MFC-101

MIDI FOOT CONTROLLER

OWNER'S MANUAL

MARK II

Firmware Version 2.15

FRACTAL
AUDIO SYSTEMS

Legal Notices

Fractal Audio Systems MFC-101 Mark II Owner's Manual. Contents Copyright © 2010 -2012. All Rights Reserved. No part of this publication may be reproduced in any form without the permission of Fractal Audio Systems.

Fractal Audio Systems, Axe-Fx, Axe-Fx II, MFC-101 are trademarks of Fractal Audio Systems. Manufacturer names and product names mentioned herein are trademarks or registered trademarks of their respective owners, which are in no way associated with or affiliated with Fractal Audio Systems. The names are used only to illustrate sonic and performance characteristics.

Important Safety Instructions

WARNING: To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.

CAUTION: To reduce the risk of fire or electric shock, do not remove screws. There are no user serviceable parts inside. Refer servicing to qualified service personnel.

1. Obey all warnings on the MFC-101 and in this User Guide.
2. Keep away from sources of heat such as heat ducts, registers or appliances which produce heat.
3. Connect only to a proper AC outlet of 100–240V, 47–63 Hz.
4. Keep the AC adapter in good condition. Do not kink, bend or pinch. If the AC adapter becomes damaged, discard and replace it.
5. If not using your MFC101 for extended periods of time disconnect from AC mains.
6. Protect the unit from rain and excessive moisture.
7. Refer servicing to qualified personnel only.
8. Do not operate the unit and obtain service if:
    a. Liquids or excessive moisture enter the unit
    b. The unit operates incorrectly or performance is inconsistent or erratic
    c. The unit has been dropped and/or the enclosure damaged
9. Prolonged exposure to high volume levels can cause hearing damage and/or loss. The use of hearing protection in high volume situations is recommended.

Doc v2.15

Certificate of Conformity

Fractal Audio Systems, USA, hereby declares on its own responsibility that the following product

MFC101 – MIDI Foot Controller

that is covered by this certificate and marked with CE label conforms to following standards:

EN60065 (IEC 60065)	Safety requirement for mains operated electronic and related apparatus for household and similar use.
EN 55103-1	Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use. Part 1: Emission.
EN 55103-2	Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use. Part 2: Immunity.

with reference to regulations in following directives: 73/23/EEC, 89/336/EEC.

Issued in August 2010
Clifford Chase, President
Fractal Audio Systems

EMC / EMI

This equipment has been tested and found to comply with the limits for a Class B Digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in residential installations. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. There is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ‣ Reorient or relocate the receiving antenna.
- ‣ Increase the separation between the equipment and receiver.
- ‣ Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- ‣ Consult the dealer or an experienced radio/TV technician for help.

About the Author

Matt Picone is a music technology product specialist, sound designer, creative director, and musician with over 25 years of experience spanning guitars, amps, effects, synthesizers, software, and beyond. He has worked with many greats including Dweezil Zappa, Adrian Belew, Steve Vai, Dream Theater, the Edge, Peter Frampton, Neal Schon, King's X, Scott Appleton (Def Leppard/Rush/etc.) and more.

Many thanks to our team of awesome beta-testers, preset creators, copy-editors and proofreaders.

You may report manual corrections or suggestions in our forum at http://forum.fractalaudio.com

Foreword

Thank you for your purchase of the Fractal Audio Systems MFC-101.

Musical instrument foot control dates back to the 1200s, when organ pedals doubled the number of limbs which could be used by a single person during a performance. Centuries later, electric instruments were equipped with various types of foot control devices designed to similarly enhance their capabilities. At the touch of a switch or pedal, performers could spin, switch, or shape sound in new and exciting ways. Advances in electronics added new dimensions, and MIDI tremendously expanded creative remote control with complex commands and fine degrees of expression.

Just as the Axe-Fx represents a leap forward in music technology, so too does the MFC-101 embody foot controller evolution. It has the best features of yesterday and today, plus powerful leading-edge capabilities designed to make it even more versatile and easy-to-use. In addition, the upgradable firmware and onboard expansion port ensure that the Fractal Audio Systems tradition of adding enhancements and value may be continued with the MFC-101.

Whether you pair it with the Axe-Fx or another MIDI product, we hope you enjoy using the MFC-101 as much as we have enjoyed creating it. We worked hard to design a product we hope you will think is the ultimate MIDI Foot Controller, and we're very much looking forward to seeing it become a favorite on the world stage.

—Fractal Audio Systems, August 2010

Table of Contents

TABLE OF FIGURES

1 OVERVIEW

1.1   Main Features

The **Fractal Audio Systems MFC-101** is a powerful, versatile, easy-to-use MIDI foot controller designed for use with the Fractal Audio Systems Axe-Fx Standard, Ultra, or Axe-Fx II and/or any other MIDI devices such as modules, amps, effects, synths, and more. It is built with the professional musician in mind and features a rugged 16-gauge powder-coated steel chassis, 21 heavy-duty "Carling style" footswitches, a brilliant 20-character transflective display, 21 dual-color LEDs, jacks for 4 expression pedal and 4 external switches, an expansion port, plus the performance control features that musicians have come to demand from a best-in-class controller. In AXE-FX MODE, the MFC-101 offers the easiest way available to control your Axe-Fx, offering hassle-free integration of preset names, intelligent control over effect bypass switching, integrated tap tempo and tuner, and more.

MFC-101 FEATURE HIGHLIGHTS

- ‣ Simple to set up and use, but powerful and flexible enough to control complex rigs.
- ‣ PRESET, SONG, and SET MODES are well-suited for a range of performance settings.
- ‣ The onboard memory stores 384 Presets, 100 Songs, and 10 Sets of up to 50 Songs each.
- ‣ You can globally designate any number of footswitches for selecting PRESETS, each of which sends:
  - Up to 16 MIDI program change messages (one per channel).
  - ON or OFF messages for up to 17 Instant Access Switches.
  - ON or OFF messages for up to 17 Internal Control Change ("CC") messages.
  - Up to 16 bytes of custom MIDI data. Anything goes!
- ‣ Those footswitches not assigned to Presets operate as INSTANT ACCESS ("IA") SWITCHES:
  - Axe-Fx functions may be assigned to IA Switches simply by selecting from a list.
  - "General Use" IA Switches (i.e. those not assigned to Axe-Fx functions) have independent ON and OFF command sets, each with:
    - o Up to two CC# messages with custom values
    - o One MIDI program change command
    - o Up to 16 bytes of custom MIDI data. Anything goes!
  - IA Switches may be set for Toggle (aka "Latching") , Momentary ("Hold") or "Auto-Off" function.
- ‣ REVEAL mode temporarily toggles Preset footswitches to their "hidden" Instant Access functions.
- ‣ Axe-Fx LOOPER CONTROL MODE gives access to all Looper functions with no programming required.
- ‣ Full support for Axe-Fx II SCENES
- ‣ Future enhancement and improvement made possible via user-upgradeable firmware capability.
- ‣ Support for Phantom Power over 7-pin, plus bidirectional Axe-Fx MIDI data over a single cable.
- ‣ And more!
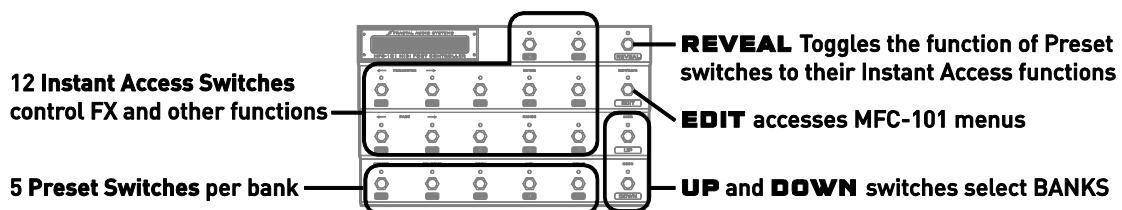
Figure 1-1: The Default Layout of the MFC-101

1.2   Hardware Overview

The MFC-101 has 21 heavy-duty multi-purpose footswitches with bi-color LEDs. The display is a 1×20 character, bright green, transflective LCD that offers great visibility anywhere from total darkness to bright daylight.
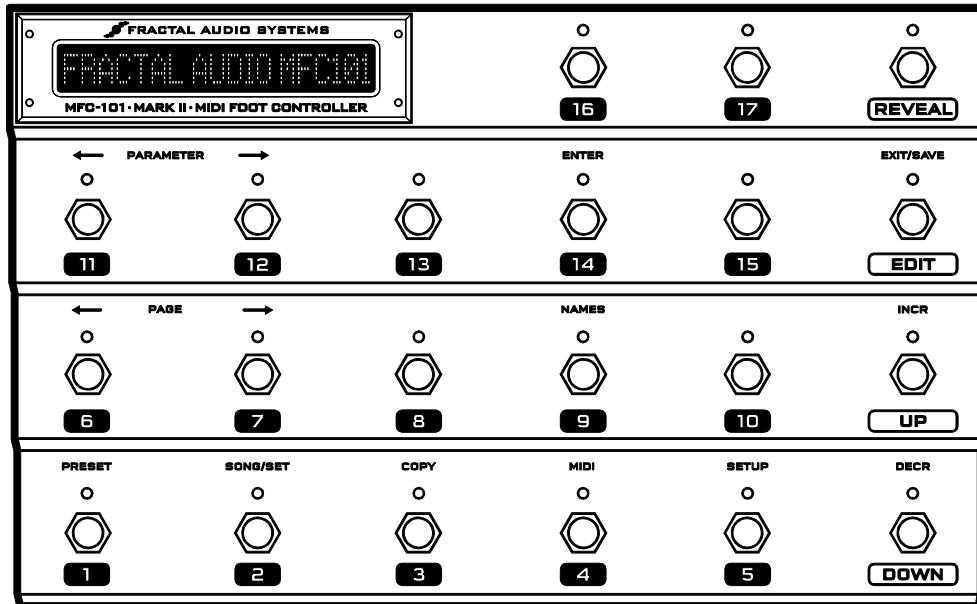
Figure 1-2: The MFC-101 Top Panel

1.2.1 Footswitch Primary Functions

The footswitches perform their primary functions whenever the MFC-101 is not in EDIT MODE for programming.

‣ **Footswitches** 1-17 may be used to select **Presets**, or as **Instant Access Switches** ("IA") controlling effects or other functions of a MIDI device. The division of the 17 footswitches between Preset and IA functions is determined by the global **Bank Size** setting (p.15). The factory default is for switches 1–5 to select presets while 6–17 to operate as IA Switches.

‣ REVEAL: Preset footswitches also have hidden **Instant Access Switch** functions which become accessible when Reveal is tapped ON. When Reveal is toggled OFF, footswitches revert to their usual preset functions. See p. 27 for more information on Reveal. In Axe-Fx Mode (p. 10) pressing and holding the REVEAL footswitch will enter LOOPER CONTROL MODE (p.).

‣ EDIT: This switch puts the MFC-101 into EDIT MODE, allowing entry to the various menus, pages and parameters used to configure the unit. From EDIT MODE, press EDIT again to return to play mode.

‣ SAVE (also on the EDIT footswitch) is used to store MFC-101 presets on-the-fly after changing the states of "general purpose" Instant Access Switches (i.e., those not set for Axe-Fx functions, which are *always* read directly from the Axe-Fx as presets are loaded). If the **SAVE EDITS** feature (p. 67) is enabled, the Save footswitch LED will flash when IA switch states are changed. Pressing it will store the MFC-101 preset.

‣ UP and DOWN are used to select the next or previous Bank or Song.

1.2.2 Footswitch Secondary Functions

The footswitches perform their secondary functions when the MFC-101 is in EDIT MODE:

▶ After EDIT is pressed once, footswitches 1–5 are used to enter the 5 main <u>menus</u>: PRESET, SONG/SET, COPY, MIDI, and SETUP.

▶ The two ←PAGE→ footswitches (6 & 7) step back and forth through the <u>pages</u> of the current menu.

▶ The two ←PARAMETER→ footswitches (11 & 12) select <u>editable parameters</u> on the current page.

▶ The (INCRement and DECRement footswitches (UP and DOWN) change the value of the currently selected parameter.

You can hold any of the above to scroll quickly through the list of pages/parameters/values.

▶ ENTER (footswitch 14) is used to execute various functions. Examples include **Factory Restore** or **Dump to SysEx**. The LED above this footswitch flashes red when ENTER can be used to perform some action, and to remind you that this will be committed to memory immediately with no turning back.

▶ EXIT is the secondary function of the EDIT footswitch. Pressing this footswitch while in in EDIT MODE will save all changes and return the MFC-101 to PERFORMANCE MODE.

▶ NAMES (footswitch 9) makes it easier to customize your MFC-101 for easy operation. It allows you to view the short NAMES you may assign to various items throughout the the memory of the MFC-101. A MIDI Channel, for example, might be named "Gizmo" or an Instant Access Switch might be named "Extern 8". See Chapter 11 for details on how to enter names.
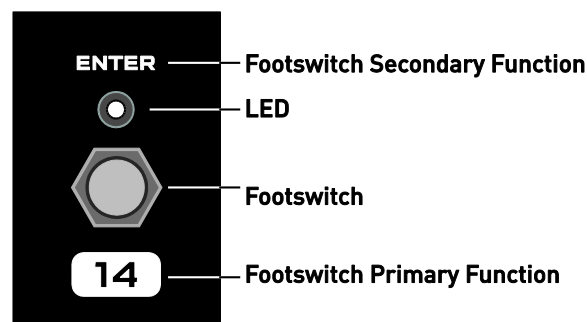
Figure 1-3: Layout of an MFC-101 Footswitch

1.2.3 Rear Panel Features
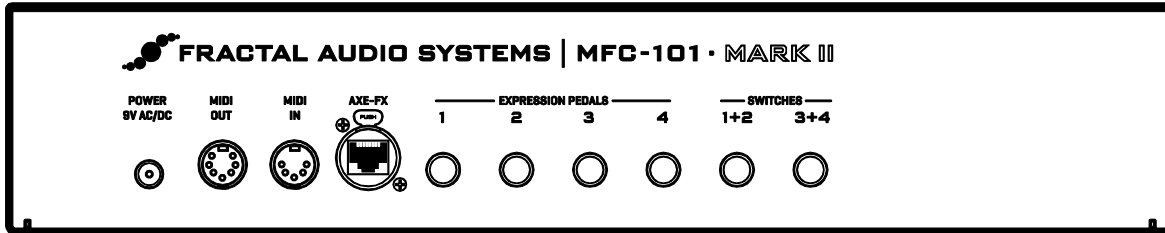
Figure 1-4: MFC-101 Mk II Rear Panel Diagram

▸ POWER 9VAC: Plug the supplied AC adapter into this jack. If you are using an Axe-Fx or other device to supply phantom power to the MFC-101 over a 7-pin MIDI cable, you must instead connect the supplied AC adapter to the Phantom Power jack of that device.

When using a CAT5 cable to connect the MFC-101 to an Axe-Fx II, <u>DO NOT</u> connect the MFC-101 AC Adapter to the MFC-101 power jack *or* the Phantom Power jack of the Axe-Fx II or you may damage one or both products. The AC Adapter is NOT USED when connecting via CAT5 to an Axe-Fx II. The CAT5 cable provides power from the Axe-Fx II power supply to the MFC-101 Expansion Port.

▸ MIDI OUT: This 7-pin jack is a regular MIDI OUT port for connecting to any MIDI device. Any Axe-Fx will be able to utilize this port for <u>2-way communications</u> so the MFC-101 can send and receive data over a single cable. Some devices, including the Axe-Fx, can also supply phantom power to the MFC-101 via a 7-pin cable connected here. See Getting Connected on p. 7.

▸ The MIDI IN port is used for firmware updates, for remote controlling the MFC-101, or for 2-way communications with an Axe-Fx when a single MIDI cable does not work.

☞ **IMPORTANT!** *When connecting a device to remote control the MFC-101, remember that the Axe-Fx also transmits data to the unit via the bi-directional MIDI out port. Plan and test carefully as unpredictable behavior may occur in a rig where more than one device is trying to control the MFC-101.*

▸ AXE-FX: This jack can be used to connect an Axe-Fx II. Use standard Ethernet cable (not crossover type) with or without EtherCON endplugs. EtherCONs are ruggedized RJ45 connectors which provide added stability and protection to prevent cable strain or jolts from causing damage to connectors and/or ports. If possible, use an EtherCON cable with your Mark II products.

High quality Ethernet/Ethercon cables are available via http://www.fractalaudio.com/cables

▸ EXPRESSION PEDAL JACKS 1–4: These jacks allow you to connect up to 4 optional expression pedals using 1/4" TRS cables. Expression pedals must be <u>calibrated</u> before they will work properly. See **EXPRESSION PEDALS** on p. 30 for details.

▸ EXTERNAL SWITCH JACKS 1+2, 3+4: Each of these TRS jacks allows you to connect one or two external switches. The first switch on each jack operates on the tip-to-sleeve connection, while the second is on ring-to-sleeve. Either jack may also be used with a single footswitch connected via a Tip-Sleeve cable, but it is recommended that you disable the MIDI functions of the jack's second switch when operating in this way (See p. 57). Both toggle and momentary switch hardware is supported. See **EXTERNAL SWITCHES** on p. 32 for details.

1.3 Software Map

PERFORMANCE MODE is for normal use, where the MFC-101 is operated as a MIDI foot controller. Depending on the desired use, there are three variants: **PRESET**, **SONG** or **SET MODE**, covered later. **AXE-FX MODE** may be switched ON or OFF "on top" of the above modes to provide enhanced Axe-Fx control.

EDIT MODE is separate from PERFORMANCE MODE and is used to access to the **MENUS** which are used to configure the MFC-101. These menus are numbered $1-5$ below for the footswitches which access them. Each menu contains a number of **PAGES** (listed below in columns). Each page has one or more parameters detailed throughout this manual.

PERFORMANCE MODE

Preset Mode (OR) Song Mode (OR) Set Mode {1–10}   Axe-Fx Mode

EDIT MODE · · · · · · **EDIT**

1 PRESET
• Select Preset
• Preset Name
• Preset Program Changes
• Alternate Preset
• Preset IA Switch States
• Preset Internal CC States
• Preset Custom MIDI Msg.
• Preset Ext. Switch Settings
• Preset Ext. Sw. On/Off Vals.
• Preset Exp. Pdl. Settings
• Preset Exp. Pdl. Min/Max

2 SONG/SET
• Song Edit
• Song Name
• Set Edit
• Set Name

3 COPY
• Copy Preset
• Copy Bank
• Copy Song
• Copy Set
• Copy IA Switch
• Copy Internal CC

4 MIDI
• Use Port
• Axe-Fx MIDI Channel
• Axe-Fx TotalSync
• Axe-Fx Preset Tx Map
• MFC MIDI Rx Channel
• MFC Rx Program Change
• MFC Prog. Change Map
• IA Axe-Fx Function
• IA CC# Settings
• IA CC# On/Off Values
• IA Program Changes
• IA Custom MIDI Msgs.
• Internal CC Settings
• Internal CC On/Off Vals.
• Global Ext. Switch Setup
• Global Ext. Sw. On/Off Vals.
• Global Exp. Pedal Setup
• Global Exp. Min/Max Vals

5 SETUP
• Axe-Fx Mode
• Performance Mode
• Axe-Fx Display Offset
• MFC-101 Display Offset
• MIDI Ch. Display Offsets
• MIDI Ch. Names
• Bank Size
• Bank Style
• Bank/Song Limit
• Bank Song/Wrap
• IA Switch Types
• Global IA Switches
• IA Send w/ Preset
• IA Switch Names
• IA Switch Link Settings
• Send Sw. Link OFF Msgs.
• Internal CC Names
• Ext. Switch HW Types
• Exp. Pedal Calibrate
• Global Preset
• Hold Axe Tempo = Tune
• IA Off LED red/off
• Save Edits Switch
• Edit Menu Short/Long
• Looper Control
• SysEx Data Dump/Load
• Delete/Factory Reset
• Display Contrast
• Firmware Info

PAGE (#6 & #7) through menus

↑The footswitch for the currently selected menu returns to the top level of the EDIT menu.

EXIT

PERFORMANCE MODE

Figure 1-5: Software Map

1.4   Navigating in Edit Mode

The footswitches are used to navigate the menus, pages and parameters of EDIT MODE.
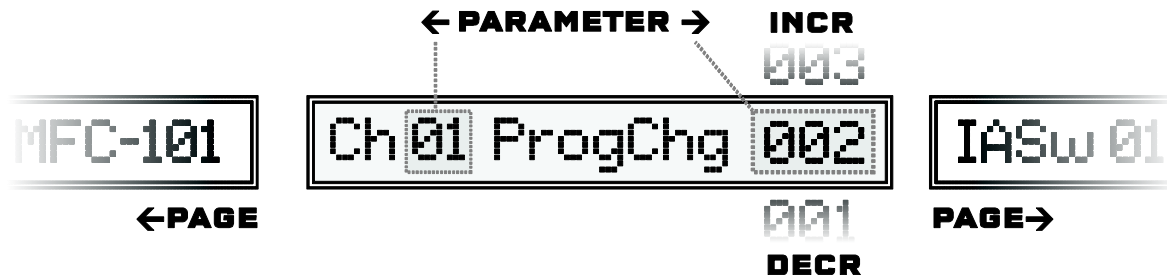
Figure 1-6: Navigating Edit mode

▸ To enter EDIT MODE, press EDIT.

▸ Press any of the menu footswitches (1–5) to open a menu.

▸ Each menu has multiple **pages**. The ←PAGE→ footswitches move between these.

▸ Each page has from 1 to 4 **parameters**. The ←PARAMETER→ footswitches move between these. The currently selected parameter will have an underline beneath the first character of its value.

▸ The INCR/DECR footswitches scroll through the available **values** for each parameter.

▸ Most parameters are programmable. A few, such as Firmware Version are purely informational and can be displayed but not edited.

▸ All navigation, whether through pages, parameters, or values, will "wrap", meaning whether you use INCR or DECR you will ultimately reach the desired value.

▸ Footswitches may be pressed and then **held down** to advance rapidly through a series.

▸ The ENTER footswitch (#14) is sometimes required to activate special functions.
This is indicated by a blinking LED above the ENTER footswitch.

1.5   Saving Changes

The MFC-101 was designed to save changes automatically while you navigate.

▸ Pressing either PAGE footswitch will save changes.

▸ Pressing the EXIT footswitch will save changes and return to PERFORMANCE MODE.

▸ Pressing the footswitch for a menu *while in that menu* will save and return to the top-level menu.

▸ Changing the "index" of a multi-parameter screen will save changes. Examples of index parameters include the Preset Number in the preset menu, the IA Switch number on a page which edits multiple IA Switches, or the Expression Pedal Number on a page which edits multiple expression pedals.

To abort edits without saving, simply disconnect power from the MFC-101, wait several seconds, and then restore power to the unit.

2 GETTING CONNECTED

Before making connections, be sure to turn down the volume of your amp and switch off power to all devices.

The MFC-101 supports a number of different setup scenarios. A few common possibilities are diagrammed below. Ethernet and 7-pin MIDI cables can carry "Phantom Power" to allow faster setups and less clutter on the floor.

⚠ AXE-FX MODE (see p. 10) depends on 2-way MIDI communication between the Axe-Fx and the MFC-101. This is possible over a single Ethernet or 7- or 5-pin MIDI cable due to special features of both devices. MIDI cables must be wired on ALL PINS for bi-directional communication to work in this way. Because other MIDI devices often require only 3 pins, some MIDI cables contain 3 rather than 5 wires (or 5 vs. 7). The message "AXE-FX NAME TIMEOUT" is displayed on the MFC-101 in Axe-Fx mode when 2-way communication cannot be established. This may indicate improper settings but can also mean that your MIDI cable is not wired on all pins. Use a multi-meter to test pin continuity, or try an approved cable from fractalaudio.com/cables

In a pinch, you can actually use Axe-Fx mode with two "inferior" MIDI cables connected In-to-Out and Out-to-In.

The first scenario below shows using the Axe-Fx II and MFC-101 with no midi cables.

Ethernet/EtherCon Cable
Normal type, NOT "crossover."

Expansion/Axe-Fx Port

MFC

MFC-101

Axe-Fx II

When connecting the Axe-Fx II and MFC-101 using an Ethernet cable, the AC adapter of the MFC-101 is not required. The Axe-Fx II provides power from its internal supply.

Always power the Axe-Fx OFF before connecting or disconnecting the MFC.

Figure 2-1: Connecting the MFC-101 to an Axe-Fx II
2-way comms and power provided by a single CAT5/Ethernet/EtherCon cable.
MIDI received at the Axe-Fx II MFC port will only be forwarded to the Axe-Fx II MIDI OUT/THRU port
if you set the Axe-Fx II MIDI THRU function to "ON" (in the I/O:MIDI menu of the Axe-Fx II)
Ethernet, EtherCon and other high quality cables available from http://www.fractalaudio.com/cables

☞ **IMPORTANT**: *NEVER connect the provided AC Adapter to the MFC-101 or to the Phantom Power jack of the Axe-Fx II while the MFC-101 and Axe-Fx II are connected via CAT5. Doing so could damage one or both units.*

The next scenarios show connections over 7 or 5 pin MIDI cables:
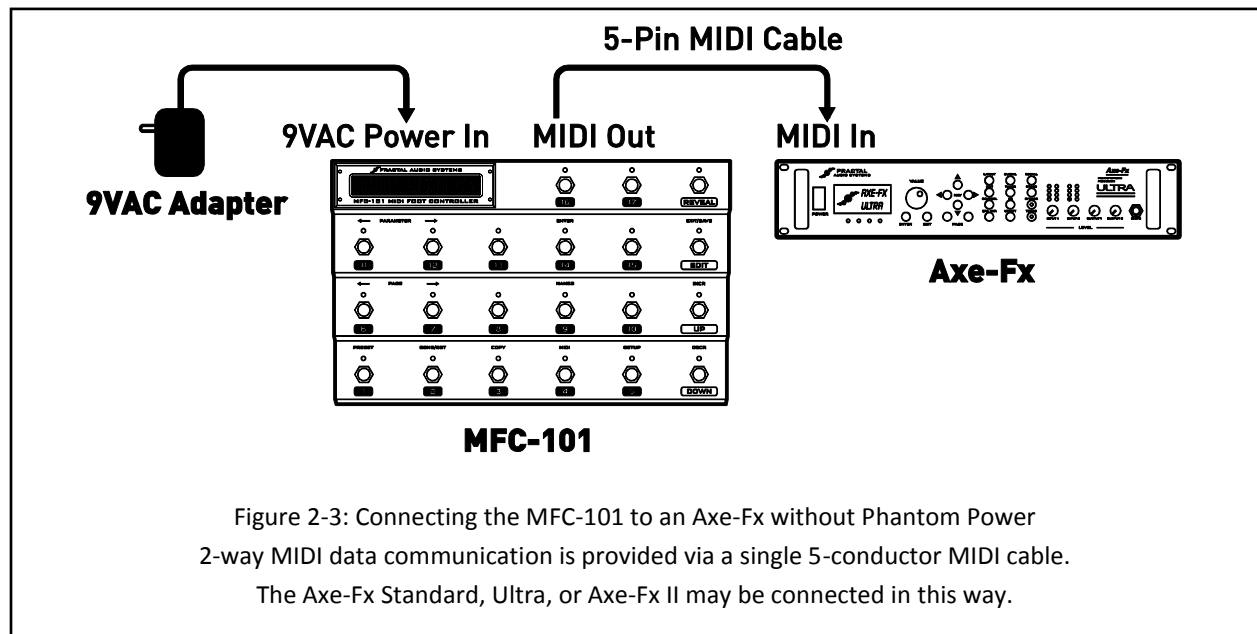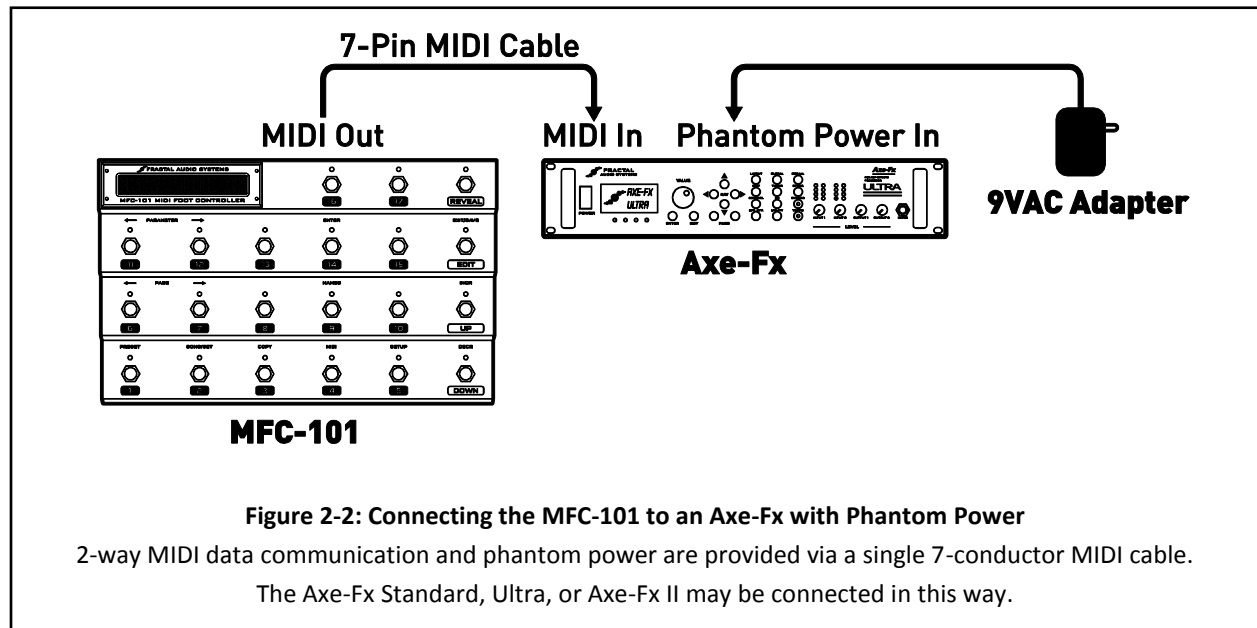
Figure 2-2: Connecting the MFC-101 to an Axe-Fx with Phantom Power
2-way MIDI data communication and phantom power are provided via a single 7-conductor MIDI cable.
The Axe-Fx Standard, Ultra, or Axe-Fx II may be connected in this way.

Figure 2-3: Connecting the MFC-101 to an Axe-Fx without Phantom Power
2-way MIDI data communication is provided via a single 5-conductor MIDI cable.
The Axe-Fx Standard, Ultra, or Axe-Fx II may be connected in this way.

☞ **IMPORTANT**: *Axe-Fx Mode requires Axe-Fx firmware dated AUGUST 2010 or later. Check your unit under UTILITY:FIRMWARE and visit http://www.fractalaudio.com/support to download a free upgrade if required.*

You must manually select MIDI under PORT in the MIDI menu before using MIDI cable connections (AXE-FX is the default)

5-Pin MIDI Cable

9VAC Power In   MIDI Out   MIDI In

9VAC Adapter

MFC-101

Any Midi Device
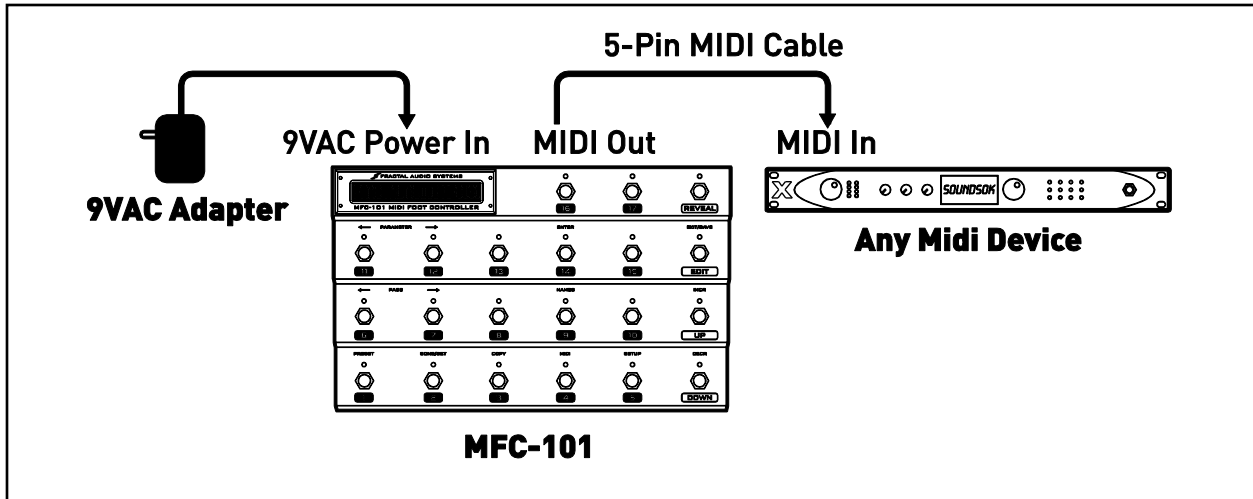
Figure 2-4: Connecting the MFC-101 to a 3rd Party MIDI module or processor (Axe-Fx Mode OFF)

The 5-pin MIDI cable carries 1-way data from the MFC-101 to the connected device.
Some 3rd party devices may also provide 7-pin Phantom Power and can be connected as shown above.

7-Pin MIDI Cable

MIDI In   Phantom Power In

MIDI Out

9VAC Adapter

Midi Thru   Axe-Fx

MFC-101

MIDI In

Midi Thru   Any Midi Device
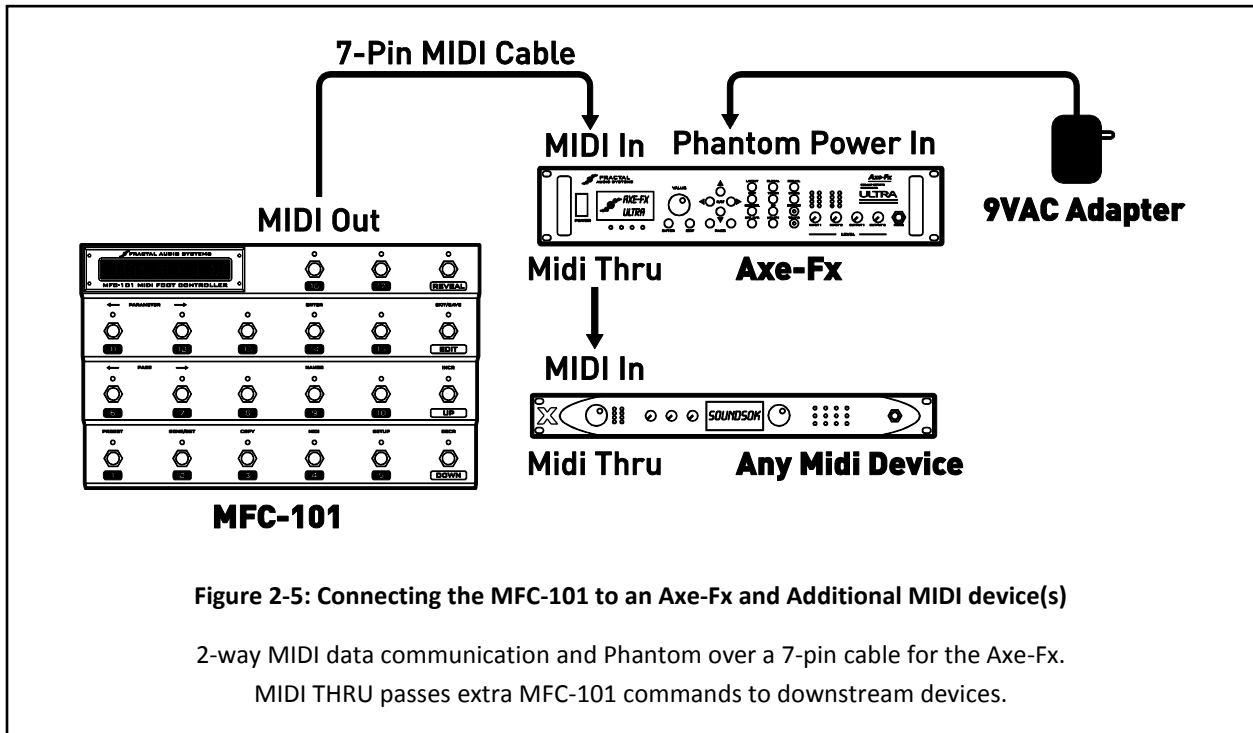
Figure 2-5: Connecting the MFC-101 to an Axe-Fx and Additional MIDI device(s)

2-way MIDI data communication and Phantom over a 7-pin cable for the Axe-Fx.
MIDI THRU passes extra MFC-101 commands to downstream devices.

3 BASIC SETTINGS

3.1 Axe-Fx Mode

AXE-FX MODE makes using the MFC-101 easier and more intuitive. Axe-Fx mode rides on top of PRESET, SONG, or SET mode to provide a number of benefits when using the MFC-101 with an Axe-Fx II, Ultra, or Standard.

▶ Axe-Fx preset names are **displayed dynamically** as they load—no need for data entry or import!

▶ **Instant Access Switch Axe-Fx Functions** can be set simply by selecting from a list.

▶ Instant Access Switch LEDs show the effects in the current Axe-Fx preset when it is loaded:
   GREEN: Present & Active;   **RED:** Present & Bypassed[1];   **OFF**: Not Present.

▶ The **TAP TEMPO** footswitch LED flashes the current Axe-Fx tempo.

▶ The **TUNER** footswitch displays the Axe-Fx tuner in the MFC-101 display.

▶ Preset footswitches can also send **general use MIDI commands** for controlling bigger rigs.

▶ Individual **IA Switches** can be set up with general use MIDI commands instead of Axe-Fx functions.

You may wish to refer to p. 72 of the appendix to view the **Comparison Table: AXE-FX MODE ON vs.** OFF.

3.1.1 Enabling/Disabling Axe-Fx Mode

For Axe-Fx mode to work, you must initially select the Axe-Fx model you are using with the MFC-101. If you are using the MFC-101 without an Axe-Fx, you should turn Axe-Fx mode OFF.

1. Press EDIT footswitch to enter EDIT MODE

2. Press SETUP footswitch for the SETUP menu to arrive at the AXE-FX MODE screen:

> ## Axe-Fx Mode <u>II</u>

3. Press the INCR or DECR footswitches to select the model of AXE-FX MODEL you are using, (II, ULTRA, STANDARD) or select OFF to disable Axe-Fx mode.
   As of MFC-101 firmware version 2.0, the default is **Axe-Fx II.**

4. Press EXIT to return to PERFORMANCE MODE.

☞ **IMPORTANT**: *Axe-Fx Mode requires Axe-Fx firmware dated AUGUST 2010 or later. Check your unit under UTILITY:FIRMWARE and visit http://www.fractalaudio.com/support to download a free upgrade if required.*

---

[1] To improve usability for individuals with red/green colorblindness, red LEDs can be set for "OFF". See p. 66.

3.2 Selecting a Port

Depending on whether your Axe-Fx is connected at the AXE-FX port or the MIDI port, you must set the MFC-101 accordingly. (As of MFC firmware 2.0, the default is AXE-FX).

1.   Press EDIT footswitch to enter EDIT MODE.

2.   Press MIDI footswitch for the MIDI menu to arrive at the USE PORT screen:

> # Use Port Expansion

3.   Press INCR or DECR to select "MIDI" or "EXPANSION" (the latter for the "Axe-Fx" port).

4.   Press EXIT to return to PERFORMANCE MODE.

3.3   Axe-Fx MIDI Channel

A factory-fresh MFC-101 expects the Axe-Fx to be on MIDI channel 1 (the unit's default setting). If you have modified this setting in your Axe-Fx, you will need to make the same setting in the MFC-101 for AXE-FX MODE to work properly:

1.   Press EDIT footswitch to enter EDIT MODE.

2.   Press MIDI footswitch to select the MIDI menu.

3.   Press PAGE→ once to arrive at the Axe-Fx MIDI Channel Screen:

> # Axe-Fx MIDI Ch 01

4.   Press the INCR or DECR footswitches to set the desired Midi Channel.

5.   Press EXIT to return to PERFORMANCE MODE.

3.4   Display Offset

The Axe-Fx has a "Display Offset" feature which causes its presets to appear to be numbered from 001 instead of from 000. If you have Display Offset set to "1" on your Axe-Fx, you need to make a setting change on the MFC-101:

1.   Press EDIT footswitch to enter EDIT mode.

2.   Press SETUP footswitch to select the SETUP menu.

3.   Press PAGE→ 2x to get to the **Axe-Fx Display Offset** Screen:

> # Axe-Fx DisplayOfst 0

4.   Press the INCR or DECR footswitch to set Display Offset as desired.

5.   Press EXIT to return to PERFORMANCE MODE.

In addition, you will also need to apply a display offset to the preset numbers of the MFC-101:

Press EDIT footswitch to enter EDIT MODE.

1. Press SETUP footswitch to select the SETUP menu.

2. Press PAGE→ 3x to get to the **MFC Display Offset** Screen:

        MFC DisplayOfst <u>0</u>

3. Press the INCR or DECR footswitch to set <u>Display Offset</u> as desired.

4. Press EXIT to return to PERFORMANCE MODE.

✎ **NOTE:** *It is also possible to set a display offset for other connected devices. See section 12.5.4 on p. 60 for more details.*

3.5   Performance Modes

The MFC-101 offers three different variants of PERFORMANCE MODE. These are PRESET MODE, SONG MODE, and SET MODE. Each of the modes is covered throughout this manual. Key concepts and differences are noted in the table below:

MODE	PRESETS	UP/DOWN FOOTSWITCHES
PRESET MODE:	384 Presets total are arranged in strict numerical order[2] across Banks. The number of preset footswitches per Bank is set by the global Bank Size parameter.	UP/DOWN footswitches step through all Banks in strict numerical order. The number of banks depends on the global Bank size.
SONG MODE:	Uses the same 384 presets as PRESET MODE, but arranged as desired on the preset footswitches for each of 100 Songs. Up to Presets may be added to each Song, though the global Bank Size imposes a limit on how many of these you'll have access to.	UP/DOWN footswitches step through all 100 Songs in strict numerical order.
SET MODE {1-10}[3]:	Up to 50 Songs may be added to each Set. Uses the same Songs as SONG MODE, and therefore their same Presets. If the selected Set has a NAME, it will be shown in the Performance Mode menu while you are making a selection.	UP/DOWN footswitches step in order through the Songs of the current Set.

NOTE: You can change the Operating Mode at any time. See section 12.5.1 on p. 59 for details.

---

[2] MFC-101 presets are numerically sequenced across banks in PRESET MODE, but the actual MIDI Program Change commands sent by any preset may be modified freely. See **Presets and Program Changes** on p. 16.

[3] Whereas PRESET MODE and SONG MODE are singular entries in the Operating Mode menu, there are actually 10 entries for SET MODE, one for each of the available set lists.

3.6   Starting Up

PRESET MODE+AXE-FX MODE ON

When the MFC-101 is used with an Axe-Fx, it will power up, query the Axe-Fx, and load whichever MFC-101 preset was loaded when the unit was last powered off. The MFC-101 preset number and the Axe-Fx preset name will be shown in the display, preceded by an "X" in the first character to indicate AXE-FX MODE running on PRESET MODE:

```
X000 Studio Lead
```

PRESET MODE+AXE-FX MODE OFF

With Preset Mode ON but AXE-FX MODE turned OFF, the internal MFC-101 preset name and number are shown in the display, preceded by a "P" in the first character to indicate PRESET MODE:

```
P000 MFC-101
```

SONG OR SET MODE, AXE-FX MODE ON OR OFF

SONG or SET MODES (see p. 35) behave similarly to PRESET MODE above, showing the name of the Axe-Fx or MFC preset and the number of the current MFC Preset. Whether Axe-Fx mode is ON or OFF, however, the first character of the display will always show an "S" in these modes:

```
S001 PresetName
```

NOTE: It is possible to adjust the MFC-101 display contrast if necessary. See **Display Contrast** on p. 70.

4 PRESETS & PRESET MODE

An MFC-101 preset is a set of pre-programmed MIDI instructions, loaded by a Preset footswitch and sent to your connected device(s). PRESET MODE provides a straightforward, logically organized way of accessing Presets. It is based on their ordered arrangement into BANKS, which are selected using the UP and DOWN footswitches.

4.1 Bank Size

Bank Size determines how many footswitches will recall **Presets** and how many will control **Instant Access Switches** (see Chapter 5). The MFC-101 defaults to a Bank Size of 5. This means that the first 5 footswitches load Presets while 6-17 operate as Instant Access Switches. UP and DOWN step through Banks, each of which contains the next 5 presets in numerical order (000-004, 005-009, etc.). Another way to see things is that **Bank Size** sets the number of preset footswitches per bank—any number from 0 to 17.
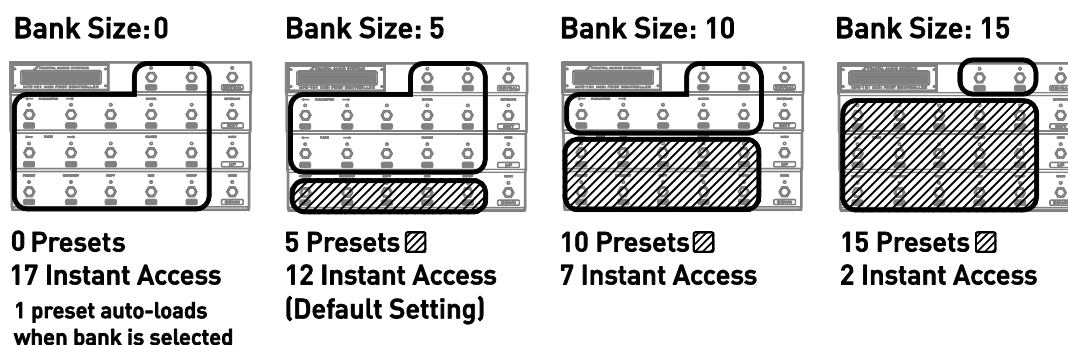
Figure 4-1: Bank Sizes/Footswitch Layout Examples

To change the global Bank Size:

1. Press EDIT footswitch to enter EDIT MODE.

2. Press SETUP footswitch to select the SETUP menu.

    Press PAGE→ 6x to get to the **Bank Size** Screen:
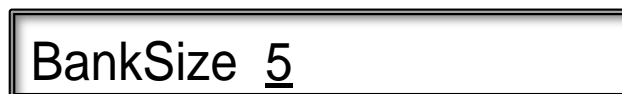
    > BankSize 5

3. Press the UP and DOWN footswitches to set the desired value.

4. Press EXIT to return to PERFORMANCE MODE.

NOTES: Selecting 0 or 1 for bank size will cause one preset to load automatically as each bank is selected.

The total number of presets is not evenly divisible by all bank sizes, leaving unused spaces in the last bank. Pressing a footswitch in the extra space at the end of the last bank will do nothing.

Bank Size is global, meaning it also governs the layout in SONG MODE and SET MODE (See SONGS & SETS on p. 35 for more on these modes and their features).

4.2 Bank Style

Bank Style determines which preset will load automatically (or not…) when a new BANK or SONG is selected. The default behavior is for the CURRENT preset footswitch to remain selected across bank changes. Other options include loading the FIRST preset in the bank, or loading NOTHING until a preset footswitch is pressed. Note that when the Bank Size is set to 0 or 1 the single preset per bank is always sent automatically. See section **12.5.7** on p. 61 for more information on changing the Bank Style.

4.3 Presets and Program Changes

As stated above, presets and banks in PRESET MODE are arranged in strict numerical order. The flexibility to have footswitches load your choice of sounds, however, is offered in a number of ways:

▸ By default, each numbered MFC-101 preset sends 16 Program Change commands—one on each MIDI channel. These can be changed freely using the preset's **Program Change** parameters. Preset numbers 0-999 may be specified. Bank select messages (CC#0) are automatic. See p. 42 for details.

▸ In Axe-Fx Mode, the **Preset Program Change** for the MIDI channel of the Axe-Fx is determined by the **Axe-Fx Preset Transmit Map** of the MFC-101. By default, this map is 1:1, but can be changed freely. See p. 52 for details.

▸ SONG MODE introduces a different type of flexibility. Songs are like banks, except you decide which presets they contain, and in what order. An advantage of using Songs is that you can still switch back to PRESET MODE at any time if you want the traditionally sequenced switching. See **SONGS & SETS** on p. 35 for more details.

▸ Finally, the Axe-Fx and many 3rd party MIDI device(s) have their own internal Custom MIDI Map functions. See documentation provided by the manufacturer.

> ✎ **NOTE**: *As described above, each MFC-101 preset can send MIDI commands which cause any Axe-Fx preset to be recalled, plus up to 15 other MIDI Program Change messages for additional connected devices. Be aware of the distinction between "MFC-101 Presets" and "Presets" on your connected device(s). The MFC-101 always displays the number of its own preset, NOT that of the current Axe-Fx preset or that of another device.*

4.4 Other Preset Capabilities

In addition to MIDI Program Change Commands described above, presets also have a number of additional capabilities:

▸ Presets store a snapshot of General Use IA Switch ON/OFF states. When the preset loads, the switch states are set as stored and the corresponding burst of MIDI commands is set. *Note: IA Switches with Axe-Fx functions are NOT handled in this way.* See **Chapter 5** for more on IA Switches.

▸ Presets store a snapshot of Internal CC states. Think of these of these as "virtual switches" which cause a burst of MIDI commands when the preset is loaded. See **Chapter 6** for more on Internal CCs.

▸ Presets can be set up with a 16 byte custom MIDI message. See section **12.1.6**.

▸   Global **External Switch** settings can be overridden by any preset. See **12.1.7** on p. 45.

▸   Global **Expression Pedal** settings and range can be overridden by any preset. See section **12.1.9** on p. 46.

▸   Each preset also has an internal name, shown if AXE-FX MODE is OFF. See section **12.1.1** on p. 41.

4.5 Alternate Presets

Alternate Presets expand the number of sounds at your feet by allowing you to stack 2 presets per footswitch. This allows you, for instance, to access your choice of clean and dirty sounds from one footswitch, or to have all 5 presets in a standard bank offer go to a "global" lead.

To load the Alternate preset, simply step on the footswitch of the selected preset a second time. Once the **Alternate Preset** is loaded, its MIDI data is transmitted, the footswitch LED changes to red, and the preset number in the display changes to GBL, ALT, or BAK to indicate the type of alternate preset you've landed on.

To set up an Alternate Preset for any given preset:

1.   **Load** the preset you want to add an alternate to in the normal way (press its footswitch).
      Note: You can also select any preset manually via the PRESET NUMBER screen shown between steps 3 and 4, below.

2.   Press EDIT footswitch to enter EDIT MODE.

3.   Press PRESET footswitch to select the SETUP menu.

4.   Press PAGE→ footswitch 3x to get to the **Alternate Preset** screen:

> ## AlternatePreset <u>GBL</u>

5.   Press the INCR or DECR footswitch to make your selection:

      ▸   GBL: The **Global** alternate preset will load (see below). This is the default.

      ▸   0-383: The specified preset will be loaded as the alternate**.** (Bank select is automatic).

      ▸   OFF: The Alternate preset will be **disabled** for this preset.

      ▸   BAK: Loading the Alternate preset will dynamically "**Backtrack**" to whichever preset was loaded before the current one.

6.   Press EXIT to return to PERFORMANCE MODE.

4.5.1 Global Preset

The Global Preset function allows you to specify a preset which other presets can use as their Alternate Preset(s).
By default, the Global Preset is set to OFF, and all MFC-101 presets are set to GLOBAL.

To set the Global Preset:

1. Press EDIT footswitch to enter EDIT MODE.

2. Press SETUP footswitch to select the SETUP menu.

3. Press PAGE→ footswitch 16x to get to the **Global Preset** screen:

> # GlobalPreset <u>OFF</u>

4. Press the INCR or DECR footswitches to make your selection.

    ▶ 0-383: Load an alternate preset specified by its number.

    ▶ OFF: The Alternate preset function will be disabled for this preset.

    ▶ BAK: "**Backtrack**" to whichever preset was loaded before the current one.

5. Press EXIT to return to PERFORMANCE MODE.

5 INSTANT ACCESS SWITCHES

Instant Access (IA) Switches are typically used like traditional stompbox switches to turn effects on or off. There are many other creative possibilities for their use. The number of footswitches assigned to IA function is determined by the global **Bank Size** (see section **4.1** on p. 15). Each numbered IA Switch (1-17) is always located at the footswitch with the same number.

Instant Access Switches on the MFC-101 function as one of two types. **Axe-Fx IA Switches** have "native" Axe-Fx functions assigned (ex: "DRIVE 1 BYPASS"). They perform no other functions except as designated.

General Use IA Switches (those with their Axe-Fx functions set to NONE) send a range of general use MIDI messages. The on/off states for IA switches of this type is stored per-preset in the MFC-101.

When Axe-Fx Mode (p. 10) is turned off, all IA Switches revert to their General Use settings.

All IA Switch settings are *global*—they stay the same across all presets, banks, songs, etc.

5.1 Axe-Fx IA Switches

In Axe-Fx mode, IA Switches can be set up to control many functions. Default settings are shown below:
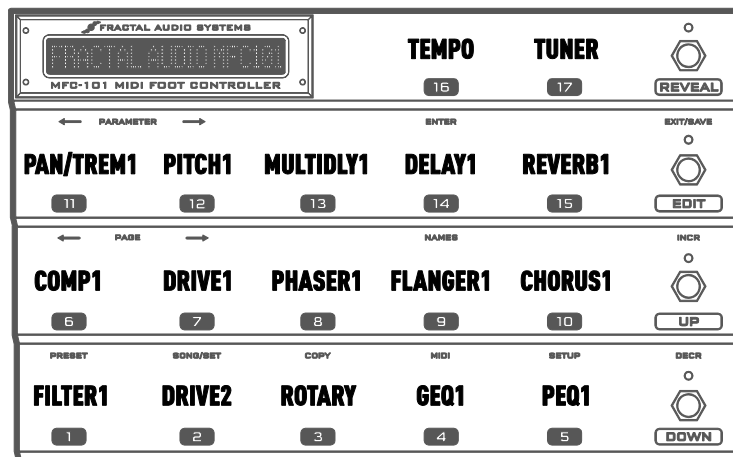
Figure 5-1: Default IA Switch Assignments in Axe-Fx Mode.

You can freely change the above settings in the MIDI menu:

1. Press EDIT footswitch to enter EDIT MODE.

2. Press MIDI footswitch to select the MIDI menu.

3. Press PAGE→ footswitch 6x to get to the **IA Axe-Fx Functions** screen:

> ## IA01 Axe-Fx FILTER1

4. Press the INCR or DECR footswitch to select an IA Switch to edit by its number.

5. Press PARAMETER→ to move the cursor to the Axe-Fx Functions list.

6. Press and/or hold the INCR or DECR footswitch to select an Axe-Fx function from the list. See the table below for a complete list of available functions.

7. Press ←PARAMETER to return to the first cursor position if you want to repeat this process from step 4 to set up additional switches, or press EXIT to return to PERFORMANCE MODE.

5.1.1 List of Available Axe-Fx Functions

Axe-Fx IA Switches control the bypass switch or X/Y switch of an Axe-Fx block, or the tuner or tempo function. The name of an assigned function is displayed momentarily whenever an IA Switch is turned ON.

"NONE"	Multiband Comp 1˚	Amp 1 X/Y²
Amp 1	Multiband Comp 2˚	Amp 2 X/Y²
Amp 2	Multi Delay 1	Cab 1 X/Y²
Cab 1	Multi-Delay 2	Cab 2 X/Y²
Cab 2	Panner/Tremolo 1	Chorus 1 X/Y²
Chorus 1	Panner/Tremolo 2	Chorus 2 X/Y²
Chorus 2	Parametric EQ 1	Delay 1 X/Y²
Compressor 1	Parametric EQ 2	Delay 2 X/Y²
Compressor 2	Parametric EQ 3˚	Drive 1 X/Y²
Crossover 1˚	Parametric EQ 4˚	Drive 2 X/Y²
Crossover 2˚	Phaser 1	Flanger 1 X/Y²
Delay 1	Phaser 2	Flanger 2 X/Y²
Delay 2	Pitch 1	Phaser 1 X/Y²
Drive 1	Pitch 2˚	Phaser 2 X/Y²
Drive 2	Quad Chorus 1˚	Pitch 1 X/Y²
Enhancer	Quad Chorus 2˚	Pitch 2 X/Y²
Filter 1	Resonator 1˚	Reverb 1 X/Y²
Filter 2	Resonator 2˚	Reverb 2 X/Y²
Filter 3˚	Reverb 1	Scene Increment²
Filter 4˚	Reverb 2	Scene Decrement²
Flanger 1	Ring Modulator˚	Scene 1²
Flanger 2	Rotary 1	Scene 2²
Formant 1	Rotary 2	Scene 3²
FX Loop	Synthesizer 1˚	Scene 4²
Gate 1˚	Synthesizer 2˚	Scene 5²
Gate 2˚	Tap Tempo*	Scene 6²
Graphic EQ 1	Tuner*	Scene 7²
Graphic EQ 2	Vocoder˚	Scene 8²
Graphic EQ 3˚	Volume/Pan 1	
Graphic EQ 4˚	Volume/Pan 2˚	
Looper²	Volume/Pan 3˚	
Mega Tap˚	Volume/Pan 4˚	
	Wah Wah 1	
	Wah Wah 2	

˚ : Function available only on the Axe-Fx Ultra
² : Function available only on the Axe-Fx II

* NOTE: TUNER, TAP TEMPO, SCENE INCR and SCENE DECT can each be assigned to only ONE switch at a time. If you try to assign a second switch to one of these functions, the first will automatically change to "NONE".

Tuner and tempo can also be controlled by a single footswitch with a "press and hold" function.

5.1.2 Axe-Fx IA Switch On/Off States

Whenever you load a new preset, the On/Off states of Axe-Fx IA switches are determined dynamically based what is saved in the Axe-Fx, and shown on the LEDs of the MFC-101 to indicate what is found for the assigned effect: GREEN=Effect Present & Active, RED=Effect Present & Bypassed, OFF=Effect Not Present in the current preset. Although the MFC-101 allows you to set On/Off states for IA Switches set to Axe-Fx Functions (see 12.4.7) these are IGNORED while Axe-Fx mode is on, in favor of the method described here.

5.1.3 "General Use" IA Switches in Axe-Fx mode

Setting an Axe-Fx IA switch to "NONE" disables its Axe-Fx function and enables its "general use" MIDI commands (See section **5.2**). Nothing prevents you from using General Use controlling the Axe-Fx; you will not get the dynamic LED functions offered by "native" Axe-Fx IAs, but you will be able to save the ON or OFF state of the switch in every individual MFC-101 preset, or use the switch as a Global IA. General use IA Switches are in fact perfect for use as Axe-Fx External Controllers. These can be assigned to operate a wide range of functions. See your Axe-Fx manual for more information on **Modifiers and Controllers**.

5.1.4 Axe-Fx I/O:CONTROL Settings

IMPORTANT! To operate properly, every Axe-Fx function assigned to an IA Switch must have a unique MIDI CC# assigned under I/O:CONTROL on the Axe-Fx. Using the default settings is recommended. Using the RESET function in the UTILITY menu provides a convenient way to ensure that the defaults are selected.

Although Axe-Fx mode makes it possible to assign the above functions without your needing to know or refer to MIDI control change number assignments, standard MIDI CC# messages are still used, and these will be echoed at the THRU port of the Axe-Fx.

5.1.5 Axe-Fx Tap Tempo

As described above, the functions which may be assigned to an IA Switch include Axe-Fx TAP TEMPO, allowing the Axe-Fx system tempo to be controlled remotely by tapping an instant access switch (#16 is assigned by default). An IA Switch set for Axe-Fx Tap Tempo will IGNORE its "Switch Type" Setting (**12.5.10** on p. 63)

A special function allows the tap footswitch to launch the Axe-Fx TUNER when held. See section **12.5.20**.

5.1.6 Axe-Fx Tuner

The Axe-Fx functions which may be assigned to an IA Switch include TUNER control. When the designated footswitch is pressed, the Axe-Fx tuner will be enabled and the MFC-101 will display the following screen:

Just as on the Axe-Fx display, the arrows indicate the degree to which the note is sharp or flat.

The note is in tune when both triangles appear: ▶E◀. As on the Axe-Fx, accidentals are always displayed as flats.

Note that while the tuner is active you can still freely turn other IA Switches ON and OFF. You can also select a new preset, bank, or song, at which point the tuner will be turned off. In other words, the tuner Instant Access Switch works just like any other and does not lock the UI out from other operations.

It is not possible to display the Axe-Fx Tuner on the MFC-101 when Axe-Fx Mode (p. 10) is turned off, though a CC# message can still turn the tuner on and off in the same way it would work on any other MIDI Foot Controller.

A special function allows the tap footswitch to launch the Axe-Fx TUNER when held. See section **12.5.20**.

5.2 General Use IA Switches

Instant Access Switches with their Axe-Fx functions set to "NONE" (or *all* IA switches when Axe-Fx mode is OFF) offer a set of powerful general use MIDI commands. These **General Use IA Switches** can send the following types of MIDI instructions when turned ON:

- Up to 2 different MIDI Control Change messages with custom values (0–127).
- Any one MIDI program change command on any channel.
- Up to 16 bytes of freeform hexadecimal MIDI commands.

The OFF state can send:

- The custom OFF values (0–127) for any CC#s sent by the ON action.
- Any one MIDI program change command on any channel.
- Another 16 bytes of freeform hexadecimal MIDI commands.

☞ **REMEMBER:** *When* AXE-FX MODE *is* ON*, IA Switches with Axe-Fx functions assigned will ONLY send the MIDI commands for their Axe-Fx assignments. See section **5.1***, above.*

The default assignments for the first Control Change message of each IA Switch are shown below. These are sent with values of 127 for ON and 0 for OFF. All other IA switch settings are OFF by default.
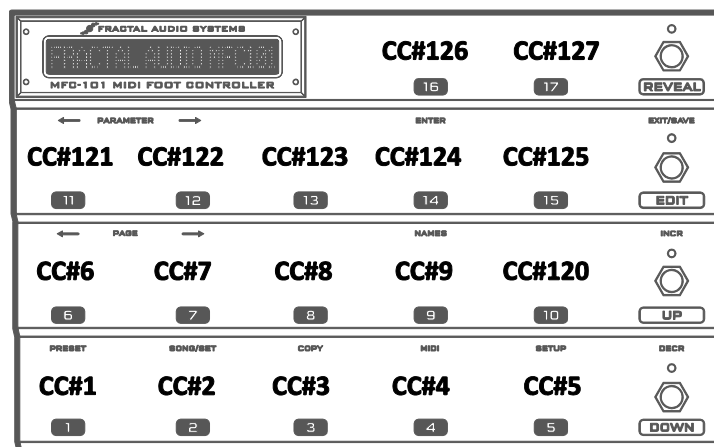
Figure 5-2: Default Control Change Assignments for General Use IA Switches.

5.2.1 General Use IA Switch Control Change Messages

Each IA Switch may be assigned up to 2 Control Change message numbers, each of which sends an ON value when the switch is turned ON, and an OFF value when the switch is turned OFF.

To set the CC# assignments for a switch:

1. Press EDIT footswitch to enter EDIT MODE.

2. Press MIDI footswitch to select the MIDI menu.

3. Press PAGE→ 7x to get to the **IA Switch CC# Settings** screen:

> IA<u>01</u> c<u>1</u> CC#<u>102</u> Ch<u>01</u>

4. Tap and/or hold the INCR or DECR footswitches to select an <u>IA Switch</u>

5. Press PARAMETER→ to move to the <u>Command Select</u> parameter.

6. Press INCR or DECR to select between CC Command 1 or CC Command 2.
   (Each IA switch allows 2 different CC# messages, each with its own ON/OFF values).

7. Press PARAMETER→ to move to the <u>CC# Assign</u> parameter.

8. Tap and/or hold the INCR or DECR footswitches to select a CC# assignment for the selected command. Set this value to OFF to disable the selected command.

9. Press PARAMETER→ to move to the <u>MIDI Channel</u> parameter.

10. Tap and/or hold the INCR or DECR footswitches to set a MIDI channel for the selected command.

11. Press ←PARAMETER 2x to return to step 5 to set up a 2nd command for the selected IA Switch, OR Press ←PARAMETER 3x and select a different IA Switch to edit, OR press EXIT to return to PERFORMANCE MODE.

The data values for IA switches is "0" for OFF and "127" for ON. The value of any switch state can be freely changed to 0–127 or "OFF," which causes the switch state to send nothing. For more information on setting IA data values, see **IA Switch Control Change ON/OFF Values** on p. 54.

5.2.2 Other General Use IA Switch Capabilities

▸ Each IA Switch can be programmed to send a Program Change when turned ON, and a second Program Change when turned OFF. For more information, see **IA Switch Program Change Settings** on p. 54.

▸ Each IA Switch can send a 16 Byte custom MIDI message when turned ON, and a second custom message when turned OFF. For more information, see **IA Switch Custom MIDI Message** on p. 55.

▸ Each IA Switches may be given a 7-character name. This is displayed whenever the switch is turned on[4], as a helpful reminder in EDIT mode when the NAMES footswitch is pressed while the cursor is in a parameter used to select IA Switches by their numbers. See **Chapter 11** for more information.

5.2.3 General Use IA Switch Saved States

The ON or OFF state for each General Use IA Switch is saved in each MFC-101 preset. This provides "scene recall" capability where different presets cause different switches to turn on or off automatically. For example: you might

---

[4] Axe-Fx IA switches *ignore* their set names while Axe-Fx mode is on, and display their function names instead.

want the IA Switch controlling a midi-powered amp relay switch to be ON whenever you load your "Lead" preset, and OFF when you load a "Clean Rhythm" preset. Of course, it is only the initial state that is saved; you may stomp to change the state of any IA Switch at any time. It is also possible to set IA Switches so their state is GLOBAL, in which case the saved setting is ignored and the switch's current state will persist across preset changes.

To set or change the saved states of IA Switches for a given preset:

1. Press the EDIT footswitch

2. Press PRESET footswitch to arrive at the PRESET menu and the **Select Preset** screen:

> # Preset 000

3. Press and/or hold INCR or DECR footswitches to select the Preset you want to edit.

4. Press PAGE→ 2x to get to the **Preset IA Switch States** screen:

> # IASw 01 OFF

5. Tap and/or hold the INCR or DECR footswitches to select an IA Switch

6. Press PARAMETER→ to move to ON/OFF field.

7. Tap the INCR or DECR footswitches to toggle the state.

8. Press ←PARAMETER to return to step 5 to edit additional IA switch states for the selected preset, or press ←PAGE 2x to return to step 3 and select a new preset for editing, or press EXIT to return to PERFORMANCE MODE.

5.2.4 Global General Use Instant Access Switches

General Use Instant Access Switches may optionally be set for **Global** operation, meaning that their states will be retained across MFC-101 preset changes. This causes any Saved States (**5.2.3**) for the IA Switch to be *ignored*. After a new preset is loaded, MIDI messages for the current state of each Global IA Switch are re-transmitted. See section **12.5.11** for how to enable the GLOBAL function of any instant access switch.

IA Switches set up for Axe-Fx Functions (see **12.4.7**) will IGNORE being set to Global. Instead, the settings in the Axe-Fx are used (as usual) to set MFC-101 switch states (and LEDs) when each new preset is loaded.

5.2.5 "Manual-Only" General Use Instant Access Switches

The option "**Send w/ Preset : Yes/No**" enables General Use Instant Access Switches to be set for **Manual-Only** operation, meaning that the MIDI data for their state will be never transmitted automatically when you change presets on the MFC-101. This is possible whether or not the IA Switch in question is set to Global or not. The following table covers the various combinations of GLOBAL and MANUAL settings for a given switch.

	Send w/ Preset On	Send w/ Preset Off
Global Off	The default behavior. These IA switches cause a burst of CC data when you change presets. Perfect for controlling functions which need to be re-sync'd at each preset change.	Despite their LED states changing every time you load a preset, these IA switches send NO MIDI unless you physically stomp on them. This makes the MFC-101 compatible with devices that use a single program change to set the states of multiple effects that you still individual control over. Requires careful programming to ensure a match between MFC LEDs and downstream device effect states!
Global On	The IA Switch will retain its current state when you change presets. The MIDI message for the current state will be re-transmitted after every preset change. Useful for controlling devices which do not persist states across preset change, or to over-ride certain per-preset functions of the Axe-Fx (e.g. setting up an overarching mega X-Y switch).	The IA Switch retains its state across preset changes but never transmits MIDI data unless it is actually stomped. Ideal for controlling "stateful" global functions like Axe-Fx External controllers, or for use with devices that do not work with redundant CC messages (e.g. certain MIDI amp switchers). When you first power on the rig, you'll want to give each switch with this setting a double-tap to ensure LEDs are sync'd with downstream states.

See section **12.5.11** for how to set any instant access switch for global operation.

See section **12.5.12** for how to set the Send w/ Preset for any instant access switch.

5.2.6 The Save Edits Footswitch

The EDIT footswitch doubles as a SAVE switch which can be used to store changes to General Use IA Switch states on-the-fly without entering EDIT MODE as described above in section **5.2.3**.

You may remember that saved IA Switch states cause a burst of MIDI data when any preset is loaded, enabling a kind of "scene recall" across the various connected MIDI devices. With Save Edits enabled, the SAVE footswitch LED will *flash* when it detects changes to the states of one or more IA Switches. Pressing the flashing footswitch stores the change(s) in the current preset. Selecting another MFC-101 preset discards the changes without saving.

The Save Edits footswitch function is disabled by default.

☞ **IMPORTANT:** *Changes to IA Switches assigned to Axe-Fx functions will NOT activate the* SAVE EDITS *function, NOR will state changes be saved. This is because the Axe-Fx, and not the MFC-101, is responsible for storing the states of Axe-Fx effect blocks. After you use the MFC-101 to change Axe-Fx IA Switch states, however, it is possible to save the preset on the Axe-Fx in the usual way (*STORE:ENTER:ENTER*) so the next time it is loaded it will be as you last "stomped" it. If you save Axe-Fx changes "midstream," you will need to reload the current MFC-101 preset to update.*

5.3 IA Switch Types

The MFC-101 allows you to change the behavior of any IA Switch to Momentary (aka "Hold"), Toggle (aka "Latching"), or "Auto-Off," (aka "Quick Tap") which sends both the ON and OFF messages in rapid succession. Except **Axe-Fx Tap Tempo**, which IGNORES switch type settings, switch types may be set freely for both Axe-Fx and General use IA switches. To change the setting for a given switch:

1. Press EDIT footswitch to enter EDIT MODE.

2. Press SETUP footswitch to select the SETUP menu.

3. Press PAGE→ footswitch 8x to get to the **IA Switch Type** screen:

> ### IA0<u>1</u> Type <u>TOGGLE</u>

4. Press the INCR or DECR footswitch to select an <u>IA Switch number</u>.

5. Press PARAMETER→ to move the cursor to the <u>Switch Type</u> field.

6. Press the INCR or DECR footswitch to select a switch type from the list.

7. Press EXIT to return to PERFORMANCE MODE.

☞ **WHICH SWITCH IS WHICH?** *You will typically want to use Toggle (the default setting, which behaves like a traditional stomp box) unless you have some reason to operate an effect or parameter with a Momentary type switch. The Auto-Off type is called for only in cases best understood only by MIDI nerds and is unsuitable for most Axe-Fx applications.*

5.4 Switch Links

Switch Links allow you to set up two global groups of 5 mutually exclusive IA Switches each. Only one switch in a particular group can be ON at a given time. This feature is useful for emulating the way amplifier channels work. To create a switch group:

1. Press EDIT footswitch to enter EDIT MODE.

2. Press SETUP footswitch to select the SETUP menu.

3. Press PAGE→ 10x to get to the **IA Switch Links Setup** Screen:

    ```
    LinkA --  --  --  --  --
    ```

4. Tap the INCR or DECR footswitches to group <u>A</u> or group <u>B.</u>

5. Press PARAMETER→ to move to the first empty switch slot (--).

    NOTE: The cursor cannot be moved further right than the first empty slot.

6. Tap and/or hold the INCR or DECR footswitches to add an IA Switch to the group.

7. At any time, you may **REMOVE** the last (farthest right) switch (and only the last/farthest right switch) from the group by setting its value to "--".

8. Return to step 5 to continue adding IA switches, or press EXIT to return to PERFORMANCE MODE.

An IA switch will still send its MIDI OFF messages when it is turned off automatically by a Link. This behavior can be disabled using the Send IA Switch Link OFF Messages parameter (**12.5.15** on p. 65).

Any currently selected switch in link group may be switched OFF at any time.

> ✐ **NOTE:** *Switch Links may be created between IA Switches that control Axe-Fx effect functions and those that do not. Such setups should be planned and tested carefully to avoid potential pitfalls.*

5.5 Reveal

Switches set up to select PRESETS (see Bank Size on p. 15) also double as Instant Access Switches when REVEAL is turned on. Tap the REVEAL footswitch to turn this feature ON or OFF. The REVEAL LED will blink when the MFC-101 is in Reveal mode.

It is possible to change the current BANK or SONG while Reveal is activated, but if Bank Style (p. 16) is set to "NONE" you'll need to exit REVEAL and press a preset footswitch before a preset will be loaded.

Reveal works the same in all modes: PRESET, SONG, and SET, and whether Axe-Fx mode is ON or OFF.

In Axe-Fx Mode, press and hold the the REVEAL footswitch to enter LOOPER CONTROL MODE (see p. 77).

The LED will light red. Tap REVEAL again to return to normal performance mode.

6 INTERNAL CCs

The MFC-101 allows you to set up 17 "Internal Control Changes"—think of them as virtual switches. These are similar to Instant Access Switches in that they send CC# messages and can have custom ON and OFF values, but unlike Instant Access switches, Internal CCs cannot be mapped to real footswitches. Instead, a snapshot of Internal CC ON/OFF states is saved in every MFC-101 preset, causing a burst of MIDI data to be sent whenever a new preset is loaded.

Use Internal CCs to control effects or functions whose states you do not need to change except when a new preset is loaded—for example, to have the echo in a MIDI-controlled vocal processor come on every time you load an Axe-Fx lead preset, and OFF when you change to the Rhythm preset.

6.1 Internal CC MIDI commands

All Internal CCs are set to OFF by default. To enable an Internal CC, simply assign a MIDI CC# and MIDI Channel using the **Internal Control Change Settings** page:

1. Press the EDIT footswitch to enter EDIT MODE.

2. Press MIDI footswitch to select the MIDI menu.

3. Press PAGE→ footswitch 11x to get to the Internal CC Settings screen:

> ## IntCC 01 CC#OFF Ch01

4. Press and/or hold INCR or DECR footswitches to select an Internal CC to edit.

5. Press PARAMETER→ footswitch to select the CC# Assign field.

6. Press and/or hold INCR or DECR footswitch to assign a CC# to the Internal CC.

7. Press PARAMETER→ footswitch to select the MIDI Channel field.

8. Press and/or hold INCR or DECR to set the desired MIDI channel.

9. Press ←PARAMETER 2x to return to the first cursor position and repeat this process from step 4 for each additional Internal CC you want to enable, or press EXIT to return to PERFORMANCE MODE.

Internal CC values are set by default to 0 for OFF and 127 for ON. See section **12.4.9** on p. 54 for details on how to set custom on/off data values for IA switches.

6.2 Preset Internal CC States

Every MFC-101 Preset stores the ON or OFF of every one of the 17 Internal CCs, thereby determining what MIDI message will be sent when the selected preset is loaded. This provides a way to send CCs in addition to those for IA switches. Internal CCs make it possible, for example, to use a Control Change message to automatically engage a 3rd party MIDI-controlled effects pedal when you load certain MFC-101 presets—without using up valuable IA Switch real estate.

To set the state for an Internal CC in a given preset:

1. Press the EDIT footswitch to enter EDIT MODE.

2. Press PRESET footswitch to arrive at the PRESET menu and the **Select Preset** screen:

   ```
   Preset 000
   ```

3. Press and/or hold INCR or DECR footswitches to select the Preset you want to edit.

4. Press PAGE→ footswitch 3x to get to the **Preset Internal CC States** screen:

   ```
   InternalCc 01 OFF
   ```

5. Press and/or hold INCR or DECR footswitches to select an Internal CC for editing

6. Press PARAMETER→ footswitch to select the State field.

7. Tap INCR or DECR footswitch to set a value of ON or OFF

8. Press ←PARAMETER to return to the first cursor position and repeat this process from step 5 for each additional Internal CC you want to edit, or press EXIT to return to PERFORMANCE MODE.

Instead of exiting, you may also press ←PAGE 3x to return to step 3 to select a different preset to edit.

7 EXPRESSION PEDALS

7.1 Connecting and Calibrating

Expression pedals allow you to control various sound settings in real time with your foot. Classic examples include the sweep of a Wah, Whammy or Volume pedal. Up to four expression pedals may be connected to the 4 Expression Pedal Jacks of the MFC-101 using TRS cables.

Figure 7-1: TRS Cable, AKA "Balanced" or "Stereo" Cable End.

Expression pedals must be calibrated before they can be used:

1. Connect an expression pedal to the MFC-101, noting its jack number.

2. Press the EDIT footswitch to enter EDIT MODE.

3. Press SETUP footswitch to select the SETUP menu.

4. Press PAGE→ footswitch 14x to get to the **Expression Pedal Calibration** screen:

XP1 Min 000 Max 093

5. Press the INCR or DECR footswitches to select XP1, XP2, XP3 or XP4, depending on which jack the pedal in question is connected to.

6. Press PARAMETER→ footswitch to select the Min field.

7. Press ENTER and move the pedal all the way to the HEEL position.

8. Press ENTER to save this value.

9. Press PARAMETER→ footswitch to select the Max field.

10. Press ENTER and move the pedal all the way to the TOE position.

11. Press ENTER to save this value.

12. Press EXIT to finish, or press PARAMETER→ to return to the first cursor position and to select XP1, XP2, XP3 or XP4 to repeat this process for additional pedals.

7.2 Expression Pedal MIDI Functions

A MIDI function must be assigned to every Expression Pedal for it to send any data. Please refer to the manual of your product for more information the various functions which can be controlled by MIDI Control Change messages, and what these assignments are for your unit.

Expression Pedal functions may be set globally, as follows, or individual presets can be programmed with overrides to create "one-off" pedal setups (see section **Preset Expression Pedal Settings**, on p. 46).

To set global Expression Pedal functions, use the following process:

1.   Press the EDIT footswitch to enter EDIT MODE.

2.   Press MIDI footswitch to select the MIDI menu.

3.   Press PAGE→ footswitch 15x to get to the Global Expression Pedal Setup screen:

    ┌─────────────────────────────────────┐
    │ XP1 #011 Ch01 BegOFF   │
    └─────────────────────────────────────┘

4.   Press INCR or DECR to select an expression pedal to edit: XP1, XP2, XP3 or XP4.

5.   Press PARAMETER → footswitch to select the CC# field.

6.   Tap and/or hold the INCR or DECR footswitches to assign a MIDI CC# from 0-127 or OFF to disable the pedal completely.

7.   Press PARAMETER → footswitch to select the MIDI Channel field.

8.   Tap and/or hold the INCR or DECR footswitches to assign a MIDI channel.

9.   **OPTIONAL:** Press PARAMETER → footswitch to select a Beginning Value for the selected pedal. This value will be sent when any new preset is loaded as follows:

PDL	(Default) The pedal will be polled and a corresponding MIDI value sent whenever a new preset is loaded.
OFF	The Beginning Value function is switched off. No data is sent until the pedal is moved.
000-127	The selected value will be sent whenever a new preset is loaded.
	ⓘ To prevent abrupt sound changes, a pedal with a numeric Beginning Value will send updates only after its physical position crosses the threshold of the beginning value. For example, if the initial value is "0", you will need to move the pedal to "0" (heel position) before the pedal sends any MIDI data.
	ⓘ The "Beginning Value" should never be set outside the MIN/MAX range of the pedal, whether global (12.4.17) or set for the Preset (**12.1.10**).

10. Press PARAMETER→ to return to the first cursor position and repeat this process to assign functions to additional pedals, or press EXIT to return to PERFORMANCE MODE.

NOTE: Pedal #1 is mapped by default to MIDI CC#11 (default for "Output 1 Volume" in the Axe-Fx), and Pedal #2 is assigned to MIDI CC#16 ("External 1" in the Axe-Fx, which often controls Wah or Whammy).

7.3 Expression Pedal Range

The range of an expression pedal—the minimum and maximum data values sent for the heel and toe positions— may be modified both globally (**12.4.17**) or within an individual preset (**12.1.10**).

For maximum flexibility, Axe-Fx users will likely want to leave expression pedal range settings at full (0–127) and instead map control relationships using the MODIFIER settings: START, MID, and END points, SLOPE, SCALE and OFFSET. See the Axe-Fx manual for more information on Modifiers.

8 EXTERNAL SWITCHES

External footswitches provide an additional means to control your Axe-Fx or a connected MIDI device. Each switch can be set up globally or at the preset level to send custom OFF and ON values (0 and 127 by default) for one MIDI Control Change number.

Each External Switch jack on the MFC-101 can accept **two** switches via a TRS-to-dual-TS or "Insert" type cable. A TRS cable connected to "Jack1+2" will have Switch 1 on the TIP and Switch 2 on the RING. A TRS cable connected to "Jack3+4" will have Switch 3 on the TIP and Switch 4 on the RING. It also is possible to connect a single switch to either one of the jacks using a TS (normal guitar) cable, but it is recommended that you disable the MIDI function of the unused second switch (2 or 4) when doing so.
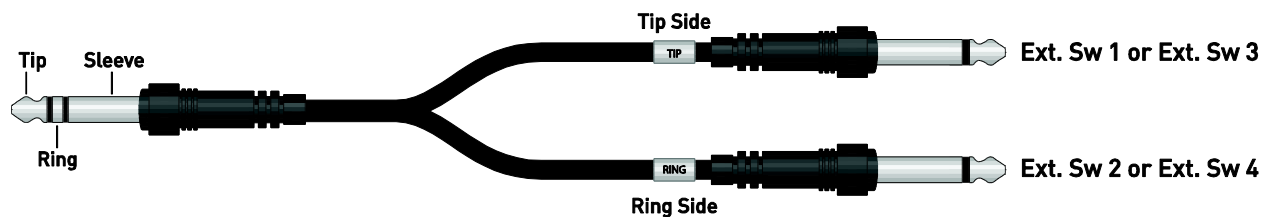
Figure 8-1: External Switch Appearance on Insert Cable Plugs

8.1 Setting Switch Hardware Types

Footswitches are classified according to the operation into several basic physical types: "TOGGLE" (a.k.a. "Latching") switches, and "MOMENTARY" switches (a.k.a. "hold," subdivided into "Make" and "Break" types). All types are supported by the MFC-101, but you must adjust MFC-101 settings according to the type of each connected switch:

1. Press the EDIT footswitch to enter EDIT MODE.

2. Press SETUP footswitch to select the SETUP menu.

3. Press PAGE➔ footswitch 13x to get to the **External Switch Hardware Type** screen:

4. Press the INCR or DECR footswitch to select XS1, XS2, XS3 or XS4.

5. Press PARAMETER➔ footswitch to select the Switch Type field.

6. Tap the INCR or DECR footswitches to select MOMENTARY or TOGGLE according to the physical switch type of your connected hardware.

7. Press ←PARAMETER to return to the first cursor position and repeat this process from step 4 for each additional connected switch, or press EXIT to return to PERFORMANCE MODE.

8.2 External Switch MIDI Functions

External footswitches must be programmed to send MIDI data. Like expression pedals, External Switches may be set up globally, as follows, or individually for "one-off" preset-based switch setups (see **12.1.7: Preset External Switch Settings** on p. 45).

To program the Global function for an External footswitch, use the following process:

1. Press the EDIT footswitch to enter EDIT MODE.

2. Press MIDI footswitch to select the MIDI menu.

3. Press PAGE→ footswitch 13x to get to the **Global External Switch Setup** screen:

> XS<u>1</u> #<u>OFF</u> Ch<u>01</u> Typ<u>HDW</u>

4. Press the INCR or DECR footswitch to select XS1, XS2, XS3 or XS4.

5. Press PARAMETER → footswitch to select the <u>CC#</u> field.

6. Tap and/or hold the INCR or DECR footswitches to assign a MIDI CC# from 0-127 or select OFF to disable the switch completely.

7. Press PARAMETER → footswitch to select the <u>MIDI Channel</u> field.

8. Tap and/or hold the INCR or DECR footswitches to set the channel.

9. Press PARAMETER → footswitch to select the <u>Type</u> field.

10. Tap the INCR or DECR footswitches to set the Type, which determines how/when data is sent:

HDW	"HARDWARE" (Default setting) – When this option is selected, the MIDI ON message (127) will be sent whenever the connected HW switch is turned ON, and the OFF message (0) will be sent whenever it is switched OFF.
	Tip: Use this setting if your connected HW is a TOGGLE/LATCHING switch
	…OR if you are using a MOMENTARY switch and want momentary MIDI ON/OFF messages (Example: If you want to press and hold a footswitch to activate an effect, and release the footswitch to deactivate the effect.)
	NOTE: In this mode, whenever a new preset is loaded, the switch state will be polled and the corresponding MIDI message sent. This allows "what you hear" to be kept in sync with "what you see" if the switch has an LED, for example.
AUT	"AUTO-OFF" – When you step once on the connected switch, both the ON and OFF MIDI messages will be sent in quick sequence (~250ms apart).
	Use this setting if the MIDI device you are using requires successive ON/OFF messages to activate.

TOG	"TOGGLE" – Whenever any state change is detected in the connected switch, both the ON and OFF MIDI messages will be sent in quick sequence (~250ms apart).
	Use this setting if you want a connected MOMENTARY switch to behave as if it were really a TOGGLE/LATCHING switch.
	NOTE: In this mode, switch data is not sent on preset changes.

11. Press ←PARAMETER 3x to return to the first cursor position and repeat this process from step 4 for each additional connected switch or press EXIT to return to PERFORMANCE MODE.

NOTE: Unlike Instant Access Switches, external Switches cannot be given Axe-Fx functions simply by selecting from a list. It is possible, however, to set them up for Control Change messages which in turn have assignments in the Axe-Fx under its I/O:CONTROL page.

8.3 External Switch Custom On and Off Values

It is also possible to specify custom ON and OFF data values for an external switch, both globally (12.4.15 on p. 57) or for a given preset.(12.1.8 on p. 45). This is optional and typically not necessary.

9 SONGS & SETS

SONG MODE and SET MODE are counterparts to PRESET MODE. Remember that all of these share the same set 384 MFC-101 presets, and that AXE-FX MODE runs independently of all three. Here's a review of the differences between Performance Modes:

MODE	PRESETS	UP/DOWN FOOTSWITCHES
PRESET MODE:	384 Presets total are arranged in strict numerical order[1] across Banks. The number of preset footswitches per Bank is set by the global Bank Size.	Up/Down footswitches step through all Banks in strict numerical order. The number of banks depends on the global Bank size and the last bank may have some empty footswitches which do nothing.
SONG MODE:	Uses the same 384 presets as PRESET MODE, but arranged as desired across the preset footswitches for each of 100 Songs. The number of presets which can be added to each song is 15, though you'll only be able to access as many as there are preset-selecting footswitches as set by the global Bank Size.	Up/Down footswitches step through all 100 Songs in strict numerical order.
SET MODE {1-10}:	Uses the same Songs as SONG MODE, and therefore their same Presets.	The Up/Down footswitches step through the Songs of the selected set, arranged as desired in the current Set specified as the **Operating Mode**.

9.1 Entering Song or Set Mode

To change the operating mode:

1. Press the EDIT footswitch to enter EDIT MODE

2. Press SETUP footswitch to select the SETUP menu

3. Press PAGE→ 1x to arrive at the Operating Mode screen:

> PerfMode <u>PRESET</u>

4. Press the INCR or DECR footswitches to select PRESET, SONG, or SET XX, where XX is the number of the Set which will be in effect until the operating mode is changed.
   A sample display showing SET and the selected number is shown below. If one has been assigned, the NAME of a given set will be shown.

> PerfMode <u>SET 01</u>

5. Press EXIT to return to PERFORMANCE MODE.

---

[1] MFC-101 presets are numerically sequenced across banks in PRESET MODE, but the actual MIDI Program Change commands sent may be modified freely. See **Presets and Program Changes** on p. **16**.

9.2 Adding Presets to a Song

When the MFC-101 is in SONG MODE, the up and DOWN footswitches step through SONGS instead of BANKS. See the table on p. 13 for an overview of differences between operating modes.

A Song is similar to a Bank, except that it contains up to 15 MFC-101 Presets assigned to the numbered footswitches in any order you choose. Songs are likewise subject to the global Bank Size and Style settings, meaning that although you can place up to 15 Presets into the song's 15 "slots," some of these may not be available for selection in PERFORMANCE MODE if the Bank Size is smaller than 15.

The MFC-101 stores 100 songs. To add presets to any of them:

1. Press the EDIT footswitch to enter EDIT MODE.

2. Press SONG/SET footswitch to arrive at the **Song Edit** screen:

   ```
   Song 001  P01 = P001
   ```

3. Press the INCR or DECR footswitches to select a song to edit.

4. Press the PARAMETER→ footswitch to move to the Song Preset (aka "slots") field.

5. Press INCR or DECR to select a Song preset slot.
   Song presets always appear at the identically numbered footswitch.
   A value of "OFF" (the default) results in a preset footswitch which does nothing.

6. Press the PARAMETER→ footswitch to move to the Select Preset field.

7. Press the INCR or DECR footswitches to select a preset for the selected slot, or select OFF if you want the selected slot to contain NO song.

8. Use the ←PARAMETER→ and INCR/DECR footswitches to move between selecting slots and assigning presets.

9. Press EXIT to return to PERFORMANCE MODE.
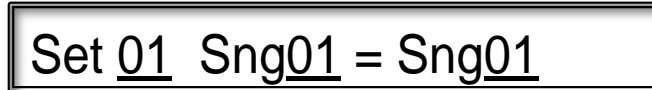
NOTE: You can also edit the NAME of each song. See **12.2.1** on p. 47 for details.

9.3   Adding Songs to a Set

Just as SONGS allow a custom series of PRESETS to be mapped across the preset footswitches, SETS allow a custom list of SONGS to be arranged in a list. The UP/DOWN footswitches step through the SONGS of the current SET. See the table on p.13 for an overview of differences between operating modes.

The MFC-101 stores 10 Sets of up to 50 songs each. To add Songs to a set:

1. Press the EDIT footswitch to enter EDIT MODE.

2. Press SONG/SET footswitch to enter the SONG/SET edit menu.

3. Press the PAGE→ footswitch 2x to arrive at the **Set Edit** page:

Set 01   Sng01 = Sng01

4. Press the INCR or DECR footswitches to select a Set to edit.

5. Press the PARAMETER→ footswitch to move to the Set Songs ("slots") field.

6. Press INCR or DECR to select one of the 50 Set Song slots to edit, or select OFF if you want the selected slot to contain NO song.

7.   Press the PARAMETER→ footswitch to move to the Song Select field.

8. Press the INCR or DECR footswitches to assign a song to the currently selected song slot for the currently selected set.

9. Use the ←PARAMETER→ and INCR/DECR footswitches to move between selecting from the 50 Set Song slots and assigning Songs.

6. Press EXIT to return to PERFORMANCE MODE.

NOTE: You can also edit the NAME of each set. See **12.2.3** on p. 48 for details.

10 COPY FUNCTIONS
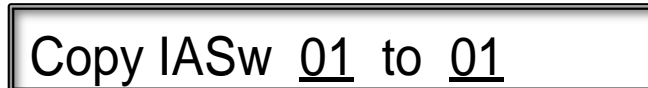
With the likelihood of many entries in your rig being based off of similar templates, the capability to copy settings from one MFC-101 item to another can be a timesaver.

Using the COPY menu, the following types of items can be copied from one memory location to another:

‣ **Presets** – Use this to easily transfer the name and all MIDI commands from one preset to another, but remember that the settings of any Preset do not determine which Axe-Fx program it will recall. See **Presets and Program Changes** on p. 16 for more information.

‣ **Songs** – Use this to copy the Song name and all of the Song Presets.

‣ **Sets** – Use this to copy the Set name and all of the songs in it.

‣ **Instant Access Switch Settings** – Use this to copy the IA Switch name and all settings, including any assigned Axe-Fx mode function.

‣ **Internal CCs** – Use this to copy the name and settings for the Internal CC.

To demonstrate how to execute a COPY operation, we'll use the example of **Copy IA Switch:**

1. Press EDIT footswitch to enter EDIT MODE.

2. Press COPY footswitch to select the COPY menu.

3. Press PAGE→ 4x to arrive at the **Copy IA Switch** screen:

> ## Copy IASw 01 to 01

4. Press and/or hold the INCR or DECR footswitches to select the Source.

5. Press PARAMETER→ to move to the Destination field.

   Press and/or hold the INCR or DECR footswitches to select the Destination.
   NOTE: The Destination must not be the same as the Source.
   (The ENTER LED will flash to indicate a valid Copy selection).

6. Press the ENTER footswitch to execute the Copy.

7. Press EXIT to return to PERFORMANCE MODE.

All of the copy operations are covered in section **12.3**, beginning on p. 49

11 NAMES

Besides Preset names, which appear in the display, the MFC-101 stores "friendly" names for many other entities. These can be shown while programming to make it easier to remember all of the connected devices and assigned functions. The following table lists those entities which may be named, together with the intended use of the names, and the menu page where names are given.

Nameable Entity	Intended Use	Menu Page where Name is Set
Preset	Name of the Preset	Preset: Name (12.1.1)
Song*	Name of the Song	Song/Set: Song Name (12.2.1)
Set	Name of the Set List	Song/Set: Set Name (12.2.3)
MIDI Channel	Name of the device connected on this channel	MIDI: MIDI Channel Names (12.5.5)
IA Switch	Name of the function(s) controlled	MIDI: IA Switch Names (12.5.13)
Preset Internal CC	Name of the function controlled	MIDI: Internal CC Names (12.5.16)

* Song names also appear when you step UP or DOWN if the global Bank Style is set to NONE.

Names are displayed in EDIT MODE to make programming easier. The NAMES footswitch LED flashes whenever the MFC-101 cursor is on an Edit menu parameter which has a corresponding name. Pressing the footswitch momentarily (~2 seconds) displays the name and then returns to the regular menu page.

EXAMPLE: Imagine that an MFC-101 is connected to an Axe-Fx on MIDI channel 1, with a vocal processor on MIDI channel 2 (via THRU). Channel 2 has been named "VoxBox". An IA Switch, number 15, has been set for CC#64, which controls reverb on the VoxBox. This IA Switch has been given the name "VoxVerb". Here's an example showing the use of these two applied names within a single menu page:

```
IA15  c1   CC#64  Ch02
```

1) The MFC-101 operator navigates to the "IA Switch CC# Settings" menu page (12.4.8) and presses INCR to get to switch #15. Hmm...What was that footswitch set up for again?

```
VoxVerb
```

2) Because the cursor is in a parameter which can be named, the NAMES footswitch LED Flashes. Pressing the switch shows the friendly name for the item/value at the current cursor position: IA15

```
IA15  c1   CC#64  Ch02
```

3) The cursor is moved to the MIDI channel parameter and Channel 2 is selected. Hey, what's connected on that MIDI channel anyway?

```
VoxBox
```

4) The NAMES footswitch LED flashes. Pressing the switch shows the friendly name for the item and value at the current cursor position, the MIDI channel in this case.

NOTE: The *stored* value of a Name is always shown, ignoring unsaved changes from the current edit session.

Every available NAME in the MFC-101 has a factory default setting. See 15.1 on p. 79 for details.

12 COMPLETE MENU REFERENCE

The following comprises a complete parameter reference for the MFC-101.

From within any page of any menu, the following commands apply:

←PAGE→	Press either of these two footswitches (#5 or #6) to save changes and move to the preceding/next sub-menu page.
←PARAMETER→	These two footswitches (#11 or #12) switch between the parameters on a single page and also move the cursor while editing names.
INCR or DECR	Press and/or hold to change the character or parameter value at the current cursor position.
Footswitches 1–5	Press the button which entered the menu you are working in to return to the top level of the EDIT menu *without* first returning to PERFORMANCE MODE. (Example: pressing PRESET while working in the PRESET menu will save changes and allow you to select a different menu for editing.)
EXIT	Saves all changes and exits to PERFORMANCE MODE

☛ **ABANDONING CHANGES:** *The MFC-101 saves changes automatically in a number of cases: when you press SAVE/EXIT, when you return to the top of the* EDIT *menu by pressing the footswitch for the menu you are working in, or when you change to a different "registration parameter". (See section 1.5 on p. 6 for more on Saving Changes.) To abort edits without saving, simply disconnect power from the MFC-101, wait several seconds, and then restore power to the unit.*

12.1 The Preset Menu

Use this menu to select presets and edit their parameters, including name, instant access switch states, internal Control Change states, custom message, and preset external switch and expression pedals.

IMPORTANT: You must first select a Preset (12.1.0) to edit it using any of the other pages in this Menu.

Note that the current MFC-101 preset will be reloaded when returning to Performance Mode.

12.1.0 Select Preset

EDIT : PRESET

Select Preset selects an MFC-101 preset for editing. The selected preset will remain locked in for editing across other Preset Menu pages until a new preset is selected here or until the Preset Menu mode is exited.

> Preset <u>000</u>

12.1.1 Preset Name

EDIT : PRESET : PAGE→ (1x)

Preset Name is used to edit the name of the currently selected MFC-101 preset.

> Name <u>MFC-101</u>

NOTE: With AXE-FX MODE set to ON, presets will show the name of the currently loaded Axe-Fx preset instead of this stored value.

The NAMES footswitch can also cause Preset Names to appear briefly in EDIT MODE when used on a parameter which selects presets by their numbers. See **Chapter 11** for more on Names.

12.1.2 Preset Program Changes

EDIT : PRESET : PAGE→ (2x)

Preset Program Changes is used to set the MIDI Program Change (PC) messages sent by the currently selected MFC-101 preset. One program change may be set per MIDI channel, up to 16 in total.

You must first select a preset (**12.1.0** on p. 41) to edit it using this menu page.

```
Ch 01  ProgChg 000
```

Use the ←PARAMETER→ footswitches to move between MIDI Channel and Program Number parameters.

Note that while AXE-FX MODE is ON, the saved Program Change command for the "Axe-Fx MIDI Channel" (12.4.1) will be IGNORED. Instead, the "Axe-Fx Preset Transmit Map" (p. 12.4.3) determines which Bank Select and Program Change commands will be sent.

To support program changes from 000-999 with a single parameter, the MFC-101 automatically sends a Bank Select (CC#0) command preceding the actual program change command, as follows:

Program Range	Bank Select		Program Range	Bank Select
000-127	0		512-639	4
128-255	1		640-767	5
256-383	2		768-895	6
384-511	3		896-999	7

The actual program change number is the remainder of the value as set, divided by 128. For example, take an MFC-101 Program Change value setting of **200**. 200/128 = 1, remainder of 72. The BANK SELECT message will be 1 and the PROGRAM CHANGE will be 72.

12.1.3 Alternate Preset

EDIT : PRESET : PAGE→ (3x)

The **Alternate Preset** selection for any preset loads on alternate presses of its footswitch. This allows you, for instance, to switch to a "Lead" sound by stomping on the footswitch of a "rhythm" sound. Pressing the same footswitch again goes back to the original preset.

```
Alternate Preset GBL
```

Possible choices include:

GBL: Loads the Global Preset (**12.5.19**), which may be set to a number, to OFF, or to Backtrack.

000-383: Loads a specific MFC-101 preset by its number.

OFF: The Alternate Preset function will be disabled for this preset.

BAK: Loads whichever preset was selected prior to the current one.

While the alternate preset is loaded, the number portion of its name display will show ALT, GBL, or BAK.

To return to the "main" preset from an alternate, step again on the selected footswitch.

12.1.4   Preset Instant Access Switch States

EDIT : PRESET : PAGE→ (4x)

Preset Instant Access Switch States is used to set the initial ON/OFF state of each IA Switch when the selected preset is loaded. The saved state determines whether the ON messages or OFF messages will be sent for a given IA Switch when the selected preset is loaded. The burst of initial data caused by saved IA Switch states provides a kind of "scene recall" for your rig triggered simply by loading a preset. After they are initially set, the states of IA Switches can be changed any time just by stomping.

You must first select a preset (**12.1.0** on p. 41) to edit it using this menu page.

IASw <u>01</u> <u>OFF</u>

Use the ←PARAMETER→ footswitches to switch between <u>IA Switch Number</u> and <u>IA Switch State</u> parameters.

NOTE: The saved states for IA Switches set to Axe-Fx Functions (see **12.4.7**) are IGNORED. Instead, the actual effect block states saved in the Axe-Fx preset are used to dynamically set the MFC-101 switch states (and LEDs):
GREEN=PRESENT & ACTIVE
RED=PRESENT & BYPASSED
OFF=NOT PRESENT

NOTE: IA Switch states can also be stored on-the-fly using the SAVE footswitch (see **12.5.22).**

12.1.5   Preset Internal Control Change States

EDIT : PRESET : PAGE→ (5x)

Preset Internal Control Change States is used to set whether the ON message or OFF message for each enabled Internal Control Change (**12.4.12** and **12.4.13**) will be sent when the selected preset is loaded. As with IA Switches, the burst of initial data caused by saved Internal CC states provides a kind of "scene recall" for your rig triggered simply by loading a preset. Internal CCs ONLY have a saved initial state – they are not assignable to switches for stomping.

You must first select a preset (**12.1.0** on p. 41) to edit its saved Internal Control states using this menu page.

InternalCc <u>01</u> <u>OFF</u>

Use the ←PARAMETER→ footswitches to switch between <u>Internal CC Number</u> and <u>Internal CC State</u> parameters.

12.1.6 Preset Custom MIDI Message

EDIT : PRESET : PAGE→ (6x)

Preset Custom MIDI Message is used to enter a 16 byte custom MIDI message to be sent with the selected preset.

You must first select a preset (**12.1.0** on p. 41) to edit it using this menu page.

```
Custom 1  --  --  --  --
```

The 16 available message bytes are spread across 4 pages of 4 bytes each. Use the ←PARAMETER→ footswitches to move between the Message Page Number parameter and the 4 individual Byte parameters on each page. Bytes may contain any values in the range 0x**00** to 0x**FF** (0 to 255).

Beginning on Message Page 1, press PARAMETER→ to select the first byte. Set the byte value with the INCR/DECR switches, press PARAMETER→ to move to the 2nd byte, and continue until you are finished or all 4 bytes of the first page are filled.

Return to the 1st cursor position and use INCR to change to the next Message Page. Use PARAMETER and INCR/DECR to enter byte data as above, continuing as needed across pages for up to 16 bytes total.

The cursor cannot be moved further right unless there is a valid data byte in the current position.

Only the data byte in the last position may be shut off.

Page 1 bytes:	1	2	3	4
Page 2 bytes:	5	6	7	8
Page 3 bytes:	9	10	11	12
Page 4 bytes:	13	14	15	16

The appendix of this manual includes a helpful primer on custom MIDI messages. See p. 75.

12.1.7 Preset External Switch Settings

EDIT : PRESET : PAGE→ (7x)

Preset External Switch Settings is used to make settings for the Preset which override the Global External Switch Settings (**12.4.14**). You must first select a preset (**12.1.0** on p. 41) to edit it using this menu page.

```
┌────────────────────────────────────┐
│ ┌────────────────────────────────┐ │
│ │                                │ │
│ │  XS1 #GBL Ch01 TypHdw          │ │
│ │     ‾‾‾     ‾‾      ‾‾‾        │ │
│ └────────────────────────────────┘ │
└────────────────────────────────────┘
```

Use the ←PARAMETER→ footswitches to move between the four parameters of this page: External Switch Number, Switch Function and MIDI Channel and Switch Type.

A value of **GBL** for Switch Function allows the global settings for the selected switch to operate (**12.4.14**), ignoring any other settings made for it on this page whenever the currently selected preset is loaded.
A value of **OFF** for MIDI CC# disables the selected switch whenever the currently selected preset is loaded.

The Switch Type parameter determines what happens when the external switch is stomped:

Switch Type Value	Hardware is MOMENTARY type	Hardware is TOGGLE type
HDW ("Hardware Follow")	Switch behaves as Momentary	Switch Behaves as Toggle
TOG ("Toggle")	Switch behaves as Toggle	Switch behaves as Toggle
AUT ("Auto Off")*	Switch behaves as Auto Off	Switch behaves as Auto Off*

* Auto Off Switches send their programmed ON message followed quickly (~250ms) by the OFF message

NOTE: Each switch needs to be configured with the correct **External Switch Hardware Type** (see **12.5.17**)

12.1.8 Preset External Switch On/Off Values

EDIT : PRESET : PAGE→ (8x)

Preset External Switch On/Off Values determines the data value which will be sent when each of four optional external switches is turned ON or OFF, overriding the global on/off value settings (12.4.15) when the selected preset is loaded.

You must first select a preset (12.1.0) to edit it using this menu page.

```
┌────────────────────────────────────┐
│ ┌────────────────────────────────┐ │
│ │                                │ │
│ │  XS1 Off 000 On 127            │ │
│ │    ‾      ‾‾‾     ‾‾‾          │ │
│ └────────────────────────────────┘ │
└────────────────────────────────────┘
```

Use ←PARAMETER→ to select between External Switch (XS) Number, Off Value, and On Value parameters.

Any value from 0-127 may be used for ON or OFF.

A setting of "OFF" for either state will cause that switch state to send nothing.

NOTE: A value of **GBL** in Switch Function (above) allows the global On/Off value settings for the selected switch to operate (12.4.15), causing its settings on this page to be ignored.

IMPORTANT: Preset-level switch values only apply if the preset's corresponding external switch is NOT set to "Global".

12.1.9 Preset Expression Pedal Settings

EDIT : PRESET : PAGE→ (9x)

Preset Expression Pedal Settings is used to make MIDI and initial value settings for the selected Preset which override the Global Expression Pedal Settings (**12.4.16**) for each of four optional expression pedals.
You must first select a preset (**12.1.0** on p. 41) to edit it using this menu page.

```
XP1 #GBL Ch01 BegOFF
```

Use the ←PARAMETER→ footswitches to move between the four parameters of this page: Expression Pedal Number, Pedal Function and MIDI Channel and Beginning Value Setting.
A value of **OFF** for Pedal Function disables the selected pedal whenever the currently selected preset is loaded.
A value of **GBL** for Pedal Function allows the global settings for the selected pedal to operate (**12.4.16**), ignoring other settings made for it on this page whenever the selected preset is loaded.

The Beginning Value determines what MIDI is sent (or not sent) automatically when the selected preset is loaded:

Beginning Value	Expression Pedal Operation
PDL ("Pedal")	The pedal position will be polled and a corresponding MIDI value sent automatically whenever the selected preset is loaded.
OFF	No data is sent until the pedal is moved.
000-127	The value shown will be sent automatically whenever the selected preset is loaded. ⓘ To prevent abrupt sound changes, a pedal with a numeric entry in Beginning Value will send MIDI data only after its physical position crosses the Beginning Value threshold. For example, with an initial value setting of "15", you need to move to the pedal position corresponding to the value "15" before any MIDI data will be sent by the expression pedal. ⓘ The setting for Beginning Value should never be outside the MIN/MAX range of the pedal, whether set globally (**12.4.17**) or for the preset (**12.1.10**)

IMPORTANT: Expression pedals need to be calibrated before use (**12.5.18**)

12.1.10   Preset Expression Pedal Min/Max Values

EDIT : PRESET : PAGE→ (10x)

Use **Preset Expression Pedal Min/Max Values** to set the data transmission range of each of four optional expression pedals, overriding the global pedal min/max settings (**12.4.17**) when the selected preset is loaded.

You must first select a preset (12.1.0) to edit it using this menu page:

```
XP1 Min 000 Max 127
```

Use ←PARAMETER→ to select between Expression Pedal (XP) Number, Min Value, and Max Value parameters.

The minimum must be less than the maximum, and the MIN/MAX range must include the pedal's "Beginning Value," if it is set numerically, whether at the Globally (**12.4.16**) or for the selected Preset (**12.1.9**).

A value of **GBL** in Pedal Function (above) allows the global On/Off value settings for the selected pedal to operate (**12.4.17**), causing its settings on this page to be ignored.
Preset Expression Pedal custom range only applies if the preset's corresponding expression Pedal is NOT set to "Global".

12.2 The Song/Set Menu

Use the pages of this menu to select Songs or Sets and edit their parameters. For an overview of Song and Set operating modes, see **Chapter 9** on p. 35.

12.2.0 Song Edit

EDIT : SONG/SET

Song Edit is used to assign MFC-101 presets to the selected song.

> # Song001 P01=P000

Use the ←PARAMETER→ footswitches to move between Song Number, Song Preset (aka "slot number") and Select Preset.

A value of "OFF" may be used to leave any preset slot in a song empty. Pressing the footswitch for an empty slot does nothing.

NOTE: It is possible to assign up to 15 presets to any song, but the number of footswitches that will actually be available for selecting presets in that song is subject to the global **Bank Size** (12.5.6). If **Bank Size** is "10", for example, Song Presets 11–15 will not be accessible as these footswitches will be assigned to their Instant Access functions.

12.2.1 Song Name

EDIT : SONG/SET : PAGE→ (1x)

Song Name is used to edit MFC-101 song names. Each song name can be up to 7 characters in length.

> # Song001 NameSong001

Use the ←PARAMETER→ footswitches to move between Song Number parameter and individual characters of the Song Name.

Besides the usual methods of exiting this menu, changing the song number will store the edited name.

Names also appear as you step UP or DOWN through SONGS when the global Bank Style is set to NONE.

12.2.2 Set Edit

EDIT : SONG/SET : PAGE→ (2x)

Set Edit is used to assign MFC-101 Songs to the selected Set. Each of 10 Sets has 50 song "slots."

Set <u>01</u> Sng<u>01</u>=<u>Sng001</u>

The ←PARAMETER→ footswitches move between <u>Set Number</u>, <u>Set Song</u> (aka "slot number") and <u>Select Song</u>.

A value of "OFF" may be used to leave any song slot empty. Empty songs will be skipped as you step through a set.

12.2.3 Set Name

EDIT : SONG/SET : PAGE→ (3x)

Set Name is used to edit MFC-101 Set names. Each Set name can be up to 7 characters in length.

Set <u>01</u> Name <u>Set01</u>

The ←PARAMETER→ footswitches step through the <u>Set Number</u> and individual characters of the <u>Set Name</u>.

NOTE: Changing the Set number will store the edited name.

NOTE: The NAMES footswitch always shows the *stored* name and not the *edited* name.

12.3 The Copy Menu

The **Copy Menu** is used for copying presets, banks, songs, sets, instant access switches, and internal control change settings from one MFC-101 memory location to another.

NOTE: You cannot copy an entry to itself. When a valid source and destination are selected, the ENTER footswitch LED will flash. Press ENTER to execute the copy.

☛ **IMPORTANT!** *COPY operations cannot be undone. Once you press* ENTER*, there is no turning back. Work carefully!*

12.3.0 Copy Preset

EDIT : COPY

Copy Preset is used to copy MFC-101 presets from one location to another.

Copy Prst <u>001</u> to <u>001</u>

Use the ←PARAMETER→ footswitches to move between the <u>Source Preset</u> and <u>Destination Preset</u> parameters.

To execute, press ENTER. The MFC-101 will display **PRESET COPIED!** and return to this menu page.

NOTE: Copying an MFC-101 preset will not change which Axe-Fx Preset it loads. Axe-Fx preset mapping can be modified by changing the **Axe-Fx Preset Tx Map** (**12.4.3**)

12.3.1 Copy Bank

EDIT : COPY : PAGE→ (1x)

Copy Bank is used to copy MFC-101 Banks from one location to another.

Copy Bank <u>001</u> to <u>001</u>

Use the ←PARAMETER→ footswitches to move between the <u>Source Bank</u> and <u>Destination Bank</u> parameters.

To execute, press ENTER. The MFC-101 will display **BANK COPIED!** and then return to this page.

NOTE: Since BANKS have no user editable parameters, BANK COPY is really just a way to bulk copy presets. The actual number of presets which "reside" in a given bank at a given time (as well as the total number of banks) will depend on the global Bank Size setting. Due to the fact that the total number of presets is not evenly divisibly by all bank sizes, the last bank may also have fewer presets to copy TO or FROM.

NOTE: "Copying" has no effect on determining which Axe-Fx presets are loaded when the MFC-101 is in AXE-FX MODE.

12.3.2 Copy Song

EDIT : COPY : PAGE→ (2x)

Copy Song is used to copy MFC-101 Songs from one location to another.

Copy Song <u>001</u> to <u>001</u>

Use the ←PARAMETER→ footswitches to move between the <u>Source Song</u> and <u>Destination Song</u> parameters.

To execute, press ENTER. The MFC-101 will display **SONG COPIED!** and then return to this page.

12.3.3 Copy Set

EDIT : COPY : PAGE→ (3x)

Copy Set is used to copy MFC-101 Sets from one to another.

Copy Set <u>01</u> to <u>01</u>

Use the ←PARAMETER→ footswitches to move between the <u>Source Set</u> and <u>Destination Set</u> parameters.

To execute, press ENTER. The MFC-101 will display **SET COPIED!** and then return to this page.

12.3.4 Copy Instant Access Switch Setting

EDIT : COPY : PAGE→ (4x)

Copy Instant Access Switches is used to copy the settings from one Instant Access Switch to another.

Copy IASw <u>000</u> to <u>000</u>

Use ←PARAMETER→ footswitches to move between <u>Source IA Switch</u> and <u>Destination IA Switch</u> parameters.

To execute, press ENTER. The MFC-101 will display **IA SWITCH COPIED!** and then return to this page.

12.3.5 Copy Internal Control Change Setting

EDIT : COPY : PAGE→ (5x)

Copy Internal CC is used to copy the settings from one Internal CC to another.

Copy IntCC <u>000</u> to <u>000</u>

Use the ←PARAMETER→ footswitches to move between the <u>Source</u> and <u>Destination Internal CC</u> parameters.

To execute, press ENTER. The MFC-101 will display **INT CC COPIED!** and then return to this page.

12.4 The MIDI Menu

The MIDI menu is used to set parameters which determine the MIDI output of the MFC-101.

12.4.0   MFC-101 Port

EDIT : MIDI

Axe-Fx MIDI Channel is used to set the channel on which the MFC-101 and Axe-Fx will communicate. For AXE-FX MODE to work properly, this setting must match that of the Axe-Fx under I/O : MIDI : MIDI CHANNEL.

> # Use Port <u>EXPANSION</u>

12.4.1   Axe-Fx MIDI Channel

EDIT : MIDI : PAGE➔ (1x)

Axe-Fx MIDI Channel is used to set the channel on which the MFC-101 and Axe-Fx will communicate. For AXE-FX MODE to work properly, this setting must match that of the Axe-Fx under I/O : MIDI : MIDI CHANNEL.

> # Axe-Fx MIDI Ch <u>01</u>

12.4.2   Axe-Fx TotalSync

EDIT : MIDI : PAGE➔ (2x)

Axe-Fx TotalSync causes the MFC-101 to follow presets loaded via the front Panel of the Axe-Fx II or Axe-Edit.

TotalSync is designed for basic, default MFC/Axe-Fx II interactions only:

- MFC-101 SONG and SET modes are not supported.

- Custom MFC-101 Tx Map or Axe-Fx II preset remapping are not supported. (Presets loaded from the Axe-Fx II front panel will load in their default MFC-101 bank/footswitch locations despite re-mapping.)

- Axe-Fx Standard and Ultra are not supported.

- Axe-Fx II firmware version 6.0 or better is required.

> # Axe-Fx TotalSync <u>ON</u>

12.4.3 Axe-Fx Preset Transmit Map

EDIT : MIDI : PAGE→ (3x)

The Axe-Fx Preset Transmit ("Tx") Map is used to set up a custom map between MFC-101 presets and Axe-Fx presets. This makes it possible for any MFC-101 preset to load any of the 384 presets from a connected Axe-Fx.

> Axe-Fx TxMap 000->000

Use the ←PARAMETER→ footswitches to select between MFC Preset and Axe-Fx Preset.

The value "OFF" causes the current preset to send no change to the Axe-Fx, which allows you, for example, to change presets on other components without switching the preset of a connected Axe-Fx.

12.4.4 MFC-101 MIDI Receive Channel

EDIT : MIDI : PAGE→ (4x)

MFC-101 MIDI Receive ("Rx") Channel is used to specify the channel on which the MFC-101 will respond to MIDI program change messages received at its MIDI IN port, if this feature is enabled (see below).

> MIDI Rx Channel OFF

12.4.5 MFC-101 Receive Program Change

EDIT : MIDI : PAGE→ (5x)

MFC-101 Receive ("Rx") Program Change is used to enable or disable incoming MIDI Program change response on the MFC-101. Enabling this setting allows other devices to remote control the MFC-101 by loading its presets, which in turn send the usual MIDI instructions to the MIDI OUT port as if they had been selected via footswitch.

> RxProgramChange OFF

12.4.6 MFC-101 Program Change Map

EDIT : MIDI : PAGE→ (6x)

The **MFC-101 Program Change Map** is used to create a custom relationship between incoming MIDI program change messages and MFC-presets. This makes it possible to recall different MFC-101 presets depending on the MIDI program change number received.

> ProgChgMap 000->000

←PARAMETER→ footswitches move between Incoming Program Change and MFC Preset Number parameters.
NOTE: The range of MFC-101 Preset Numbers shown will be affected by the MFC-101 Display Offset (**12.5.3**).
NOTE: Receive Program Change (**12.4.5**) must be enabled for the MFC-101 to respond at all to Program Changes.

12.4.7 IA Switch Axe-Fx Functions

EDIT : MIDI : PAGE→ (7x)

The **IA Switch Axe-Fx Functions** setting is used to assign Axe-Fx functions to each IA Switch. These settings are in effect to the exclusion of all other MIDI Messages for the IA Switch whenever the MFC-101 is in AXE-FX MODE.

```
IA01 Axe-Fx FILTER1
```

Use the ←PARAMETER→ footswitches to move between IA Switch Number and Axe-Fx Function parameters.

IA Switch numbers 18-41 are reserved for future use.

The list of functions which may be assigned appears in section **5.1.1** on p. 20 and is subject to the selected Axe-Fx Mode (p. 59).

˚ **NOTE:** As of firmware version 1.0, the MFC-101 only shows those Axe-Fx functions which are available on the model selected in the MFC-101's Axe-Fx Mode parameter.

* **NOTE:** TUNER or TAP TEMPO can each be assigned to only ONE switch at a given time. If you try to assign a second switch to one of these functions, the first will have its function changed automatically to "NONE".

TUNER and TEMPO may also share a single footswitch. See **12.5.20** on p. 67.

12.4.8 IA Switch Control Change (CC#) Settings

EDIT : MIDI : PAGE→ (8x)

IA Switch Control Change Settings is used to specify the **Controller Number** and **MIDI Channel** for each of two available MIDI Control Change (CC) commands ("c1" and "c2") that an Instant Access Switch can send both ON and OFF messages for.

```
IA01 c1  CC#102 Ch01
```

Use the ←PARAMETER→ footswitches to move between Instant Access Switch Number, Command Select, CC# Select, and MIDI Channel parameters. Select an IA Switch, select a message to edit (c1 or c2) then set the CC# and Channel.

IA Switch numbers 18-41 are reserved for future use.

To disable either message, set its CC# to "OFF".

INSTANT ACCESS SWITCH C1 CC# DEFAULT ASSIGNMENTS:

IA	CC#	IA	CC#	IA	CC#
1	1	7	7	13	123
2	2	8	8	14	124
3	3	9	9	15	125
4	4	10	120	16	126
5	5	11	121	17	127
6	6	12	122		

NOTE: These settings for IA Switch CC# messages do not apply for IA Switches with Axe-Fx functions assigned (**12.4.7**) when the MFC-101 is in AXE-FX MODE (**12.5.0**)

12.4.9   IA Switch Control Change ON/OFF Values

EDIT : MIDI : PAGE→ (9x)

IA Switch CC# ON/OFF Values is used to specify the ON and OFF data values for each of the two CC# commands of a selected IA Switch.

```
IA01 c1 Off000 On127
```

Use the ←PARAMETER→ footswitches to select from Instant Access Switch Number, Command Select, Data Value OFF, and Data Value ON parameters. IA Switch numbers 18-41 are reserved for future use.

This function allows you to use the onboard footswitches send any data value when turned ON or OFF. This makes it possible, for example, to use an IA switch to toggle between volume levels of 100 and 127.

A setting of "OFF" for either state will cause it to send no data. This is useful for controlling functions where ANY incoming data value is seen as a trigger (example: Axe-Fx Tempo, Axe-Fx VOL INCR/VOL DECR, etc.).

12.4.10 IA Switch Program Change Settings

EDIT : MIDI : PAGE→ (10x)   or ←PAGE (8x)

IA Switch Program Change Settings is used to specify a single Program Change command to be sent on a specified channel when the selected switch is turned ON, and another such message for when the switch is turned OFF.

```
IA01 pOF  PC#OFF Ch01
```

Use the ←PARAMETER→ footswitches to move between Instant Access Switch Number, ON/OFF Command Select, Program Change Number, and MIDI Channel parameters. IA Switch numbers 18-41 are reserved for future use.

ON/OFF Command Select is used to switch between setting the Program Change that is sent when the IA Switch is turned ON, and that which is sent when it is turned OFF.

To support program changes from 000-999 with a single parameter, the MFC-101 sends Bank Select (CC#0) messages followed by a program change.

Program Range	Bank Select	Program Range	Bank Select
000-127	0	512-639	4
128-255	1	640-767	5
256-383	2	768-895	6
384-511	3	896-999	7

The actual program change number that will be transmitted is the remainder (modulus) of the set value divided by 128. For example, an MFC-101 Program Change setting of **200** will send a Bank Select of 1 (bank B) and a Program Change of 72. (200/128=**1** with a remainder of **72**)

12.4.11 IA Switch Custom MIDI Messages

EDIT : MIDI : PAGE→ (11x)   or ←PAGE (7x)

IA Switch Custom MIDI Message Settings is used to enter a 16 byte hexadecimal custom MIDI message to be sent when a given IA Switch is turned ON, and another such message for when any IA switch is turned OFF.

<div style="border:2px solid black; padding:20px; font-size:2em;">

S<u>01</u> <u>ON</u> <u>1</u> -- -- -- --

</div>

Use the ←PARAMETER→ footswitches to move between <u>Instant Access Switch Number</u>, <u>ON/OFF Command Select</u>, <u>Custom Message Page Number</u>, and each of the 4 <u>Byte</u> parameters on each page.

<u>ON/OFF Command Select</u> is used to switch between setting the custom MIDI message that is sent when the IA Switch is turned ON, and that which is sent when it is turned OFF. It is possible to set one and not the other state for a given IA Switch.

The 16 available message bytes for each state are spread across 4 pages of 4 bytes each. Use the ←PARAMETER→ footswitches to move between the <u>Message Page Number</u> parameter and the 4 individual <u>Byte</u> parameters on each page. Bytes may contain any values in the range 0x**00** to 0x**FF** (0 to 255).

1.   With <u>Custom Message Page 1</u> selected press PARAMETER→ to select the first <u>byte field.</u>

2.   Set the desired byte value with the INCR/DECR switches.

3.   Press PARAMETER→ to move to the 2nd byte.

4.   Set the desired byte value with the INCR/DECR switches,

     …and so on, until you fill all 4 bytes of the first page or complete your desired data entry.

5.   Use PARAMETER and INCR to select <u>Custom Message Page 2</u> , then enter byte data as specified above for page 1, continuing as needed across additional bytes and pages for up to 16 bytes total.

The cursor can never be moved to the right unless there is a valid data byte in the current position. Only the data byte in the last position may be shut off.

Page 1 bytes:	1	2	3	4
Page 2 bytes:	5	6	7	8
Page 3 bytes:	9	10	11	12
Page 4 bytes:	13	14	15	16

The appendix includes a helpful primer on writing custom MIDI messages. See p. 75.

12.4.12 Internal Control Change Settings

EDIT : MIDI : PAGE→ (12x)   or ←PAGE (6x)

This page is used to enable individual Internal CCs by assigning their CC# and MIDI channel.

IntCC 01 CC#OFF Ch01

Use the ←PARAMETER→ footswitches to move between Internal CC Number, CC# Assignment, and MIDI Channel parameters.

To DISABLE any Internal CC, set its CC# assignment to OFF.

12.4.13 Internal Control Change ON/OFF Values

EDIT : MIDI : PAGE→ (13x)   or ←PAGE (5x)

This page is used to program optional custom ON and OFF values for each of the global Internal CC switches.

IntCC 01 Of000 On127

Use the ←PARAMETER→ footswitches to move between Internal CC Number, CC# Assignment, and On/Off values.

A setting of "OFF" for either state will cause it to send no data.

12.4.14 Global External Switch Settings

EDIT : MIDI : PAGE→ (14x)   or ←PAGE (4x)

The **Global External Switch Settings** page is used to set up each of four optional External Switches with MIDI and switch behavior settings.

XS1 #OFF Ch01 TypHDW

Use the ←PARAMETER→ footswitches to move between the four parameters of this page: External Switch Number, MIDI CC#, MIDI Channel and Switch Type.

A value of **OFF** for MIDI CC# disables the selected switch.

The Switch Type parameter determines the "virtual switch" function when the physical switch is "stomped" once:

Switch Type Value	Hardware is MOMENTARY type	Hardware is TOGGLE type
HDW ("Hardware Follow")	Switch behaves as Momentary	Switch Behaves as Toggle
TOG ("Toggle")	Switch behaves as Toggle	Switch behaves as Toggle
AUT ("Auto Off")*	Switch behaves as Auto Off	Switch behaves as Auto Off

* Auto Off Switches send their programmed ON message followed later (~250ms) by the OFF message.

NOTE: The MFC-101 also needs to be configured with the correct External Switch Hardware Type (12.5.17).

NOTE: Global Switch settings may be overridden at the Preset Level. See 12.1.7 on p. 45.

12.4.15 Global External Switch On/Off Values

EDIT : MIDI : PAGE→ (15x)   or ←PAGE (3x)

Global External Switch On/Off Values determines the data value which will be sent when each of four optional external switches is turned ON or OFF.

XS1 Off 000 On 127

Use ←PARAMETER→ to select between External Switch (XS) Number, Off Value, and On Value parameters.

Any setting from 0-127 may be used for either value.

A setting of "OFF" for either state will cause that switch state to send no data.

NOTE: Global Switch ON/OFF values may be overridden at the Preset Level. See 12.1.8 on p. 45.

12.4.16 Global Expression Pedal Settings

EDIT : MIDI : PAGE→ (16x)   or ←PAGE (2x)

Global Expression Pedal Settings is used to globally configure each of four optional expression pedals with MIDI and initial value settings.

```
XP1 #O11 Ch01 BegOFF
```

Use the ←PARAMETER→ footswitches to move between the four parameters of this page: Expression Pedal Number, MIDI CC# and MIDI Channel and Beginning Value Setting.

A value of **OFF** for MIDI CC# disables the selected pedal.

The Beginning Value determines what MIDI message is automatically sent (or not sent) when any preset is loaded:

Beginning Value Setting	Expression Pedal Operation
PDL ("Pedal")	The pedal position will be polled and a corresponding MIDI value sent automatically whenever a preset is loaded.
OFF	No data is sent until the pedal is moved.
000-127	The value shown will be sent automatically whenever a preset is loaded. ⓘ To prevent abrupt sound changes, a pedal with a numeric entry in Beginning Value will send MIDI data only after its physical position crosses the Beginning Value threshold. For example, with an initial value setting of "15", you need to move to the pedal position corresponding to the value "15" before any MIDI data will be sent by the expression pedal. ⓘ The setting for Beginning Value should never be outside the MIN/MAX range of the pedal, whether set globally (12.4.17) or for the preset (12.1.8)

IMPORTANT: Expression pedals need to be calibrated before use (see 12.5.18 on p. 66).

NOTE: Expression pedal settings may also be set at the Preset level to override global settings (see 12.1.9 on p. 46).

12.4.17 Global Expression Pedal Min/Max Values

EDIT : MIDI : PAGE→ (17x)   or ←PAGE (1x)

Use **Global Expression Pedal Min/Max Values** to globally set the data transmission range of each of four optional expression pedals.

```
XP1 Min000 Max127
```

Use ←PARAMETER→ to select between Expression Pedal (XP) Number, Min Value, and Max Value parameters.

NOTE: The minimum must be less than the maximum, and the MIN/MAX range must include the pedal's "Beginning Value" if it is set numerically, whether Globally (**12.4.16**) at the Preset level (**12.1.9**).

NOTE: Expression pedal settings may also be set at the Preset level to override global settings. (**12.1.9** on p. **46**).

12.5 The Setup Menu

The MFC-101 will re-synchronize with a connected Axe-Fx if any Axe-Fx-related parameters have changed when returning to **Performance Mode** from the **Setup Menu** with AXE-FX MODE turned ON.

12.5.0 Axe-Fx Mode

EDIT : SETUP

Used to turn Axe-Fx mode ON by selecting a model (Standard, Ultra, Axe-Fx II) or OFF by selecting "NONE".

Axe-Fx Mode <u>II</u>

12.5.1 Performance Mode

EDIT : SETUP : PAGE→ (1x)

Performance Mode is used to select one of three types of performance mode: Preset, Song, or Set.

PerfMode <u>PRESET</u>

Press the INCR or DECR footswitches to select PRESET, SONG, or SET XX, where XX is the number of the Set which will be in effect until the operating mode is changed.

In PRESET MODE, MFC-101 Presets are mapped sequentially across the banks. Banks may be scrolled through in order using the UP or DOWN footswitches.

SONG MODE replaces banks with SONGS, in which the presets assigned to each footswitch are selected by the user. 100 SONGS are accessed in order by their numbers using the UP or DOWN footswitches.

SET mode allows the order of songs to be rearranged in 10 different lists of 50 songs each. Setting the operating mode for Set also requires you to choose which set should be in effect (by its number).

NOTE: Changing operating modes will cause MFC-101 to load the first preset for the new mode.

12.5.2 Axe-Fx Display Offset

EDIT : SETUP : PAGE→ (2x)

Axe-Fx Display Offset is used to set up the MFC-101 to show preset numbers correctly when the connected Axe-Fx is using a display offset (causing its presets to be numbered 1-384 instead of 0-383). The setting on this menu page must match that of the Axe-Fx under [IO] ▸ [MIDI] ▸ [DISPLAY OFFSET].

Axe-Fx DisplayOfst <u>0</u>

NOTE: This is purely a user interface setting and does not impact MIDI output.

12.5.3 MFC-101 Display Offset

EDIT : SETUP : PAGE→ (3x)

MFC-101 Display Offset is used to offset the numbers of MFC-101 presets so they match the preset numbers of a connected Axe-Fx using display offset (causing its presets to be numbered 1-384 instead of 0-383).

MFC101DisplayOfst 0

NOTE: This is purely a user interface setting and does not impact MIDI output.

12.5.4 MIDI Channel Display Offsets

EDIT : SETUP : PAGE→ (4x)

MIDI Channel Display Offsets is used to set up the MFC-101 so that its user interface shows program numbers beginning from 1 instead of 0 for a connected device located at a given MIDI channel.

Ch01 DisplayOffset 0

The ←PARAMETER→ footswitches move between MIDI Channel and Display Offset parameters.

Change this setting to 1 for the MIDI channel of any connected device which numbers its presets from 1 instead of 0.

NOTE: The MFC-101 has a separate dedicated Display Offset setting for a connected Axe-Fx (**12.5.2**).

NOTE: This is only a user interface setting. It makes the preset numbers shown in the MFC-101 Preset Program Change menu (**12.1.2**) match the numbering of presets on a connected device. This setting does not affect MIDI output.

12.5.5 MIDI Channel Names

EDIT : SETUP : PAGE→ (5x)

MIDI Channel Names is used to set "friendly" names representing the various devices connected to the MFC-101 on MIDI Channels 1-16.

Ch 01 Name Chan 01

The ←PARAMETER→ footswitches move the cursor between the MIDI Channel parameter and individual characters of the MIDI Channel Name.

The name of a selected channel appears briefly as a memory aid when the NAMES footswitch is pressed while the cursor is in any "Midi Channel" parameter on any MFC-101 menu page.

12.5.6 Bank Size

EDIT : SETUP : PAGE→ (6x)

Bank Size, a global setting, is used to specify how many footswitches on the MFC-101 will be used to select presets, and how many will be used as Instant Access Switches.

```
BankSize    5
```

Use the INCR or DECR footswitches to set the desired value. Available bank sizes are 0-17.

Bank Size: 0
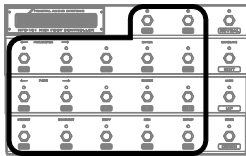
0 Presets
17 Instant Access

1 preset auto-loads
when bank is selected

Bank Size: 5
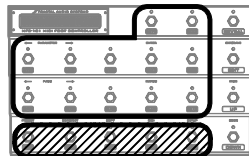
5 Presets ☑
12 Instant Access
(Default Setting)

Bank Size: 10
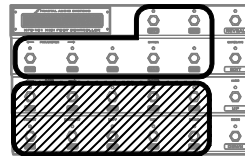
10 Presets ☑
7 Instant Access

Bank Size: 15
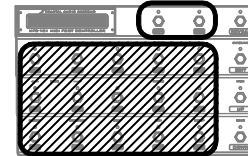
15 Presets ☑
2 Instant Access

NOTE: Selecting a bank size of 0 or 1 will result in one preset loading automatically even if Bank Style (below) is set to NONE.

MFC-101 Songs can hold up to 15 presets, but the number of preset footswitches available to select them will be limited by the Bank Size setting. Song presets appear in order on the available preset switches.

12.5.7 Bank Style

EDIT : SETUP : PAGE→ (7x)

Bank Style, a global setting, determines whether or not a preset is automatically loaded when a new bank or song is selected, and if so, which one.

```
BankStyle   CURRENT
```

Use the INCR or DECR footswitches to set the desired value.

Current: (DEFAULT) The change loads the preset in the new bank/song located on the same footswitch as the preset which was loaded in the previous bank/song. If the selected footswitch falls on an empty preset location in the MFC's last bank (because there are insufficient presets to fill it completely) then the highest available preset will be loaded.

First: The change also recalls the first preset in the newly loaded bank/song.

None: The change loads nothing, showing the newly selected bank number or song name in the display until a preset is selected via footswitch.

NOTE: If the global Bank Size is set to 0 or 1, the Bank Style setting is IGNORED and the single preset in the new bank is loaded immediately as soon as the INCR or DECR footswitch is pressed.

12.5.8 Bank/Song Limit

EDIT : SETUP : PAGE→ (8x)

Bank/Song Limit blocks access to banks or songs numbered above the limit.

> # Bank/Song Limit <u>077</u>

Bank Song Limit can be used to prevent access to higher-numbered banks or songs, depending on the current mode. For example, if your rig used only four banks of sounds (instead of the default 77) you might set the limit to 004 to prevent you from accidentally stepping up higher in the list.

NOTE: When you change Performance Mode or Bank Size, this limit is reset to the maximum value.

WARNING: Always select a preset in the new desired range before adjusting Bank Limit or you may find yourself unable to change from the current bank after you exit EDIT mode.

12.5.9 Bank/Song Wrap

EDIT : SETUP : PAGE→ (9x)

IA Switch Types is used to set the switch behavior for Instant Access Switches.

> # Bank/Song Wrap <u>ON</u>

The default behavior is for the list of banks/songs to wrap, so that upon reaching the last entry and pressing UP the bank will jump to the first--or vice versa. When **Bank/Song Wrap** is turned **OFF**, the list of banks or songs will stop scrolling when you step UP to the end of the list, or DOWN to the beginning.

12.5.10 IA Switch Types

EDIT : SETUP : PAGE→ (10x)

IA Switch Types is used to set the switch behavior for Instant Access Switches.

```
IASw 01 Type TOGGLE
```

←PARAMETER→ footswitches select between Instant Access Switch Number and Switch Type parameters.

Select an IA Switch by its number, then press PARAMETER→ and set the Switch Type:

Toggle: (DEFAULT) AKA "Latching" switches send their On messages when pressed ON (changing the LED to green) and their off messages when pressed OFF (changing their LED to RED).

Momentary: AKA "Hold" switches send their ON message streams when pressed and their OFF message streams when released.

Auto Off: Stepping on the selected switch will send both ON and OFF messages in quick succession (~250ms apart).

Switch type behaviors apply whether the selected switch is set up for an Axe-Fx function or for general use.

12.5.11 Global IA Switch Setup

EDIT : SETUP : PAGE→ (11x)

Global IA Switch setup determines whether IA Switches retain their settings across preset changes. Global IA switch data for the current state is re-transmitted after every preset change. While Axe-Fx Mode is ON, IA Switches with Axe-Fx functions will *ignore* this setting, using the saved information in the Axe-Fx preset (as usual) instead of operating globally.

```
IASw 01 Global No
```

The ←PARAMETER→ footswitches select the IA Switch Number parameter and the Global Yes/No switch.

12.5.12 IA Switch Send w/ Preset

EDIT : SETUP : PAGE→ (12x)

IA Switch Send w/ Preset determines whether the IA Switch specified will transmit the MIDI payload for its on/off state—whether stored or global—upon MFC-101 preset changes. While Axe-Fx Mode is ON, IA Switches with Axe-Fx functions will *ignore* this setting, using the saved information in the Axe-Fx preset (as usual) instead of operating globally.

```
IA01 Send w/Prst YES
```

The ←PARAMETER→ footswitches select the IA Switch Number parameter and the Yes/No switch.

12.5.13 IA Switch Names

EDIT : SETUP : PAGE→ (13x)

IA Switch Names is used to set "user-friendly" names for Instant Access Switches.

```
IASw 01 Name IaSw 01
```

The ←PARAMETER→ footswitches select the IA Switch Number parameter and move through the individual characters of the IA Switch Name parameter.

The name of a selected IA Switch appears briefly as a memory aid when the NAMES footswitch is pressed while the cursor is in any "IA Switch" selection parameter on any MFC-101 menu page, and, in the case of General Use (non Axe-Fx) IA switches, when the switch is turned ON in Performance mode.

12.5.14 IA Switch Link Settings

EDIT : SETUP : PAGE→ (14x)

IA Switch Link Settings is used to set up each of two global groups of mutually exclusive Instant Access Switches.

```
LinkA -- -- -- -- --
```

The ←PARAMETER→ footswitches move between the Link Group Select (A/B) and the 5 slot parameters for the selected group. The cursor cannot be moved further right until there is a valid switch in the current position, and only the LAST switch in the group may be removed (by setting its value back to "--").

A switch link is a global group of switches set up so only one switch in the group can be ON at any given time. Two such groups are available and each can contain up to 5 IA Switches. When a linked switch is turned OFF by another switch, its OFF MIDI commands will be sent before the ON commands of the "incoming" switch. This behavior can be disabled. See **Send IA Switch Link OFF Messages**, below. As of MFC-101 firmware version 1.0, the last remaining switch that is ON in a linked group may be switched OFF, resulting in a group with no members active.

NOTE: Presets store the ON or OFF states of general use IA Switches (12.1.4). When a preset is loaded, it sets the IA footswitch LEDs accordingly (and sends a burst of corresponding MIDI data). Because only one switch in a Link group may be ON at any time, a Link may conflict with the stored ON/OFF settings of a given preset. When such a conflict occurs, the lowest numbered switch will prevail and be set to ON, while all others in the link group will be turned OFF.

A preset can initially set all switches in a Link group to OFF with no special considerations necessary.

Remember that Axe-Fx-enabled IA Switches (12.4.7) have their initial ON or OFF states set according to what is saved in the actual Axe-Fx preset. Such IA Switches IGNORE what may be saved in the preset but are of course subject to the rule that only one member of a Link group can be on at a given time.

12.5.15 Send IA Switch Link OFF Messages

EDIT : SETUP : PAGE→ (15x)   or ←PAGE (14x)

Send IA Switch Link OFF Messages determines whether the OFF state MIDI commands for linked IA Switches (see **12.5.14** above) are sent or not sent automatically when another linked switch in the same group is turned ON (thereby turning the switch in question OFF automatically). Even if automatic sending is disabled, OFF messages may still be sent by stepping again on a switch that is turned ON.

SendSwLinkOffMsg YES

12.5.16 Internal CC Names

EDIT : SETUP : PAGE→ (16x)   or ←PAGE (13x)

Internal Control Change Name is used to set "friendly" names for Internal CCs.

IntCc01 Name IntCc 01

The ←PARAMETER→ footswitches step between the Internal CC number parameter and move through the individual characters of the Internal CC Name parameter.

The name of a selected Internal CC appears briefly as a memory aid when the NAMES footswitch is pressed while the cursor is in any "IntCc" selection parameter on any MFC-101 menu page.

12.5.17 External Switch Hardware Type

EDIT : SETUP : PAGE→ (17x)   or ←PAGE (12x)

External Switch Hardware Type is used to set up the MFC-101 according to the physical type of up to four optional External Switches—whether MOMENTARY (aka "hold") or TOGGLE (aka "latching")—which may be connected at its 2 External Switch jacks.

XS1 Type MOMENTARY

The ←PARAMETER→ switches select between External Switch Number and External Switch HW Type parameters.

12.5.18 Expression Pedal Calibration

EDIT : SETUP : PAGE→ (18x)   or ←PAGE (11x)

Expression Pedal Calibration is used to calibrate any of four optional expression pedals which may be connected at the Expression Pedal jacks.

```
XP1 Min 000 Max 127
```

Use the ←PARAMETER→ footswitches to move between Expression Pedal Number, Calibrate Low, and Calibrate High parameters.

Unlike other MFC-101 parameters, the two Calibrate settings on this page are NOT set using the INCR/DECR switches.

To calibrate the pedal, you must independently set MINIMUM and MAXIMUM values:

1. Place the display cursor in the "Min" field using the ←PARAMETER→ footswitches.

2. Press the ENTER footswitch. (Its LED will be flashing red.)

3. Move the pedal to its minimum (heel) position.

4. Press the ENTER footswitch again to store the value.

To calibrate the maximum, move the cursor to "Max" and repeat the process above using the maximum (toe) pedal position.

Press EXIT to return to PERFORMANCE MODE.

12.5.19 Global Preset

EDIT : SETUP : PAGE→ (19x)   or ←PAGE (10x)

Global Preset is used to disable or set the number of the Global Preset. This is turned OFF by default.

The Global Preset may be used as a global "Alternate Preset". For an overview, see section 4.5, on p.16.

```
GlobalPreset OFF
```

To enable the Global Preset, select the number of any MFC-101 preset on this page using the INCR/DECR footswitches. To disable the Global Preset, set the value of this parameter to OFF.

❗ Remember, you will still need to enable individual presets to use the Global Preset as their "Alternate Preset". See section **12.1.3** on p. 42 for details.

12.5.20 Hold Axe-Fx Tempo for Tuner

EDIT : SETUP : PAGE→ (20x)   or ←PAGE (9x)

This setting is used to enable or disable the TUNER HOLD function of the Axe-Fx Mode TAP TEMPO Instant Access Switch.

HoldAxeTap=Tuner <u>OFF</u>

This function allows the tuner to be invoked by holding the Axe-Fx TAP TEMPO footswitch for 2 seconds.

To disable the tuner once it is invoked by holding TAP, press the tap footswitch again.

12.5.21 Axe-Fx Instant Access Switch LED Off State

EDIT : SETUP : PAGE→ (21x)   or ←PAGE (8x)

This setting is used to determine whether the LEDs of Instant Access Switches which have been assigned an Axe-Fx Function (**12.4.7**) will turn RED or OFF when disengaged.

Axe-Fx IaOffLed <u>RED</u>

12.5.22 Save Edits Switch

EDIT : SETUP : PAGE→ (22x)   or ←PAGE (7x)

This setting is used to enable or disable the SAVE function of the EDIT footswitch. When it is enabled, the SAVE footswitch can be used to store IA Switch ON or OFF state changes to the current preset right in PERFORMANCE MODE, eliminating the need to use the PRESET:IA SWITCH STATES menu page (**12.1.4**) in favor of a simple footswitch tap.

SaveEditsSwitch <u>OFF</u>

NOTE: Remember that IA Switches with Axe-Fx functions (see **12.4.7**) are not subject to having their ON/OFF state set by the saved settings of an MFC-101 preset. The ON/OFF and LED states for these switches defer instead to whatever the MFC-101 discovers in the actual Axe-Fx preset that has just been loaded.

Instant Access switches which set for Global operation (p. 63) will ignore the on/off states saved in MFC-101 presets.

12.5.23 Edit Menu Short/Long

EDIT : SETUP : PAGE→ (23x)   or ←PAGE (6x)

This setting is used to determine whether a short tap or a long press is required to enter the EDIT menu. It is designed to provide a "safety" to prevent accidental entry into the edit menu during a live performance.

Edit Menu <u>SHORT</u>

12.5.24 Looper Control

EDIT : SETUP : PAGE→ (24x)   or ←PAGE (5x)

This setting is used to determine whether a short tap or a long press ion REVEAL is required to enter Axe-Fx II LOOPER CONTROL MODE (see p.77). If looper control is set to "SHORT," the long press enters REVEAL MODE, and vice versa.

> # Looper Control <u>LONG</u>

12.5.25 SysEx Data Dump/Load

EDIT : SETUP : PAGE→ (25x)   or ←PAGE (4x)

Sysex Dump and Load is used to transmit a SysEx dump containing all of the user settings

> ⚠ **WARNING: SysEx Receive is DESTRUCTIVE and cannot be undone!**
>
> **It is strongly recommended that you BACK UP user data prior to using this function.**

> # SysEx Data <u>DUMP!</u>

For DUMP operations:

1. Tap the INCR or DECR footswitch to select DUMP!
2. Press ENTER and the dump will be executed.
3. The display will update to indicate what is being sent.
4. When the dump is complete, the display will return to the starting screen shown above.

For LOAD operations:

1. Tap the INCR or DECR footswitch to select LOAD!
2. Press ENTER. The display will change to "Waiting to Load..."
3. Send a valid MFC-101 SysEx dump file to the MIDI IN port of the unit.
4. The display will update to indicate what is being received.
5. If the MFC-101 detects an error while loading data it will display an error message. In the event that an error does occur please try to LOAD again. If the error persists it is possible that the dump file is incorrect or corrupt.
6. If the LOAD operation completes without errors the display will return to the starting screen shown above with LOAD! Selected.

While this page is displayed, the MFC-101 can be compelled via MIDI System Exclusive message to perform a dump. The data bytes for this message are: **F0 00 00 7D 02 60**

NOTE: Due to increased CPU activity during dump or receive, it is normal for LED blinking to slow or even stop.

12.5.26 Delete and Reset Factory Settings

EDIT : SETUP : PAGE→ (26x)   or ←PAGE (3x)

Delete is used to **Reset** all or some of the MFC-101 to factory settings.

> ⚠ **WARNING: Deleting MFC-101 user data is DESTRUCTIVE and cannot be undone!**
>
> **It is strongly recommended that you BACK UP user data prior to using this function.**

Delete PRESET 001

Use the INCR/DECR footswitches to select a general target for initialization.

In some cases, PARAMETER→ moves to a 2nd parameter for selection of a specific target for initialization.

The parameter values for each field are detailed below:

Setting	Notes
PRESET	2nd parameter selects an individual Preset, 000-127, or ALL
SONG	2nd parameter selects an individual Song, 000-100, or ALL
SET	2nd parameter selects an individual Set, 00-10, or ALL
IA SWITCH	2nd parameter selects an individual IA Switch, 00-43, or ALL
INT CC	2nd parameter selects an individual Internal CC, 00-17, or ALL
AXE PC	Resets the entire Axe-Fx Preset Tx Map (**12.4.3**)
PRESET MAP	Resets the entire MFC-101 Incoming Program Change Map (**12.4.6**)
CONFIGURATION	Resets **General Configuration**, **MIDI Configuration**, and **External Devices Configuration** to their default values as listed on in **15.1: Factory Default Settings**, on page 79
MFC-101	Resets the entire MFC-101 to factory default settings as listed in **15.1: Factory Default Settings**, on page 79

Press the flashing ENTER footswitch to delete the selected item and initialize with factory defaults.

NOTE: Due to increased CPU activity during deletion, it is normal for LED blinking to slow or even stop.

NOTE: The preset will re-load automatically when returning to PERFORMANCE MODE after most deletions.

12.5.27 Display Contrast

EDIT : SETUP : PAGE→ (27x)   or ←PAGE (2x)

Display Contrast is self-explanatory. Adjust as desired using the INCR/DECR footswitches.

DisplayContrast <u>10</u>

12.5.28 Firmware Information

EDIT : SETUP : PAGE→ (28x)   or ←PAGE (1x)

Firmware Information shows a non-editable set of display parameters with information about current firmware.

FW <u>VERSION 1.00</u>

Use the INCR and DECR footswitches to step through the 4 displays:

Version:	The version of firmware currently running on the MFC-101.
Checksum:	A hexadecimal number used by the MFC-101 to validate that the firmware image is correct.
Image Address:	The hexadecimal starting address of the firmware image.
Image Size:	The hexadecimal size in bytes of the firmware image.

✏ **NOTE:** *To upgrade MFC-101 firmware, please follow the process on p. 71.*

13 SYSTEM FUNCTIONS

13.1 Firmware Upgrade

The firmware of the MFC-101 is field-updateable using a special "boot" (power-on) mode. Firmware updates will be released through our website at http://www.fractalaudio.com.

☞ **IMPORTANT**: *It is recommended that your MIDI utility be configured to insert a delay of at least 90ms between messages.*

To upgrade the firmware:

1. Connect the **MIDI OUT port** of your computer MIDI interface to the **MFC-101 MIDI IN port**. To prevent possible midi loops, please also disconnect any cable found at the **MFC-101 MIDI OUT port**.

2. Power up the MFC-101 while holding down the #1 footswitch to enter FW Update mode:

FW Update Mode

3. Begin to transmit the firmware file using your MIDI utility such as MIDI-OX or Snoize Sysex Librarian. As the update progresses the display will reflect the percentage complete:

0% Complete

4. When the update is complete the display will show a confirmation:

FW Update Complete

5. At this point MFC-101 must be power-cycled to begin using the new firmware.

13.2 Factory Default Settings Reset

⚠ **WARNING: Restoring Factory Settings is DESTRUCTIVE and cannot be undone!**

It is strongly recommended that you BACK UP important user data prior to using this function.

1. To restore the MFC-101 to Factory Defaults, hold down **Footswitch** #11 while powering up. The display will show the reset prompt while the ENTER LED flashes red:

Restore? Press ENTER

2. Press ENTER to completely erase all user memory and restore factory settings. The display will show "Restoring..." and the ENTER footswitch LED will turn OFF. Once the restore is complete the MFC-101 will boot normally with factory-fresh settings.

14 APPENDIX

14.1 Comparison Table: Axe-Fx Mode ON vs. OFF

	AXE-FX MODE ON	Axe-Fx Mode Off
Preset Name Display	Read from the current Axe-Fx preset, whether the MFC-101 is in PRESET, SONG, or SET MODE.	Read from MFC-101 Preset memory, whether the MFC-101 is in PRESET, SONG, or SET MODE.
MIDI Program Changes	Sent based on 16 entries in the current MFC Preset. Any such entry found for the MIDI Channel designated for the Axe-Fx is IGNORED. 1 program change message is sent on the designated Axe-Fx MIDI channel. The default is for this to be the same as the number of the current MFC-101 preset, but this is subject to settings in **Axe-Fx Preset Transmit Map.**	Read/sent from the 16 PC entries in the current MFC Preset memory.
Preset Internal CC Messages	As set in the MFC Preset	As set in the MFC Preset
Preset Custom MIDI Message	As set in the MFC Preset	As set in the MFC Preset
Preset Ext. Switch Settings	As set in the MFC Preset	As set in the MFC Preset
Preset Exp. Pedal Settings	As set in the MFC Preset	As set in the MFC Preset
MIDI Commands of IA Switches assigned to Axe-Fx Functions	Standard MIDI CCs are used to control the designated functions. These are set dynamically at MFC-101 startup based on the I/O:CONTROL page settings of the connected Axe-Fx. Other MIDI messages set for the IA switch are NOT sent.	The Axe-Fx functions of IA Switches are IGNORED. All other MIDI commands are sent normally as set in the IA Switch settings, subject to the settings of **IA Global** and **IA Send w/Preset.**
MIDI Commands of IA Switches NOT assigned to Axe-Fx Functions	As set in the IA Switch settings	As set in the IA Switch settings, subject to the settings of **IA Global** and **IA Send w/Preset.**
Initial State of IA Switches assigned to Axe-Fx Functions after Preset Load.	Derived from the saved values of the current Axe-Fx preset.	NA. All IA Switches default to their "normal" MFC settings when AXE-FX MODE is OFF.
Initial State of IA Switches NOT assigned to Axe-Fx Functions after Preset Load.	Read from the ON/OFF settings in the MFC Preset memory. Can be saved on-the-fly using the SAVE footswitch, which blinks when changes are detected.	Unless set to GLOBAL, read from the ON/OFF settings in the MFC Preset memory. The SAVE EDITS footswitch (**12.5.22**) can be useful to set states.
Global Instant Access Switches	This setting is **ignored** for IA Switches assigned to Axe-Fx Functions.	Normal, as set
IAs set to Send w. Preset "NO"	This setting is **ignored** for IA Switches assigned to Axe-Fx Functions.	Normal, as set
Global Ext. Switch Settings	Normal, as set	Normal, as set
Global Exp. Pedal Settings	Normal, as set	Normal, as set
Global Bank Size and Style	Normal, as set	Normal, as set
Global Preset	Normal, as set	Normal, as set
Switch Links	Normal, as set	Normal, as set

14.2 Firmware Update Error Codes

CODE	DESCRIPTION	SOLUTION
1	Invalid Start Message	The SysEx start message was corrupted. Retry and if the problem persists, then there is a problem with the image.
2	Unexpected Start Message	A SysEx start message was received after the update was started. This can be caused by stopping the update in the middle and re-starting it. Reboot and start the update again.
3	Invalid Base Address	The firmware address specified in the image is invalid. The firmware image may be corrupted.
4	Message Checksum Failed	A corrupted SysEx message was received. Reboot and start the update again. If the problem persists, then the image may be corrupted.
5	Invalid Image Size	The firmware size specified in the image is invalid. The firmware image may be corrupted.
6	Invalid Data Message	A corrupted SysEx image data message was received. Reboot and start the update again. If the problem persists, then the image may be corrupted.
7	Image Size Exceeded	The image data received exceeds the size specified in SysEx start message. Reboot and start the update again. If the problem persists, then the image may be corrupted.
8	Unexpected Data Message	A SysEx image data message was received before the update was started. This can be caused by stopping the update in the middle and re-starting it while SysEx data is still being transmitted. Stop the SysEx transmit, reboot, and start the update again.
9	Invalid Data Size	The image data size specified in the SysEx message does not match the expected size. Reboot and start the update again. If the problem persists, then the image may be corrupted.
10	Flash Write Failed	The firmware image could not be written to flash. Retry the update and if the problem persists, then the unit may have a hardware problem.
11	Invalid End Message	The SysEx end message was corrupted. Retry the update and if the problem persists, then there is a problem with the image.
12	Unexpected End Message	A SysEx end message was received before all of the image data was received (or before a start message was received). This can be caused by stopping the update in the middle and re-starting it while SysEx data is still being transmitted. Stop the SysEx transmit, reboot, and start the update again.
13	Truncated Image	A SysEx end message was received before the complete image data was received. Retry the update and if the problem persists then there is a problem with the image.
14	Image Checksum Failed	The checksum of the transmitted image data did not match the expected image checksum. Retry the update and if the problem persists, then there is a problem with the image.
15	EEPROM Write Failed	The write of the firmware image size, version, or checksum to EEPROM failed. Retry the update and if the problem persists, then there is a problem with the image.
16	Message Too Small	The received SysEx message was not big enough to be a valid firmware update message. Retry the update and if the problem persists, then there is a problem with the image.
17	Invalid Manufacturer ID	The image is for a device that is not manufactured by Fractal Audio Systems. Verify that the correct firmware image is being transmitted. If the image is for the correct device, then the image may be corrupted.
18	Invalid Model ID	The image is not for an MFC-101. Verify that the correct firmware image is being transmitted. If the image is for the correct device, then the image may be corrupted. This can be caused by SysEx data for another device being sent to the MFC-101 while it is in firmware update mode (for example, Tempo or Tuner data from a connected Axe-Fx II).

14.3 Axe-Fx Presets Bank & Program Change Table

Remember to add one to all Axe-Fx Program Numbers if Display Offset is set to 1.

Program Change	BANK A (CC#0=0)	BANK B (CC#0=1)	BANK C (CC#0=2)	Program Change	BANK A (CC#0=0)	BANK B (CC#0=1)	BANK C (CC#0=2)
000	000	128	256	064	064	192	320
001	001	129	257	065	065	193	321
002	002	130	258	066	066	194	322
003	003	131	259	067	067	195	323
004	004	132	260	068	068	196	324
005	005	133	261	069	069	197	325
006	006	134	262	070	070	198	326
007	007	135	263	071	071	199	327
008	008	136	264	072	072	200	328
009	009	137	265	073	073	201	329
010	010	138	266	074	074	202	330
011	011	139	267	075	075	203	331
012	012	140	268	076	076	204	332
013	013	141	269	077	077	205	333
014	014	142	270	078	078	206	334
015	015	143	271	079	079	207	335
016	016	144	272	080	080	208	336
017	017	145	273	081	081	209	337
018	018	146	274	082	082	210	338
019	019	147	275	083	083	211	339
020	020	148	276	084	084	212	340
021	021	149	277	085	085	213	341
022	022	150	278	086	086	214	342
023	023	151	279	087	087	215	343
024	024	152	280	088	088	216	344
025	025	153	281	089	089	217	345
026	026	154	282	090	090	218	346
027	027	155	283	091	091	219	347
028	028	156	284	092	092	220	348
029	029	157	285	093	093	221	349
030	030	158	286	094	094	222	350
031	031	159	287	095	095	223	351
032	032	160	288	096	096	224	352
033	033	161	289	097	097	225	353
034	034	162	290	098	098	226	354
035	035	163	291	099	099	227	355
036	036	164	292	100	100	228	356
037	037	165	293	101	101	229	357
038	038	166	294	102	102	230	358
039	039	167	295	103	103	231	359
040	040	168	296	104	104	232	360
041	041	169	297	105	105	233	361
042	042	170	298	106	106	234	362
043	043	171	299	107	107	235	363
044	044	172	300	108	108	236	364
045	045	173	301	109	109	237	365
046	046	174	302	110	110	238	366
047	047	175	303	111	111	239	367
048	048	176	304	112	112	240	368
049	049	177	305	113	113	241	369
050	050	178	306	114	114	242	370
051	051	179	307	115	115	243	371
052	052	180	308	116	116	244	372
053	053	181	309	117	117	245	373
054	054	182	310	118	118	246	374
055	055	183	311	119	119	247	375
056	056	184	312	120	120	248	376
057	057	185	313	121	121	249	377
058	058	186	314	122	122	250	378
059	059	187	315	123	123	251	379
060	060	188	316	124	124	252	380
061	061	189	317	125	125	253	381
062	062	190	318	126	126	254	382
063	063	191	319	127	127	255	383
				128	128	256	384

14.4 Custom MIDI Message Primer

Creating custom MIDI messages for presets or IA Switches in the MFC-101 opens a world of possibilities "outside the box." While any MIDI data can be stored and sent, the most common types will likely be additional program changes, control changes, and system exclusive messages. The following primer will help you get started with custom MIDI messages. You can also learn more at http://www.midi.org/techspecs/midimessages.php.

NOTE: Normally, hex values would be preceded by "0x" to indicate their not being standard numbers. Since this 0x is not required by the MFC-101 custom MIDI fields, it is not shown in the examples below.

14.4.1 Program Change

Program change messages consist of two bytes. The first byte is 0xCn, where n is the MIDI channel number minus 1 in hexadecimal. MIDI channel to hexadecimal mapping is shown in the table below.

Channel	Hex	Channel	Hex	Channel	Hex	Channel	Hex
1	C0	5	C4	9	C8	13	CC
2	C1	6	C5	10	C9	14	CD
3	C2	7	C6	11	CA	15	CE
4	C3	8	C7	12	CB	16	CF

The second byte is the program number up to a maximum of 128, starting at 0, which makes the maximum value 127 (**7F**). Decimal to hexadecimal mapping is shown in the table below.

DATA BYTES: DECIMAL TO HEXIDECIMAL CONVERSION

Dec	Hex	Dec	Hex	Dec	Hex	Dec	Hex	Dec	Hex	Dec	Hex	Dec	Hex	Dec	Hex
0	00	16	10	32	20	48	30	64	40	80	50	96	60	112	70
1	01	17	11	33	21	49	31	65	41	81	51	97	61	113	71
2	02	18	12	34	22	50	32	66	42	82	52	98	62	114	72
3	03	19	13	35	23	51	33	67	43	83	53	99	63	115	73
4	04	20	14	36	24	52	34	68	44	84	54	100	64	116	74
5	05	21	15	37	25	53	35	69	45	85	55	101	65	117	75
6	06	22	16	38	26	54	36	70	46	86	56	102	66	118	76
7	07	23	17	39	27	55	37	71	47	87	57	103	67	119	77
8	08	24	18	40	28	56	38	72	48	88	58	104	68	120	78
9	09	25	19	41	29	57	39	73	49	89	59	105	69	121	79
10	0A	26	1A	42	2A	58	3A	74	4A	90	5A	106	6A	122	7A
11	0B	27	1B	43	2B	59	3B	75	4B	91	5B	107	6B	123	7B
12	0C	28	1C	44	2C	60	3C	76	4C	92	5C	108	6C	124	7C
13	0D	29	1D	45	2D	61	3D	77	4D	93	5D	109	6D	125	7D
14	0E	30	1E	46	2E	62	3E	78	4E	94	5E	110	6E	126	7E
15	0F	31	1F	47	2F	63	3F	79	4F	95	5F	111	6F	127	7F

So, for example, a program change message for Channel 1, Program 0 would be **C0 00.**
A program change message for Channel 8/Program 32 would be **C7 20.**
A program change message for Channel 16/Program 127 would be **C7 7F.**

NOTE: Remember to subtract 1 if you are using Display Offset +1 on your connected device(s).

To access programs above #128, you must first send a bank select control change message (CC#0).

14.4.2 Control Change

Control Change messages consist of three bytes. The first byte is 0xBn, where n is the MIDI channel number in hexadecimal minus 1. The second byte specifies the continuous controller number and has a range of 0 to 127. The third byte specifies the value for the controller and has a range of 0 to 127.

So, for example, a message for CC#0 on MIDI channel 1 with a value of 0 would be **B0 00 00.**
A message for CC#64 on MIDI channel 4 with a value of 110 would be **B3 40 6E.**

For switched functions, the value 0 is typically considered "OFF", and the value 127 is "ON", though some devices accept anything from 0 to 63 as OFF and anything from 64-127 as ON. Many devices also use Control Change messages for real time continuous control.

14.4.3 System Exclusive

System exclusive messages are generally used to send device or system-specific information from one MIDI device to another. These messages always start with the value **F0** and end with the value **F7.** The data in between the start and stop values must always be **7F** or lower.

14.4.4 Custom MIDI Message Example

Suppose you need to load preset 1100 on a MIDI- device. This number is greater than the MFC-101's maximum program change of 999. Let's also say that you need to send the device a system exclusive message to turn on an effect. You will need a custom MIDI message. Assume the device is on MIDI channel 5. The first message will be a Bank Select message (CC#0). The first byte is 0xC4 for Control Change, MIDI channel 5. The second byte is 0 (0x00) for CC#0 (bank select). The third and last byte is 8 (0x08). This value was determined by dividing the desired preset (in our case 1100) by the number of programs in a bank, 128. Therefore, 1100 / 128 = 8 (for this operation we throw away the remainder).

The second message that should be programmed is a program change message. The first byte is 0xB4 and is created as described above. The second byte is the program number. Since 1100 is greater than 128 we have to compute what the value should be. In this case the value is the remainder when the preset number (1100) is divided by the highest program change number that can be transmitted in a program change message (128). That is, 1100 / 128 = 8 with remainder 76, so program 76 (0x4C) is the second byte.

The third message that should be programmed is a system exclusive message. The first byte is 0xF0 and signifies the start of a system exclusive message. The inner data bytes of the system exclusive message are determined from the MIDI spec for our device. Let's suppose they are 0x01 0x02 0x03 0x04 0x05. The last byte is 0xF7 and signifies the end of the system exclusive message.

The bytes you would program into the custom MIDI message menu are therefore:

B4	00	08	C4	4C	F0	01	02	03	04	05	F7
Control Change, Ch. 4	CC#0 (Bank Select)	Bank 8	Program Change, Ch. 4	Program #76	SysEx Start	SysEx Data "payload"					SysEx End

Have fun, and remember writing MIDI hex code does not require you to wear a pocket protector.

14.5 Axe-Fx II Looper Control Mode

Firmware 2.1 adds Axe-Fx II Looper Control Mode to the MFC-101. A brief overview follows.

The MFC-101's **Axe-Fx Mode** must be set to "II" (Axe-Fx II) for Looper Control Mode to operate.

Press and hold the REVEAL footswitch to enter Looper Control Mode. You can tap REVEAL again to exit and return to Performance Mode at any time. It is possible to exit Looper Control Mode to change to another preset with a LOOPER in it (or switch IAs on or off) without interrupting playback. A short tap can also be used to enter Looper Control Mode – see section 12.5.24 on p. 68.

In Looper Control Mode, the MFC-101 display will indicate the current Looper function, or will show "PRESET HAS NO LOOPER" if that is the case. Playback is indicated by an animation.

The footswitch functions of Looper Control mode are shown below. These functions cannot be moved, modified or re-assigned. The Midi CC#s for these switches (also shown in the illustration) are likewise hard-coded to match the default assignments for the corresponding functions in the Axe-Fx II (I/O:CTRL page).
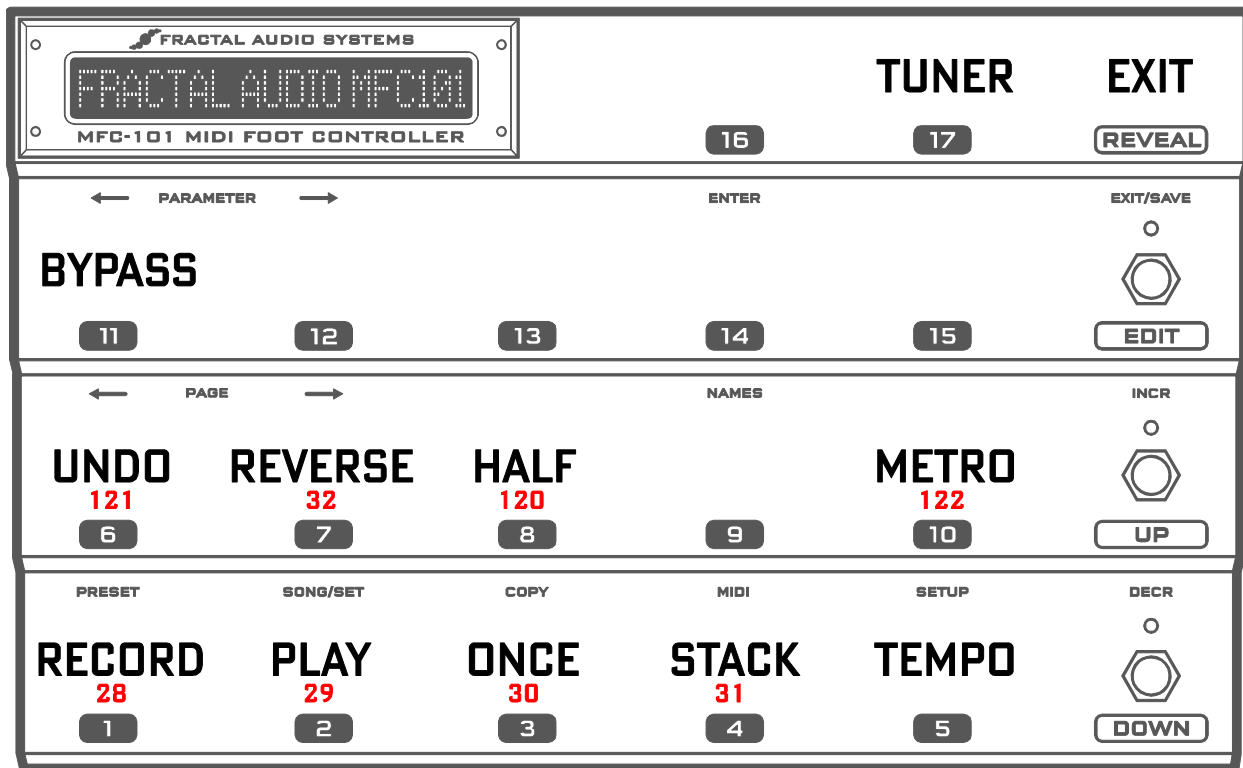

Figure 14-1: Looper Control Mode Footswitch Functions

15 Specifications

GENERAL

Presets:	384
Songs:	100, up to 15 presets in each song
Sets:	10, up to 50 songs in each set
Bank Sizes:	0-17 (Specifies the number of footswitches in 17 which select presets)
Bank Styles:	Current, First, None

PRESET MIDI DATA

Program Changes:	16 (1 per channel. Axe-Fx Mode overrides one of these)
Custom MIDI Message:	Up to 16 bytes
Internal Control Change:	17
Control Change Numbers:	0–127, OFF
Control Change Data:	Independently programmable ON and OFF values (0–127 or OFF)

INSTANT ACCESS SWITCHES

Quantity:	17
Control Change Messages:	2
Control Change Numbers:	0–127, OFF
Control Change Data:	Independently programmable ON and OFF values (0–127 or OFF)
Program Change:	1 each for ON and OFF states
Program Range:	0-999 or OFF (Bank Select CC#0 messages are automatic.)
Custom MIDI Message:	Up to 16 bytes each for ON and OFF states

MIDI INTERFACE

Output Connector:	7-pin DIN (pins 6 and 7 connected to phantom power in jack)
Input Connector:	5-pin DIN (pins 1 and 3 connected to MIDI In for 2-way data from a single port)

EXTERNAL SWITCH INTERFACE

External Switch Inputs:	4
Connectors:	2 x ¼" TRS phone jacks (2 switches per connector)
Format:	Compatible with Toggle or Momentary switches

EXPRESSION PEDAL INTERFACE

Expression Pedal Inputs:	4
Connectors:	¼" TRS phone jacks (1 expression pedal per connector)
Compatibility:	Expression type (not Volume pedals), 10K–100K recommended max resistance

AXE-FX PORT

Connector:	RJ45 Ethernet/EtherCON
Interface:	RS-422

MECHANICAL/ELECTRICAL

Chassis:	Powder-coated 16-gauge steel
LCD:	1×20 dot matrix transflective LCD display
Dimensions:	15.75" x 3" x 10" (400 x 76 x 254 mm)
Weight:	10 lbs. (4.5 kg)
Input Voltage:	9 VAC, 47 - 63 Hz (AC adapter input specific to region where the unit was purchased).
Power Consumption:	<10 W

ENVIRONMENTAL

Operating Temperature:	32 to 122°F (0 to 50°C)
Storage Temperature:	-22 to 167°F (-30 to 70°C)
Humidity Max.:	90% non-condensing

(Specifications subject to change without notice)

15.1 Factory Default Settings

This section lists all of the Factory Default settings for the MFC-101.

GENERAL CONFIGURATION:

Use Port:	EXPANSION
Axe-Fx Mode:	Axe-Fx II
Operating Mode:	Preset
MFC-101 Display Offset:	0
Bank Size:	5
Bank Style:	Current
Link Group A:	All switch links OFF
Link Group B:	All switch links OFF
Send Switch Link OFF Messages:	YES
Global Preset:	OFF
Display Contrast:	10
Save Edits Switch:	OFF
Axe-Fx IA OFF LEDs:	RED
Hold Axe-Fx Tap Tempo for Tuner:	OFF

MIDI CONFIGURATION:

Axe-Fx MIDI Channel:	1
Axe-Fx Display Offset:	0
Axe-Fx Program Change Map	All entries set 1:1
MFC-101 MIDI Receive Channel:	OFF
MFC-101 Program Change Rx:	OFF
MFC-101 Program Change Map:	1:1
Display Offset (all MIDI channels):	0
MIDI Channel Name (all channels):	"Chan XX", where XX is the channel number.

EXTERNAL DEVICES CONFIGURATION:

Expression Pedal 1:	CC#:11; MIDI Channel: 1; Beginning Value: OFF; Range: 0-127
Expression Pedal 2:	CC#:16; MIDI Channel: 1; Beginning Value: OFF; Range: 0-127
Expression Pedal 3:	CC#:OFF; MIDI Channel: 1; Beginning Value: OFF; Range: 0-127
Expression Pedal 4:	CC#:OFF; MIDI Channel: 1; Beginning Value: OFF; Range: 0-127
External Switch 1:	CC#:OFF; MIDI Channel: 1; Software Type: Toggle; HW Type: Momentary, On:127, Off:0
External Switch 2:	CC#:OFF; MIDI Channel: 1; Software Type: Toggle; HW Type: Momentary, On:127, Off:0
External Switch 3:	CC#:OFF; MIDI Channel: 1; Software Type: Toggle; HW Type: Momentary, On:127, Off:0
External Switch 4:	CC#:OFF; MIDI Channel: 1; Software Type: Toggle; HW Type: Momentary, On:127, Off:0

MFC-101 PRESETS (ALL)

Preset Name:	"MFC-101"
Program Change (all):	Same as MFC-101 preset number
Alternate Preset:	GLOBAL ("GBL")
Instant Access Switch State (all):	OFF
Internal CC Switch State (all):	OFF
External Switches (all):	Global, MIDI Channel 1, Number OFF, Type Toggle, Off:0; On:127
Expression Pedals (all):	Global, MIDI Channel 1, Beginning Value 127, Minimum 0, Maximum 127
SysEx Message (all bytes):	OFF

SONGS (ALL)

Song Name:	"SongXXX", where XXX is the song number.
Presets (1-15):	000

SETS (ALL)

Set Name:	"Set XX", where XX is the song number.
All Songs (1-10):	Song1

INSTANT ACCESS SWITCHES (ALL)

Type:	TOGGLE
Global:	NO
Send w/ Preset:	YES
Axe-Fx Functions:	SEE TABLE 1, BELOW
Control Change 1:	SEE TABLE 2, BELOW
Control Change 2:	MIDI Channel 1, CC#: Off Value = 0, On Value = 127
ON Message Program Change:	MIDI Channel 1, Number: OFF
OFF Message Program Change:	MIDI Channel 1, Number: OFF
ON Message Custom MIDI:	All bytes OFF
OFF Message Custom MIDI:	All bytes OFF
Name:	"IASw XX", where XX is the switch number.

TABLE 1 AXE-FX MODE INSTANT ACCESS SWITCH FUNCTIONS:

IA	FUNCTION		IA	FUNCTION		IA	FUNCTION		IA	FUNCTION
1	Filter 1		6	Compressor 1		11	Pan/Tremolo 1		16	Tap Tempo
2	Drive 2		7	Drive 1		12	Pitch 1		17	Tuner
3	Rotary		8	Phaser 1		13	Multi Delay 1			
4	GEQ 1		9	Chorus 1		14	Delay 1			
5	PEQ 1		10	Flanger 1		15	Reverb 1			

Table 14.5.2 INSTANT ACCESS SWITCHES CC1 CC# ASSIGNMENTS

IA	CC		IA	CC		IA	CC
1	1		7	7		13	123
2	2		8	8		14	124
3	3		9	9		15	125
4	4		10	120		16	126
5	5		11	121		17	127
6	6		12	122			

INTERNAL CONTROL CHANGES (ALL)

Control Change:	MIDI Channel 1; CC#: OFF; Off Value = 0, On Value = 127
Name:	"IntCCXX", where XX is the internal control change number

15.2 Midi Implementation Chart

NOTE: MFC-101 Presets and Instant Access Switches have the capability to send custom MIDI data, entered freeform as hex code, which can be used for many applications not supported "natively" (ex: Note On/Off).

Function		Transmitted	Received	Remarks
Basic Channel	Default Changed	1 1-16	None 1-16	The MFC-101 is shipped with almost all MIDI messages disabled. Exceptions are expression pedals 1 and 2, which are used for **AXE-FX MODE**. All settings are saved in persistent EEPROM.
Mode	Default Message Altered	X X X	X X X	
Note Number	True Voice	O	X	
Velocity	Note ON Note OFF	X X	X X	
After Touch	Keys Channels	X X	X X	
Pitch Bend		X	X	
Control Change		O	X	Instant access switches can send two control change messages. Internal control changes can send one control change. The control change values for these messages default to 0 = Off and 127 = On and are configurable. Custom MIDI messages can also be used to send control change.
Program Change	True Number Bank Select	O O	O O	Instant access switches can send one program change command per switch state (off/on). Presets can send up to 16 program change messages, one per MIDI channel. Program change numbers are displayed with a range of 0 to 999 or 1 to 1000. Program change numbers are decomposed into a bank/program combination that gets transmitted as a bank select message and program change message. A receive program change map is available as is a transmit program change map specifically for Axe-Fx. Custom MIDI messages can also be configured to send program change. MFC-101 sends a leading bank select control change message for every program change except those configured under custom MIDI message menus. The MFC-101 receives Bank Select and Program Changes if this is enabled (**12.4.5**). Incoming Bank Select messages alias around 384.
System Exclusive	Fractal Audio Real-Time Non-Real-Time	O X X	O X X	Presets can send one custom 16-byte MIDI message, which can be a system exclusive message. Instant access switches can send one custom 16-byte MIDI message per switch state (off/on), which can be a system exclusive message. These custom messages may be configured to send the standard system exclusive messages marked with an X above. MFC-101 also uses system exclusive for data dump and load, firmware updates, and Axe-Fx synchronization.
System Common	Song Position Song Select Tune Request	X X X	X X X	
System Real-Time	Clock Commands	X X	X X	
Auxiliary Messages	Local ON/OFF All Notes OFF Active Sense Reset	X X X X	X X X X	

0 = YES, X=NO

16 Index

17 Warranty

Fractal Audio Systems warrants that your new Fractal Audio Systems product shall be free of defects in materials and workmanship for a period of one (1) year from the original date of purchase.

During the warranty period, Fractal Audio Systems shall, at its sole option, either repair or replace any product that proves to be defective upon inspection by Fractal Audio Systems.

Fractal Audio Systems reserves the right to update any unit returned for repair and to change or improve the design of the product at any time without notice. Fractal Audio Systems reserves the right to use reconditioned parts and assemblies as warranty replacements for authorized repairs. This warranty is extended to the original retail purchaser for units purchased directly from Fractal Audio Systems or one of its authorized distributors or resellers.

This is your sole warranty. Fractal Audio Systems does not authorize any third party, including any dealer or sales representative, to assume any liability on behalf of Fractal Audio Systems or to make any warranty for Fractal Audio Systems. Fractal Audio Systems may, at its option, require proof of original purchase date in the form of a dated copy of original authorized dealer's invoice or sales receipt. Service and repairs of Fractal Audio Systems products are to be performed only at the Fractal Audio Systems factory or a Fractal Audio Systems authorized service center. Fractal Audio Systems may require advanced authorization of repairs to authorized service centers. Unauthorized service, repair or modification will void this warranty.

DISCLAIMER AND LIMITATION OF WARRANTY

THE FOREGOING WARRANTY IS THE ONLY WARRANTY GIVEN BY FRACTAL AUDIO SYSTEMS AND IS IN LIEU OF ALL OTHER WARRANTIES.ALL IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR ANY PARTICULAR PURPOSE, EXCEEDING THE SPECIFIC PROVISIONS OF THIS WARRANTY ARE HEREBY DISCLAIMED AND EXCLUDED FROM THIS WARRANTY. UPON EXPIRATION OF THE APPLICABLE EXPRESS WARRANTY PERIOD (1 YEAR), FRACTAL AUDIO SYSTEMS SHALL HAVE NO FURTHER WARRANTY OBLIGATION OF ANY KIND, EXPRESS OR IMPLIED. FRACTAL AUDIO SYSTEMS SHALL IN NO EVENT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES SUFFERED BY THE PURCHASER OR ANY THIRD PARTY, INCLUDING WITHOUT LIMITATION, DAMAGES FOR LOSS OF PROFITS OR BUSINESS, OR DAMAGES RESULTING FROM USE OR PERFORMANCE OF THE PRODUCT, WHETHER IN CONTRACT OR IN TORT. FRACTAL AUDIO SYSTEMS SHALL NOT BE LIABLE FOR ANY EXPENSES, CLAIMS, OR SUITS ARISING OUT OF OR RELATING TO ANY OF THE FOREGOING. Some states do not allow the exclusion or limitation of implied warranties so some of the above limitations and exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights, which vary, from state to state. This warranty only applies to products sold and used in the USA and Canada. Fractal Audio Systems shall not be liable for damages or loss resulting from the negligent or intentional acts of the shipper or its contracted affiliates. You should contact the shipper for proper claims procedures in the event of damage or loss resulting from shipment.

Document Change Log

v0.9.29
- Added this log, which will be removed from public versions of the manual
- Updated firmware Update instructions per changes to latest SW version

v0.9.30
- Updated Diagram on p.14 so Set Mode to show "SET MODE {1-10}" instead of just "SET MODE"
- Updated SET Operating Mode description (p. 40 and p.64) per above.
- Worked on clarifying (p. 29, p.30, p.47): It isn't that the PRESET INITIAL STATES for IA Switches assigned to Axe-Fx functions are NOT SAVED, but rather that the saved states are IGNORED in favor of the dynamic determination of which IA-mapped blocks are Present & Active, Present & Bypassed, or Not Present.
- Clarified how to select whether you want to edit the ON or the OFF custom MIDI message for an IA Switch
- Set correct cross reference in Preset Expression Pedal Min/Max
- Exploring various entries for the INDEX to try to come up with a system that works best

v0.9.31
- Because it covers "The Global Preset" which is available in ALL OPERATING MODES, the title of chapter 4 has been changed to PRESETS AND PRESET MODE.
- New definition of PRESET atop p. 20
- Minor revision to Firmware Update screen

v0.9.32
- New details on Axe-Fx TUNER IA Switch
- New INDEX entries
- Various minor usage and clarity corrections
- Added blanks to simulate appearance of printed facing pages

v0.9.33
- expression pedal recommended pot K value in specs
- Cleaned up INDEX
- Various minor usage and clarity corrections
- New parameters: Preset External Switch On/Off Values, Global External Switch On/Off Values -- updated the Software map, parameter ref, Expression Pedal and External Switch chapter process step numbers, factory default values tables
- Noted that Ultra Only functions now have a "degrees" symbol in the UI to assist Standard users when assigning IA functions.

v0.9.34
- Internal version

v0.9.35
- Reworked doc in the hopes of achieving better compatibility with Mac PDF Preview and text search

v0.9.36
- Small formatting changes based on the new typefaces. Also, PDF page numbers will now match the doc.
- Re-wrote page 6 for clarity
- Integrated three pages of corrections suggested by PH
- Print optimization: added odd/even header/footer formatting

V1.0.2
- Typo corrections
- Moved SPECIFICATIONS outside of appendix
- Updated MIDI SPEC with NOTE
- Corrected IA Switch Custom MIDI in parameter reference

V1.0.3
- P10: UP vs INCR
- Replaced missing Cross Reference on p.56
- Changed XP default beginning values to OFF

V1.04
- Small corrections

V1.05
- Updated for Firmware v 1.0 and Axe-Fx II support

V2.0
- Updated for Firmware v 2.0
-

V2.15
- Updated for Firmware v2.13 and 2.15