	ID 1	OFF
Equipment Closet	ID 2	ON

ON
OFF

Add

Rename

Delete

If you want the Front Blaster turned OFF on any receiver, reset it by clicking on the correct CELL and selecting OFF.

NOTE: In some installations, the MRF-250's Front Blaster is so powerful that it can overload nearby components and give poor or intermittent operation. Try re-positioning the MRF-200 to reduce the power flooding the cabinet or turn the Front Blaster off.
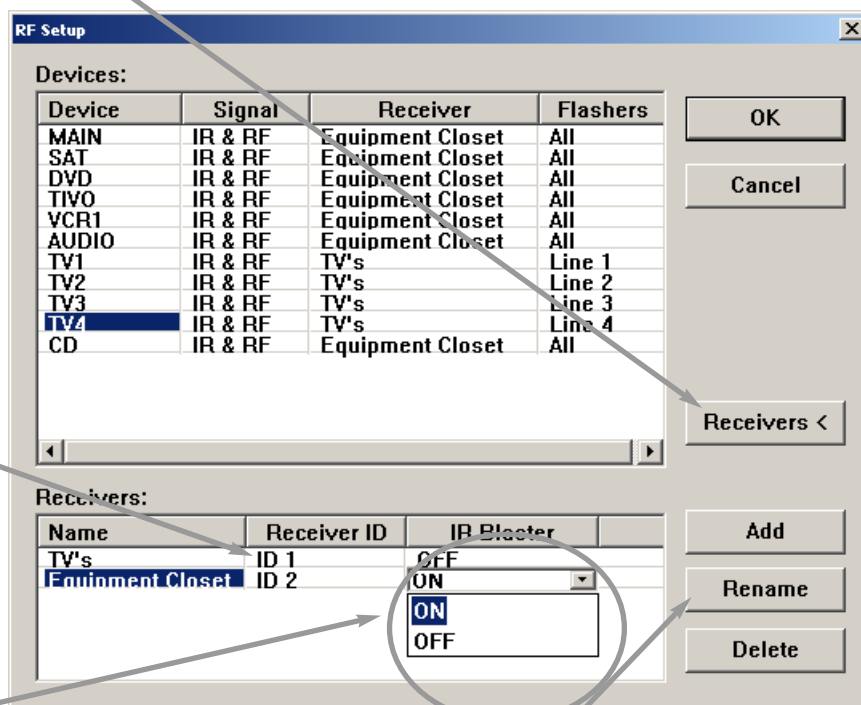
You may rename a receiver to something more descriptive by first selecting the receiver's name cell, then clicking on the Rename button.
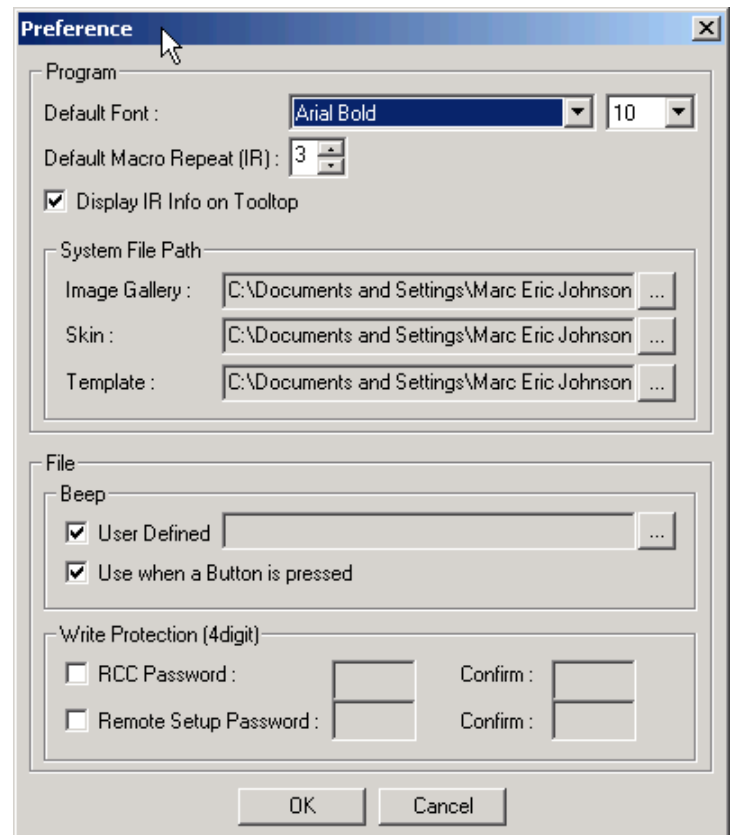
Rename

Enter new name:

Downstairs

OK   Cancel

Universal Remote Control®
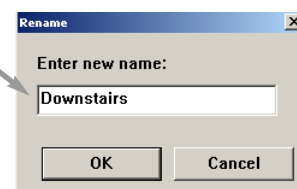
Setting Up the MX-3000 Defaults

1 Open theRemote Control System Setup window by clicking on the shortcut button on the toolbar or selecting it from the Communications Menu.

2 Enter the amount of time you would like the backlighting to stay on (after a button is pushed) for both settings, on battery power and on the cradle.

3 Adjust the brightness and the sound volume to your taste.

4 Set the backlighting of the hard buttons in the Button Light section.

5 Set when the MX-3000 should give a low battery warning.

6 Set the pickup sensor on or off.

7 Save the settings or download them to test.
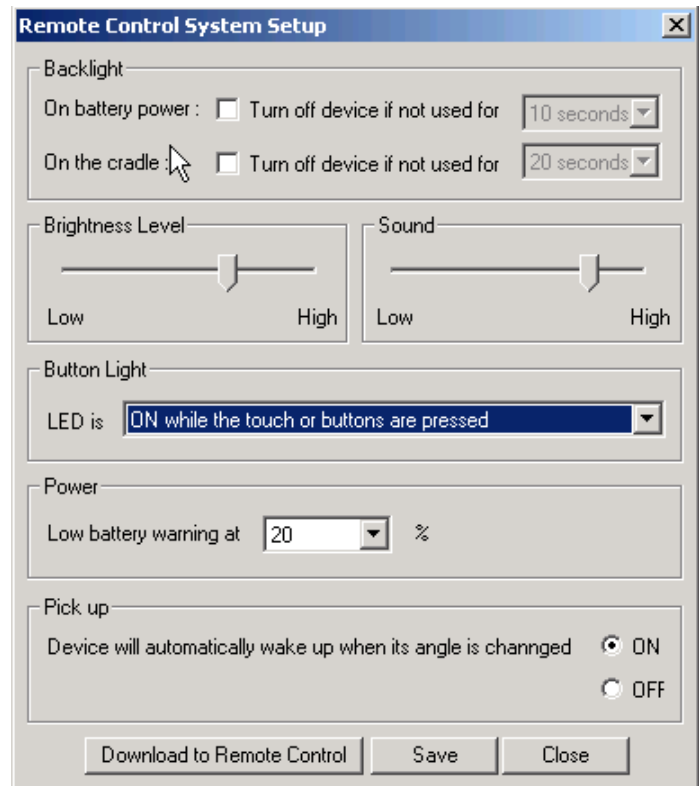
Setting Up the MX-3000 User Preferences

1 Open the Preferences window by clicking on Preference in the File menu.

2 If you would like to change the default font for your buttons, select it here.

3 If you would like to speed up macros, lower the Default Macro Repeat. Most components need only 1 burst. However some brands (most noteably JVC) require 3 bursts. By lowering the default # of repeats, you speed up your macros dramatically.

4 If you have created your own gallery, skin or template, you can set it as the default here.

5 Set your default beeps for all buttons.

6 If you wish to write protect the system, so that no other installer can edit your file, enter passwords to both fields.

7 Click on OK to save your settings.

MX3000 TOUCH SCREEN REMOTES

HOME THEATER MASTER®
Entertainment Made Simple™

USING MX3000 EDITOR TO PROGRAM

Downloading to MX-3000

You download to the remote control by:

1. Make sure the remote control has charged batteries.

2. Connect the cable between the PC and the remote control.

3. Verify that the file you have open in MX-3000 Editor 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. Do not move the mouse or touch the keyboard during the 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 jobsite with an existing MX-3000 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 customer's remote.

1. Make sure the remote control has charged batteries.

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 is complete, save the file with a new file name.

Using MX-3000 Tools

MX-3000 Editor incorporates some useful tools for custom installers who like to organize their work, so that each new job gets easier than the last. You can create your own custom image or sound galleries and easily switch between them. You can make a record timer of any macro. Just head up to the Tools Menu and experiment.

Using Make My IR Database

The IR database used for the Editor is huge and contains thousands of brands and models. Sometimes the size of the database can slow you down as you scroll past all the brands you don't ever install. You can easily create your own database of just the brands and models you like by choosing Make My IR Database from the tools menu.

1 Select the code sets you need on the left.

2 Click on the right facing arrow to transfer a code set to your IR database.

3 Continue to work through the database and transfer any code set to your database.

4 After you have finished, click on OK.

5 To use your IR database during programming simply open the normal Database window from the Program Menu then choose Use My Database on the top radio buttons.
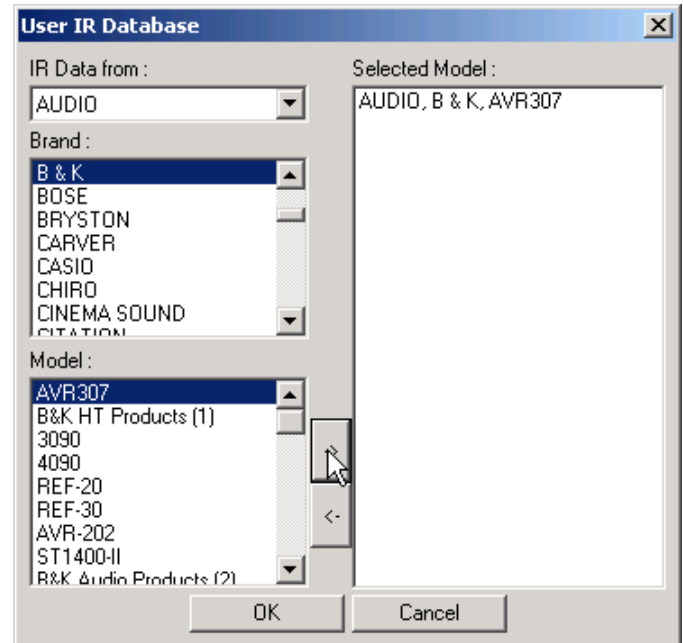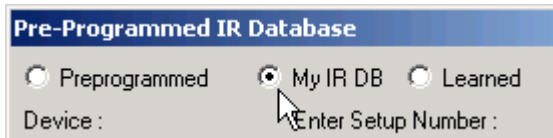
Note that the IR Database window also enables you to search the Embedded Learned IR codes and drag them to any button as easily as you drag an IR database command.

Using The Emulator

Instead of downloading to the remote, you can check your work with the Emulator. Simply choose Run Emulator from the Tools Menu and your current configuration will be loaded and displayed in a real working PC screen mockup. You can test all of your navigation and check for any problems without downloading to the remote control.

To close the emulator, right click on the emulator and choose Exit.

If you would like to test the IR codes, right click and choose IR Test.

If you would like to watch macros, right click and choose show action list.

HOME THEATER MASTER®
Entertainment Made Simple™

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 99 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 MENU Activity Macros with the Macro Window in PRESS Mode and the option bar set to AFTER . This ensures that the client will have to Press and Hold the button to issue the Macro.

- With the option bar set to BEFORE, program a jump to the device only.

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

One Button Issues Two Different Macros

Since you can program 255 steps in either the BEFORE or the AFTER macro, you really have complete freedom to program anything you can think of.

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. All you need to do is create some extra pages and place big buttons with text or graphics or even animated graphics on each page. Insert jumps to the appropriate pages in your macro and the result is that the client sees a slide show with your messages on it as the macro plays back. You can do a smaller version, by programming text in the macro itself, text shows up only on the button, so may not be visible enough for 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 sell components without discrete codes! When the manufacturer of a cool new product blows it and incorporates hard to use, but vital features!

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

TOAD - TV Input "Scrolls" or "Toggle" and has no Workaround

When you have a component that is difficult 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 MX3000 Editor 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:

Using Variables for Toggle Only Actuated Devices

The key to using this technique is reliable RF communication between the MX-3000 and the MRF-250 base station. If the MRF-250 is placed carefully, and is getting no RF interference, the variable technique is very reliable. Fundamentally, you are going to program the MX-3000 to remember that the component is on or off, and only issue the toggle type Power command when needed. The system can get out of sync if the client turns on the TV with another remote control or by hand.

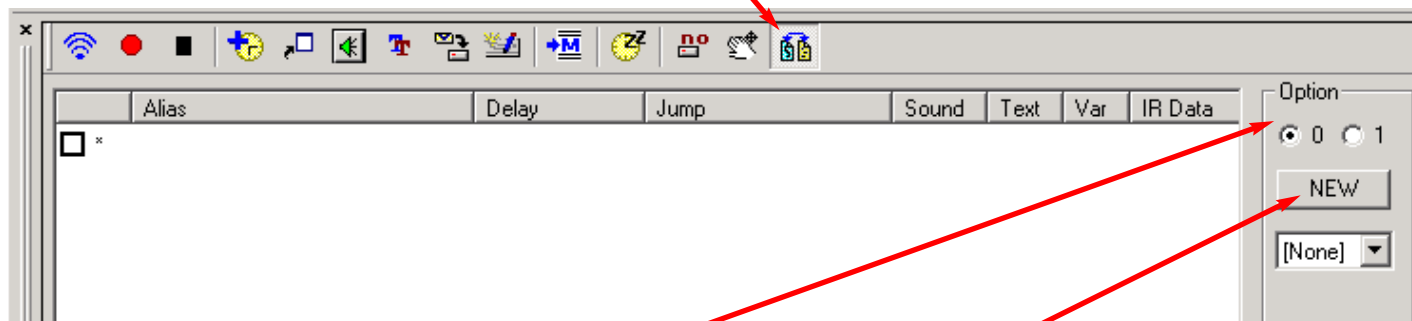**1** Create a new device and name it Power Tracking. Add a page to it.
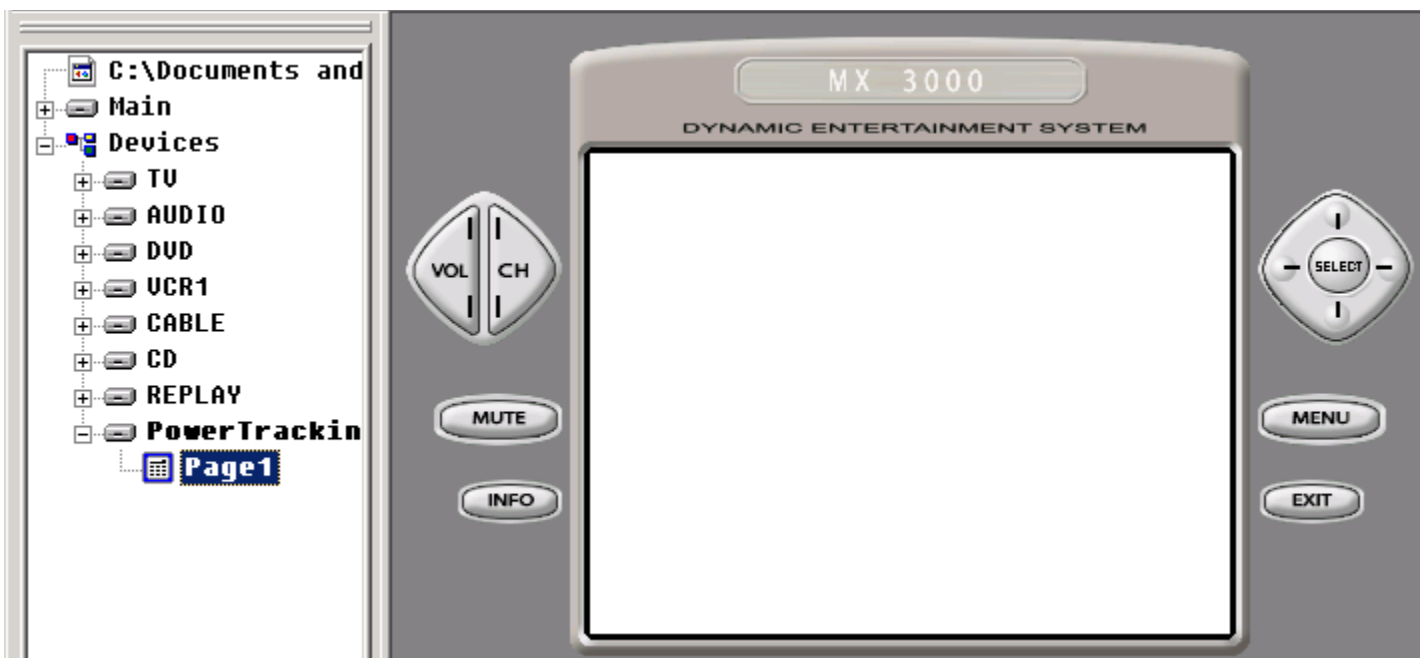
2 Drag a button from the image gallery onto the page. Label the button for the component. We'll call our example TVPowerOn.
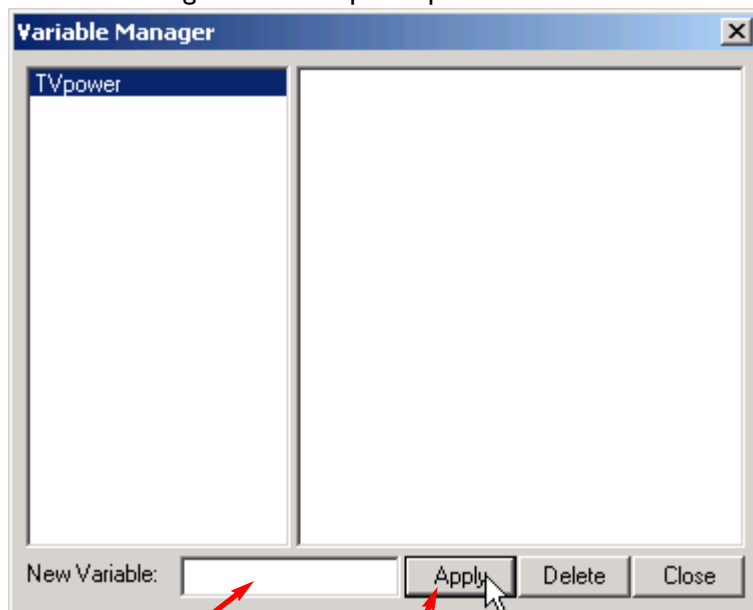
3 With the TVPowerOn button SELECTED, click on the VARIABLE MODE button.

4 The Variable Option bar appears.

5 Click on the NEW button in the Variable Option bar.

6 The Variable Manager window opens up.

7 Type in TVpower and click on Apply, then Close the Variable Manager.

8 Click on Option 0 in the Option bar. Select the variable TVPower from the list box.

9 Program the toggle TV Power command as the only step in the 0 macro.

10 Double click the Set Variable button on the macro toolbar or double click on a cell in the VAR column. The Variable window will open.

11 Select the TVPower variable from the list and click on the 1 radio button (in the macro, you just issued the power command and turned on the tv, so you are setting the variable to 1 (tv is on). Then click OK.

12 Click on Option 1 in the Option bar. Select the variable TVPower from the list box. Don't program any IR commands in the Option 1 macro. It should do nothing.

13 Save your work, choose Save from the File menu. Now it is time to create a second button, called TVPowerOFF, repeat steps 8-12 but program the TVs toggle power off command in Option 1, then set the TVPower variable to 0. With this button, you program nothing in Option 2. Save your work. You have just programmed two discrete commands from a toggle! To implement, simply alias to the TVPowerOn button in any macro where you want to check that the TV is on, and alias to the TVPOwerOff button when you want to check that the TV is powered off. The client must be trained to never use any other remote control or to turn on the TVby hand.