FaderMaster Professional MIDI Automation Controller



User's Manual Fifth Edition

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JLCooper ELECTRONICS

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Greetings

Thank you for purchasing JLCooper's FaderMaster Professional, the MIDI Automation Controller. Continuing in the tradition of JLCooper's original FaderMaster, FaderMaster Pro adds the feel and control of high quality, 100 mm long throw faders. FaderMaster Pro also goes beyond the original FaderMaster with the addition of programmable buttons, which can be used for automated muting, program change, sample firing, and more. Two external inputs let you connect a user-supplied foot switch and pedal, which can then send any MIDI command.

Like the original FaderMaster, JLCooper's design philosophy is to give you back the feel and control that technology had taken away. So many hardware and software products are loaded with features, but simply lack the user-interface, the faders and buttons, to conveniently access those features.

The growing use of computer-based automation has necessitated the development of a professional mix interface. It is not enough to simply get away from one-track-at-a-time "mouse mixing". The faders themselves must have the feel that the professional audio engineer demands.

All these qualities have been combined to put you back in control, and give you new opportunities for creative freedom, in the studio or on-stage.

With the optional Macintosh FaderMaster Pro Remote software, FaderMaster Pro's setups may be displayed, created, and modified "off-line" on a computer.

Please fill out the enclosed product registration card and mail it right away, so we can keep you informed of related products or updates as they become available.

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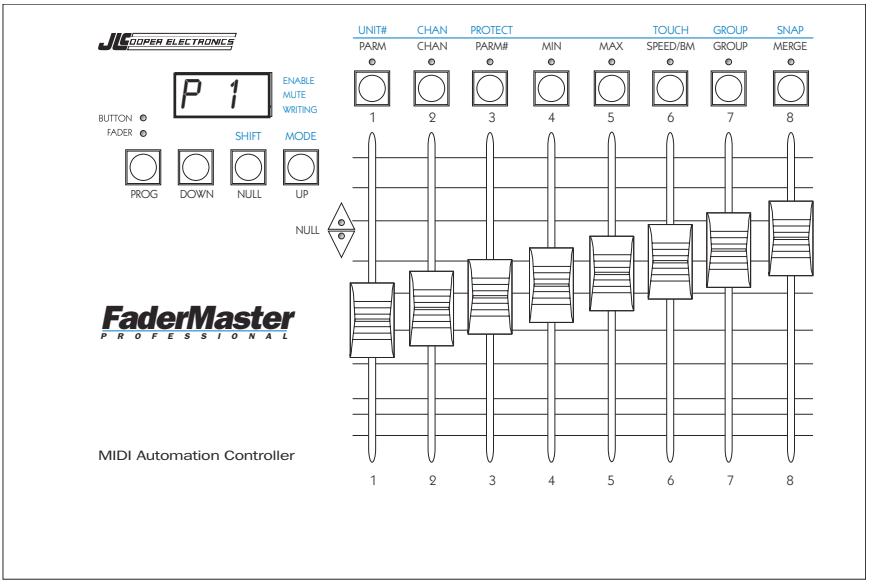
FaderMaster Professional Features

- 8 Programmable Long Throw Faders
- 8 Programmable Buttons
- Programmable Foot Switch Input
- Programmable Foot Pedal Input
- 20 User-Programmable Banks
- 8 Automation Banks
- 59 Factory Preset Banks

Programmable Parameters Include:

- MIDI Command Parameter (Notes, Controllers, etc.)
- MIDI Command Number (Controller #7, Note #36, etc.)
- MIDI Channel (1 through 16)
- Fader Minimum Value
- Fader Maximum Value
- Button On Value
- Button Off Value
- Button Action Momentary or Latched
- Button uses Fader Position as Value
- Foot Pedal Input Programs like Faders
- Foot Switch Input Programs like Buttons
- Touch Sensitive Auto Punch In
- Fader Nulling
- Three Grouping Modes
- Absolute Grouping
- Relatively Scaled Grouping
- Offset Grouping
- Merging

Front Panel Controls



From left to right we have:

PROG
Program button. Selects one of the Program Modes, to change the settings of FaderMaster Pro.

Pressing PROG repeatedly cycles through the following:

- **FADER LED On: Fader Program Mode**
- **BUTTON LED On: Button Program Mode**
- **FADER LED Flashing: Foot Pedal Program Mode**
- **BUTTON LED Flashing: Foot Switch Program Mode**

In the Automation Banks (A 1 through A 8),
Pressing PROG toggles the FADER LED on and off.

To exit the Program Mode,
Press PROG until both FADER and BUTTON LEDs are off.

DOWN
Steps back down through memory banks.
For example, if the display says P 2,
Press DOWN, display then says P 1.

Hold DOWN while moving any fader to quickly access any bank.

NULL (SHIFT)
Holding NULL while moving a fader allows you to move the fader without any MIDI data being sent. This allows you to pre-position the fader to start at a specific MIDI value.

NULL is also used in the A Banks along with the NULL LEDS, to avoid unexpected jumps in level while editing a mix.

Observe the NULL LEDs to determine if the fader needs to be raised or lowered to match previously recorded MIDI data.

The NULL (SHIFT) button also accesses SHIFTED functions. These are indicated in blue legends on the front panel.

UP
Steps up through memory banks.
For example, if the display says P 1,
Press UP, display then says P 2.

Hold UP while moving any fader to quickly access any bank.

MODE (that is, SHIFT and UP)
In the Automation Banks, selects what the buttons above the faders do. These buttons are either "Enables" or "Mutes".
Press an **Enable** to turn a fader on or off.
Press a **Mute** to send a MIDI Controller with a zero value.

The current function of the buttons is indicated by a dash in the seven-segment display next to the word ENABLE or MUTE.

Buttons Above the Faders
When one of the **P Banks** has been selected on FaderMaster Pro, pressing a button sends any kind of MIDI command.

When one of the **A Banks** has been selected on FaderMaster Pro, pressing these buttons send MIDI Controller commands with a zero value to act as audio **Mutes**.

Also in the **A Banks**, press these buttons to **Enable** a fader to send MIDI Controller commands.

When in one of the **Program Modes** (selected by the PROG button), the buttons above the faders are used for assigning the kind of MIDI command (parameter) that a given control will send, certain other attributes of the fader. The kinds of parameters and attributes selected by the buttons are as follows:

PARM
In Program mode, hold PARM while moving a fader to select the parameter, that is, the type of MIDI Command, that a control will send.

Choices include: Notes, Controllers, Program Change, Pitch Bend, and After touch.

CHAN
In Program mode, hold CHAN while moving a fader to select the MIDI channel, 1 through 16, that a control will send.

PARM#
In Program mode, hold PARM# while moving a fader to select the parameter number, that is, the Controller number or Note number, that the control will send.

MIN
In Program mode, hold MIN while moving a fader to select the minimum value that a control will send.

MAX
In Program mode, hold MAX while moving a fader to select the maximum value that a control will send.

SPEED/BM
For Faders or Foot Pedal,
In Program mode, hold SPEED/BM while moving a fader to select the speed of the MIDI data sent out. Select 1 through 4. (4 is the fastest.)

For Buttons or Foot Switch,
In Program mode, hold SPEED/BM while moving a fader to select the Button Mode, either Momentary, Latched, or Fader.

Momentary: Button sends a MIDI command when pressed, using MAX as its value. Sends another MIDI command when released, using MIN as its value.

The LED above button is momentary, that is, it is only on as long as the button is held down.

Latched: Button sends a MIDI command when pressed, using MIN as its value, and another message when pressed again, using MAX as its value.

The LED above button is latched, that is, it turns on with the first press and off with the second press.

Fader Value: Button sends a MIDI command when pressed. When released, it sends the same command using the fader position as its value.

The LED above button is latched, that is, it turns on with the first press and off with the second press.

TOUCH (that is, SHIFT and SPEED/BM)
In the Automation Banks, turns on FaderMaster Pro's unique Touch-Sensitive Automatic Punch In.

Press SHIFT TOUCH to toggle between Touch On (TCH) and Touch Off (OFF).

TOUCH is used to effect seamless edits to sequencer tracks consisting of controller commands.

When a fader is moved, the fader will not send any MIDI Controller commands until the fader level exactly matches the level of previously recorded Controller commands.

GROUP
In the P Banks, in Program Mode, hold GROUP while moving a fader to select a group master for a given fader.

Faders may be grouping in one of three different group modes. Exit Program Mode, then hold SHIFT and GROUP while moving a fader to select the group mode.

> **Absolute Grouping**: Fader values match the master.
>
> **Relatively Scaled Grouping**: Fader values are scaled based on how much the master has moved with respect to the fader throw. That is to say, when you fade the master, all the values reach their minimum value at the same time.
>
> **Offset Grouping**: Fader values are offset by the value of the master, as referenced to the center of the master's throw. That is to say, the value of the master is added to or taken away from the faders that are part of the group.

PROTECT (that is, SHIFT and PARM#)
Hold SHIFT and PROTECT and move any fader to turn Protect on and off. When display indicates PRO, FaderMaster Pro may not be reprogrammed.

MERGE
In the P Banks, in Program Mode, hold Merge while moving a fader to select the Merge mode for that fader.
Each fader within a bank may have a different Merge mode.

Merge On: MIDI commands pass through FaderMaster Pro.

Merge Off: MIDI coming into FaderMaster Pro is checked to see if any fader is programmed to send out the same commands. MIDI passes through FaderMaster Pro, *unless* a fader is programmmed to send the same commands.

Merge Conditional: MIDI commands pass through FaderMaster Pro. MIDI coming into FaderMaster Pro is checked to see if any fader is programmed to send out the same commands.

The MIDI data is allowed to pass through to the MIDI out, until you move a fader. Then, that MIDI data is selectively filtered out. This is used to replace previously recorded tracks of MIDI data.

SNAP (that is, SHIFT and MERGE)
Holding the SHIFT button and pressing SNAP sends out a "Snapshot" consisting of MIDI data representing the current position of the faders.

Used at the beginning of a sequence to establish the initial levels of a mix.

NULL LEDS (Used With Automation Bank)
Compares the position of the last fader moved with the value of MIDI data coming into the FaderMaster's Pro's MIDI input.

Lets the user know if the fader is above (up arrow) or below (down arrow) the level of the MIDI data coming into FaderMaster Pro.

Used to assist in seamless punch in type edits of previously recorded MIDI data for mix editing.

UNIT# (SHIFT and PARM)
Sets System Exclusive Unit ID Number. This is only used in conjunction with the optional FaderMaster Pro Remote Software. Allows software to independently communicate with more than one FaderMaster Pro.

Hold SHIFT UNIT# while moving any fader to select a number from 0 to 15.

This allows the FaderMaster Pro Remote software to program and back up as many as 16 FaderMaster Pros.

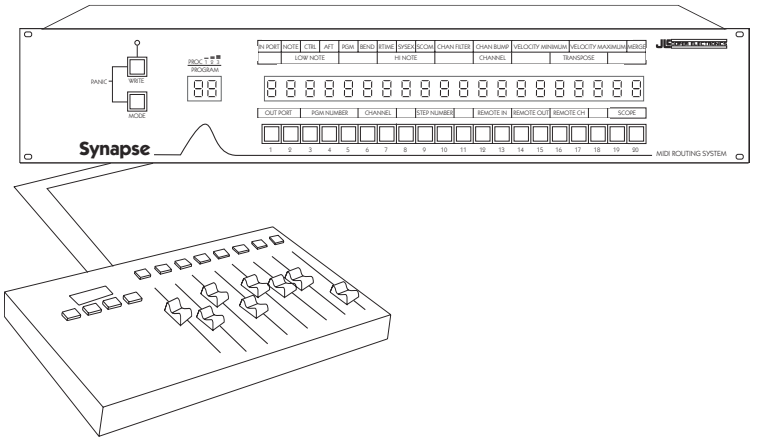
CHAN (SHIFT and CHAN)
Sets MIDI Channel of FaderMaster Pro so FaderMaster Pro can respond to MIDI Program Change commands.

Hold SHIFT and CHAN while moving any fader to select a MIDI channel from 1 to 16.

Dashes in the display indicate that the reception of program changes has been disabled.

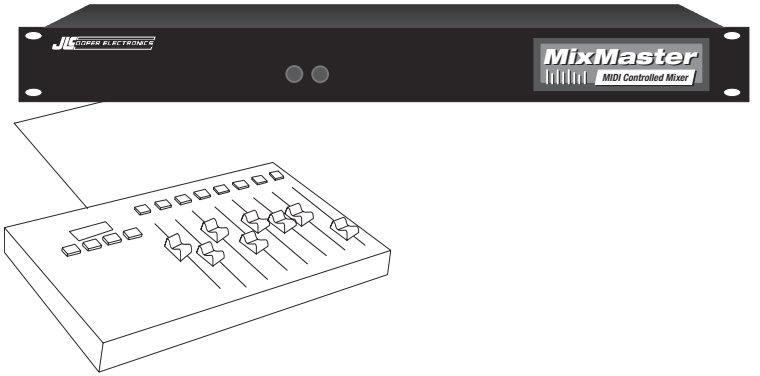
Hookup

➤ For Total Studio Control:
Connect the MIDI Input and Output of the FaderMaster Pro to a MIDI patch bay, such as JLCooper's Synapse or a computer



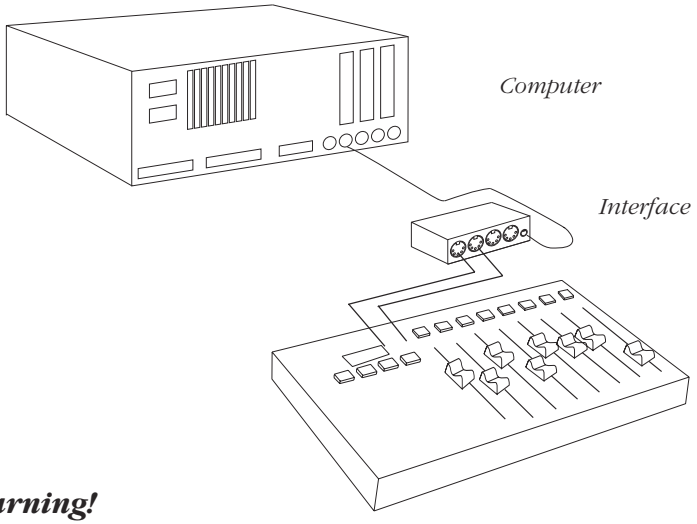
interface with built-in patch bay.

➤ For Direct Control of Signal Processors, Synthesizers, or MIDI Controlled VCA's such as JLCooper's MixMaster:
Connect the MIDI out of FaderMaster Pro to the MIDI in of the device that you want to control.



➤ **For Sequencer Automation**:
Connect the MIDI out of FaderMaster Pro to the MIDI In of the Sequencer or Computer interface.

Connect the MIDI out of the sequencer or computer interface to the MIDI in of FaderMaster Pro.



Warning!
Turn the sequencer's "Thru feature" off when connecting FaderMaster Pro in this manner.

FaderMaster Pro has a MERGE feature. This feature simply passes data from the MIDI In to the MIDI out.

You could potentially create an infinite MIDI loop if you connect two MIDI cables to FaderMaster and leave the sequencer's "Thru" turned on.

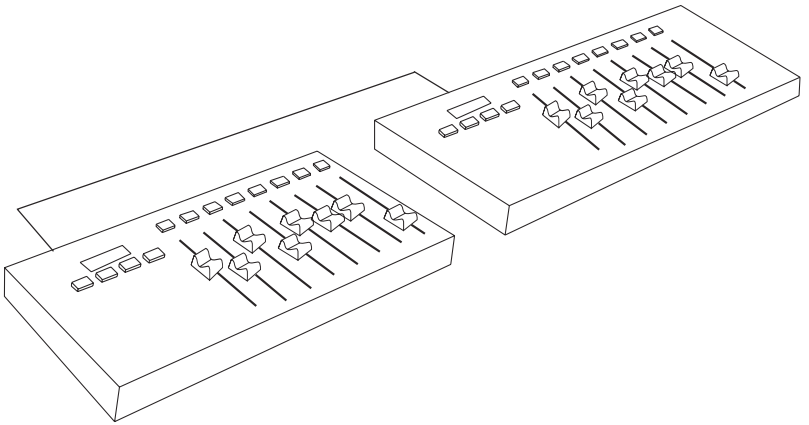
"Thru" on the sequencer may also be called Echo, MIDI Echo, Direct Echo, Patch Thru, etc.

(More specific information on how to avoid this kind of loop is given in the chapter on mixing with the Automation Banks. See page 43.)

➤ Hooking Up Several FaderMaster Pros

Multiple FaderMaster Pros may be chained together to form a larger console.

Simply connect the MIDI Out of the first FaderMaster Pro to the MIDI In of the next FaderMaster Pro.



Bank Selection

FaderMaster Pro's memory is organized into three sets or "Banks" of programs.

(In developing FaderMaster Pro, we decided to organize the memory into "Banks" as opposed to "Savings and Loans". Otherwise you might come back the next day and find them missing or renamed.)

P 1 through P 20 **User Programmable Banks**
A 1 through A 8 **Automation Banks**
F 1 through F 50 **Factory Banks**

Step up through the banks one at a time by pressing **UP**.
For example, if the display says P 1,
Press **UP**, display then says P 2.

Step down through the banks one at a time by pressing **DOWN**.
For example, if the display says P 2,
Press **DOWN**, display then says P 1.

Rapidly scroll through all the banks by holding either **UP** or **DOWN** *while moving any fader.*
Stop moving the fader at the desired bank.

As you step through banks P 1 through P 20, FaderMaster Pro sends out a short system exclusive MIDI command for each bank change, informing other FaderMaster units to also change banks.

Selecting a new bank means that you are selecting entirely different MIDI assignments for the faders and buttons.

This means that you can use FaderMaster Pro for multiple applications at the same time, simply by changing banks.

For Example
Say that P 1 has been programmed to send MIDI controllers to alter the parameters on a signal processor, such as the Alesis QuadraVerb 2.

Say that P 2 has been programmed to send MIDI controllers (on a different MIDI channel) to a adjust a MIDI Graphic Equalizer, such as the DOD MEQ28.

First Select P 1. Then, move the faders to change the sound characteristics on the QuadraVerb 2.

Press UP to select P 2. Then, move the faders to change the EQ curve on the MEQ unit.

Press DOWN again to select P 2 to adjust the QuadraVerb, etc.

This allows you to have immediate live control of multiple signal processors. (Without, obviously, walking over to the rack and fiddling with parameters one at a time with an LCD menu.)

In addition, the MIDI output of FaderMaster Pro may be recorded onto a sequencer, so that the signal processor changes may be automated and occur simultaneously.

User Programmable Banks P 1 - P 20

The twenty User Programmable are indicated in the display as P 1 through P20.

Each of the eight faders and eight buttons may send a different kind of MIDI message.

This is the most flexible bank, when your application calls for complex sets of different kinds of MIDI commands.

> If, however, you plan on using FaderMaster Pro mostly for automation, (such as sequencer mixing, digital audio workstation mixing, simple signal processor control, etc.), turn first to the chapter on the Automation Banks, page 41.
>
> The Automation Banks are much easier to program than the User Banks. In the Automation Banks, you only set one fader, and all the rest of the faders and buttons are automatically assigned to sequential controller numbers.

From the front panel of FaderMaster Pro, you can make each fader and button send the following MIDI commands or parameters (called PARM): Continuous Controller, Notes, After touch, Pitch Bend, and Program Changes.

With the optional FaderMaster Pro Remote software, you can also make the faders and buttons send MIDI System Exclusive commands.

For each fader and button, you may select the MIDI channel, the controller or note number, and minimum and maximum values.

For faders, you may set the speed of the MIDI output and whether any fader is grouped to another fader.

For buttons, you may set whether the button acts momentarily or push on / push off.

Programming FaderMaster Pro

Programming is done one of the programming modes, accessed by simply pressing the PROG button.

First, before attempting to make any changes to the way FaderMaster Pro is programmed,
Make sure that the PROTECT feature is OFF.

(The PROTECT feature works like the safety tab on a cassette or diskette, to prevent you from accidentally changing the memory of FaderMaster Pro.)

Hold SHIFT and PROTECT observe the Protect status.
Move any fader to turn Protect on and off.
When Protect is off, the display indicates OFF.
When Protect is on, the display indicates PRO.

Entering Programming Modes:

To program the faders,
press the **PROG** button once so that the **FADER LED** is lit.

To program the buttons,
press the **PROG** button again so that the **BUTTON LED** is lit.

To program the foot pedal input,
press the **PROG** button again so that the **FADER LED** flashes.

To program the foot switch input,
press the **PROG** button again so the **BUTTON LED** flashes.

Exiting Programming Modes:

To exit the programming mode,
press the **PROG** button again until both LEDs are off.

Programming Faders (In General)

➤ First select a Programmable User Bank number, P1 through P20.

Use the UP or DOWN buttons to step to the desired program number, or, hold UP or DOWN while moving any fader and stop moving the fader when the desired number is reached.

➤ Enter Fader Program mode.
Press the PROG button once so that the FADER LED is lit.

➤ Press and hold a button corresponding to the desired parameters or attributes while moving a fader.

➤ Exit Fader Program mode.
Press the PROG until both FADER and BUTTON LEDs are off.

Simple Example
To make fader 1 send MIDI Controller data on MIDI channel 4 when moved,

- ❑ Enter Fader Program mode. (Press PROG once.)
- ❑ Move fader 1 while holding the PARM button until Co is displayed.
- ❑ Move fader 1 while holding the CHAN button until 4 is displayed.
- ❑ Exit Fader Program mode.

More programming details are provided in the following pages.

Programming the Faders (In Detail)
Here are the specifics parameters and attributes that may be selected for each fader. (Remember that these settings may only be reviewed and edited in Fader Program mode.)

➤ PARM
Hold the PARM button while moving a fader to select whether the fader will send Notes (NO), Controllers (CO), Program Change (PC), After Touch (AT) or Pitch Bend (PB).

➤ CHAN
Hold the CHAN button while moving a fader to select what MIDI channel the fader will send on, 1 through 16.

➤ PARM#
Hold the PARM# button while moving a fader to select the what Controller Number or Note Number the fader will send, if the fader has been assigned to send Controllers or Notes.

➤ MIN
Hold the MIN button while moving a fader to select the minimum value that the fader will send when it is moved to the bottom of its travel.

➤ MAX
Hold the MAX button while moving a fader to select the maximum value that the fader will send when it is moved to the top of its travel.

Notice
If you set a faders minimum value higher than its maximum value, the fader will operate reversed.

MIN and MAX Application Example
A fader that sends MIDI Volume commands may have a minimum of 0 and a maximum of 127.

To perform a crossfade, set another fader with a minimum of 127 and a maximum of 0. When you bring up the two faders, one will effect a fade in while the other effects a fade out.

You may also group these two faders (discussed next). Moving up one fader would send Volume commands that are increasing (on one MIDI channel), at the same time as Volume commands (on a different MIDI channel) that are decreasing.

A fader that sends MIDI Program Change commands may have a minimum of 1 and a maximum of 32, if you are trying to restrict the available programs in a signal processor to a given class of sounds.

(You want to make sure you stick with a family of related hall sounds, and never accidentally select the ever-so-useful flanged-leslie-reverse-gated-reverb.)

➤ SPEED/BM
Hold the SPEED button while moving a fader to select how fast the fader will send out MIDI data. The speed is represented by a number 1 through 4. 1 is the slowest and 4 is the fastest.

Generally speaking, choose the fastest setting (4) for the smoothest control for mixing applications. Choose the slowest setting (1) for sending program changes so you will have more control.

➤ Grouping

In the P Banks, faders may be grouped.
To group a fader means that you assign some number of faders to be controlled by another fader called a "group master fader".

When you move a group master fader, FaderMaster Pro sends out MIDI commands just as if you simultaneously moved all of the faders assigned to the group master fader.

In other words, moving one fader sends out multiple MIDI commands as if several faders were being moved.

An Application Example

Say that the eight faders have been programmed to send MIDI Volume (MIDI Controller #7) on channels 1 through 8.

You could make fader 4 a “group master fader” by assigning faders 1 through 3 to group master 4.

You could make fader 8 a “group master fader ” by assigning faders 5 through 7 to group master 8.

The result would be that if you

Move this Fader:	FaderMaster Pro Sends:
1	MIDI Volume on Channel 1
2	MIDI Volume on Channel 2.
3	MIDI Volume on Channel 3.
4	**MIDI Volume on Channels 1 through 4.**
5	MIDI Volume on Channel 5.
6	MIDI Volume on Channel 6.
7	MIDI Volume on Channel 7.
8	**MIDI Volume on Channels 5 through 8.**

Moving a master results in data being sent for the master and all the faders assigned to the master.

➤ To Assign Groups

Enter Fader Program Mode by pressing PROG until the FADER LED is lit.

Hold the GROUP button while moving a fader *to select the master for that fader.*

For the example just given, hold GROUP and
move fader 1 until a "4" is displayed,
move fader 2 until a "4" is displayed,
move fader 3 until a "4" is displayed,

move fader 5 until a "8" is displayed,
move fader 6 until a "8" is displayed,
move fader 7 until a "8" is displayed,

Exit Fader Program mode.

Group Modes

FaderMaster Pro operates in one of three Group modes:

➤ **Absolute**
➤ **Relatively Scaled**
➤ **Offset**

Choose one of the three Group Modes by pressing SHIFT GROUP and move any fader, the display indicates:

OFF

RE1

ABS

Group Modes may be selected "on the fly", while you are actually operating FaderMaster Pro. You do not need to enter Fader Program mode.

Group Modes Demonstrated

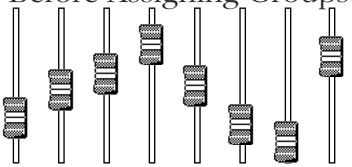
For the examples given below, the pictures represent the sort of images you would be likely to observe on sequencer software with on-screen moving faders.

While any fader can be a group master, for sake of these examples say that faders 1 through 7 are assigned to group master 8.

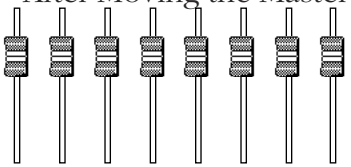
Absolute Grouping

The faders assigned to the master take on the value of the master. This is true regardless of the position of the faders assigned to the master.

Before Assigning Groups:



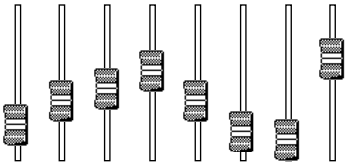
After Moving the Master:



Relatively Scaled Grouping

The faders assigned to the master are proportionally scaled to the master, so that they will all reach the bottom of their throw at the same time.

Before Assigning Groups:



Moving the Master Down:



Master at Bottom of Throw:

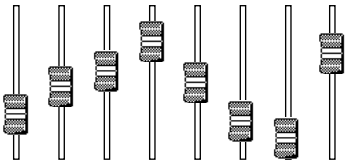


Offset Grouping
The faders assigned to the master are offset by the position of the master.

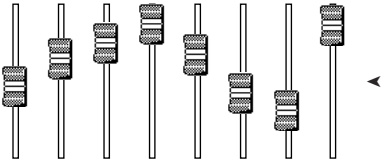
Faders assigned to the master are offset positively as the master is raised above the mid-point.

Faders assigned to the master are offset negatively as the master is lowered below the mid-point.

Before Assigning Groups:



Master Above Mid-point:



Master Below Mid-Point:



MERGE Modes

In the P Banks, each fader may be individually assigned to one of three Merge modes:

➤ Merge Off
➤ Merge On
➤ Merge Conditional

Before describing what the differences are between these modes, and how to assign the faders to these modes, a general definition would be helpful here:

Merging means the ability of FaderMaster Pro to pass MIDI data from its MIDI In to its MIDI Out.

A simple example of merging is this:
Connect the MIDI out of a keyboard to the MIDI In of FaderMaster Pro.

Connect the MIDI out of FaderMaster Pro to a tone module.

When you play the keyboard, the MIDI data comes out of the keyboard, goes into the FaderMaster Pro, and comes out of FaderMaster Pro. When you move a fader, of course, MIDI data also comes out of FaderMaster Pro.

The feature is called Merging (instead of calling it ECHO or Soft Thru as it is called on sequencers) to make it clear that the FaderMaster Pro is merging or combining the MIDI data coming into FaderMaster Pro with the MIDI data produced by FaderMaster Pro, as a result of moving the faders, pedal, pushing buttons, or foot switch.

FaderMaster Pro, while merging, can selectively filter out certain kinds of MIDI data, to make sequencer mixing and signal processor control more predictable.

Here's how it works:
After you have recorded controller data on your sequencer, you may want to edit that data. FaderMaster Pro's special MERGE modes are designed to simplify the editing of Continuous Controller data.

The procedure will be to play the previously recorded data from the sequencer into FaderMaster Pro, while re-recording the corrected data coming out of FaderMaster Pro onto a new sequencer track. This is a fairly fail-safe method, in that you need not erase the old MIDI controller track until the new track has been proven to give audibly pleasing results.

(All this assumes, of course, that your sequencer has the ability to easily select which tracks are in playback and which are in record status. That may be difficult on certain hardware sequencers.)

Merge Modes Defined:

Merge Off
This mode is used for completely replacing a track of Controller data. For example, say you have used FaderMaster Pro to record some volume tracks on a sequencer. You may want to completely redo several of those tracks while leaving the others intact.

Data coming into FaderMaster Pro is first examined by the internal microprocessor. If Controller data comes into FaderMaster Pro with the same Parameter Number and MIDI channel that a fader is set for, that data is not passed through. The data may then be replaced by new data when a fader is moved. It is this new data that is recorded onto a new sequencer track.

Merge On
Normally, MIDI data received by FaderMaster Pro is "unconditionally merged" with fader commands. That is, any data that comes into FaderMaster Pro goes right back out the MIDI output, merged with the data produced by moving a fader.

Conditional Merge
This mode is used for replacing sections of a track of Controller data. For example, say you have used FaderMaster Pro to record some volume tracks on a sequencer. You may want to redo certain parts of those tracks while leaving the rest intact.

Data coming into FaderMaster Pro is first examined by the internal microprocessor.

If Controller data comes into FaderMaster Pro with the same Parameter Number and MIDI channel number that a fader is set for, that data is passed through until a fader is moved.

Then the volume data will be replaced by new data from the fader being moved. It is this new data that is recorded onto a new sequencer track.

Momentarily pressing SHIFT and PROG will once again allow data to pass through for that fader (i.e. effect a punch out), until the fader is moved again.

In other words, this mode allows *the momentary interruption of the flow of Controller data through FaderMaster Pro.* During that interruption, new MIDI data may be inserted by moving the faders.

➤ Assigning Merge Modes

To view or change the merge assignment for a given fader, first make sure you are in PROG Mode, and the Fader LED is on steadily (not flashing.)

Press MERGE. The display will show one of the following:

ON = Merge On.
All data is passed through FaderMaster Pro and merged with fader data.

OFF = Merge Off.
Data coming into FaderMaster Pro is examined. If the fader is set to Merge Off, and if Controller data comes into FaderMaster Pro with the same Parameter Number and MIDI channel that the fader is set for, that data is not passed through.

[ON = Conditional Merge.
The data coming into FaderMaster Pro is examined as described above. Merging takes place until the corresponding fader is moved. At that point the data coming in is not passed through, but is replaced by fader data. A momentary push of SHIFT and PROG button allows MIDI data to be merged again.

In the User Programmable Banks P1 through P20, you set the merge for each fader by pushing the MERGE button and moving the fader.

To exit the programming mode, press the PROG button again until both LEDs are off.

Programming the Buttons

To program the buttons, press the PROG button until the BUTTON LED is lit.

Programming a button is easy.
But it is not immediately obvious.
(One might be inclined to ask the question, "how do you program the buttons, since the buttons themselves are used for selecting the parameters and attributes of the buttons?")

Here is the answer: The buttons are programmed exactly like the faders are programmed. You select which button you are programming by *moving the fader* under the button.

A Simple Example
To make button 1 send MIDI Controller 7 with a value of 0 when pressed,

- ❏ Enter BUTTON programming mode by pressing the PROG button until the BUTTON LED is lit.

- ❏ Move fader 1 while holding the PARM button until [0 is displayed.

- ❏ Move fader 1 while holding the PARM# button until 7 is displayed.

- ❏ Exit BUTTON program mode by pressing the PROG button until both LEDs are not lit.

Now, pressing button 1 will send a MIDI Controller 7 with a value of 0 when pressed. Since MIDI Controller 7 is MIDI volume, pressing the button will act as an audio mute.

Remember, you choose the button number that you want to program by moving the corresponding fader below the button.

Here is how to set the various parameters and attributes of the buttons, in the P banks and in Button programming mode:

➤ PARM
Hold the PARM button while moving a fader to select whether the button will send Notes (NO), Controllers (CO), Program Change (PG), Pitch Bend (PB). Notice that Notes are always sent as Note On, Note Off pairs with each button press.

➤ CHAN
Hold the CHAN button while moving a fader to select what MIDI channel the button will send on, 1 through 16.

➤ PARM#
Hold the PARM# button while moving a fader to select what Controller Number or Note Number the button will send, if the button has been assigned to send Controllers or Notes.

➤ MIN
Hold the MIN button while moving a fader to select the minimum value that the button will send.

➤ MAX
Hold the MAX button while moving a fader to select the maximum value that the button will send.

➤ SPEED/BM (BUTTON MODE)
Hold the SPEED/BM button while moving a fader to select whether the button's action is

- - - Momentary
Button sends MIN value when pressed and MAX value when released.

LCK Latched
Button sends MIN value when pressed.
Button sends MAX value when pressed again.

FAD Uses Fader Value
Button sends MIN value when pressed. Sends value equal to fader position when pressed again.

(Group and Merge are not assignable to the buttons.)

Programming the Foot Pedal

The foot pedal input accommodates a user-supplied foot pedal. (Most pedals with tip-ring-sleeve plugs will work.)

A Foot Pedal is programmed just like the faders.

It is programmed in Foot Pedal Program mode, which is selected by pressing the PROG button until the FADER LED flashes.

In Foot Pedal Program mode, select the desired parameter or attribute button while moving fader 1.

Exit Foot Pedal Program mode by pressing the PROG button until both LEDs are not lit.

Programming the Foot Switch

The foot switch input accommodates a user-supplied momentary foot switch.

Both "normally open" and "normally closed" type foot switches will work. Plug in the foot switch before powering on FaderMaster Pro, so the internal microprocessor has the opportunity to "look at" the foot switch to determine which kind it is.

The foot switch is programmed in Foot Switch Program mode, which is selected by pressing the PROG button until the BUTTON LED flashes.

In Foot Switch Program mode, select the desired parameter or attribute button while moving fader 1.

Like the buttons, use the SPEED/BM (Button Mode) button to choose how the foot switch will behave.

Hold the SPEED/BM button while moving a fader to select whether the foot switch action is

`- - -` Momentary
Foot Switch sends MIN value when pressed and MAX value when released.

`LCK` Latched
Foot Switch sends MIN value when pressed. Button sends MAX value when pressed again.

`FAD` Use Fader Value
Foot Switch sends MIN value when pressed. Sends value equal to Foot Pedal position when pressed again.

Like the buttons, you cannot set GROUP or MERGE.

Exit Foot Switch Program mode by pressing the PROG button until both LEDs are not lit.

Snapshot Function (In the P Banks)

FaderMaster Pro can send out a burst of MIDI commands called a Snapshot. The MIDI commands represent the position of each fader in the currently selected P Bank.

For example, suppose each fader is programmed to send pitch bend commands on different MIDI channels. Sending a Snapshot would result in eight different pitch bend commands going out. This could be used to quickly transpose a rack of tone modules. And its done with a single button push, rather than moving 8 faders, one at a time.

➤ **To send a Snapshot, hold SHIFT and press SNAP.**

Using the Null feature (next page), each fader may be moved into position without any MIDI data being sent out. Then, when you are ready, send the Snapshot and the MIDI commands for eight faders will all go out at the same time.

Null Button (In the P Banks)

There may be situations where you wish to move a fader to a certain position, without sending any MIDI commands.

Using the Snapshot feature (described on the previous page), you may want FaderMaster Pro to send out specific values of MIDI commands, without having to move the faders and send out all sorts of intermediate values.

For example, if you just want a single MIDI Program Change to go out, say, 48, you may not want to move the fader and end up sending 1 through 48.

Hold the NULL button before moving a fader, and keep it held down. Then, when you move the fader, FaderMaster Pro will not send out any MIDI commands.

You can still observe the current value of the fader in the display.

Then, when you are ready to send MIDI commands, release the NULL button.

To send a MIDI command, either move a fader a little bit, or press SHIFT SNAP to send a Snapshot of the current values of all eight faders.

The NULL LEDs are use in the A Banks for automated mixing, and are not used in the P Banks.

Automation Banks A1 through A8

Introduction

FaderMaster Pro's Automation Banks allow you to control up to 65 channels of automation. Applications include control of sequencers or hard disk based digital audio workstations with moving fader graphics, MIDI-controlled audio mixers (such as JLCooper's MixMaster), MIDI controlled lighting systems, and more.

The automation banks are engineered to be both simple and powerful.

First of all, they are very simple to program. Simply select one MIDI channel, and one controller number. FaderMaster Pro automatically assigns the controller numbers for all the faders, each fader sending the next higher controller number.

For example,
In Bank A 1, moving faders 1 through 8 may send MIDI controller numbers 1 through 8.
In Bank A 2, moving faders 1 through 8 may send MIDI controller numbers 9 through 16.

Secondly, the automation banks borrow the powerful features found in JLCooper's mixing console automation systems.

With our unique "Touch" feature, you can seamlessly edit fader moves simply by moving the fader.

FaderMaster Pro will get ready to "write the fader", that is, start sending MIDI controller commands, as soon as it detects that the fader is moved. But it will not actually begin sending the MIDI commands until the fader is moved across a "null point", that is, until the fader is "lined up" with previously recorded

This Touch feature allows any MIDI sequencer to behave like a six-figure automated mixer with touch-sensitive faders. There is no guessing, and no button that needs to be pressed at an exact moment. You have the feel of an automated mixer, that lets you grab any fader at any time and begin editing a track of controller commands.

Really Important

At this point, you may be tempted to select an Automation Bank and move a fader to see what happens. No problem, except that when you move a fader you may notice right away that no MIDI data comes out of FaderMaster Pro!

In the Automation Bank, the faders do not send MIDI data until you "Write Enable" them, by pressing the button above the fader.

To make automation really usable and editable, you need the power of being able to turn faders on and off, and this is done with the buttons above the faders.

And, yes, the buttons above the faders are also used for muting. This is all explained in detail in this chapter, so please be patient.

Once you get going, you will find it very natural to work with, but at the outset it could be confusing, so we recommend that you read this chapter carefully before trying to complete a project while under time pressure.

Bank Limit

Suppose you are using FaderMaster Pro to control 24 channels of automation, such as 24 channels of MIDI controlled VCAs, or 24 on-screen faders on a sequencer or HD recorder.

That means that most of the time you will be only using FaderMaster Pro's Automation Banks A 1, A 2 and A 3.

Ideally, you should be able to instantly switch between Automation Banks A1, A 2 and A 3, with a single button push, without having to worry about accidentally selecting some irrelevant bank.

A method has been provided to quickly switch between your Automation Banks, its called "Bank Limit".

Setting a Bank Limit means that, as long as you are using the Automation Banks, pressing UP or DOWN will simply cycle through the valid Automation Banks, skipping the banks outside of the limit.

For example, setting the Bank Limit to A 3 means that
Pressing UP will result in FaderMaster Pro cyclically recalling
A 1, A 2, A 3,
A 1, A 2, A 3, etc.

Pressing DOWN will result in FaderMaster Pro cyclically recalling
A 3, A 2, A 1,
A 3, A 2, A 1, etc.

Setting Bank Limit

To set the Bank Limit in the Automation Banks,
press UP or DOWN until the desired highest Automation Bank is displayed, and keep the button pressed.

While holding the button , press the other bank select button.

For example, to set the Bank Limit to A 3,

- ❑ Select **A 1** Display says A 1
- ❑ Press **UP** Display says A 2
- ❑ Press **UP** again and do not release it
  Display says A 3
- ❑ Press **DOWN**.
- ❑ Release both buttons. Display says A 3.

While the Bank Limit is set, there is a decimal point LED in the A banks, in this case A 1. A 2. A 3.

Escaping from the Bank Limit

Even after setting a Bank Limit, you can still select any FaderMaster Pro Bank, by holding either UP or DOWN while moving a fader. So you can use the P banks P 1 through P 20, the F Banks, even A banks outside the limit.

But the LIMIT is stored in memory, until you choose to remove it. For whenever you select a Bank within the range of the limit, pressing UP or DOWN again returns you to cyclic stepping through only the limited automation banks.

To completely turn off the Bank Limit:
Press DOWN and UP at the same time and observe that the decimal point LED turns off as you release both buttons.

Automation Hookup Considerations

The minimal hookup is, of course, a single MIDI cable from the MIDI Output of FaderMaster Pro into the MIDI Input of whatever you are controlling, typically a MIDI interface to a computer.

To take advantage of FaderMaster Pro's mix editing features (Null, Touch), FaderMaster Pro must be able to receive MIDI from the output of a MIDI sequencer. That means that a MIDI cable is connected from the MIDI out of a computer MIDI interface to the MIDI In of FaderMaster Pro.

Avoiding MIDI Loops

A few things need to be considered in order to have success without too much tinkering and troubleshooting.

Remember that your sequencer has a function called "thru", (or sometimes "soft thru" or "MIDI echo" or "direct echo"). Its purpose is to pass MIDI data from the input of the sequencer to the output. Most people leave it turned on most of the time. So, when you play a keyboard for example, the notes from the keyboard get recorded on the sequencer and also pass through the sequencer, so you can hear the part being played on a tone module.

FaderMaster also has the ability to pass MIDI data from its MIDI Input to its MIDI output.

So, you can see that if you leave the sequencers "thru" feature turned on, and also hook up two MIDI cables to FaderMaster Pro, you've formed a MIDI loop.

This is something to avoid, since loop usually results in (at best) the sequencer hanging-up until a cable is pulled and (at worst) the sequencer crashing and requiring re-booting.

Solutions To Looping Problems
First, turn off the sequencer's "thru" feature.

The "thru" feature of the sequencer may not needed anyway, if the studio is equipped with a sophisticated MIDI patch bay processor, such as JLCooper's Synapse.

These allow you to leave "thru" turned off on your sequencer, and still have the ability to hear a keyboard control a module during both record and playback.

If your sequencer has a "MIDI data input filter", use it. Make sure that when FaderMaster Pro is connected, the sequencer will only record MIDI controller data. That way, a 32 or more track sequence of notes, pitch bend, etc. will not loop around and get re-recorded onto the sequencer.

Try also to avoid another loop created by the MIDI Interface, if the MIDI Interface features a built-in MIDI patch bay. (Such as the MIDI Time Piece or MIDI Time Piece 2 from Mark of the Unicorn, or the Studio 4 or 5 from Opcode). Be careful that you have not routed the MIDI Out of FaderMaster Pro back into its own MIDI input.

Likewise, a powerful patchbay-interface might allow you to send the musical tracks (notes, bend, etc.) of a sequence out of one MIDI cable, to control a rack of tone modules.

And the controller tracks can go out of another MIDI cable, to pass through FaderMaster Pro. This would prevent the accidental looping and re-recording of music tracks.

How the Automation Bank is Programmed

The Automation Bank is designed to be very simple to program.

In the Automation Bank, FaderMaster Pro sends MIDI Controllers only.

You need only program a single fader, the rest of the faders and mutes are programmed automatically.

You choose a MIDI channel, and the first controller number. Each higher fader is automatically assigned the next higher controller number.

SPEED, GROUP, MIN, MAX and MERGE are not changeable.

Before Programming the Automation Bank

First, before programming FaderMaster Pro,
Make sure that the PROTECT feature is OFF.

(The PROTECT feature works like the safety tab on a cassette or diskette, to prevent you from accidentally changing the memory of FaderMaster Pro.)

Hold SHIFT and PROTECT observe the Protect status.
Move any fader to turn Protect on and off.
When Protect is off, the display indicates *OFF*.
When Protect is on, the display indicates *PRO*.

To Program the Automation Bank,

➤ Select Automation Bank number A 1.

Use the UP or DOWN buttons to step to the desired program number, or, hold UP or DOWN while moving any fader and stop moving the fader when the desired number is reached.

➤ Press the PROG button once so that the FADER LED is lit. You will notice that in the Automation Bank, the PROG button toggles the FADER LED on or off. There is no separate BUTTON mode.

Example
To make all the faders send sequential controller numbers on MIDI channel 5, starting with Controller number 10:

❑ Move fader 1 while holding the PARM# button until 10 is displayed.

❑ Move fader 1 while holding the CHAN button until 5 is displayed.

❑ Exit the Fader Program mode by pressing PROG once again so that the FADER LED is out.

Now, when Bank A 1 is selected, the faders send the following MIDI commands:

Fader 1	Controller 10, channel 5.
Fader 2	Controller 11, channel 5.
Fader 3	Controller 12, channel 5.
Fader 4	Controller 13, channel 5.
Fader 5	Controller 14, channel 5.
Fader 6	Controller 15, channel 5.
Fader 7	Controller 16, channel 5.
Fader 8	Controller 17, channel 5.

When Bank A 2 is selected, the faders send the following MIDI commands:

Fader 1	Controller 18, channel 5.
Fader 2	Controller 19, channel 5.
Fader 3	Controller 20, channel 5.
Fader 4	Controller 21, channel 5.
Fader 5	Controller 22, channel 5.
Fader 6	Controller 23, channel 5.
Fader 7	Controller 24, channel 5.
Fader 8	Controller 25, channel 5.

Again, we restate that moving the faders will not send any MIDI data at all until the faders are "Write Enabled" by pressing the button above the fader. (This is explained in detail on the next page.)

The Mute buttons above the faders send the same controller number as the faders.

They send a 0 value when pressed, and the LED turns on.

They send a value equal to the fader when they are pressed again, and the LED turns off.

About the Foot Pedal

In the Automation Banks, the Foot Pedal sends the same kind of MIDI data that the faders send. 64 is added to the controller or note number of the first fader.
In other words, the pedal acts like a 65th fader.

About the Foot Switch

In the Automation Banks, the Foot Switch sends the same kind of MIDI data that the faders send. 65 is added to the controller or note number of the first fader. The switch is momentary, sending a fixed maximum value (127) when depressed, and a fixed minimum value (0) when released.

Automation Bank Operation

The Two Functions of the Buttons: Enables and Mutes

In the Automation Bank, the buttons above the faders have two different functions, they act as Fader "Write Enables" and as Mutes.

➤ When the buttons are acting as Fader **Write Enables**, pressing the button turns on the LED, and turns on the fader. The moving the fader sends MIDI data only when the fader is enabled.

Pressing the button again turns the LED off, and the fader below the button no longer sends MIDI data.

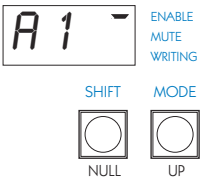
➤ When the buttons are acting as **Mutes**, pressing the button turns the LED on and sends a MIDI controller with a value of 0. The controller number is the same as the fader below the button.

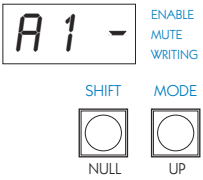
Pressing the button again turns the LED off, and sends a MIDI controller with a value equal to the position of the fader.

In other words, say FaderMaster Pro is controlling an audio channel (of MIDI controlled VCAs, for example). Pressing the button Mutes the channel, pressing the button again returns the channel to the level of the fader.

Selecting Whether the Buttons are Enables or Mutes
Pressing MODE (that is, SHIFT and UP) selects whether buttons are Enables or Mutes.

The buttons are Enables when the display shows a dash next to the word “ENABLE”.

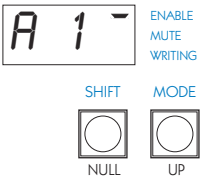




Writing Fader Moves

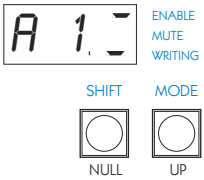
Using automation terminology, recording MIDI controller data from FaderMaster Pro onto a sequencer is called "Writing Fader Moves".

First select the desired bank using the UP or DOWN buttons. Then, make sure that the buttons are in ENABLE mode, as indicated by a dash next to the word ENABLE.



Then, press the button above the fader to Enable the fader.

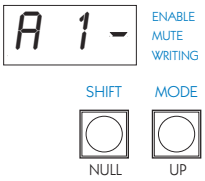
When the fader is enabled, a dash appears next to the word "WRITE".



Writing Mutes

Using automation terminology, recording MIDI controller data as a result of pressing Mute buttons is called "Writing Mutes".

First select the desired bank using the UP or DOWN buttons. Then, make sure that the buttons are in MUTE mode, as indicated by a dash next to the word MUTE.



Editing Fader Moves

After you have written (that is, recorded) fader moves into a sequencer or digital audio workstation, you have one or more tracks of MIDI controller data that represent the an audio mix. You may want to edit the fader moves to change the mix.

The procedure will vary depending on your sequencer, so you may have to adapt the techniques presented here.

Generally speaking, the way to edit fader moves is to play back the sequence, making sure of the following:

➤ The MIDI out of the sequencer goes into the MIDI in of FaderMaster Pro.

➤ The MIDI out of FaderMaster Pro goes back into the sequencer, preferably recorded onto a new track.

Ideally you must also do one of the following, depending on what works best on your sequencer and or MIDI interface and or patch bay:

➤ The track playing back into FaderMaster Pro should only contain the controller data. It should not contain MIDI notes.

➤ If your sequencer has a MIDI input Filter function, it should be set to only record MIDI controllers.

What you are trying to achieve:
You are trying to pass the previously recorded track of MIDI controllers into FaderMaster Pro.

Then, use the faders to edit (modify) the previously recorded track of controllers, usually by punching into and correcting the fader moves.

You will then end up with two tracks (at least) of controllers. The original track and the new track which is a modified version of the original track.

You then have the freedom to keep the original track, or discard it and keep the modified track.

What you want to avoid:
You want to avoid creating a MIDI loop.

If you do not take extreme care with which sequencer tracks are play enabled, and if you have no MIDI input filter, and if your sequencer's THRU function is turned on, really bad (time-eating) things will start to happen.

You may (at least) end up passing the entire sequence (notes, after touch, etc.) through the FaderMaster Pro and re-recording it all on one uneditable track, wasting huge amounts of your sequencer's memory.

Or you may (at worst) create an infinite MIDI loop, forcing you to pull MIDI cables and re-boot your sequencer to get everything calm again.

Refer to the suggestions at the beginning of this chapter to help clean up a situation like this.

Fader Null

An important concept in automation is the idea of "Nulling" a fader. It is easiest to explain by an illustration.

Say that FaderMaster Pro is connected to a sequencer and controlling MIDI controlled VCAs.

You start recording on the sequencer, and then you enable a fader on FaderMaster Pro by pressing the button above the fader. Then you perform a fade in, slowly bringing the fader up. Now the fader on FaderMaster Pro is at the top of its throw.

Rewind the sequence, and begin to play it back. If your sequencer features on screen moving faders, you will see the fader jump immediately down to its minimum position, and then slowly climb back up as your fade in plays back. But suppose you stop the sequencer right away, and you don't let the fader move play back.

The ***picture of the fader*** on the computer is still near the ***bottom*** of its travel or throw.

Since we haven't touched the FaderMaster Pro, the ***real fader*** is still at the ***top*** of its throw.

The two faders, which are supposed to represent one audio channel, are now ***in two different positions***.

This doesn't represent any problem whatsoever, until you consider editing, that is, re-writing the fader move. If you were to simply punch into record on the sequencer, and enable and move the fader, you would have a radical jump in level.

The whole idea of Nulls and Enables is to prevent jumps in level which would otherwise occur every time you tried to punch in and correct fader moves consisting of MIDI controller data.

The NULL LEDS

The NULL LEDs work by monitoring the MIDI data coming into FaderMaster Pro.

When you play back a previously recorded sequence, the MIDI data coming into FaderMaster Pro represents the previously recorded fader levels.

FaderMaster Pro compares the previously recorded fader levels with the position of the fader that you are moving. It lets you know if the fader you are moving is above or below the level of the previously recorded fader move.

If the fader you are moving is above the previously recorded level, the up arrow NULL indicator is lit, indicating that your fader is too high.

If the fader you are moving is below the previously recorded level, the down arrow NULL indicator is lit, indicating that your fader is too low.

If the two are in agreement, both NULL LEDs are lit, the fader is at the same level as the previously recorded fader position. The fader is said to be “nulled”.

At this point, you may enable the fader by pressing the button above the fader, and writing your new fader move. When you play back the sequence, the volume changes will be smooth and continuous, with no jumps in level.

It should now also be more clear at this point as to the need for the Enable buttons. You always want the option of being able to move a fader into position before any MIDI data is sent.

The Enables give you the ability to turn a fader off temporarily, thus allowing you to move them to the correct position before editing a section of a mix.

Touch Sensitive Auto Enable

FaderMaster Pro's Touch Sensitive Auto Enabling feature makes FaderMaster Pro behave like an automated mixer with touch sensitive faders.

➤ **To toggle the TOUCH feature on and off**,
press SHIFT and TOUCH.
TOUCH is on as indicated by TCH.
TOUCH is off as indicated by OFF.

How It Works

When TOUCH is enabled, you don't have to push an enable button to get the fader to send MIDI data.

Simply move the fader. FaderMaster Pro senses that you are moving the fader, but it will not send any MIDI data until you cross the fader's Null point.

When the Null point is reached, the LED above the fader will turn on, and the WRITING indicator will turn on.

Note that for Touch to work, there must be controller data playing back into FaderMaster Pro in order for it to find a Null point.

Snapshot

Another important concept relating to automation is called "Snapshot". FaderMaster Pro can send out a burst of MIDI commands called a Snapshot. The MIDI commands represent the current level of all of the channels in the Automation Bank.

The Snapshot represents the value of the last MIDI data sent out by the fader. If any fader is muted, then a zero value is sent out for that fader regardless of its position.

➤ **To send a Snapshot, hold SHIFT and press SNAP.**

How The Snapshot is Used

Generally speaking, a Snapshot is recorded at the beginning of a sequence to capture the initial state of all the faders and mutes. Put the sequencer into record, send a Snapshot from FaderMaster Pro, and then make the fader moves.

The fact that the Snapshot is recorded as part of the controller track assures that every time you play back the sequence, the channel levels immediately "snap" to their correct values at the beginning of the mix.

The amount of data that comes out of FaderMaster Pro is related to the Bank Limit.

For example, if the Bank Limit is set to A 1 and A 2, then the Snapshot will consist of 16 controller commands,
8 for faders 1 through 8 in Bank A 1, and
8 for faders 1 through 8 in Bank A 2.

If no Bank Limit has been set, then sending a Snapshot results in 64 controller commands being sent. The 64 are for the 8 faders in Banks A 1 through A 8. (For more information about the Bank Limit feature, see page 43.)

Snapshot Example

Say that you have programmed the first fader in the Automation Bank to MIDI Controller number 0 on MIDI Channel 1.

In Bank A 1 you move all the faders up, the values are all 127. Then say you change to Bank A 2 and move all the faders down. The MIDI values are all 0.

Pressing SNAP would result in this MIDI data being sent out:

MIDI Controller 0, Channel 1, value 127
MIDI Controller 1, Channel 1, value 127
MIDI Controller 2, Channel 1, value 127
MIDI Controller 3, Channel 1, value 127
MIDI Controller 4, Channel 1, value 127
MIDI Controller 5, Channel 1, value 127
MIDI Controller 6, Channel 1, value 127
MIDI Controller 7, Channel 1, value 127
MIDI Controller 8, Channel 1, value 0
MIDI Controller 9, Channel 1, value 0
MIDI Controller 10, Channel 1, value 0
MIDI Controller 11, Channel 1, value 0
MIDI Controller 12, Channel 1, value 0
MIDI Controller 13, Channel 1, value 0
MIDI Controller 14, Channel 1, value 0
MIDI Controller 15, Channel 1, value 0

Big Example

Here is an overview of a typical Automated Mixing Session. All of the FaderMaster Pro's Automation Bank features will be used here, so you can get an idea of the flow of automated mixing from start to finish.

First Set Up FaderMaster Pro

Select the first Automation Bank, A 1, by using UP or DOWN. Hold UP or DOWN while moving a fader until display says A 1.

Set Bank Limit

Determine the number of channels that you want to automate. Usually that is the number of audio channels of a MIDI controlled mixer.

Set a Bank Limit on FaderMaster Pro so you can quickly step through only the banks you need.

Press UP *and* DOWN to lock in a Bank Limit.
When UP and DOWN are released, the Bank Limit is locked in, as indicated by a decimal point in the display.

For example, for a 24 channel system,
For example, to set the Bank Limit to A 3,

❑ Select **A 1** Display says A 1

❑ Press **UP** Display says A 2

❑ Press **UP** again and do not release it
Display says A 3

❑ Press **DOWN**.

❑ Release both buttons. Display says A 3.

Now, pressing UP results in the following sequence,
A 1, A 2, A 3, A 1, A 2, A 3, etc.

Program the First Fader
Remember that in the Automation Bank you need only assign the first fader a MIDI controller number and MIDI channel.

Check that Protect is OFF. (SHIFT PROTECT)

❏ Enter Program Mode by pressing PROG and noting that the FADER LED is lit.

❏ Hold the CHAN button while moving fader 1 to select the MIDI channel.

❏ Hold the PARM# button while moving fader 1 to set the starting controller number.

Often with multiple-port, multiple channel computer MIDI interfaces, FaderMaster Pro's settings can be arbitrary. Just set the first fader for Controller #0 on MIDI channel 1.

❏ Exit Program Mode by pressing the PROG button again so that the FADER LED is not lit.

Consider the Hookup
The first time you write fader moves (that is, record controller data) will be called the first automation "pass". It is only necessary to have a single MIDI cable from the output of FaderMaster Pro to the input of the sequencer or digital audio workstation. The sequencer's "Thru" may be on.

On subsequent passes, when it comes time to edit previously recorded MIDI controller data, a cable must be connected from the output of the sequencer to the input of FaderMaster Pro.

The sequencer's "Thru" should be off.
Refer to the section on page 45 for strategies on how to avoid loops.

Verify Audio and Communication
This would be a good point to stop and make sure that everything is connected correctly. Verify that you have control over either your on-screen moving faders or your outboard MIDI controlled mixer.

Remember that in the Automation Banks, the buttons above the faders have two functions, fader enables or channel mutes.

The function is toggled by SHIFT MODE. It is displayed by a dash in the display near the words ENABLE or MUTE.

Remember that in the Automation Banks, the fader does not send any data until it is enabled. That is, the button above the fader must be pressed and the LED lit while in ENABLE mode.

Set Initial Levels
Play your sequence, tape, or digital audio files, and experiment with the mix for awhile to determine what the initial levels and mute conditions should be.

Record Snapshot
Start the sequencer in record. Press SHIFT and SNAP to send a snapshot of controller data into the sequencer.

First Pass
Enable faders and make your fader moves for a rough mix.
Change Banks as needed to mix different channels.
Bank changing is not necessary if you happen to be using several FaderMaster Pros.

Writing Mutes
Press SHIFT MODE to enter Mute Mode, as indicated by a dash next to the word MUTES.

Mute channels and change Banks as needed to mute different channels.

Turn TOUCH On
Press SHIFT TOUCH to toggle touch on and off.

Again, make sure that you have a MIDI cable from the out of the sequencer to the in of FaderMaster Pro. TOUCH relies on finding a NULL point, and a NULL point can only be determined when there is MIDI data coming into FaderMaster Pro, so it can be compared with the position of the fader that you are moving.

Play back the previously recorded controller tracks while re-recording the MIDI data that comes out of FaderMaster Pro.

When you are satisfied with the mix, used the most current version of the track of controller data.

Or keep several tracks of controller data to represent different mixes of the same material.

Simply play-enable the tracks from your sequencer that represent the desired mix.

Factory Preset Banks F1 through F59

There are 59 Factory Preset Banks. These have been pre-programmed to allow FaderMaster Pro to function as a remote controller for specific instruments. These presets are designed to facilitate both programming and real-time control.

We have also included a Preset Card listing what each bank does, for quick reference.

Selecting the Factory Preset Banks

The 59 programs in the Factory Bank are designated F1 through F59. While holding the UP or DOWN button you may rapidly go to the desired preset by moving any fader.

These presets are stored in FaderMaster Pro's internal EPROM, and are not user-changeable. The exception to this is that certain instruments have the ability to set a Sysex Device Number. FaderMaster Pro allows for this, in that the presets for those instruments may have their channel number changed. This is useful if you are controlling more than one of the same kind of device.

Refer to the listing below to determine if a given instrument allows a Device Number to be user-selected. This is indicated by "*". When allowable, setting the MIDI channel for any fader sets the Sysex device number for all eight faders. These changes will be saved in the battery-backed memory.

In the Factory Preset banks, the Fader Attributes (Speed, Min and Max, etc.) are preset, and the Merge and Group do not operate.

Remember that FaderMaster Pro's output may be recorded onto a MIDI sequencer. The sequencer can then provide automated playback of your parameter changes.

Factory Bank Presets

FaderMaster Pro's 59 Factory Bank Presets are designed to ease real-time control of several popular instruments. The following table shows the fader number and the command sent. An "*" indicates that the user may select a System Exclusive Device Number by pressing CHAN and moving a fader.

F1	MIDI Volume Channels 1-8
F2	MIDI Volume Channels 9-16
F3	MIDI Pan Channels 1-8
F4	MIDI Pan Channels 9-16
F5-F6	Oberheim Matrix 6 and Matrix 1000
F7-F8	Kawai K1*
F9-16	Yamaha DX-7 Series*, including TX-7 and TX-816
17	Roland D-10, D-20, D-110
18	Roland D-20
19	Roland D-50, D-550*
20	Roland D-50, D-550*
21-24	Korg M1*
25-27	Emu Proteus*
28-30	Ensoniq VFX*
31	Lexicon LXP-1
32-34	Lexicon LXP-5
35-36	Yamaha SY-77, TG-77
37-38	Yamaha SY-55, TG-55
39-42	Yamaha TX-81Z
43-44	Peavey DPM-3
45	Roland D-70
46-47	Roland U-20, U-220
48	Roland MT-32
49-50	Korg M-3R
51-52	Kawai K-4
53-54	Korg WS WaveStation
55-58	Korg T-1, T-2, T-3 (combi)
59	Emu Proteus, Proteus II

Bank F1 - Midi Volume Chan 1-8
1— Midi Vol Chan 1
2— Midi Vol Chan 2
3— Midi Vol Chan 3
4— Midi Vol Chan 4
5— Midi Vol Chan 5
6— Midi Vol Chan 6
7— Midi Vol Chan 7
8— Midi Vol Chan 8

Bank F2 - Midi Volume Chan 9-16
1— Midi Vol Chan 9
2— Midi Vol Chan 10
3— Midi Vol Chan 11
4— Midi Vol Chan 12
5— Midi Vol Chan 13
6— Midi Vol Chan 14
7— Midi Vol Chan 15
8— Midi Vol Chan 16

Bank F3 - Midi Pan Chan 1-8
1— Midi Pan Chan 1
2— Midi Pan Chan 2
3— Midi Pan Chan 3
4— Midi Pan Chan 4
5— Midi Pan Chan 5
6— Midi Pan Chan 6
7— Midi Pan Chan 7
8— Midi Pan Chan 8

Bank F4 - Midi Pan Chan 9-16
1— Midi Pan Chan 9
2— Midi Pan Chan 10
3— Midi Pan Chan 11
4— Midi Pan Chan 12
5— Midi Pan Chan 13
6— Midi Pan Chan 14
7— Midi Pan Chan 15
8— Midi Pan Chan 16

Bank F5 - Oberheim Matrix 6/1000
1— VCF Frequency
2— Env 1 to VCF Amount
3— VCF Resonance
4— LFO1 Speed
5— LFO1 to DCO1 Amount
6— LFO1 to DCO2 Amnt.
7— DCO2 Detune
8— DCO2 Frequency

Bank F6 - Oberheim Matrix 6/1000
1— Env 1 Attack
2— Env 1 Decay
3— Env 1 Sustain
4— Env 1 Release
5— Env 2 Attack
6— Env 2 Decay
7— Env 2 Sustain
8— Env 2 Release

Bank F7 - Kawai K1, K1M, K1R, K-1II
1— Volume 1
2— Volume 2
3— Volume 3
4— Volume 4
5— Detune 1
6— Detime 2
7— Detune 3
8— Detune 4

Bank F8 - Kawai K1, K1M, K1R, K-1II
1— Attack 1
2— Release 1
3— Attack 2
4— Release 2
5— Attack 3
6— Release 3
7— Attack 4
8— Release 4

Bank F9 - Yamaha DX/TX General
1— Pgm Change
2— Midi Volume
3— Feedback
4— Transpose
5— Key Sync
6— OPS Select
7— LFO PMD
8— LFO Amount

Bank F10 - Yamaha DX/TX Osc
1— OP1 Coarse Frequency
2— OP2 Coarse Frequency
3— OP3 Coarse Frequency
4— OP4 Coarse Frequency
5— OP5 Coarse Frequency
6— OP6 Coarse Frequency
7— OP1 Fine Frequency
8— OP2 Fine Frequency

Bank F11 - Yamaha DX/TX OP1
1— Rate 1
2— Rate 2
3— Rate 3
4— Rate 4
5— Level 1
6— Level 2
7— Level 3
8— Level 4

Bank F12 - Yamaha DX/TX OP2
1— Rate 1
2— Rate 2
3— Rate 3
4— Rate 4
5— Level 1
6— Level 2
7— Level 3
8— Level 4

Bank F13 - Yamaha DX/TX OP3
1— Rate 1
2— Rate 2
3— Rate 3
4— Rate 4
5— Level 1
6— Level 2
7— Level 3
8— Level 4

Bank F14 - Yamaha DX/TX OP4
1— Rate 1
2— Rate 2
3— Rate 3
4— Rate 4
5— Level 1
6— Level 2
7— Level 3
8— Level 4

Bank F15 - Yamaha DX/TX OP5
1— Rate 1
2— Rate 2
3— Rate 3
4— Rate 4
5— Level 1
6— Level 2
7— Level 3
8— Level 4

Bank F16 - Yamaha DX/TX OP6
1— Rate 1
2— Rate 2
3— Rate 3
4— Rate 4
5— Level 1
6— Level 2
7— Level 3
8— Level 4

Bank F17 - Roland D-10, D-20, D-110
1— Program Change Chan 1
2— Program Change Chan 2
3— Program Change Chan 3
4— Program Change Chan 4
5— Program Change Chan 5
6— Program Change Chan 6
7— Program Change Chan 7
8— Program Change Chan 8

Bank F18- Roland D-20
1— Master Volume
2— Fine Tune
3— Mod Depth
4— Mod Rate
5— Bend Range
6— Reverb Mode
7— Reverb Time
8— Reverb Level

Bank F19 - Roland D-50, D-550
1— Lower LF EQ Frequency
2— Lower LF EQ Gain
3— Lower HF EQ Frequency
4— Lower HF EQ Gain
5— Upper LF EQ Frequency
6— Upper LF EQ Gain
7— Upper HF EQ Frequency
8— Upper HF EQ Gain

Bank F20 - Roland D-50, D-550
1— Reverb Type
2— Reverb Balance
3— Chorus Lower Type
4— Chorus Lower Rate
5— Chorus Lower Depth
6— Chorus Upper Type
7— Chorus Upper Rate
8— Chorus Upper Depth

Bank F21 - Korg M1, M1R Single
1— Osc 1 Multisound
2— VDF 1 Cutoff
3— VDF 1 EG Intensity
4— VDA 1 Attack Time
5— VDA 1 Attack Level
6— VDA 1 Breakpoint
7— VDA 1 Sustain Level
8— VDA 1 Release Time

Bank F22 - Korg M1, M1R Single
1— Effect 1 Type
2— Effect 1 Dry/Eff Balance
3— Effect 1 Hi EQ
4— Effect 1 Lo EQ
5— Effect 2 Type
6— Effect 2 Dry/Eff Balance
7— Effect 2 Hi EQ
8— Effect 2 Lo EQ

Bank F23 - Korg M1, M1R Double
1— Osc 1 Multisound
2— VDF 1 Cutoff
3— VDA 1 Release Time
4— Osc 2 Multisound
5— VDF 2 Cutoff
6— VDA 2 Release Time
7— Osc 1 Level
8— Osc 2 Level

Bank F24 - Korg M1, M1R Double
1— Effect 1 Type
2— Effect 1 Dry/Eff Balance
3— Effect 1 Hi EQ
4— Effect 1 Lo EQ
5— Effect 2 Type
6— Effect 2 Dry/Eff Balance
7— Effect 2 Hi EQ
8— Effect 2 Lo EQ

Bank F25 - Emu Proteus, Proteus II
1— Primary Instrument
2— Primary Volume
3— Primary Tune
4— Primary Fine Tune
5— Secondary Instrument
6— Secondary Volume
7— Secondary Tune
8— Secondary Fine Tune

Bank F26 - Emu Proteus, Proteus II
1— Primary Alternate Attack
2— Primary Alternate Decay
3— Primary Alternate Sustain
4— Primary Alternate Release
5— Secondary Alternate Attack
6— Secondary Alternate Decay
7— Secondary Alternate Sustain
8— Secondary Alternate Release

Bank F27 - Emu Proteus, Proteus II
1— LFO1 Shape
2— LFO1 Frequency
3— LFO1 Variation
4— LFO1 Amount
5— LFO2 Shape
6— LFO2 Frequency
7— LFO2 Variation
8— LFO2 Amount

Bank F28 - Ensoniq VFX Voice 1
1— Release Time
2— Timbre
3— Pitch Fine
4— Filter Cutoff
5— LFO Depth
6— LFO Speed
7— FX1 Amount
8— FX2 Amount

Bank F29 - Ensoniq VFX Voice 2
1— Release Time
2— Timbre
3— Pitch Fine
4— Filter Cutoff
5— LFO Depth
6— LFO Speed
7— FX1 Amount
8— FX2 Amount

Bank F30 - Ensoniq VFX Voice 3
1— Release Time
2— Timbre
3— Pitch Fine
4— Filter Cutoff
5— LFO Depth
6— LFO Speed
7— FX1 Amount
8— FX2 Amount

Bank F31 - Lexicon LXP-1
1 - Bass
2 - Pre Delay
3 - Pre Delay FB
4 - Diffusion
5 - Reverb Time
6 - Size
7 - High Freq. Cut
8 - Effects Level

Bank F32 - Lexicon LXP-5
1 - Reverb Level
2 - Reverb Time
3 - Size
4 - Diffusion
5 - Treble Decay
6 - Bass Multiply
7 - High Freq. Cut
8 - Low Freq. Cut

Bank F33 - Lexicon LXP-5
1 - Pan
2 - Input Level
3 - Output Level
4 - Delay 1 Course
5 - Delay 1 Fine
6 - Pitch On/Off
7 - Pitch Course
8 - Pitch Fine

Bank F34 - Lexicon LXP-5
1 - Main Feedback
2 - Left Feedback
3 - L. Delay Course
4 - Left Delay Fine
5 - R. Delay Course
6 - Right Delay Fine
7 - LFO Rate
8 - Reverb Level

Bank 35 - Yamaha SY-77, TG-77
1. Reverb Effect 1 Type
2. Reverb Effect 1 Output Level
3. Reverb Effect 1 Parameter 1
4. Reverb Effect 1 Parameter 2
5. Reverb Effect 1 Parameter 3
6. Reverb Effect 1 Balance
7. Chorus Effect 1 Balance
8. Chorus Effect 1 Output Level

Bank 36 - Yamaha SY-77, TG-77
1. Reverb Effect 2 Type
2. Reverb Effect 2 Output Level
3. Reverb Effect 2 Balance
4. Reverb Effect 2 Parameter 1
5. Reverb Effect 2 Parameter 2
6. Reverb Effect 2 Parameter 3
7. Chorus Effect 2 Balance
8. Chorus Effect 2 Output Level

Bank 37 - Yamaha SY-55, TG-55
1. Filter 1 Cutoff Element 1
2. Filter 1 Cutoff Element 2
3. Filter 1 Cutoff Element 3
4. Filter 1 Cutoff Element 4
5. Filter 2 Cutoff Element 1
6. Filter 2 Cutoff Element 2
7. Filter 2 Cutoff Element 3
8. Filter 2 Cutoff Element 4

Bank 38 - Yamaha SY-55, TG-55
1. Reverb Effect Type
2. Reverb Effect Output Level
3. Reverb Effect Parameter 1
4. Reverb Effect Parameter 2
5. Reverb Effect Parameter 3
6. Element 0 Pitch Modulation Depth
7. Element 0 Amp. Mod. Depth
8. Element 0 Filter Modulation Depth

Bank 39 - Yamaha TX-81Z Operator 1
1. Attack Rate
2. Decay Rate 1
3. Decay Rate 2
4. Release Rate
5. Decay Level 1
6. Level Scale
7. EG Bias
8. Operator Output Level

Bank 40 - Yamaha TX-81Z Operator 3
1. Attack Rate
2. Decay Rate 1
3. Decay Rate 2
4. Release Rate
5. Decay Level 1
6. Level Scale
7. EG Bias
8. Operator Output Level

Bank 41 - Yamaha TX-81Z Operator 2
1. Attack Rate
2. Decay Rate 1
3. Decay Rate 2
4. Release Rate
5. Decay Level 1
6. Level Scale
7. EG Bias
8. Operator Output Level

Bank 42 - Yamaha TX-81Z Operator 4
1. Attack Rate
2. Decay Rate 1
3. Decay Rate 2
4. Release Rate
5. Decay Level 1
6. Level Scale
7. EG Bias
8. Operator Output Level

Bank 43 - Peavey DPM-3
1. Programmed Voice Volume
2. Programmed DCA 1 Level
3. Programmed DCA 2 Level
4. Programmed Filter Resonance
5. Programmed Filter Cutoff
6. Filter Modulation Source 1
7. Filter Modulation Source 2
8. Proc. 2 Send Amount

Bank 44 - Peavey DPM-3
1. LFO 1 Rate
2. LFO 1 Amount
3. LFO 1 Mod Source 1
4. LFO 1 Mod Source 2
5. LFO 2 Rate
6. LFO 2 Amount
7. LFO 2 Mod Source 1
8. LFO 2 Mod Source 2

Bank 45 - Roland D-70
1. Reverb Type
2. Reverb Delay Time
3. Reverb Feedback
4. Reverb Level
5. Chorus Type
6. Chorus Rate
7. Chorus Depth
8. Chorus Level

Bank 46 - Roland U-20, U-220
1. Reverb Type
2. Reverb Level
3. Reverb Delay Feedback
4. Reverb Time
5. Arpeggio Type
6. Arpeggio Rate
7. Re-trig Mode
8. Type

Bank 47 - Roland U-20, U-220
1. Chorus Type
2. Chorus Level
3. Chorus Feedback
4. Chorus Delay
5. Chorus Rate
6. Chorus Depth
7. Chorus Out Mode
8. Key Transpose

Bank 48 - Roland MT-32
1. Master Volume
2. Reverb Mode
3. Reverb Time
4. Reverb Level
5. Program Change Channel 2
6. Program Change Channel 3
7. Program Change Channel 4
8. Program Change Channel 5

Bank 49 - Korg M-3R
1. VDF Cutoff
2. VDA Attack Time
3. VDA Attack Level
4. VDA Decay Time
5. Break Point
6. Slope Time
7. Sustain Level
8. Release Time

Bank 50 - Korg M-3R
1. Parameter 1
2. Parameter 2
3. Parameter 3
4. Parameter 4
5. Parameter 5
6. Parameter 6
7. Parameter 7
8. Parameter 8

Bank 51 - Kawai K-4
1. Wave Select 1
2. Wave Select 2
3. Wave Select 3
4. Wave Select 4
5. Fine Tune 1
6. Fine Tune 2
7. Fine Tune 3
8. Fine Tune 4

Bank 52 - Kawai K-4
1. Effect Type
2. Parameter 1
3. Parameter 2
4. Parameter 3
5. Vibrato Speed
6. Vibrato Depth
7. DCF Cutoff
8. DCF Resonance

Bank 53 - Korg WS WaveStation
1. Filter Cutoff
2. Filter Exciter Amount
3. Filter Mod Tracking
4. Wet/Dry Mix
5. FX 1 Prog
6. FX 2 Prog
7. FX Mix 3
8. FX Mix 4

Bank 54 - Korg WS WaveStation
1. LFO 1 Rate
2. LFO 1 Amount
3. LFO 1 Delay
4. LFO 1 Fade In
5. LFO 2 Rate
6. LFO 2 Amount
7. LFO 2 Delay
8. LFO 2 Fade In

Bank 55 - Korg T-1, T-2, T-3 - Combi
1. Program Select 1
2. Program Select 2
3. Program Select 3
4. Program Select 4
5. Program Select 5
6. Program Select 6
7. Program Select 7
8. Program Select 8

Bank 56 - Korg T-1, T-2, T-3 - Combi
1. Level 1
2. Level 2
3. Level 3
4. Level 4
5. Level 5
6. Level 6
7. Level 7
8. Level 8

Bank 57 - Korg T-1, T-2, T-3 - Combi
1. Effect 1 Type
2. Parameter 1
3. Parameter 2
4. Parameter 3
5. Parameter 4
6. Parameter 5
7. Parameter 6
8. Parameter 7

Bank 58 - Korg T-1, T-2, T-3 - Combi
1. Effect 2 Type
2. Parameter 1
3. Parameter 2
4. Parameter 3
5. Parameter 4
6. Parameter 5
7. Parameter 6
8. Parameter 7

Bank 59 - EMU Proteus, Proteus II
1. Primary Delay
2. Primary Chorus
3. Secondary Delay
4. Secondary Chorus
5. Crossfade Mode
6. Crossfade Balance
7. Primary Sample Start
8. Secondary Sample Start

General Instructions for Using Preset Banks

Almost all instruments must first be set up to receive MIDI System Exclusive information. The procedure for this varies from product to product, it is recommended that you consult your owners manuals for specifics. Generally speaking, for most LCD (menu-driven) synthesizers and effects, you must select a MIDI Master Page, and turn Sysex = On.

Most instruments will automatically change their LCD page as you move a fader, and you will see the parameter's value change on the LCD. The EMU Proteus, however, will not show any change in the display.

Here are a few specific suggestions concerning the Oberheim Matrix 6-R , Ensoniq VFX, the Akai S-1000, and the Korg M-3R.

Matrix 6-R

In addition to enabling sysex, you must be in Patch Edit Quick Mode. The Matrix 6-R will not accept system exclusive and MIDI notes at the same instant. Rather, you should stop playing notes while the faders are being moved, or risk a stuck note situation.

Ensoniq VFX and VFX SD

Per Ensoniq recommendations, real-time system exclusive control works best in Multi Mode. When a fader is moved on the FaderMaster Pro, the VFX display does not change, but the Compare LED will come on. You will see a new parameter value when you manually select the page and parameter that you are controlling. If a given fader does not seem to be doing anything, be sure to try all three VFX banks to hear the effect on all three voices.

S-1000

When using the FaderMaster Pro as a volume controller for the S-1000, be aware that a volume value equal to 0 results in the voices shutting off. Set your Minimum Value equal to 1 to avoid this situation.

Korg M-3R

This one bank controls 30 different parameters.
The parameters depend on whether the M-3R is set to Edit Combi, Program, Effect, or Drums.

This chart will help you determine which parameter is being sent:

1. VDF Cutoff
2. VDA Attack Time
3. VDA Attack Level
4. VDA Decay Time
5. Break Point
6. Slope Time
7. Sustain Level

	Fader 1	Fader 2	Fader 3	Fader 4	Fader 5	Fader 6	Fader 7	Fader 8
Edit Combi	Type Sel	Level	Trans	Detune	---	Upper Level	KW Top	KW Bottom
Edit Prog	Osc Type	Poly HLD	Drum Kit	Osc Oct	Osc Delay	Pitch MG Wave	-- Key Sync	-- Frq
Edit Effect	Effect Type	Time	Dly	E/R	H. Dmp	Dly	L EQ	H EQ
Edit Drums	Drum Type	Key	Tune	L	Decay	Pan	----	Assign

Additional Notes

Note that the Yamaha DX-7 banks will work with the DX-7II and TX-802. The Kawai K-1 bank should work with the K-III. The Emu Proteus banks are compatible with the Proteus II.

Refer to the Preset Card that came with the FaderMaster Pro,(and printed on Page 63 for your conveniece) to see which parameters are controlled by each fader.

Additional Technical Information

Sysex Implementation

All commands are in hex, as indicated by the "$".
Commands are of the form:
$F0 $15 $18 id cc <data> $F7

$15 is the JLCooper ID, $18 is FaderMaster Pro ID, id is Unit ID#

cc = 0 for dump request. No <data> for this command.
cc = 1 for dump.
cc = 2 for one bank request. <data> = <bank #>.
cc = 3 for one bank in. <data> is of form below.
cc = 4 for current position dump request.
cc = 6 for remote bank change <data> is $00 to $13 for bank#:

<data>
All data is in nibble form, with 0's for top 4 bits.

Single bank dump:
<data> = <bank #> <18 data blocks>

The following is the structure for one fader or switch:
byte 0 => 0000dcba: Low 4 bits of "Max" value for Pot #1
byte 1 => 0000mgfe: High 3 bits of "Max" value, and merge bit 0
byte 2 => 0000dcba: Low 4 bits of "Min" value.
byte 3 => 0000mgfe: High 3 bits of "Min" value, and merge bit 1
byte 4 => 0000ssss: Speed (on buttons, this is the Button Mode)
byte 5 => 0000gggg: Group
byte 6 => 0000mmmm: Low nibble of first MIDI byte
byte 7 => 0000mmmm: High nibble of first MIDI byte
— —
byte 39 =>0000mmmm: High nibble of 17th MIDI byte (end)
byte 40 =>0000cccc: Low nibble of global channel number
byte 41 =>00000ccc: High 3 bits of global channel number

This block of 42 bytes is sent for each fader and switch in the following order:

block 0 => Fader 1
block 1 => Fader 2
— —
block 7 => Fader 8
block 8 => Switch 1
— —
block 15 => Switch 8
block 16 => Footpedal
block 17 => Footswitch

Full dump:
A full dump consists of 20 sets of 18 data blocks as listed above, and automation bank data. No <bank #> is used

<data> = <20 banks (no bank#)> <automation data>

Mode bits: 00 = Merge On
01 = Merge Off
10 = Conditional Merge
11 = Fader Off

Button Mode:
0 = Momentary
1 = Latched
2 = Use Fader Position for Max

MIDI data structure:
MIDI data is always sent as 34 nibbles to form 17 full bytes. Within this data are special characters that are used as placeholders:

$F1 Value
Any occurance of this byte will be replaced with a number between Min and Max values, depending on the state of the control.

$F2 Global Midi Channel
Append the global midi channel # to next byte.

$F3 Clear Checksum
Start computing the checsum starting with the next byte.

$F4 Roland value
Send value followed by Roland Checksum, then $F7. Use instead of $F1 for Roland products.

$F5 Ensoniq value
Send Ensoniq Nibbleized Value. Use instead of $F1.

$F6 Korg Value
Use instead of $F1 for most Korg devices.

$F7 Sysex EOX and end of data.
If no value has been sent yet, it will be sent now before the $F7. If message is longer than 17 bytes, just pad out with 0s

$F8 Lexicon Value.
Send Lexicon Nibbleized value. Use instead of $F1.

$F9 Korg WS Value.
Use instead of $F1 for the Korg WS.

$FA thru $FC are used to send Start, Continue, and Stop.

$FE is reserved for future use.
$FF indicates end of message. Placed after last valid byte of message. If no value has been sent yet, it will be sent now.

<Automation Bank Data>

Request

$F0 $15 $18 id $07 $F7

Dump

$F0 $15 $18 id $08 PC MC CN NB $F7

PC = Program Change MIDI Channel
MC = Automation Bank MIDI Channel
CN = Controller Number
NB = Number of Automation Banks (called “Bank Limit”)

Troubleshooting

If you experience operational difficulties, take some time to do some troubleshooting, starting with the following information.

First, disconnect both MIDI cables from FaderMaster Pro.

If the problem goes away, then it is likely that you have a MIDI loop.

You may be able to solve the problem by only working with a cable connected to FaderMaster Pro's MIDI out.

If you need to have both the MIDI input and the output connected, then try some of the recommendations in the chapter on using the Automation Bank, specifically on pages 45 and 46.

If moving the faders appears to result in no MIDI data being sent, remember that in the Automation Banks and fader must be *enabled* (turned on) before it will send MIDI.
In the P Banks, make sure that you have not set the MIN and the MAX for the same number.

If the unit behaves erratically, you may have unstable power. FaderMaster Pro, like all microprocessor-based equipment (keyboards, computers, signal processors, etc.) requires very clean power for reliable operation. At least **use a power outlet strip with both surge suppression and line filtering**.

Also, static electricity has been known to cause problems with electronic equipment, especially in air-conditioned studios. Products such as Static Guard are inexpensive and effective, and may save you money in repair bills.

Initialization
To initialize (clear) FaderMaster Pro, hold DOWN, NULL, and UP while turning on power.

Warning
This operation clears out all the P and A banks.
After initialization, every fader sends Controller #0 on MIDI channel 1.

If FaderMaster Pro has received a power surge, its memory may become scrambled. In that case, it may be possible to restore its operation by initializing and reprogramming.

If the unit still doesn't respond, it may require servicing. Please refer to the "fine print" at the end of this manual for Warranty information.

Registered Controller Numbers

The following list shows the standard Continuous Controller Functions, as defined in the MIDI 1.0 Detailed Specification.

You can use FaderMaster Pro to send any of these MIDI commands.

The fader would first be set using PARM to send Continuous Controller commands by selecting Co.

The PARM# (Parameter number) is given in the table below.

0 Undefined
1 Modulation wheel or lever
2 Breath Controller
3 Undefined
4 Foot Controller
5 Portamento Time
6 Data entry, Most Significant Byte
7 Main Volume
8 Balance
9 Undefined
10 Pan
11 Expression Controller
12-15 Undefined
16-19 General Purpose Controllers
20-31 Undefined
32-63 Least Significant Byte for 0-31
64 Damper Pedal (Sustain)
65 Portamento
66 Sostenuto
67 Soft pedal
68 Undefined
69 Hold 2
70-79 Undefined
80-83 General Purpose Controllers
84-91 Undefined
92 Tremolo Depth
93 Chorus Depth
94 Celeste (Detune) Depth
95 Phaser Depth
96 Data increment
97 Data decrement
98 Non-Registered Parameter LSB
99 Non-Registered Parameter MSB
100 Registered Parameter LSB
101 Registered Parameter MSB
102-120 Undefined
121-127 Channel Mode Messages

FaderMaster Pro Remote Software

The optional FaderMaster Pro Software allows you to program, edit, and store your Programmable User Banks and Automation Banks.

The FaderMaster Pro Remote Software also adds the power of System Exclusive MIDI commands to FaderMaster Pro. Any or all of the P Banks may be programmed to send Sysex commands.

Main Window

Simply point to a fader, button, foot pedal or foot switch.



Information about the control is displayed in the Info Box at the bottom of the window.

Click once on the control to edit it. You can type in the new parameters in the Info Box. The MIDI command type is selected from a pop-up menu, and you can name the control.

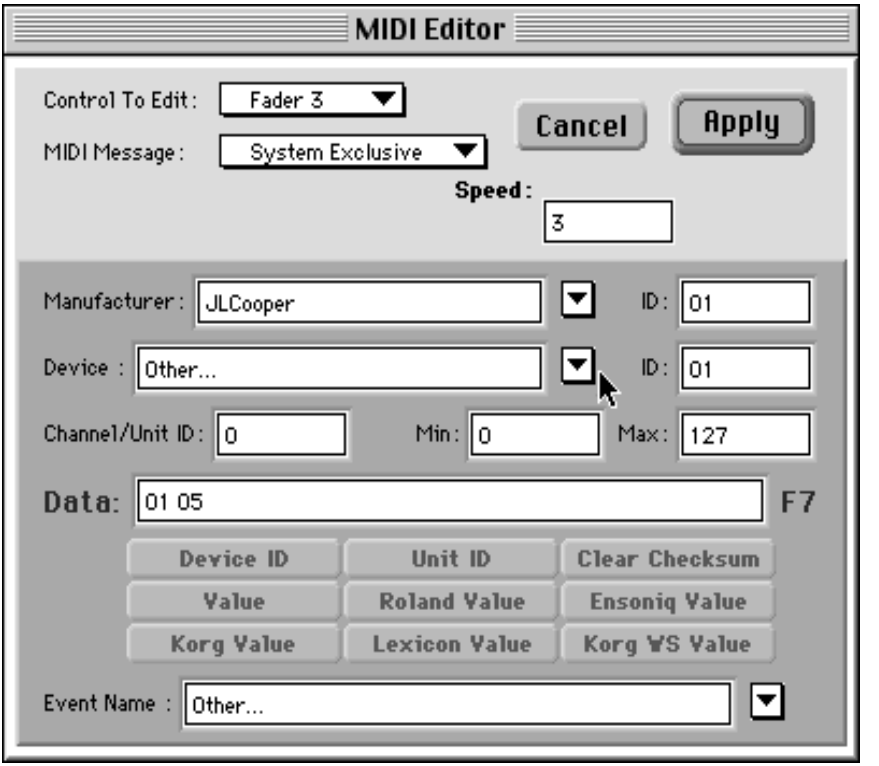
Double-click on a fader or button to open a window that lets you to edit all the faders at once, or all the buttons at once.

The software also the ability to "learn" MIDI data coming from another controller.

You can "Upload" FaderMaster Pro's memory into the software, and save it to disk. You can "Download" previously saved files into FaderMaster Pro, any one bank, or all the banks at once.

Faders and buttons can be copied from one Bank and Pasted into another Bank. Edits are "Un-Do-Able".

To order FaderMaster Pro software, see your JLCooper dealer, or use the order form included in the catalogue enclosed.



JLCooper Electronics Limited Factory 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 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 (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 (310) 335-0110, with a detailed description of the service required.

Upon issuance of return authorization, the product should be properly packed and shipped to Service Department, JLCooper Electronics, 142 Arena St., 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, without charge for parts or labor, either repair or replace the defective part(s). 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. 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, damage by accident/negligence, modification, alteration, improper use, unauthorized servicing, tampering, or failure to operate in accordance with the procedures outlined in the owner's manual; nor for acts of God such as flooding, lightning, tornadoes, etc.

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