

MCS5

USB Media Control Station



User Manual

JL COOPER ELECTRONICS

MCS5 User Manual
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Installation

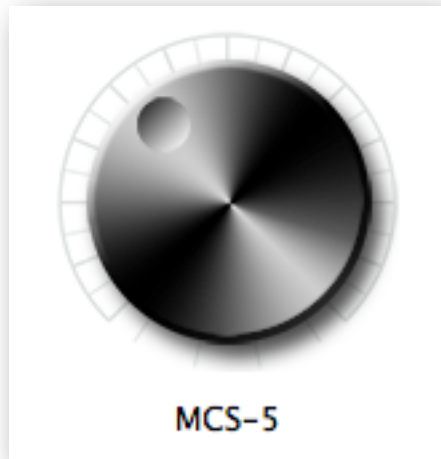
Connect the MCS5 to a USB port on your Mac, or to a powered USB hub connected to your Mac.

After downloading and double-clicking the **Install_MCS5_USB.dmg** file, you should see the following window:

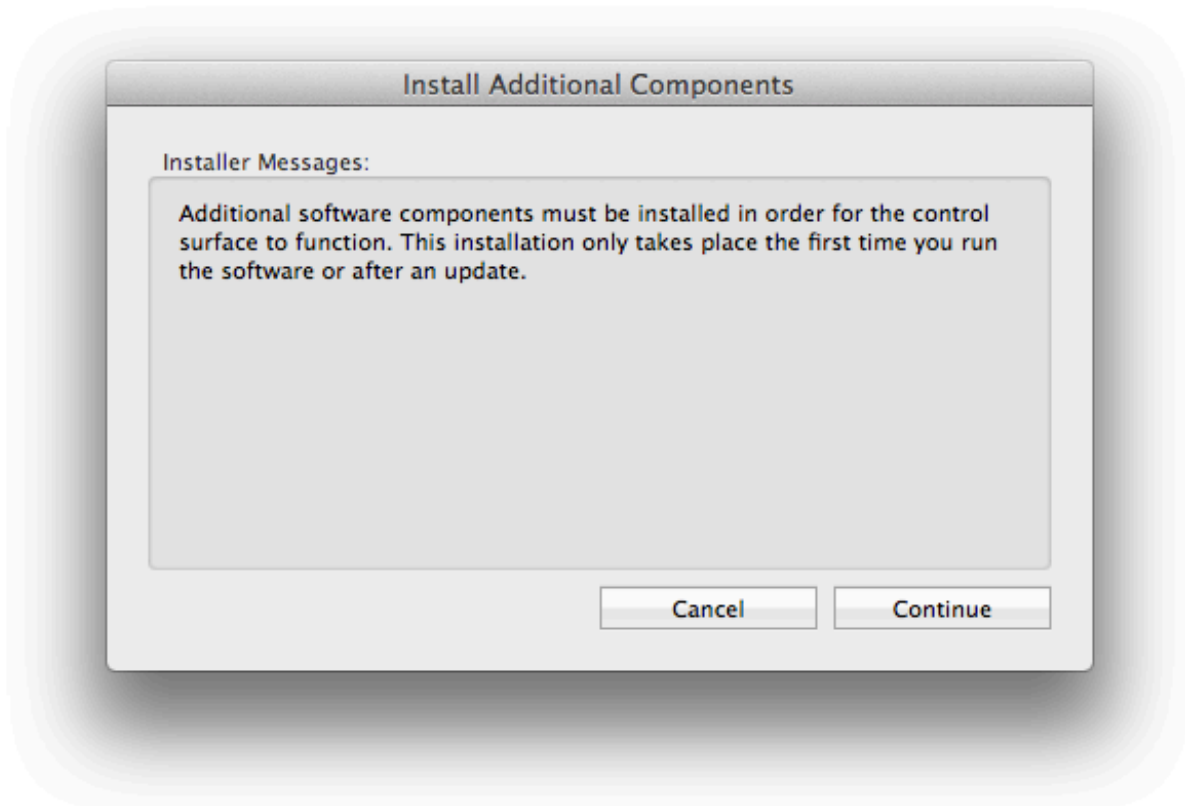


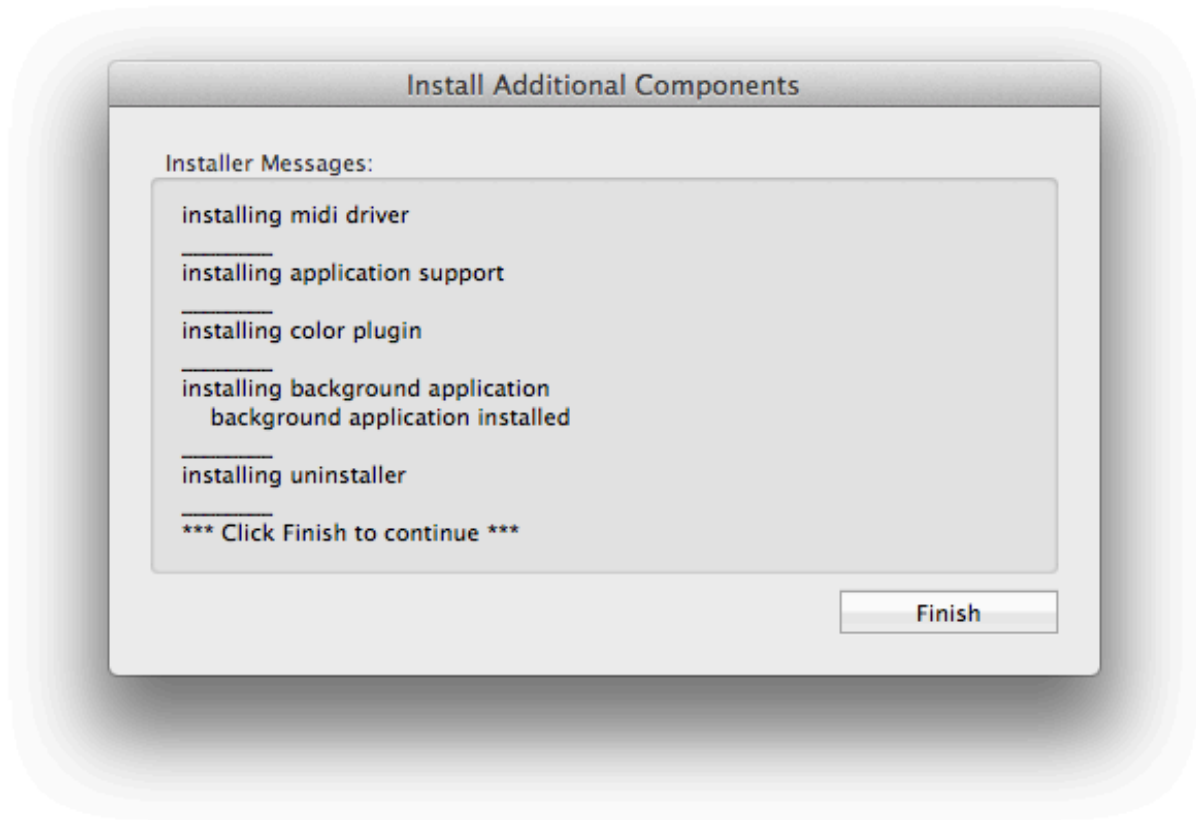
Drag the icon labeled **MCS5 USB Software** over the icon labeled **Applications alias** then release the mouse. This will cause the Finder to copy the MCS5 software to your **Applications** folder.

Once the copy is complete, open the /Applications/MCS5 USB Software/ folder and double-click on the **MCS5 USB** application.



If this is the first time you are installing this software, or if you are installing a newer version, an installation dialog will appear. Click on **Continue** to finish the installation, or **Cancel** if you want to finish it the next time you run the **MCS5 USB** application. The installation must be completed before the MCS5 software will be fully functional.





Once all the software components have been installed, click on the **Finish** button.

At this point a connection will be established between the MCS5 software and the MCS5 hardware, and you can start working with the software.

System Setup

The MCS5 software relies on Apple's Universal Access to perform mouse emulation. In order for the MCS5 software to work correctly, certain Universal Access settings must be enabled. This is accomplished in different ways depending on which version of Mac OS X you are running.

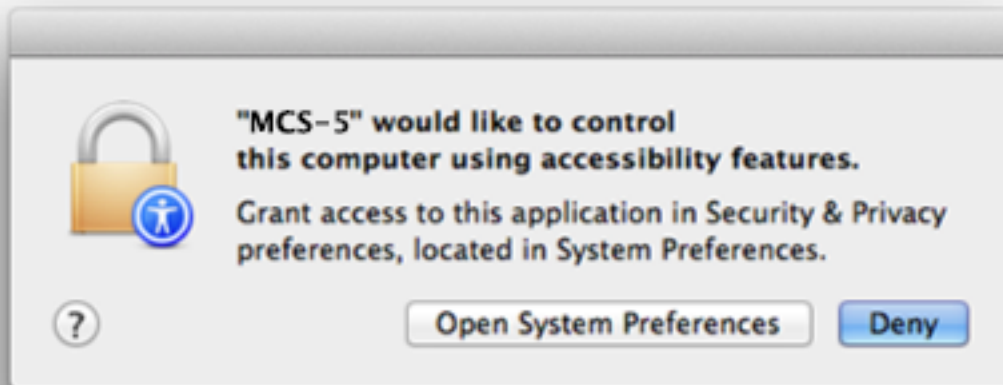
Mac OS X 10.9 (Mavericks)

You don't actually need to change any **Accessibility** settings before starting to use the MCS5 software. In fact, you can't change them before using the software. Just start using the software and Mavericks will let you make the changes the first the time they are needed. Following is a description of how this will happen.

Previous versions of Mac OS X had a setting called **Enable access for assistive devices** which was found in the **Universal Access** pane in **System Preferences**. This setting has been moved and renamed. It also has to be set for every application that makes use of Universal Access features.

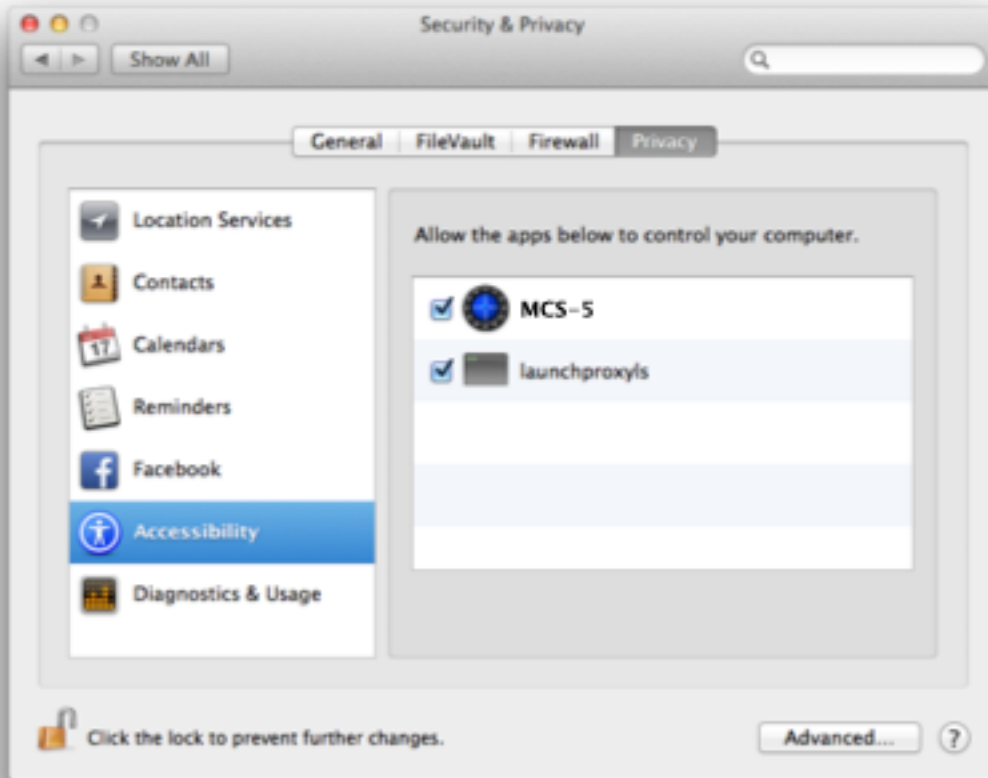
This setting is now found in the **Security & Privacy** pane in **System Preferences** under the **Privacy** tab. When you click on **Accessibility** in the left-hand column, the applications that are allowed to use the Accessibility features will appear in a list on the right.

Initially, the list will probably be empty. An application is only added to the list if it tries to use an Accessibility feature. When that happens the OS will display a dialog box similar to the one below.



Click on **Open System Preferences**. System Preferences will open to the **Security & Privacy** pane and **Privacy** tab with **Accessibility** selected. The application will appear in the list on the right. Make sure the checkbox next to the application's name is checked.

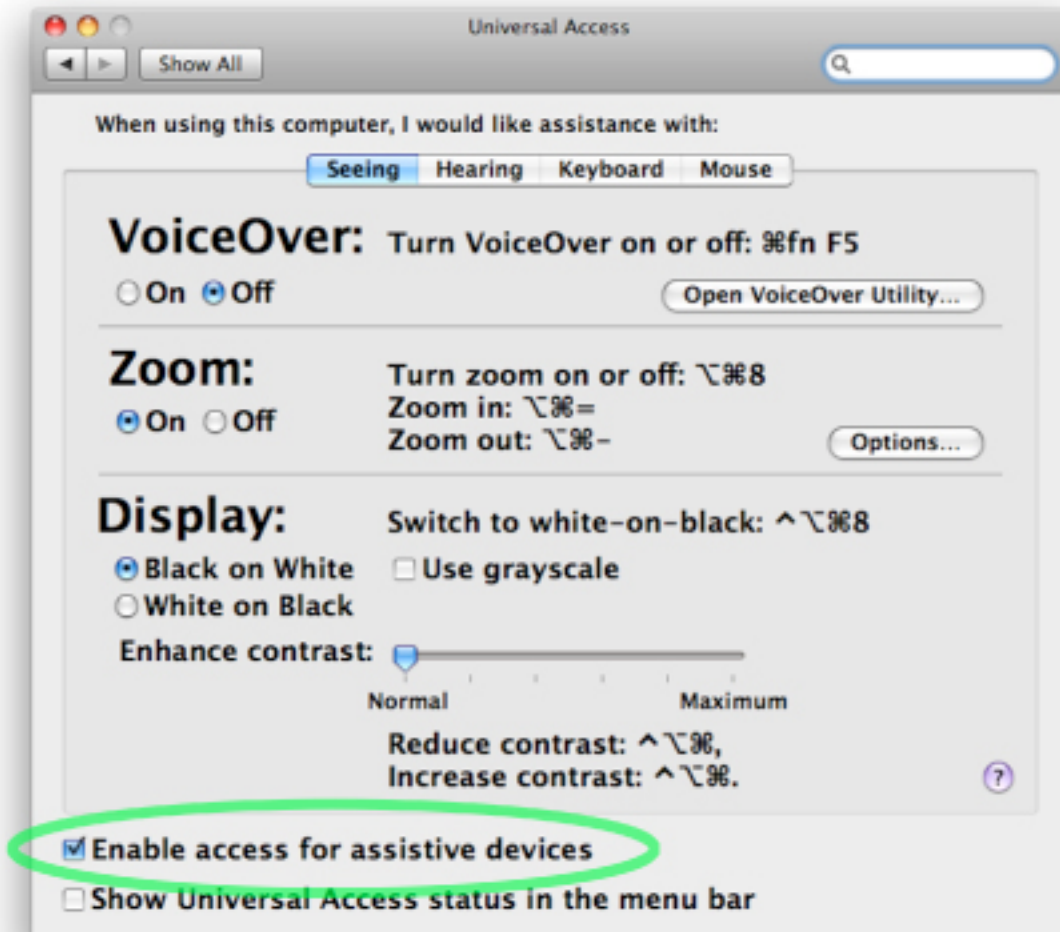
There are two applications that need to appear in this list in order for the MCS5 software to function correctly. The first is the **MCS5** application. The "**MCS5 would like to control this computer...**" dialog should appear right after you click the **Finish** button. Then you will be able to add the application to the list.



The other is MCS5USBBBackground. It will actually appear in the list as **launchproxyls**. It will be added to the list the first time the MCS5 software tries to perform a mouse action or certain **Built in Commands**.

Mac OS X 10.7 (Lion) and 10.8 (Mountain Lion)

The MCS3 software relies on Apple's Universal Access to perform mouse emulation. In order for the MCS3 software to work correctly under Mac OS X 10.7 and 10.8, you **must** open **System Preferences** and go to the **Universal Access** pane. Make sure "**Enable access for assistive devices**" is checked then quit **System Preferences**.



Introduction to the MCS5 USB Hardware

The MCS5 is designed to always communicate with a host application or device.

The MCS5 consists of 5 Transport buttons, a Jog wheel and 8 application defined buttons (App Buttons), situated four above and four below a two line 23 character LCD screen.

There are actually two banks of App Buttons, Bank 1 (buttons A-1 to A-8) and Bank 2 (buttons B-1 to B-8). The banks are switched by the Bank buttons on either side of the LCD display. Both buttons behave identically. The first time either one is pressed, the MCS5 switches to Bank 2. When either one is pressed a second time, the MCS5 returns to Bank 1. "Bank 1" or "Bank 2" briefly appears on the LCD whenever banks are switched.

The App buttons can have labels assigned to them, and under normal operation, these labels are displayed on the LCD screen. However, the host application can display arbitrary text on the screen instead of labels.

Introduction to the MCS5 USB Software

The MCS5 Software enables the MCS5 hardware's ability to control various applications running on your Macintosh™. It does this by communicating with applications via MIDI and other messaging protocols built into the Mac OS. It can also simulate mouse clicking and dragging, keystrokes and can even emulate other control surfaces if necessary.

Keysets

The MCS5 software uses "keysets" which are sets of various actions that are taken when MCS5 controls are pressed or turned. Different keysets can be applied to different applications, and the MCS5 will choose the correct keyset for whichever application is in the foreground. If no keyset has been created for the current foreground application, the MCS5 will use a built in keyset called the "Default" keyset.

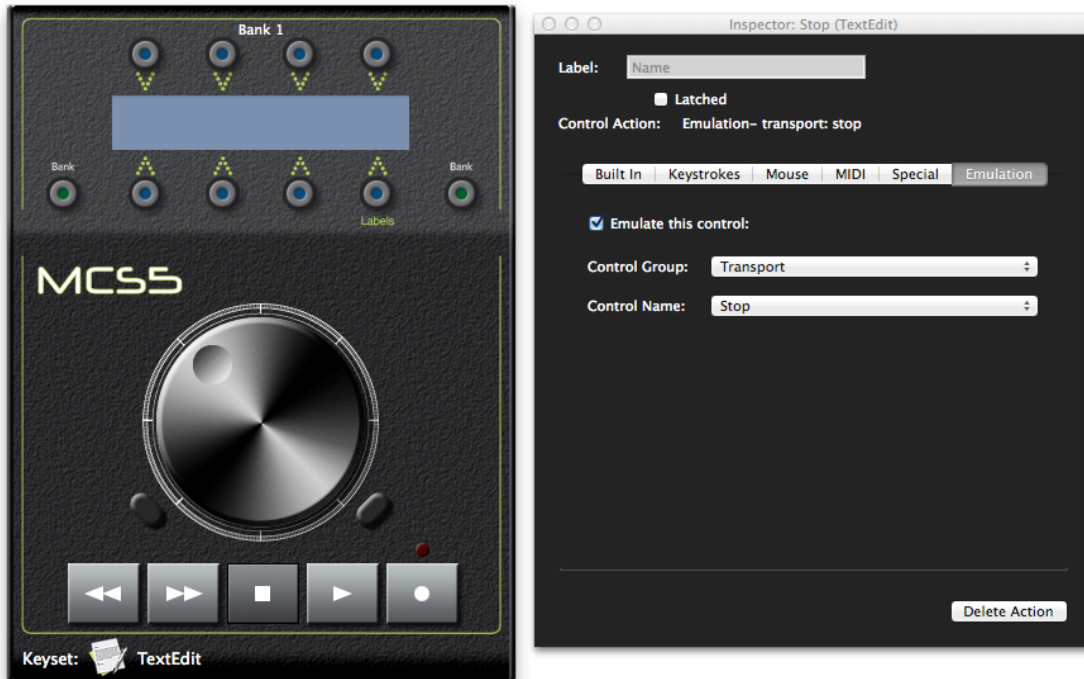
To create or edit MCS5 keysets, open the application, "**MCS5**". To create a new keyset, choose **New Keyset** in the **File** menu and navigate to the application that will use the new keyset. You can also use **Import Keyset** from the File Menu to get an existing keyset. Keysets that ship with the MCS5 are located at /Applications/MCS5 USB Software/keysets/. You only need to use **New Keyset** or **Import Keyset** once for a given application. After that, keysets are stored with the MCS5 software's preferences.

You can use **Export Keyset** from the **File** Menu to save a copy of a keyset so it can be transported to another Mac or archived for safekeeping. You don't need to use Export in your daily use of the MCS5. As previously pointed out, your changes are added to the MCS5 software's preferences file automatically.

There are several sample keysets included in this package, including ones for Final Cut Pro™, Final Cut Pro X™ and Logic™ and Premier Pro™.

Editing Keysets

The application presents a graphical representation of the MCS5 front panel. When you click on an on-screen control (or move a control on the MCS5 itself), that control is selected and information about it appears in the floating **Inspector** window.



You can choose which keyset to edit within the **MCS5** application using the **Keysets** menu. The menu lists all keysets that you have created or imported. The name of the currently selected keyset will be displayed at the bottom of the main window.

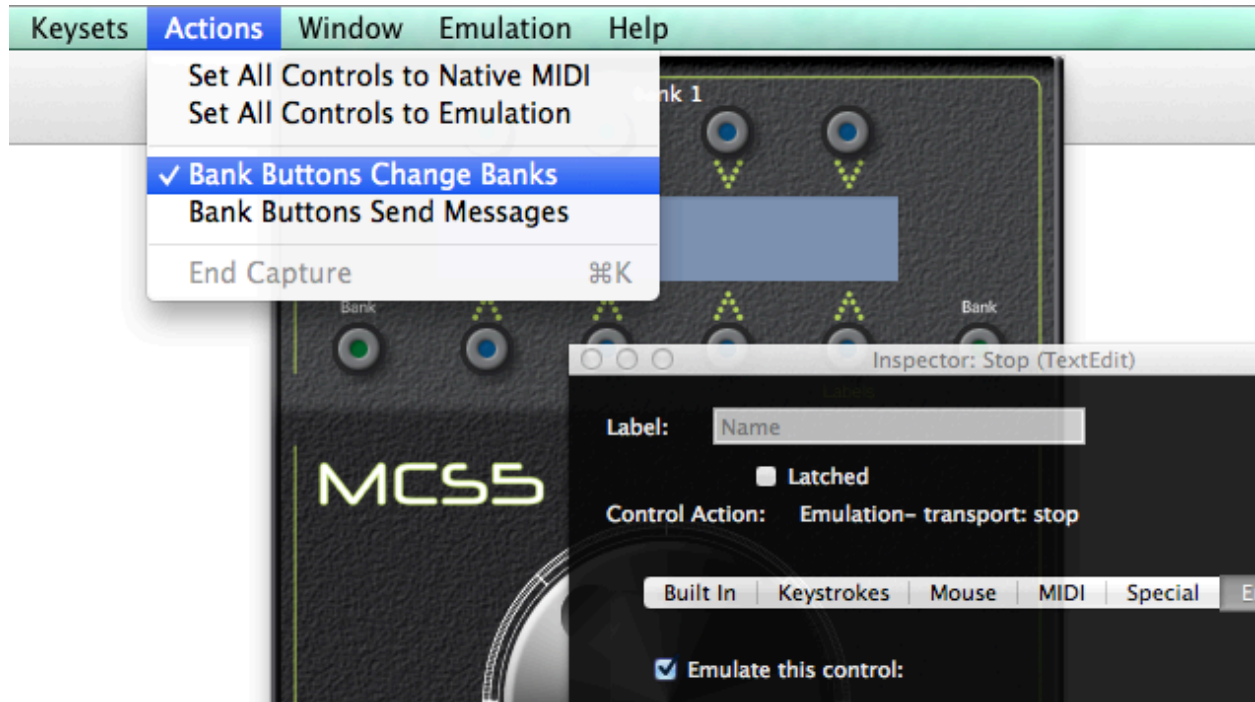


Bank Buttons

The Bank Buttons can be used in two ways. Normally they are used to switch between the two banks of App Buttons. However, some applications may do their own handling of bank switching, and need to know when a Bank button has been pressed or released.

To handle these two situations, the **Actions Menu** has the commands **Bank Buttons Change Banks** and **Bank Buttons Send Messages**. The default setting is **Bank Buttons Change Banks**. When it is chosen, the MCS5 software handles bank switching.

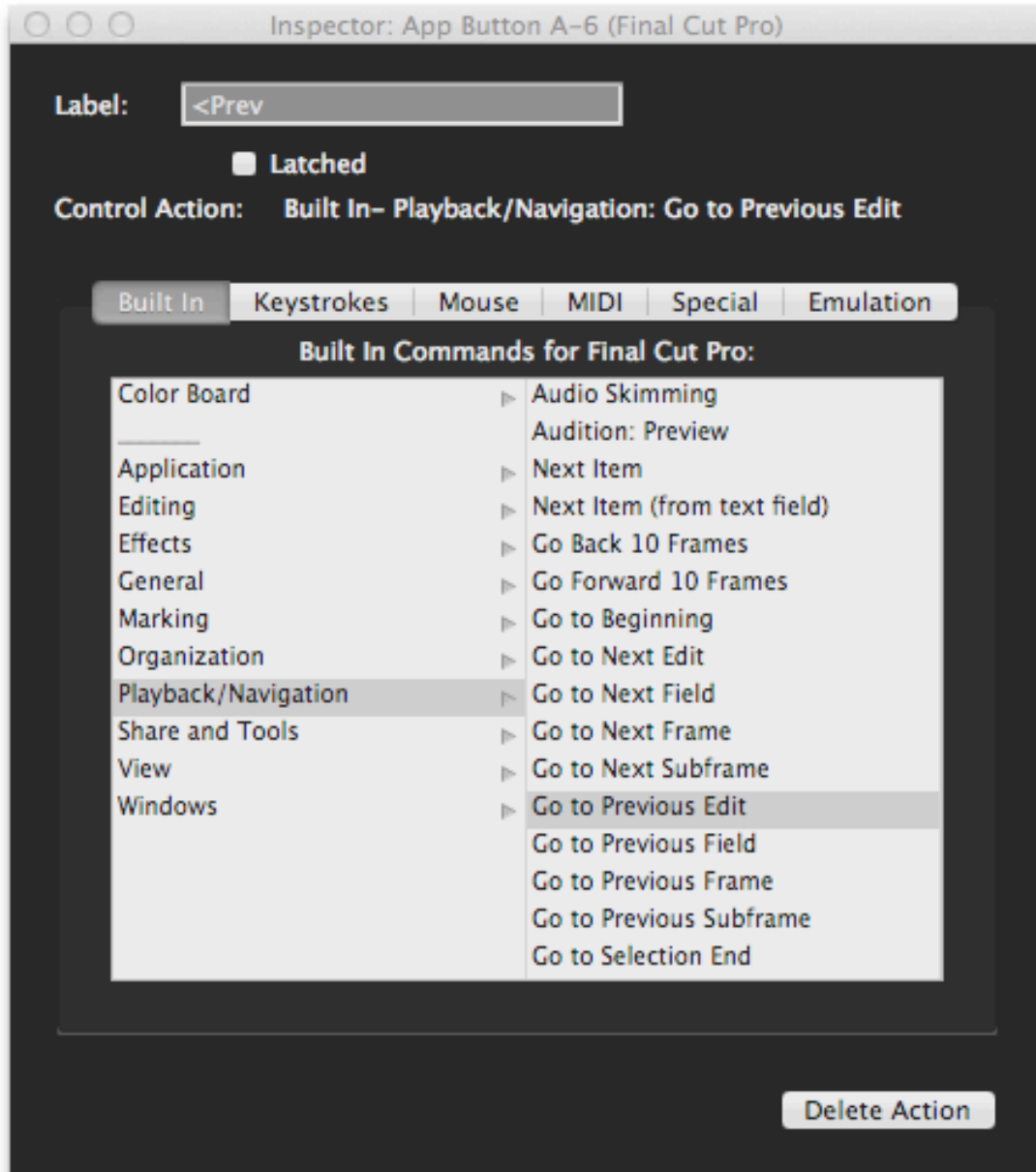
If **Bank Buttons Send Messages** is selected, the Bank Buttons behave like any of the MCS5's other buttons, and do not control bank switching. In this case, it is up to the third party application what happens when these buttons are pressed.



This is a per-keyset setting. That is, it can be different in each application's keyset.

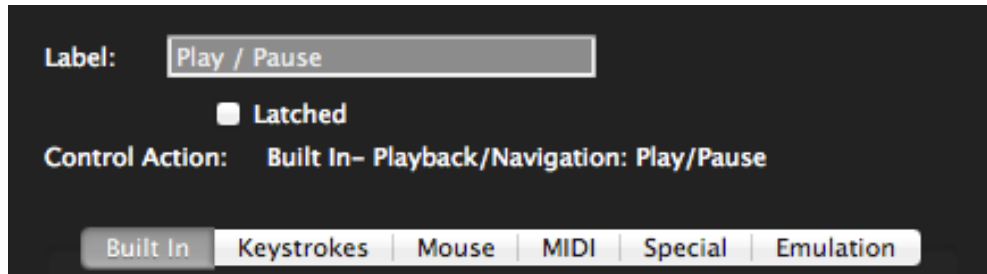
The Inspector Window

The **Inspector** window is where all your work takes place. It displays information about the currently selected control and contains the facilities for editing that information.



The Label text box allows you to give a control a descriptive name. In the example above, “App Button 6” has been assigned the action that **Go to Previous Edit** in Final Cut Pro, and the button has been given the label “<Prev”. The App Button labels are normally displayed on the LCD screen, which makes it easy to remember what functions the buttons perform.

Immediately below the Label field are editing controls that vary depending on what kind of MCS5 control is being edited. If the control is a button, you will see a “Latched” checkbox that lets you choose between a momentary (pressing the button turns it “on”, releasing it turns it “off”) or latched (pressing and releasing it turns it “on” and pressing and releasing it a second time turns it “off”) behavior.



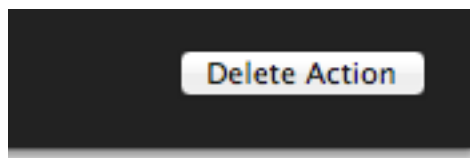
If the selected control is the Jog Wheel, the **Latched** checkbox will not appear.

Next is a description of the action that is to take place when the selected MCS5 control is pressed or turned while the target application is active. Below that is the area where this action can be edited. There are a series of tabs representing the different kinds of actions that can be performed and clicking on one of these tabs will display controls for editing its kind of action. The available actions are **Built In**, **Keystrokes**, **Mouse**, **MIDI**, **Special** and **Emulation**.



Any changes made in one of these tabs are immediately applied to the selected control. The MCS5 software allows multiple levels of Undo, so you can easily get back to any starting point.

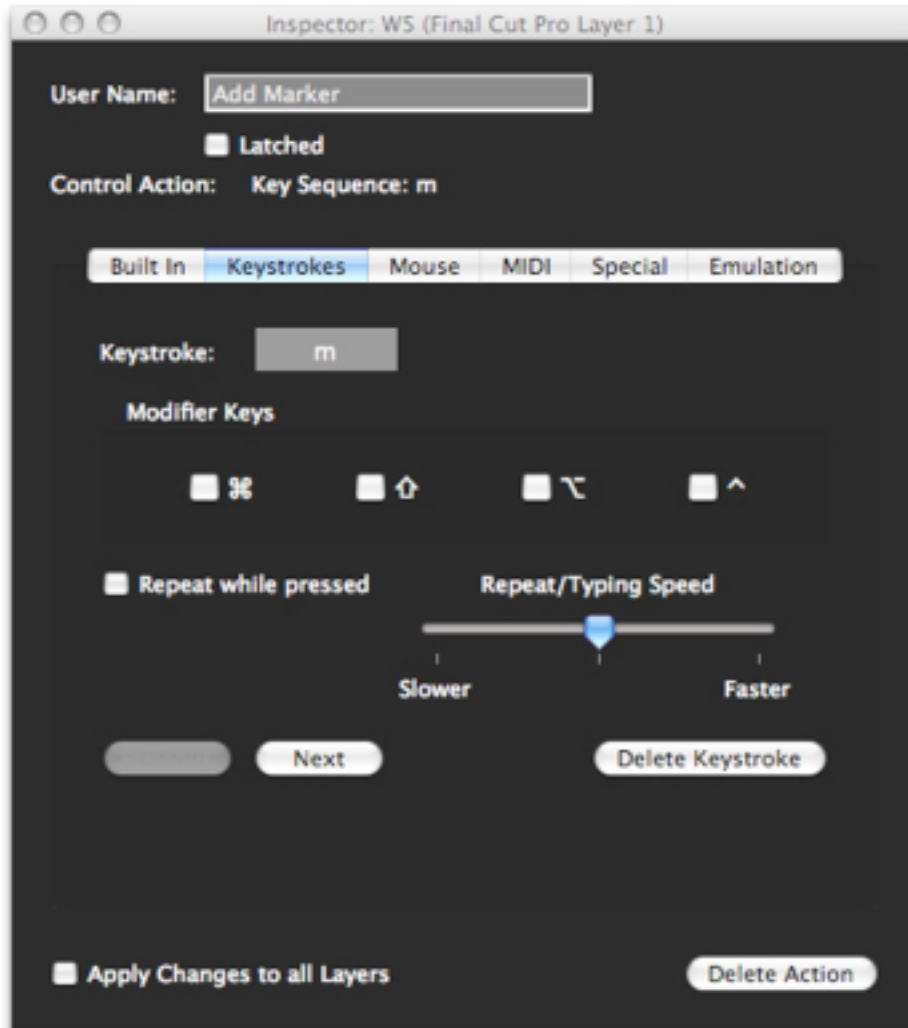
At the bottom of the **Inspector** window is the **Delete Action** button. When pressed it will delete the action currently assigned to the selected control. This is also undoable.



Action Tabs

Keystrokes Tab

The MCS5 controls can be assigned to send a sequence of keystrokes to an application just as if they were typed on the Mac keyboard. These assignments are set up in the **Keystrokes Tab**.



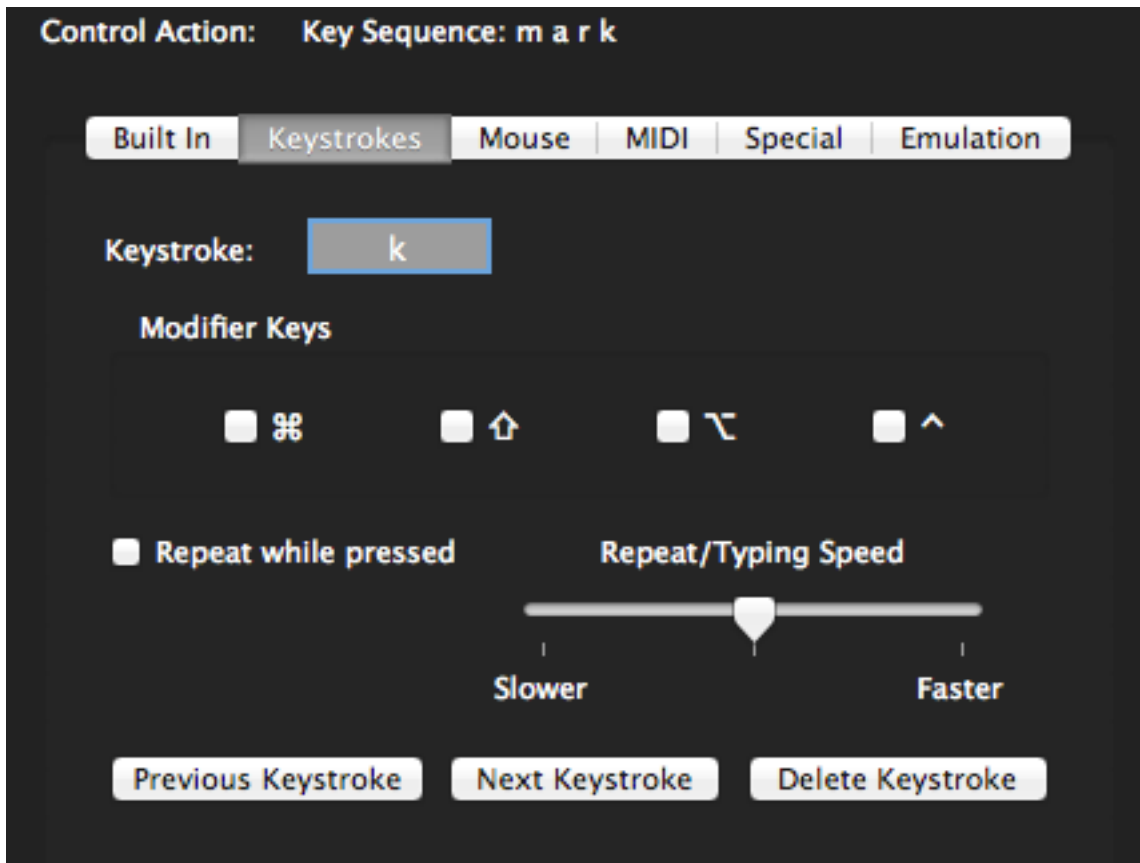
Select a control to edit, place the cursor in the **Keystroke** field and type a key. If you hold down any modifier keys (command, shift, option or control) while typing this key, the modifier checkboxes will be set up accordingly. You can also manually change the modifier checkboxes by clicking on them.

Some key/modifier combinations may be intercepted by the operating system before they reach the **Inspector** window. If this happens, just type the key without any modifiers, then click on the appropriate checkboxes to add the desired modifiers.

To add more keystrokes to the sequence, click on the **Next** button and repeat the above procedure. You can move forwards or backwards in the sequence with the **Next** and **Previous** buttons. The **Delete Keystroke** button will remove the currently displayed keystroke from the sequence.

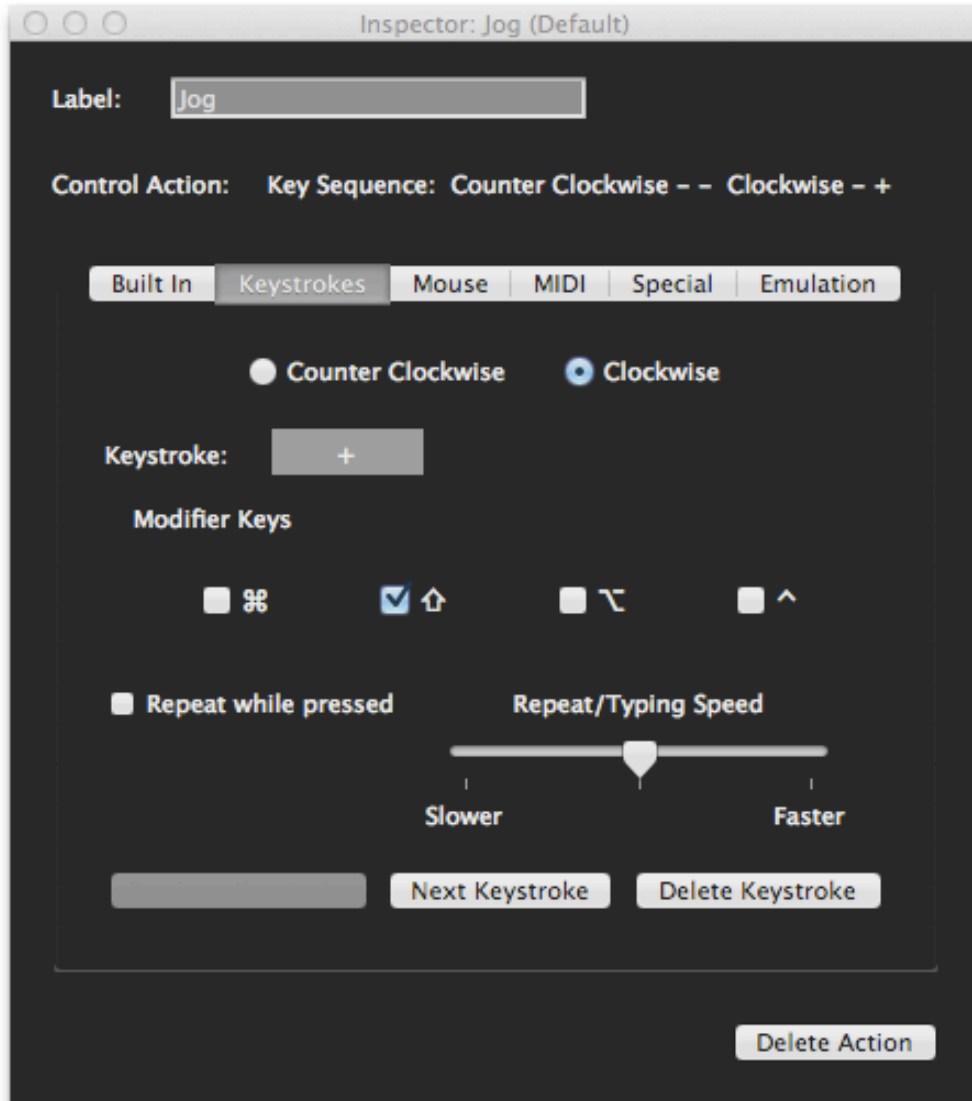
If **Repeat while pressed** is checked, the keystroke (or sequence) will repeat as long as the MCS5 control is held down. The speed of the repeat is controlled by the **Repeat/Typing Speed** slider. This slider also determines how much time there is between keystrokes if the sequence is more than one keystroke.

If the key sequence in the example below was assigned to the **W5** button, pressing **W5** would be the equivalent of typing the word “mark”.



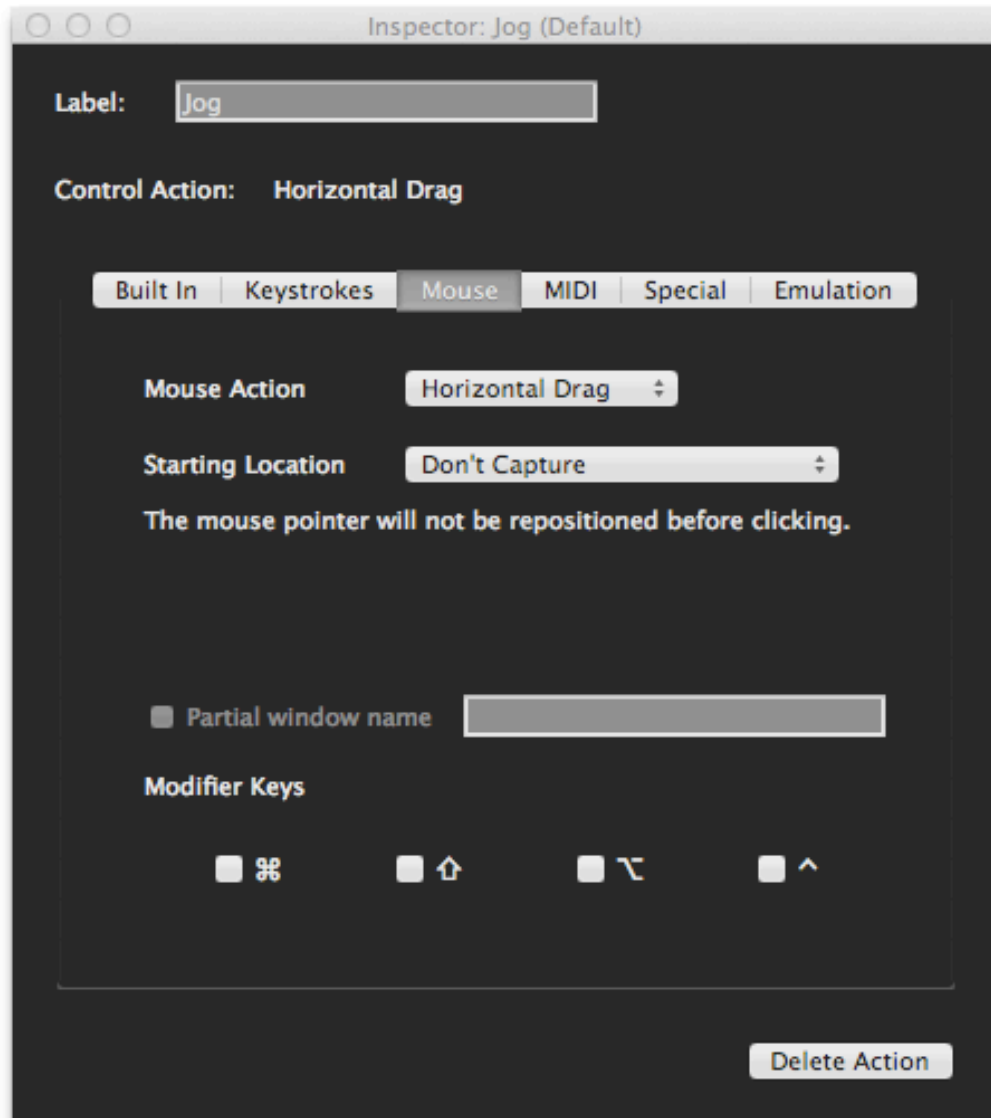
The **Keystrokes** tab will look different if the **Jog Wheel** is selected. For the **Jog Wheel**, different key sequences can be assigned to each direction. Click on the **Counter Clockwise** or **Clockwise** radio button to choose which direction's sequence to edit.

In the example below, a counter clockwise turn would send a “-” and a clockwise turn would send a “+”.

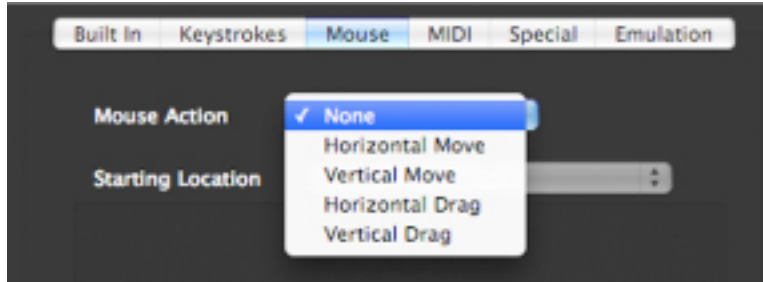


Mouse Tab

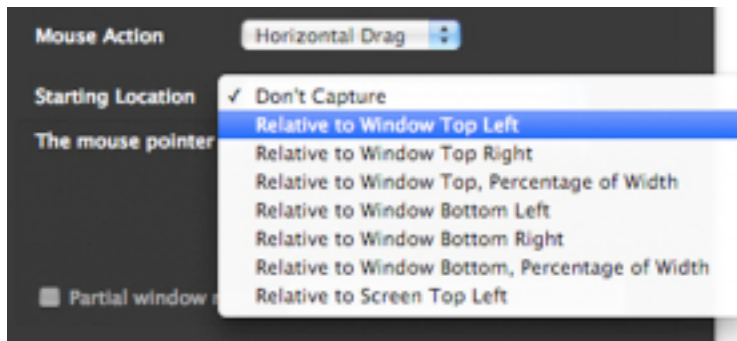
The controls on the MCS5 can be made to emulate the Macintosh mouse. Buttons can perform clicks and the **Jog Wheel** can perform horizontal and vertical moves and drags.



The **Mouse Action** popup lists the actions available for the selected control. For example, if the **Jog Wheel** is selected the popup would look like this:



The **Starting Location** popup lets you choose where the click, move or drag will originate.



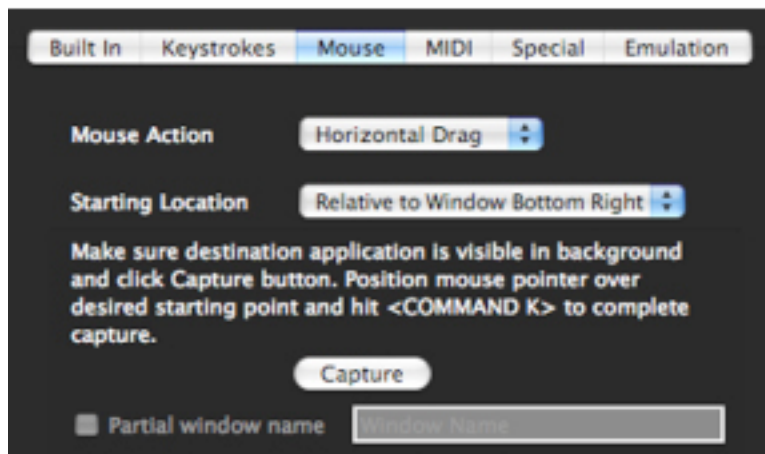
If you choose **Don't Capture**, the mouse action will always begin at the current location of the Mouse pointer. If you choose any other option, you will be prompted to pick a coordinate in one of the target application's windows. The options in this menu determine how the MCS5 will find that coordinate in the event that the destination window has been resized or moved.

Option	When Destination Window is Resized or Moved
Relative to Window Top Left	The start point will stay the same distance from the top left corner of the window.
Relative to Window Top Right	The start point will stay the same distance from the top right corner of the window.
Relative to Window Top Percentage of Width	The start point will stay the same distance from the top of the window, but it's horizontal position will be a percentage of the window's width..
Relative to Window Bottom Left	The start point will stay the same distance from the bottom left corner of the window.
Relative to Window Bottom Right	The start point will stay the same distance from the bottom right corner of the window.
Relative to Window Bottom Percentage of Width	The start point will stay the same distance from the bottom of the window, but it's horizontal position will be a percentage of the window's width..
Relative to Screen Top Left	The start point will stay the same distance from the top left corner of the screen, no matter what the size or position of the window.

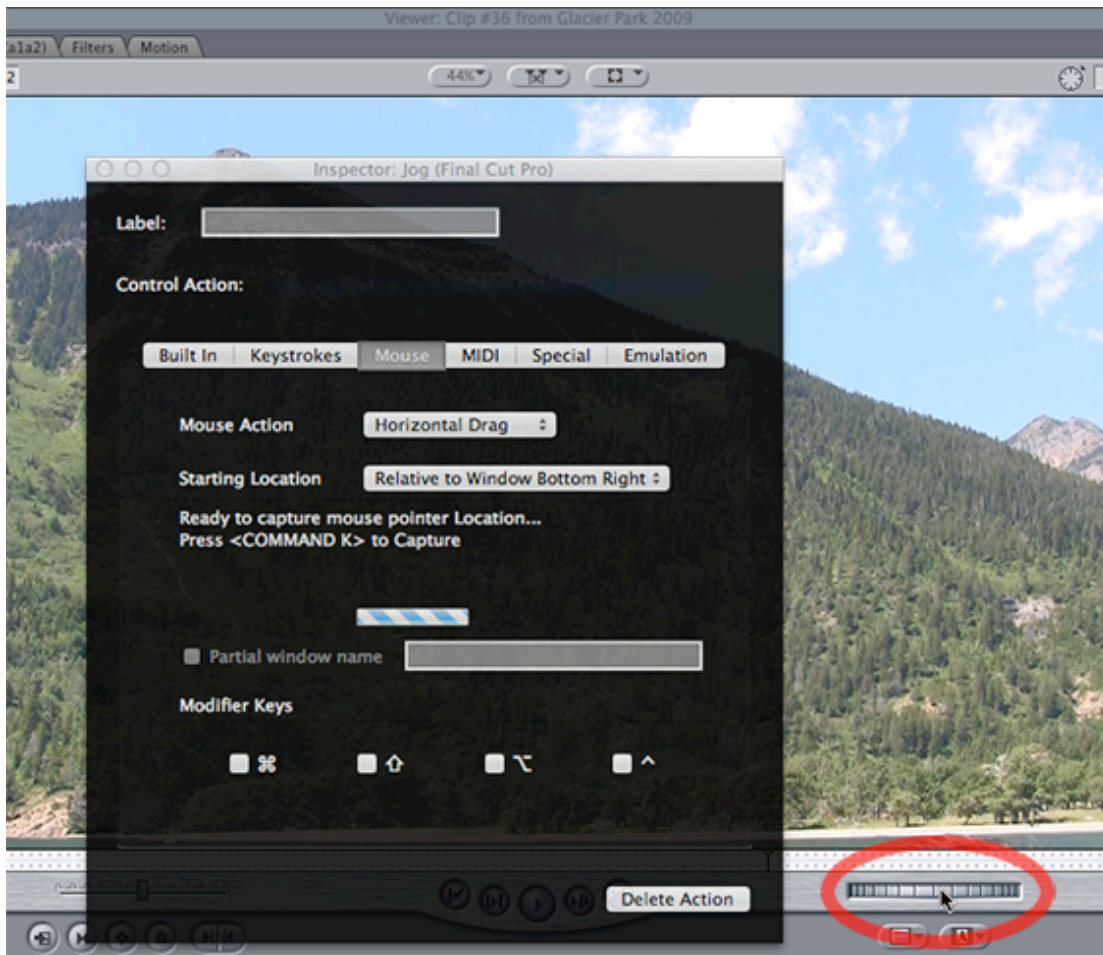
For example, let's say that a particular application has an onscreen jog control in the lower right hand corner of it's Timeline window, and the center of that control is 100 pixels from the right of the window and 20 pixels from the bottom of the window. When the window is resized, the control stays at 100 pixels from the right and 20 pixels from the bottom of the window.

Suppose the only way to access this program's jog function is by dragging this control left or right. You could program the MCS5 **Jog Wheel** to do a horizontal drag starting at 100, 20 **Relative to Window Bottom Right**.

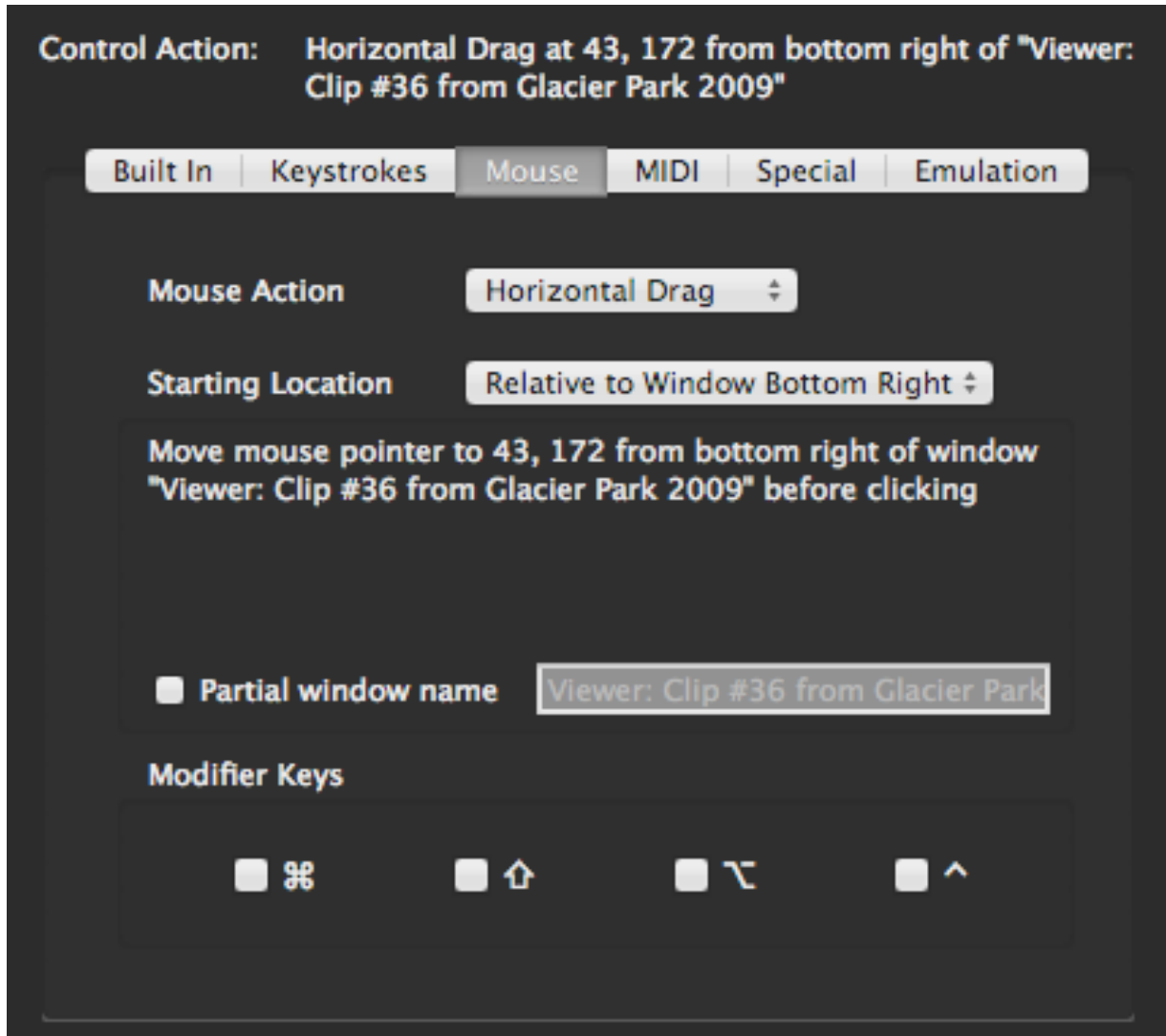
Once you have chosen from the **Starting Location** popup, you will be prompted to actually pick the starting point.



Make Sure the target application is open in the background, and that the destination window is visible. Hit the **Capture** button then position the mouse pointer over the desired starting point and type <COMMAND + K>.



The **Inspector** window will be updated to show the window name and coordinates where the click, drag or move should take place.



From now on, whenever you are in the target application and use the assigned control, it will move the destination window to the front, then click, move or drag at the selected location.

Once a window name and mouse location has been captured, you have the option of using a partial window name. This is useful in applications like Final Cut Pro, where the Viewer Window's title always starts with the word "Viewer" but the rest of the window title changes depending on what you're editing. Normally, the MCS5 tries to find a window with the exact name as the window where the click was first captured, but if the window name has changed, it will fail. You can choose to have the MCS5 just look for a Final Cut window with the word "Viewer" in its title and it will always find the Viewer Window, even if the exact name of the Viewer Window changed since the click was captured.

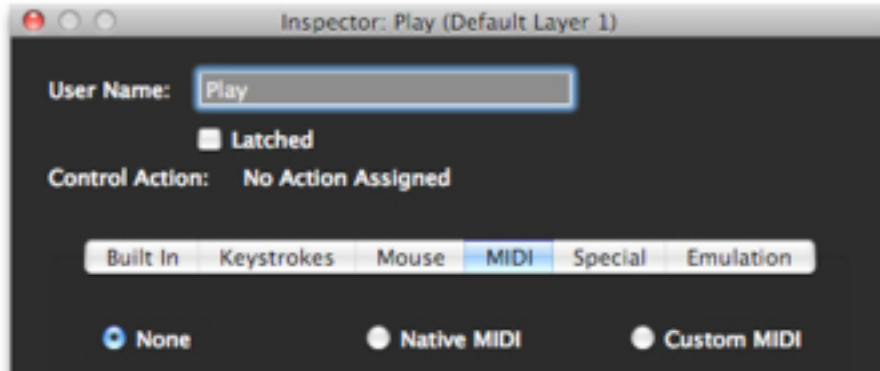
To use the partial name feature, click on the **Partial Window Name** checkbox. In the text box on the right, change the full window name to the partial name you want the MCS5 to use.

Partial window name

Partial window name

MIDI Tab

An MCS5 can be made to appear as a MIDI device to MIDI applications. Any MCS5 control can be programmed to send and respond to a MIDI message.



There are three radio buttons for choosing the type of MIDI message to assign.

<i>Selection</i>	<i>Description</i>
None	No MIDI message for the selected control. If some other type of action has already been assigned, the None button will be selected. Clicking on the None button will delete the currently assigned action.
Native MIDI	Native MIDI actions send and respond to the MCS5 hardware's built MIDI protocol. You would typically use this setting with an application which directly supports the MCS5 protocol. It could also be used with an application that has a MIDI "Learn" feature. For convenience, choosing Set all Controls to Native MIDI in the Actions menu will assign Native MIDI actions to all of the MCS5 controls on all banks in the current keyset.
Custom MIDI	Custom MIDI actions send and respond to user defined MIDI messages.

Normal Button and Wheel Messages

When **Native MIDI** is chosen, the MCS5 software will send the following messages to the host application when a control is pressed or moved. These values are shown in hexadecimal notation.

Buttons

80 nn dd

<i>Value</i>	<i>Definition</i>
nn	Button number (see table below)
dd	7F for depression, 00 for release

<i>Name</i>	<i>Number (in hex)</i>
Rewind	00h
Fast Forward	01h
Stop	02h
Play	03h
Record	04h
Right Bank Button	05h
Left Bank Button	06h
Application Button #1	08h
Application Button #2	09h
Application Button #3	0Ah
Application Button #4	0Bh
Application Button #5	0Ch
Application Button #6	0Dh
Application Button #7	0Eh
Application Button #8	0Fh
Left Wheel Button	18h
Right Wheel Button	19h

MCS5 Button Numbering

Button LED Messages

80 nn dd

<i>Value</i>	<i>Definition</i>
nn	Button LED number (see table below)
dd	7F for LED illuminated 00 for LED extinguished

<i>Name</i>	<i>Number (in hex)</i>
Record	04h
Right Bank Button	05h
Left Bank Button	06h
Application Button #1	08h
Application Button #2	09h
Application Button #3	0Ah
Application Button #4	0Bh
Application Button #5	0Ch
Application Button #6	0Dh
Application Button #7	0Eh
Application Button #8	0Fh

MCS5 LED Numbering

If the Bank Button Mode is set to **Bank Button Changes Bank**, then sending an LED message to the Bank Button will change the LED and the bank.

Sending dd of 00h will select Bank 1. Sending dd of 7Fh will select Bank 2.

If the Bank Button Mode is **Bank Button Sends Messages** then sending an LED message to the Bank Button will only change the state of the Bank Button's LED.

Jog Wheel

81 00 vv

<i>Value</i>	<i>Definition</i>
vv	Relative change in wheel's value since the last message. The range is: Counterclockwise -64 (C0) to Clockwise +63 (2F)

Special Messages

There are several **Native MIDI** messages that can be sent from the host application to the MCS5. These messages can control button LEDs, the Bank, the display, and various operating modes.

Query Message

85 00 00

When this message is sent to the MCS5, the MCS5 will respond with the following:

Query Response

85 00 05

This message can be used to determine if an MCS5 is connected and functioning properly.

Bank Button Mode

81 00 mm

<i>Value</i>	<i>Definition</i>
mm	7F for Bank Button Sends Message 00 for Bank Button Changes Bank

If the Bank Button Mode is set to **Bank Button Changes Bank**, then sending an LED message to the Bank Button will change the LED and the bank.

Sending dd of 00h will select Bank 1. Sending dd of 7Fh will select Bank 2.

If the Bank Button Mode is **Bank Button Sends Messages** then sending an LED message to the Bank Button will only change the state of the Bank Button's LED.

Button Labels Mode

82 00 00

When this message is sent to the MCS5, its LCD will display the App Buttons' labels, below or above each button. The actual button labels are set with the **Label Message**.

Custom Text Mode

82 00 01

When this message is sent to the MCS5, its LCD will display arbitrary text. The actual text is set with the **Notification Message**. The **Notification** and **Label** messages use MIDI system exclusive (SysEx) because they contain too much data to fit into standard one, two or three byte messages.

Notification Message

F0 15 7F 40 04 <text> F7

Value	Definition
<text>	Exactly 46 characters of text, which will be displayed as 2 lines of 23 characters.

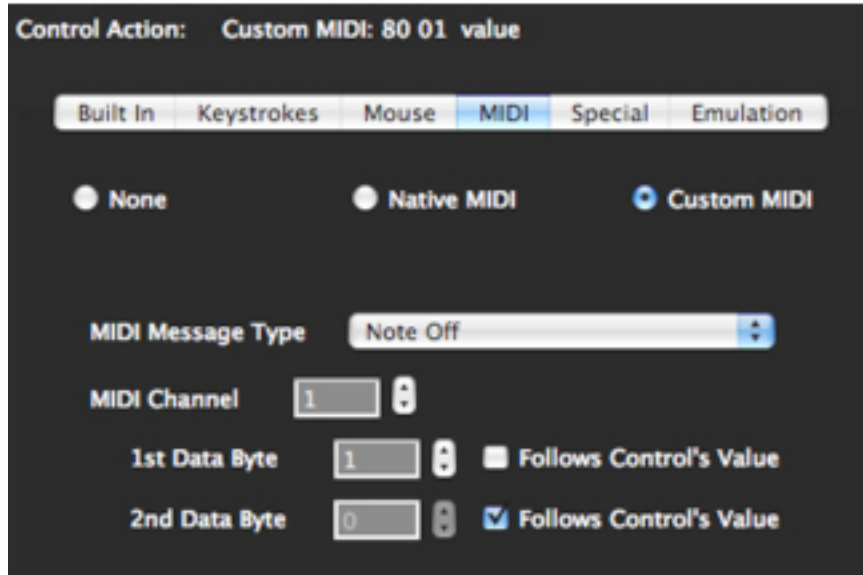
Label Message

F0 15 7F 40 00 bb <text> F7

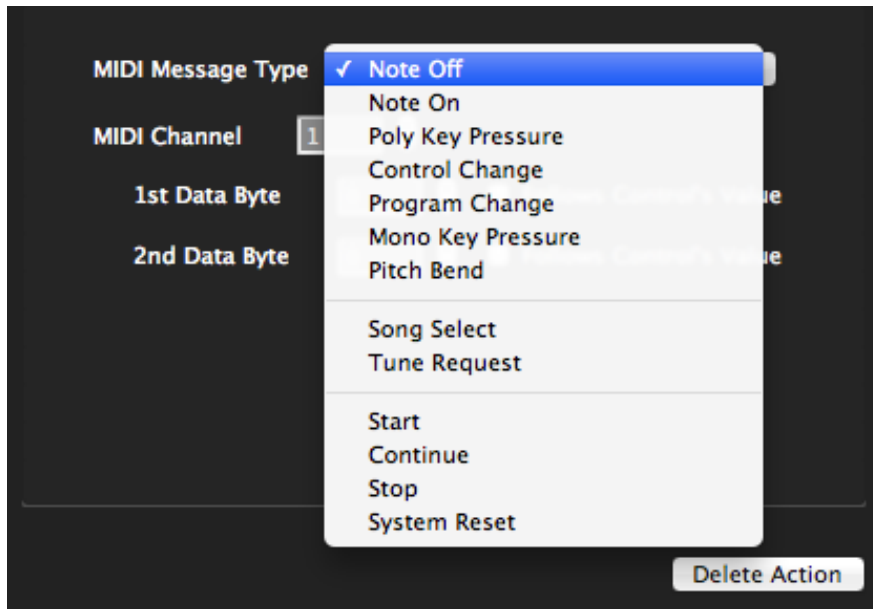
Value	Definition
bb	Button number 00 - 07 for App buttons A-1 - A-8 08 - 0F for App Buttons B-1 - B-8
<text>	Exactly 5 characters of text, which will be the button label.

NOTE: The button numbering in this message is different than the numbering used in the Button LED message.

When **Custom MIDI** is chosen, more controls will become visible for editing the custom messages.



The **MIDI Message Type** popup lets you choose any of the basic MIDI messages except for system exclusive and MIDI Time Code.



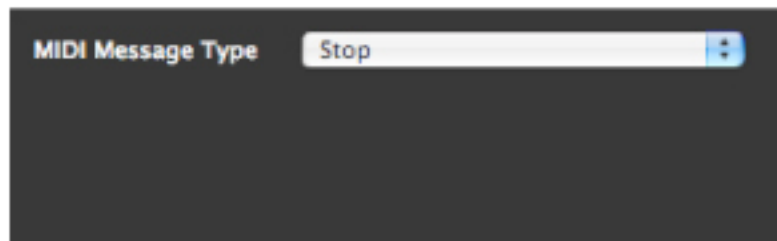
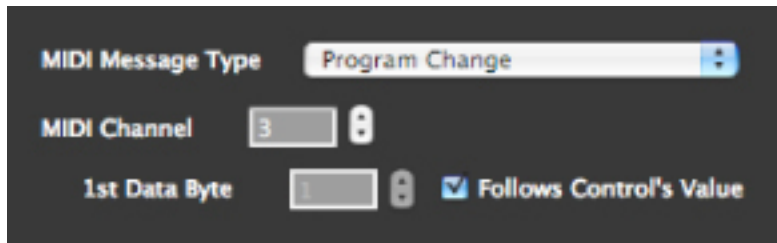
The first group of messages in the popup include a MIDI channel. If you choose one of these message types, a channel editor appears. You can either type or use the up and down arrows to set the channel. This editor accepts values from 1 through 16.

All MIDI messages except for system exclusive are either one, two or three bytes long. The first byte always is the message type, called the *status byte*. If there is a MIDI channel, it is embedded in the status byte. The bytes following the status byte, if any, are referred to as data bytes and contain additional information such as note numbers, velocities, control values, etc...

If you choose a message type that is more than one byte long the **1st Data Byte** (and possibly the **2nd Data Byte**) editor appears. You can set the data byte's value by typing or using the up/down arrows. The editor accepts values from 0 through 127.

Instead of setting an absolute value for a data byte, you can check the **Follows Control's Value** box. In this case, the value of that data byte is determined by the state of the MCS5 hardware control this message is assigned to. In other words, if you assigned a Custom MIDI Message to the **Jog Wheel** and the 2nd data byte was set to **Follows Control's Value**, a number representing the position of the **Jog Wheel** would be inserted as the 2nd data byte of the custom message. For MCS5 buttons, a value of 127 will be inserted for button presses, and 0 for button releases.

Following are some samples of the **MIDI Tab's** appearance for various message types.

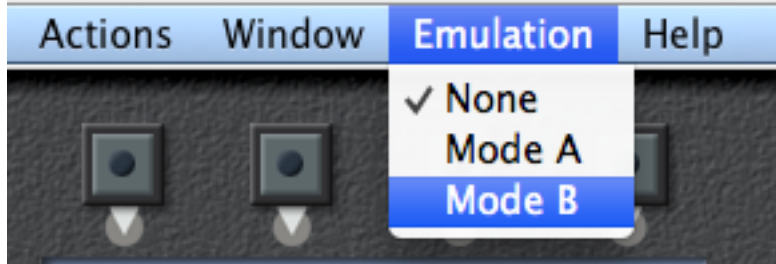


For convenience, choosing **Set all Controls to Native MIDI** in the **Actions** menu will assign **Emulation Actions** to all of the MCS5 controls on all banks in the current keyset.

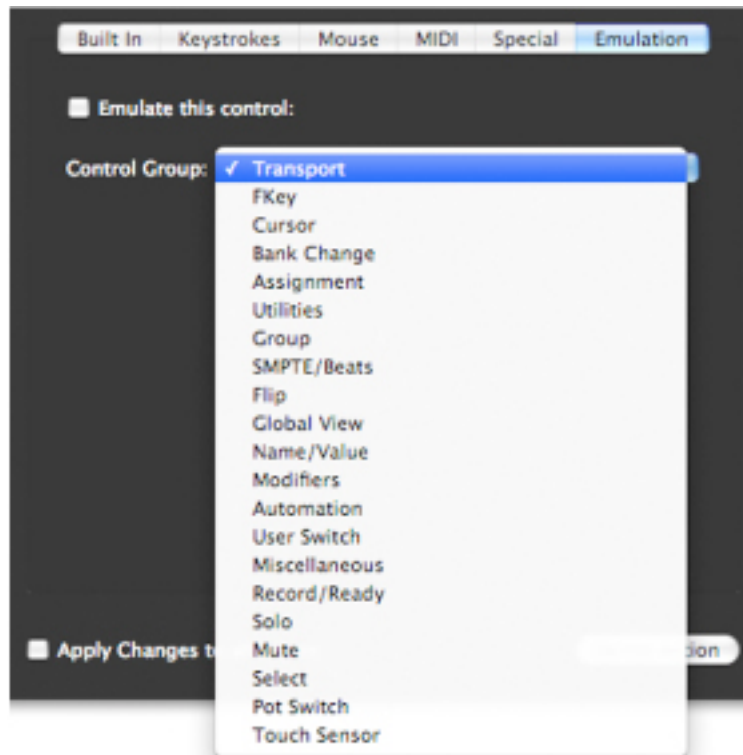
Emulation Tab

The MCS5 software has the ability to emulate other MIDI based control surfaces. This feature is useful if you are using the MCS5 with an application which doesn't directly support the MCS5, but which supports one of these other controls surfaces.

You can set any control on the MCS5 to emulate a control on one of these control surfaces using the Emulation Tab. The Emulation Tab is not available until you turn on Emulation in the **Emulation** Menu. Here you can choose **None**, **Mode A**, or **Mode B**. **Mode A** and **B** represent the two control surfaces that the MCS5 can emulate. Which one you choose depends on the application you are using with the MCS5. More on this later.

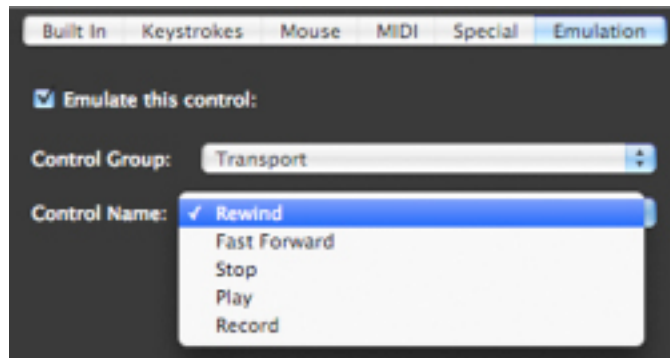


The contents of the **Emulation Tab** varies depending on whether a button or the **Jog Wheel** is selected. This is what you will see at first if you select a button.

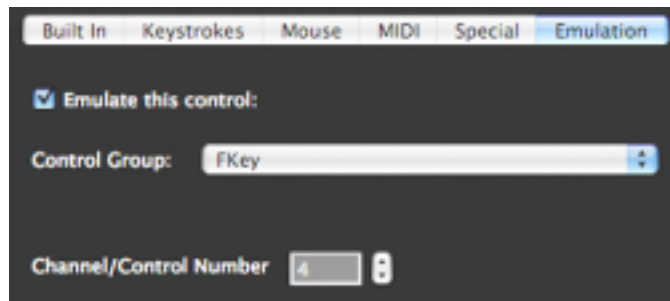


The **Control Group** popup lists the basic categories of controls that can be emulated by the selected MCS5 control. Checking **Emulate this control:** or choosing from the **Control Group** popup will assign an Emulation action to the selected control. It will also display either a second popup or a numerical editor for choosing which control in the group to emulate.

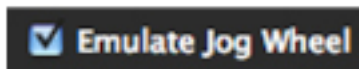
For some control categories, such as **Transport**, the individual controls in that category have names, such as **Rewind**, **Fast Forward**, **Stop**, **Play** and **Record**. For these categories a second popup will list the control names.



For other categories, such as **F-Keys**, the controls are just numbered. For these categories a numerical editor will appear. This allows you to either type or use up/down arrows to set the control number.



The Jog Wheel only has one choice, **Emulate Jog Wheel**.



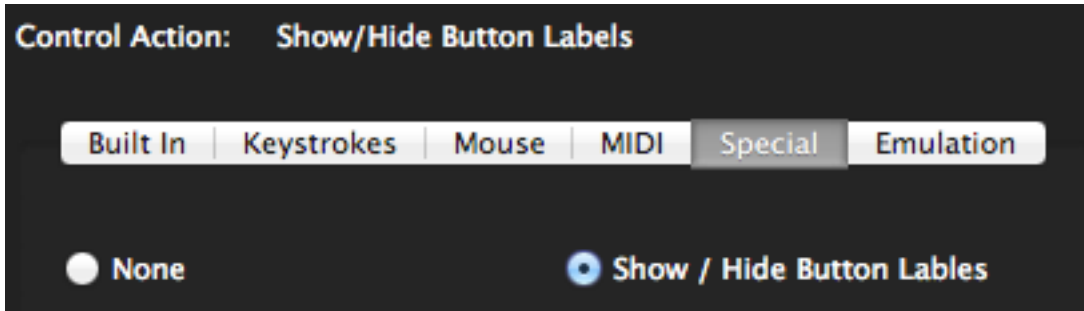
For convenience, choosing **Set all Controls to Emulation** in the **Actions** menu will assign **Emulation Actions** to all of the MCS5 controls on both banks in the current keyset.

The following assignments are made when **Set all Controls to Emulation** is chosen.

<i>MCS5 Control</i>	<i>Assignment</i>
Rewind	Rewind
Fast Forward	Fast Forward
Stop	Stop
Play	Play
Record	Record
Jog	Jog
Left Bank	Bank Left
Right Bank	Bank Right
App Button A-1	Add Marker
App Button A-2	Nudge
App Button A-3	Cycle
App Button A-4	Drop
App Button A-5	Replace
App Button A-6	Click
App Button A-7	Solo
App Button A-8	Zoom
App Button B-1	Add Marker
App Button B-2	Nudge
App Button B-3	Cycle
App Button B-4	Drop
App Button B-5	Replace
App Button B-6	Click
App Button B-7	Solo
App Button B-8	Zoom
LCD Display	Timecode

Special Tab

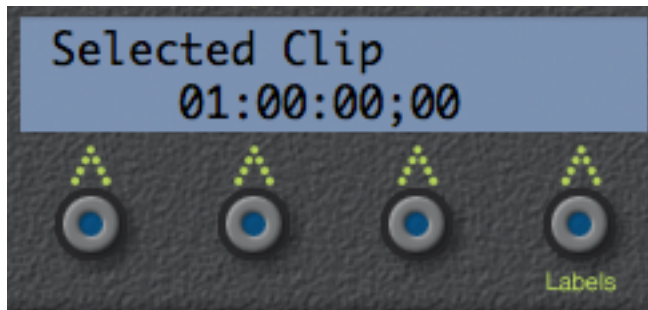
The **Special Tab** is available when a button is selected. There are two choices available, **None** and **Show / Hide Button Labels**.



Choosing None has the same effect as clicking on the Delete Action button.

If the LCD display is set to an action other than Display Button Labels (see the section titled LCD Display for more information), pressing a button that has been assigned the Show / Hide Button Labels action will cause the display to show the button labels. Releasing the button will switch the display back to its original content. If the button is also latched, then the display will remain in Button Label mode until the button is pressed a second time.

NOTE: All keysets supplied by JLCooper which use the Show / Hide Buttons Labels action assign it to Application Button A-8 and/or B-8. In fact, this button has been named "Label" on the MCS5 hardware and in the main window of the MCS5 software. If you use Show / Hide Buttons Labels in a custom keyset, it is recommended that you assign it to Application Buttons A-8 and B-8.

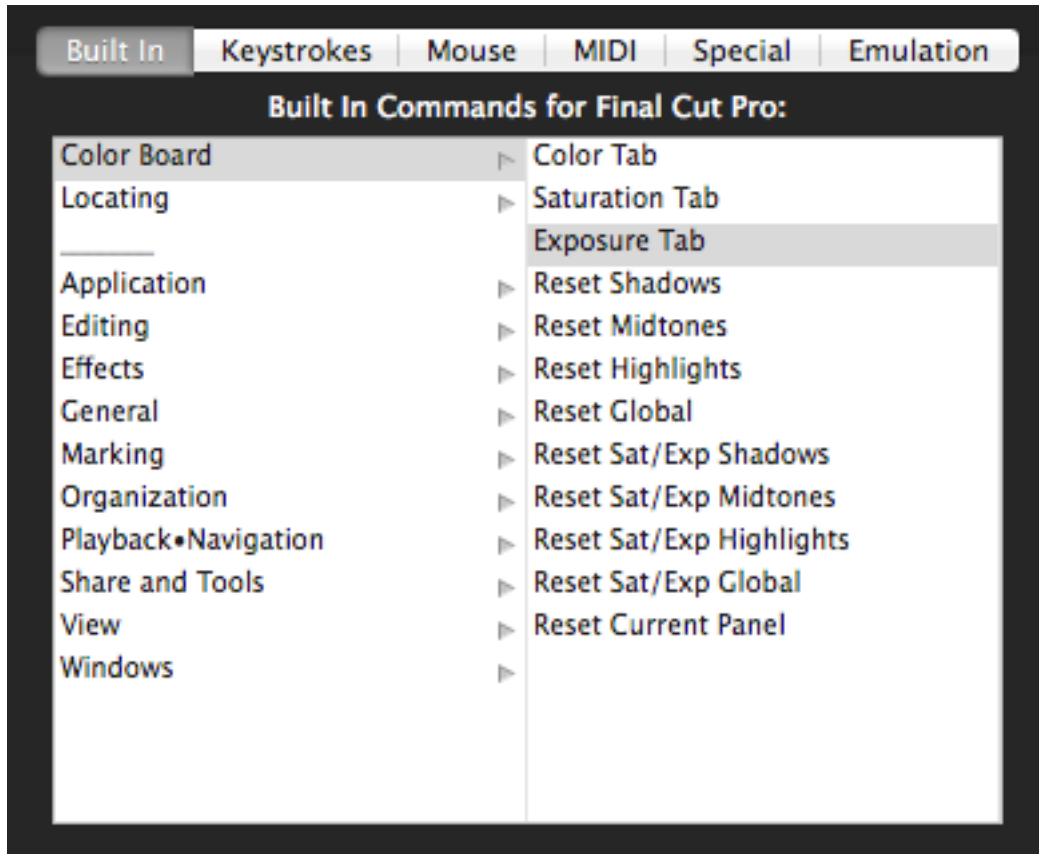


If the display is already assigned to show button labels, then there is no need for the Show / Hide Buttons Labels action, and A-8 and B-8 may be used for other purposes.

Built In Actions Tab

The built in actions are actions that are predefined for specific applications. When you choose a keyset, the built in actions appropriate to that keyset's application are displayed. If no built in actions have been defined for the current application, the display will be blank.

The built in actions are presented in two columns. The left hand column lists basic categories and the right hand column lists the actual actions. Clicking on a category in the left hand column will change the list of actions displayed on the right. Double-click an action in the right hand column to assign it to the selected MCS5 control.



Most of the categories and actions correspond to the keyboard shortcuts listed in the target application's manual. However, there are also actions defined by JLCooper that are not simple keyboard shortcuts. These actions will always appear at the beginning of the list, and there will be a separator line between them and other built in actions.

LCD Display

The MCS5 has an two line, 23 character per line LCD display. You can assign functions to this display in much the same way as you assign actions to controls.

NOTE: If you are using an application that communicates directly with the MCS5 via MIDI, you should probably not assign any functions to the displays in the keyset for that application. The application will likely be writing its own information to the displays.

When you click on a display to select it, information about it appears in the **Inspector** window. This information includes a Label, a description of the function assigned to the display and Tabs which contain controls for editing the display's function.

The available Tabs are **Built In**, **Text**, **Button Labels**, **MIDI** and **Emulation**.

Display Button Labels Tab

If you check the **Display Button Labels** box the labels of the eight App buttons will be shown on the LCD. This probably the setting you will use for most of your keysets. If you need to display other information, you can always assign the **Labels** function to App Button 8. Then pressing App Button 8 will cause button labels to be displayed, and releasing it will cause the display to show its original content.

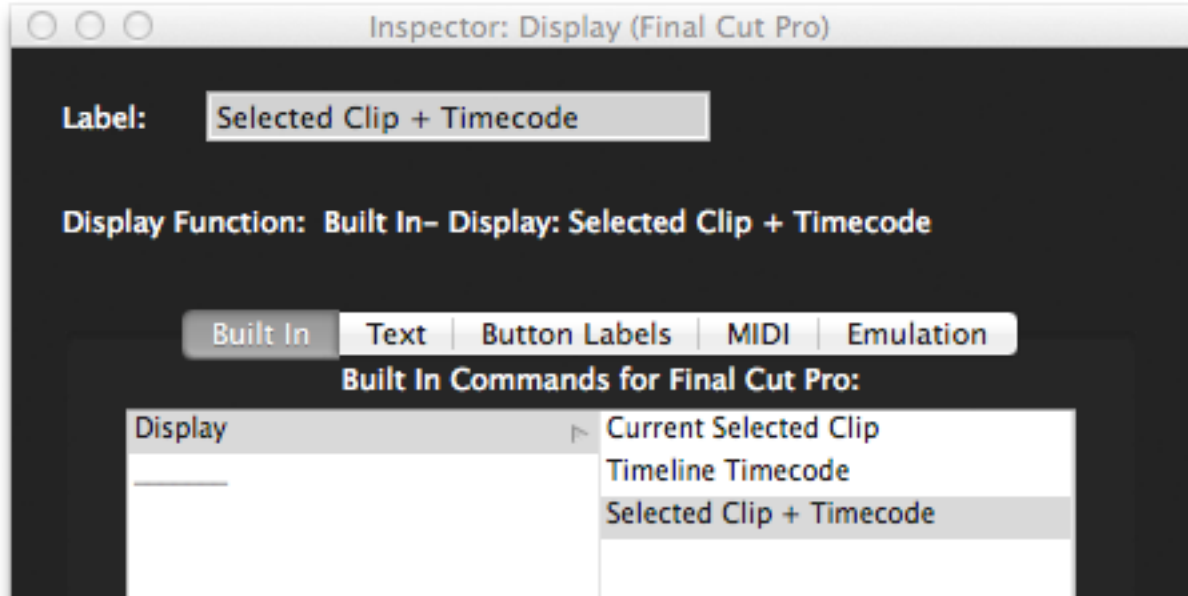


The display will update whenever the label of one of the buttons changes. If a button does not have a label, then the display directly above or below it will be blank.

Un-checking the **Display Button Labels** box will delete any function assigned to the display.

Built In Tab

There are three Built In Display actions, **Current Selected Clip**, **Timeline Timecode** and **Selected Clip + Timecode**. These actions are available only in Final Cut Pro X.



Current Selected Clip - If this action is assigned to the display, then selecting a clip in Final Cut Pro X's Timeline, Timeline Index or Event Browser will cause that clip's title to be displayed on the MCS5's LCD.

Timeline Timecode - This action causes the timeline's timecode to be displayed on the LCD. It will not display timecode for clips in the Event Browser.

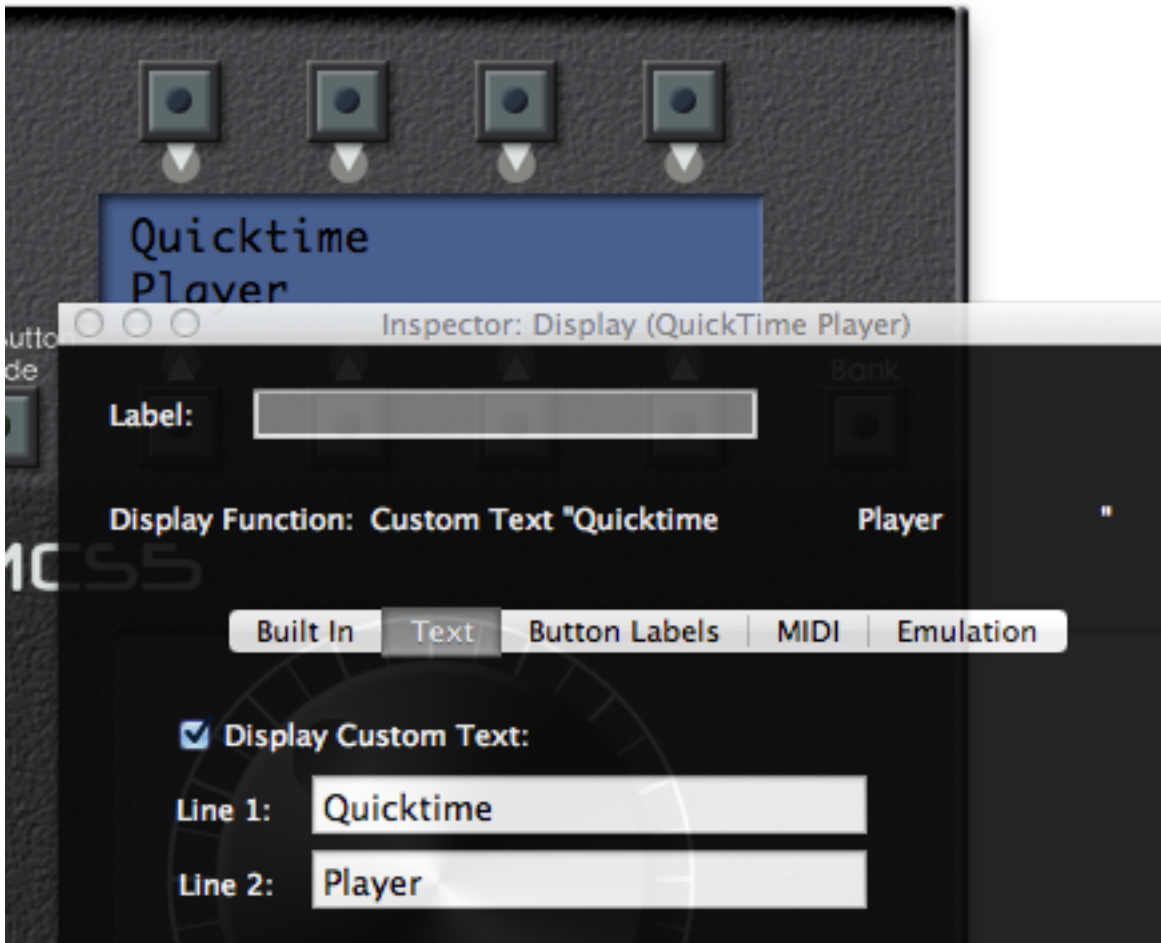
Timeline Timecode and Selected Clip + Timecode - The name of the selected clip will be shown on the top line of the display, and the timeline timecode will be shown on the bottom line.

As mentioned earlier, if you want to use one of these built-in display options, but sometimes need to see the button labels, you can assign the **Labels** function to App Button 8. Whenever you press App Button 8, the button labels will be shown. Releasing it will cause the display to revert to the built-in function.

Display Text Tab

If you check the **Display Custom Text** box or type into the text boxes below it and hit the ENTER key, the text you type will be shown on the LCD display line whenever the target application is in front. You can enter up to 23 characters per line.

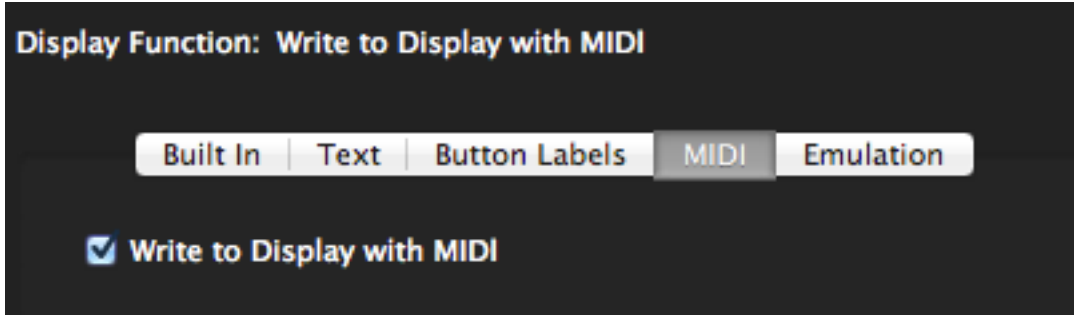
Un-checking the **Display Custom Text** box will delete any function assigned to the currently selected display line.



As mentioned earlier, if you have reason to display custom text, but sometimes need to see the button labels, you can assign the **Labels** function to App Button 8. Whenever you press App Button 8, the button labels will be shown. Releasing it will cause the display to show the custom text.

Display MIDI Tab

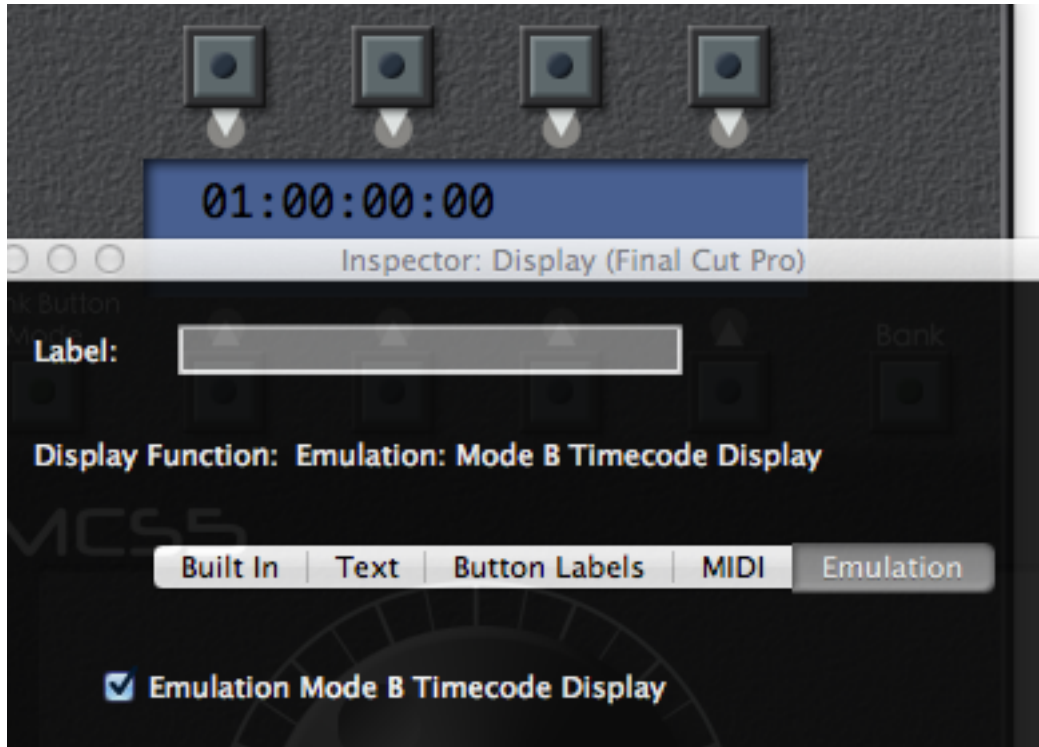
If **Write to Display with MIDI** is checked the MCS5 will accept the **Notification SysEx Message**, described in the earlier section on the **Native MIDI Protocol**. Un-checking the **Write to Display with MIDI** box will delete any function assigned to the display.



As mentioned earlier, if you want another application to write to the MCS5 screen, but sometimes need to see the button labels, you can assign the **Labels** function to App Button 8. Whenever you press App Button 8, the button labels will be shown. Releasing it will cause the display to revert to the built-in function.

Display Emulation Tab

If you have enabled Emulation in the current keyset, you can have MCS5 show timecode intended for the emulated control surface..

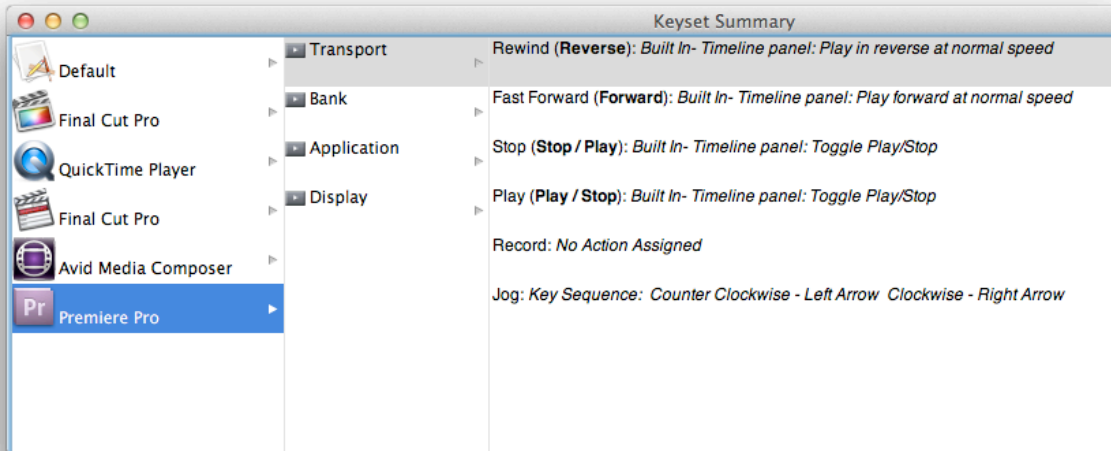


Click on the **Emulate Mode X Timecode Display** checkbox to enable timecode display emulation. Uncheck it to delete any function assigned to the display.

As mentioned earlier, if you want to show timecode, but sometimes need to see the button labels, you can assign the **Labels** function to App Button 8. Whenever you press App Button 8, the button labels will be shown. Releasing it will cause the display to show timecode again.

Keyset Summary Window

The **Keyset Summary Window** displays information about several controls at once, making it easier to tell at a glance how a particular keyset is set up. You choose the Keyset Summary from the Windows menu.



The window has three columns. The first column lists the currently active keysets. These are the same keysets that appear in the **Keysets Menu**. Clicking on a keyset in this column will change the selected keyset, just as if you had chosen a keyset from the **Keysets Menu**. Conversely, choosing a new keyset from the **Keysets Menu** will cause that keyset to be selected in the **Keyset Summary Window**.

The second column lists controls grouped by function, either **Transport**, **Bank**, **Application** or **Display**. Selecting one of these groups will cause the fourth column to display all of the controls in that group.

Each control name is followed by its **Label**, if any, and a description of its assigned function. Clicking on a control in this column will cause that control to be selected in the main window and its information to be displayed in the **Inspector Window** for editing.

Final Cut Pro™ Support

Final Cut Pro™ and Control Surfaces

With Final Cut Pro version 5 some support for MIDI control surfaces was added. Unfortunately, only audio parameters and transport functions are controllable via MIDI. Fortunately, the MCS5 software not only emulates the supported control surfaces, it also can control many other parameters in Final Cut Pro.

The MCS5 has an advantage over other control surfaces when used with Final Cut Pro because it is not limited to just the functions included in Final Cut's MIDI control surface support. With its built in functions and the ability to emulate the mouse and keyboard coupled with Final Cut Pro's control surface support, almost every function in Final Cut Pro can be controlled with the MCS5.

Using the MCS5 with Final Cut Pro

To use the MCS5 with Final Cut Pro, first run the MCS5 application and import the Final Cut keyset provided by JLC Cooper. Now run Final Cut and open the **Control Surfaces** dialog from the **Tools** menu. Click on the "+" button to add a control surface and choose Mackie Control. Then choose **MCS5 USB - MCS5** for the input connection and output connections. Click OK to exit the dialog.

Final Cut requires the **Audio Mixer** (Tools Menu) to be open in order for control surface support to be active. You might want to save a window layout that has the Audio Mixer open.

The MCS5 Final Cut Pro Keyset

The MCS5 Final Cut Pro keyset uses a combination of emulated controls, mouse emulation, keystrokes and built-in commands. It is fully customizable using the techniques presented in this manual, so you can easily adapt it to your working style.

The display is set to show the current Canvas or Viewer timecode by default. Pressing **Application Button A-8** will switch the display to Button Labels. Releasing button **A-8** will return the display to showing timecode. If you want, you can set **A-8** to be latched.

Here are the control assignments in the current version of the Final Cut Pro keyset:

MCS5	Final Cut
Rewind	Rewind
Fast Forward	Forward
Stop	Stop
Play	Play
Jog	Jog
App Button A-1	Timeline
App Button A-2	Canvas
App Button A-3	Viewer
App Button A-4	Browser
App Button A-5	Add Marker
App Button A-6	Previous Marker
App Button A-7	Next Marker
App Button A-8	Show / Hide Button Labels
Display	Timecode

Final Cut Pro X™ Support

Unlike Final Cut Pro 7, Final Cut Pro X includes no built-in support for control surfaces. However, the MCS5 is quite useful with Final Cut Pro X because JLCoooper has converted all of the Final Cut Pro X keyboard shortcuts into MCS5 Built-In Commands. There are also several JLCoooper-defined commands that allow controlling Color Board functions.

In the keyset supplied by JLCoooper, the display is assigned a built-in command which shows the name of the currently selected clip plus the timeline timecode. The display can be temporarily switched to show button labels by pressing **Application Button A-8**. A second press will return the display to the selected clip and timecode.

The JLCoooper Final Cut Pro X keyset has assigned Built-In Commands to many of the MCS5 controls, but still leaves room for customization.

The Final Cut Pro X Keyset

Following is a list of the Final Cut Pro X keyset assignments.

<i>MCS5</i>	<i>Final Cut Pro X</i>
Rewind	Rewind
Fast Forward	Forward
Stop	Stop
Play	Play / Pause
Jog	Jog
Left Wheel Button	Go to Previous Edit
Right Wheel Button	Go to Next Edit
App Button A-1	Cut
App Button A-2	Copy
App Button A-3	Paste
App Button A-4	Undo
App Button A-5	Redo
App Button A-6	Arrow Tool
App Button A-7	Blade Tool
App Button A-8	Show / Hide Button Labels
App Button B-1	Show Color Board
App Button B-2	Color Tab
App Button B-3	Saturation Tab
App Button B-4	Exposure Tab
App Button B-5	Reset Current Tab
App Button B-6	Append to Storyline
App Button B-7	Insert
App Button B-8	Show / Hide Button Labels
Display	Selected Clip + Timecode

Adobe Premier Pro™ Support

Adobe Premier Pro doesn't directly support the MCS5, however the MCS5 is still quite useful with Premier because JLCopper has converted all of the Premier keyboard shortcuts into MCS5 Built-In Commands.

In the keyset supplied by JLCopper, the display shows button labels. Buttons A-1 through A-4 open various panels, while A-5 through A-8 are used for setting and locating to In and Out Points. Buttons B-1 through B-8 are used for selecting different editing tools.

The Adobe Premier Pro Keyset

Following is a list of the Premier keyset assignments.

MCS5	Premier Pro
Rewind	Rewind
Fast Forward	Forward
Stop	Stop
Play	Play / Pause
Jog	Jog
Left Wheel Button	Go to Previous Edit Point
Right Wheel Button	Go to Next Edit Point
App Button A-1	Source Monitor Panel
App Button A-2	Program Monitor Panel
App Button A-3	Timeline Panel
App Button A-4	Project Panel
App Button A-5	Set In Point
App Button A-6	Set Out Point
App Button A-7	Go To In Point
App Button A-8	Go To Out Point
App Button B-1	Selection Tool
App Button B-2	Track Select Tool
App Button B-3	Ripple Edit Tool
App Button B-4	Rolling Edit Tool
App Button B-5	Razor Tool
App Button B-6	Slip Tool
App Button B-7	Slide Tool
App Button B-8	Hand Tool
Display	Button Labels

Avid Media Composer 6™ Support

JLCooper has converted all of Media Composer's keyboard shortcuts into Built-In Commands..

In the JLCooper Avid keyset, the display is set to show button labels. The top row of App buttons is used for selecting various windows or panels, and the second row is for choosing tools. In the second bank, the top row is assigned the editing commands, Cut, Copy, Paste and Undo.

There is some room for customization. Many of Avid's commands do not have keyboard equivalents, and Avid leaves it up to the individual user to customize them using the Command Palette and the Keyboard Settings panel. If you have added custom keyboard shortcuts to your Media Composer settings you will probably want to add matching Keystroke commands to your Avid MCS5 keyset.

The Media Composer 6 Keyset

Following is a list of the Media Composer 6 keyset assignments.

MCS5	Media Composer 6
Rewind	Reverse
Fast Forward	Forward
Stop	Pause
Play	Play / Stop
Jog	Jog
Left Wheel Button	Goes to the marked in point
Right Wheel Button	Goes to the marked out point
App Button A-1	Timeline
App Button A-2	Composer
App Button A-3	Project
App Button A-4	Effects Palette
App Button A-5	Lift/Overwrite Tool
App Button A-6	Extract/Splice-in Tool
App Button A-7	Trim Away Tool
App Button A-8	Trim Ripple Tool
App Button B-1	Cut
App Button B-2	Copy
App Button B-3	Paste
App Button B-4	Undo
Display	Button Labels

Soundtrack Pro™ Support

Setting up the MCS5 for use with Soundtrack Pro is almost identical to setting up for Final Cut Pro.

Open the MCS5 application and Import the Soundtrack Pro keyset or create a keyset of your own. If you create your own, start by setting the **Emulation Mode** to **B** then choosing **Set All Controls to Emulation** from the **Actions** menu. Later on you can customize this keyset with built-in commands, key sequences and mouse actions.

The next time you run Soundtrack Pro, open the **Preferences** dialog from the **Soundtrack Pro** menu then go to the **Control Surfaces** panel. Click on the “+” button to add a control surface and choose Mackie Control. Choose **MCS5 USB - MCS5** for the input connection and output connections. Click OK to exit the dialog.

The Soundtrack Pro Keyset

The Soundtrack Pro keyset is a combination of emulated actions, built-in commands and keystrokes.

MCS5	Soundtrack Pro
Rewind	Reverse
Fast Forward	Forward
Stop	Stop
Play	Play
Record	Record
Jog	Jog
Left Wheel Button	Move playhead to previous marker
Right Wheel Button	Move playhead to next marker
App Button A-1	Cut
App Button A-2	Copy
App Button A-3	Paste
App Button A-4	Undo
App Button A-5	Redo
App Button A-6	Open
App Button A-7	Save
App Button A-8	Show / Hide Button Labels
App Button B-1	Insert time marker at playhead
App Button B-2	Set Cycle Region In Point
App Button B-3	Set Cycle Region Out Point
App Button B-4	Activate/deactivate cycle region
App Button B-5	Move Cycle Region Playhead to In Point
App Button B-6	Move Cycle Region Playhead to Out Point
App Button B-7	Scrub Tool
App Button B-8	Show / Hide Button Labels
Display	Timecode

Logic Pro™ and Logic Pro X™ Support

The MCS5 software works identically with both Logic Pro and Logic Pro X.

Open the **MCS5** application and Import the Logic Pro keyset or create a keyset of your own. If you create your own, start by setting the **Emulation Mode** to **A** then choosing **Set All Controls to Emulation** from the **Actions** menu. Later on you can customize this keyset with key sequences, emulation and mouse actions.

Next run Logic Pro and choose **Preferences > Control Surfaces > Setup** from the

Logic Pro Menu. In the resulting window's New menu, choose Install, and in the

next window click on Scan. In a moment, Logic should tell you that it is connected to a **Mackie Control** on the Input and Out Port named **MCS5**. If it isn't successful then select **Mackie Control** from the list and click on Add. Then manually connect the control surface to the Input and Out Port named **MCS5**.

The Logic Pro Keyset

Most of the assignments in the Logic Pro keyset are to Emulation Mode B. Consult the **Control Surfaces Support** document found under Logic's **Help** menu for details on using the Logic Control with Logic. The display is set to show SMPTE timecode. Pressing App Button A-1 will toggle the display to Bars and Beats. Pressing A-1 again will return the display to SMPTE. **Application Buttons A-8** and **B-8** are set to **Show / Hide Button Labels** so you can temporarily view the Button labels on the display. Releasing A-8 or B-8 returns the display to Timecode.

MCS5	Logic Pro
Rewind	Rewind
Fast Forward	Fast Forward
Stop	Stop
Play	Play
Record	Record
Jog	Jog
Left Wheel Button	Go To Previous Marker
Right Wheel Button	Go To Next Marker
App Button A-1	SMPTE / Beats (toggles the MCS5 display)
App Button A-2	Mixer Global View
App Button A-3	Cycle
App Button A-4	Auto Punch
App Button A-5	Replace
App Button A-6	Solo
App Button A-7	Click
App Button A-8	Show / Hide Button Labels
App Button B-1	Read
App Button B-2	Write
App Button B-3	Touch
App Button B-4	Latch
App Button B-5	Create Marker
App Button B-6	Delete Marker Under Playhead
App Button B-7	Rename Marker Under Playhead
App Button B-8	Show / Hide Button Labels
Display	Timecode

Nuendo™ Support

Steinberg Nuendo doesn't have built in support for the MCS5, but the MCS5 software can emulate one of Nuendo's supported control surfaces.

Open the MCS5 application and Import the Nuendo keyset or create a keyset of your own. If you create your own, start by setting the **Emulation Mode** to **A** then choosing **Set All Controls to Emulation** from the **Actions** menu. Later on you can customize this keyset with key sequences and mouse actions.

The next time you run Nuendo, open the Device Setup dialog from the Devices menu then go click on Mackie Control under Remote Devices. Choose MCS5 for the MIDI Output and MIDI Input. Hit OK to accept your settings and close the Setup Dialog.

The Nuendo Keyset

The Nuendo keyset is a combination of emulation, Built-In Commands and keystrokes. Here are the mappings from the MCS5 controls to Nuendo functions. More details can be found in the document **Remote Control Devices** supplied with Nuendo.

<i>MCS5</i>	<i>Nuendo</i>
Rewind	Rewind
Fast Forward	Fast Forward
Stop	Stop
Play	Play
Record	Record
Jog	Jog
Left Wheel Button	Locate Previous Marker
Right Wheel Button	Locate Next Marker
App Button A-1	SMPTE / Beats
App Button A-2	Auto Punch In
App Button A-3	Auto Punch Out
App Button A-4	Cycle
App Button A-5	Add Marker
App Button A-6	Click
App Button A-7	Solo
App Button A-8	Show / Hide Button Labels
Display	Timecode

Uninstalling

To uninstall run the **MCS5 USB Uninstaller** located in the /Applications folder. Click on the **Uninstall** button to begin. When the uninstall is finished, click on the **Quit** button.



If there are multiple user accounts on this Mac, there may be multiple installations of the MCS5 software, one for each user. Each user shares the **MCS5 USB** application and the **MCS5 USB uninstaller**, but other software components are installed separately for each user account.

When the uninstaller is launched under the admin account, you will see a checkbox labeled "Remove MCS5 USB Software Folder?" This checkbox will not appear when the uninstaller is launched under any other user account. You should always uninstall the software from all non-admin users before uninstalling it from the admin account.

After the software has been uninstalled from all accounts, you can throw the uninstaller in the trash.

After uninstalling, you may notice that the MCS5 driver still appears in the **Audio/MIDI Setup** (/ Applications/Utilities/) MIDI window. This is because the Mac OS X tries to remember the state of your MIDI setup, even if there are changes such as removing or powering down equipment or removing drivers.

To remove the driver from **Audio/MIDI Setup**, disconnect the MCS from the Mac and wait for the driver's icon in **Audio/MIDI Setup** to be dimmed as in the graphic below.



Click on the MCS5 USB icon to select it, then hit the **DELETE** key on the Mac keyboard or choose **Delete** from the **Edit** menu. Quit **Audio/MIDI Setup**.

The MCS5 software's preference file is not removed by the uninstaller. It takes up relatively little space and should have no impact on the operation of other software once the MCS5 software is uninstalled. If you want to remove it, just delete the file `~/Library/Preferences/com.jlcooper.MCS5USB.plist`. Under Mac OS X 10.7, the `~/Library/` folder is hidden. To open it in the Finder, click on the **Go** menu while holding down the **OPTION** key, and you will see **Library** as one of the choices.

JLCooper Limited Warranty

JLCooper Electronics ("JLCooper") warrants this product to be free of defects in materials or workmanship for a period of 12 months from the date of purchase. This warranty is non-transferable and the benefits apply only to the original owner. Proof of purchase in the form of an itemized sales receipt is required for warranty coverage. To receive service under this warranty, customers in the United States should contact the JLCooper factory at +1-310-322-9990 and talk to a service technician. If necessary, a Return Authorization number may be issued. For our customers outside the United States, it is recommended that you first contact your Dealer or Distributor, since they may offer their own service or support policy. If local support is not obtainable, please send a FAX to JLCooper's Service Department at +1-310-335-0110 with a detailed description of the service required. Upon issuance of return authorization, the product should be packed in the original shipping materials and shipped prepaid and insured to: Service Department, JLCooper Electronics, 142 Arena Street, El Segundo, CA 90245. Please include the following: copy of the sales receipt, your name and address (no P.O. Boxes, please), a brief description of the problem, and any other related items discussed with the service department and considered necessary to evaluate the product or effect a repair. The return authorization number must be clearly written on the outside of the package. JLCooper will at its option, without charge for parts or labor; either repair or replace the defective part(s) or unit. Carriage, insurance, customs duties, impounds, tariffs, taxes, surcharges, brokerage fees and other shipping costs are not covered by this warranty. JLCooper's normal repair turn around time at the factory is approximately 15 business days from receipt of product to shipping. Your actual turn around time will include return shipping. Actual turn around time will vary depending upon many factors including the repeatability of the customer's reported complaint, the availability of parts required for repair, the availability of related products needed to evaluate the product if necessary. Priority services are available at additional cost. These should be discussed with the service technician at the time the return authorization is issued. This warranty provides only the benefits specified and does not cover defects or repairs needed as result of acts beyond the control of JLCooper including but not limited to: abuse, failure to operate in accordance with the procedures outlined in this owner's manual; nor does it cover damage from accident, negligence, using incorrect power supply, modification, alteration, improper use, unauthorized servicing, tampering, ingress of foreign matter; nor for damage from natural or man-made events such as, but not limited to flooding, lightning, electrostatic discharge, tornadoes, earthquake, fire, civil unrest, war, terrorism, etc.

THE DURATION OF ANY OTHER WARRANTIES, WHETHER IMPLIED OR EXPRESS, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTY OF MERCHANTABILITY, IS LIMITED TO THE DURATION OF THE EXPRESS WARRANTY HEREIN. JLCOOPER HEREBY EXCLUDES INCIDENTAL AND CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO: LOSS OF TIME, INCONVENIENCE, DELAY IN PERFORMANCE OF THIS WARRANTY, THE LOSS OF USE OF THE PRODUCT OR COMMERCIAL LOSS, AND FOR BREACH OF ANY EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY APPLICABLE TO THIS PRODUCT. JLCOOPER SHALL NOT BE LIABLE FOR DAMAGES OR LOSS RESULTING FROM THE NEGLIGENT OR INTENTIONAL ACTS OF THE SHIPPER OR HIS CONTRACT AFFILIATES. THE CUSTOMER SHOULD CONTACT THE SHIPPER FOR PROPER CLAIMS PROCEDURES IN THE EVENT OF DAMAGE OR LOSS RESULTING FROM SHIPMENT. THIS WARRANTY SHALL BE GOVERNED BY THE LAWS OF THE STATE OF CALIFORNIA.

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