



# mio X-Series

Advanced MIDI Interfaces



# User Guide

## Compliance Statement

**mioXM** meets the requirements of the following standards and directives:

- FCC Part 15 Class B, Radiated Emissions
- CAN ICES-003 (B) / NMB-003 (B)
- CISPR 32 Class B
- EN 61000-4-2
- EN 61000-4-4

**mioXL** meets the requirements of the following standards and directives:

- FCC Part 15 Class B, Radiated Emissions
- CAN ICES-003 (B) / NMB-003 (B)
- CISPR 32 Class B
- EN 61000-4-2
- EN 61000-4-4

## Communication Statement

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 a residential installation. 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.

However, 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 into 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.

Changes or modifications not expressly approved by iConnectivity could void the user's authority to operate the equipment.

### Declaration of Conformity (mioXM)

We iConnectivity declare that the mioXM complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

### Declaration of Conformity (mioXL)

We iConnectivity declare that the mioXL complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

## Disposal of Waste Equipment by Users in the European Union



This symbol on the product or its packaging indicates that this product must not be disposed of with other waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city recycling office or the dealer from whom you purchased the product.

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# Chapter 1: Introduction

Congratulations on the purchase of your new mio X-Series interface!

Based on iConnectivity's robust road-tested technology, the mio X-Series (a.k.a. "mioX") interfaces are the most advanced MIDI interfaces ever created, with unrivalled configurability and network expandability.



**mioXM**



**mioXL**

iConnectivity makes every effort to develop simple and intuitive hardware and companion control software. However, because your mioX interface includes so many advanced features, we strongly recommend that you read this manual carefully, even if you are an experienced MIDI user.

## What's in the Box?

- mio X-Series Interface
- Universal Power Adapter: 100V - 240V AC, 50/60 Hz
- USB Cable: Type-A to Type-B
- Ethernet Network Cable
- Optional Rubber Feet (mioXL only, quantity 4)

## Minimum System Requirements

### MacOS

- MacOS X 10.12 (Sierra)
- One free USB port or Ethernet port

### Windows

- Microsoft Windows 10
- One free USB port or Ethernet port

## Warranty

The iConnectivity Warranty Policy may be found on our website at: [Warranty Policy](#)



For more information about these and other products, please visit the iConnectivity Knowledge Base at the [iConnectivity Support Website](#)

Product Features, Specifications, and System Requirements may be subject to change.

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# Chapter 2: Quick Start Guide

To start using your mioX interface as a standard USB-MIDI interface right away, follow these steps:

1. **MacOS Users:** there are no software drivers to download or install; mioX interfaces use the USB MIDI class-compliant drivers built into MacOS.
2. **Windows Users:** please download and install the latest version of our Unified Windows Driver from the iConnectivity web site [Windows Drivers](#) page.
3. Using the provided 12V power adapter, connect your mioX interface (power port located on the rear panel) to your power strip or wall outlet. Depending on your location, you may need to use one of the included international plug adapters.
4. Using the provided USB cable, connect your mioX to your computer (Type-B end to the cable to the mioX port marked **USB-DAW**, Type-A end to the computer). If your computer does not have USB Type-A ports, you will need to purchase an adapter.
5. Plug your MIDI instruments into the DIN-MIDI ports on your mioX interface.

These steps should get you up and running quickly. However, please note that you will only be using a fraction of your mioX interface's potential. In order to unleash the full power of your mioX, we strongly recommend that you read this entire user guide and install all of the recommended software. See [Appendix A \(Software Installation\)](#) for more specific information.

# Chapter 3: Modes of Operation

mioX interfaces have three modes of operation:

1. Power Off
2. Normal Mode
3. Bootloader Mode

## Power Off

The mioX interface is powered off and not operational.

## Normal Mode

As you might guess, this is the normal operational mode that you will use nearly all of the time. In this mode, the device is powered on and operates as a fully functional interface.

## Bootloader Mode

Bootloader Mode is a special service mode used to perform firmware updates. Normally you will use **Auracle for X-Series** software to update your firmware and **Auracle for X-Series** will automatically switch your mioX between Normal and Bootloader modes as necessary. In rare situations, mioX users may prefer to manually update their firmware via the bootloader. This manual process is described in detail in [Appendix B \(Using Bootloader Mode\)](#) of this guide.

# Chapter 4: mioXM Hardware Description

## Front Panel



### Function Button

The Function Button on the front left of mioXM provides several different functions:

- Powering On
- Powering Off
- Entering Bootloader Mode

#### Powering On

If the mioXM is currently in a Power Off state, quickly press and release the Function Button to power up the interface into the Normal Mode of operation. On start-up, mioXM will light the eight LEDs in a sequence of green then red colors. When start-up is complete, only one of the four lower row LEDs will remain illuminated; that indicates Normal Mode.

#### Powering Off

To power off the mioXM, press and hold the Function Button (for 4 to 5 seconds) until all LEDs are turned off, then immediately release the button.

#### Entering Bootloader Mode

Bootloader Mode can only be manually entered from the Power Off state. First verify that the mioX is powered off and then press and hold the Function Button down. The unit will cycle through green LEDs then red. Once you see red LEDs, release the button. Bootloader Mode is then indicated by alternately flashing green DIN-MIDI and USB-MIDI LEDs.

## Touch Panel

The interactive Touch Panel on the front of the mioXM controls several functions of the interface and displays status on eight LEDs.

### Top Row LEDs

The top row LEDs illuminate whenever there is activity on any of the I/O ports:

- **USB-DAW** (USB MIDI between mioX and your computer)
- **RTP-MIDI** (RTP/Network MIDI)
- **DIN-MIDI** (MIDI on DIN Ports)
- **USB-MIDI** (MIDI on USB Host Ports)

When the mioX *transmits* data to another device, the corresponding LED will light up **green**.

When the mioX *receives* data from another device, the corresponding LED will light up **red**.

For example: If mioX receives USB MIDI from a connected computer, the **USB-DAW** LED will light **red**. If mioX transmits MIDI out any of the DIN-MIDI ports, the **DIN-MIDI** LED will light **green**.

### Bottom Row Controls

The bottom row of the Touch Panel features four touch-sensitive controls, each of which will load a memory preset (**Mem 1** through **Mem 4**). When you touch the area of a control, the mioX loads the appropriate memory preset and updates its bottom row LEDs to indicate the currently active memory.

Note that only one Mem LED will light at a time. The LED color will usually be **green**, indicating the preset is loaded and has not been edited by **Auracle for X-Series** or other control software. If the current preset has been edited, the LED will turn **red**; this is to remind you to save your work before loading another preset. If you do save the preset, or load a new one, the appropriate LED will turn **green**.

### Front I/O Jacks

The front of the mioXM features several ports that communicate by various MIDI protocols.



If you are not already familiar with the MIDI protocols discussed here, check out the iConnectivity Knowledge Base at: [Intro to MIDI Connections](#)

## DIN 1 MIDI I/O

**DIN 1** is a pair of ports (MIDI In and MIDI Out) on 5-pin DIN connectors (where ‘1’ denotes the first pair of mioX DIN-MIDI ports). Connect these ports to other devices with DIN-type MIDI connectors. Data flows into the mioX on a MIDI In port and flows out from a MIDI Out port. Internally, the mioX routes MIDI data between these and all other I/O ports, as configured by **Auracle for X-Series** software.

## RTP / Network MIDI

The **RTP-MIDI** port transmits and receives RTP/Network MIDI on a standard ethernet-type connector. Use the provided ethernet cable to connect to an RTP MIDI network (for example: your computer or another mioX). If you need a longer run of ethernet cable, you can supply your own standard ethernet cable of sufficient length. Internally, the mioX routes MIDI data between this and all other I/O ports, as configured by **Auracle for X-Series** software.

The **RTP-MIDI** jack incorporates two useful LEDs:

- The **yellow-orange** LED lights to indicate the interface is connected to a functioning network. This LED will stay on continually while you are connected to the network.
- The **green** LED lights to indicate network traffic, i.e., it will flash each time an ethernet signal is sent or received via the RTP-MIDI port. Note that it is normal for this LED to flash occasionally while it is connected to a network, even if you are not currently sending MIDI at the time.

## Device Port

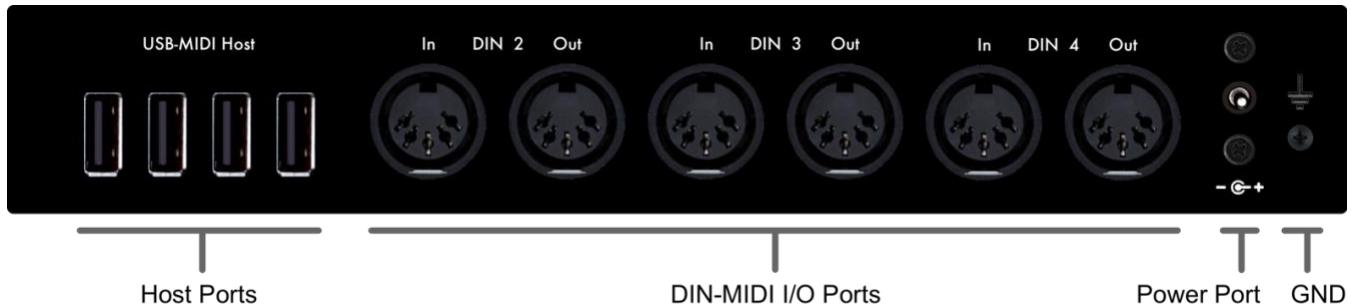
The Device Port labelled **USB-DAW** is a standard USB Type-B connector. Using the provided USB cable, connect your mioX to your computer (Type-B end of the cable to the mioX **USB-DAW** port and the Type-A end to the computer). If your computer does not have USB Type-A ports, you will need to purchase an adapter. Once connected, the mioX will appear on your computer as a USB MIDI interface.



Windows users must first download and install our Unified Windows Driver from the iConnectivity web site [Windows Drivers](#) page.

Internally, the mioX routes MIDI data between this and all other I/O ports, as configured by **Auracle for X-Series** software.

# Rear Panel



## Host Ports

The 4 **mioXM Host Ports** “host” additional USB-MIDI devices (for example: a keyboard controller). Internally, the mioX routes MIDI data between these and all other I/O ports, as configured by **Auracle for X-Series** software.

Note that the **Host Ports** have no numbers written above or below them. That is because host assignments are flexible: you can plug a USB-MIDI device into any of these ports at any time. The first USB-MIDI device plugged in will be assigned HST 1, the second device assigned HST 2, and so on. mioXM can even host external (powered) USB hubs with additional USB-MIDI devices for a total of 8. If you desire consistent host port numbering, **Auracle for X-Series** software may be used to reserve port numbers for specific USB-MIDI devices in your setup, regardless of what order your devices are plugged into the host ports.



For more information on USB-MIDI Host port usage, peruse the iConnectivity Knowledge Base at: [mio X-Series Host Port](#)

## DIN-MIDI I/O Ports

In addition to the first DIN-MIDI I/O port (on the front of the device), there are 3 additional pairs of DIN-MIDI I/O ports on the back of the mioX, each carrying its own unique stream of MIDI data. Connect these ports to other devices with DIN-type MIDI connectors. Similar to the **DIN 1** port, data flows into the device on a MIDI In connector and flows out from the device on a MIDI Out connector.

Internally, the mioX routes MIDI data between these and all other I/O ports, as configured by **Auracle for X-Series** software.

## Power Port



mioX requires power via its **Power Port**. Plug one end of the provided power adapter into the device's **Power Port** and the other end into your wall or power strip outlet. Depending on your location, you may need to use one of the included international plug adapters.

Always use the iConnectivity provided power supply. If you lose or damage yours, we sell direct replacements. See the [Specifications](#) section of this guide for details.

## GND



**Chassis GND** is provided by a Phillips-head screw at the right end of the rear panel. Although it is usually not necessary, depending on the location of your mioX and your overall system configuration, you may need to connect the mioX **Chassis GND** to other GND connections in your system. If you lose or damage your GND screw, see the [Specifications](#) section of this guide for more details.

# Chapter 5: mioXL Hardware Description

## Front Panel



### Touch Panel

The interactive Touch Panel on the front of the mioXL is an integrated touch sensitive controller with two rows of status LEDs. The Touch Panel, combined with the OLED Display and Parameter/Power Knob, control various configuration parameters and modes of mioXL operation. For more information refer to the [mioXL User Interface](#) section of this guide.

### OLED Display

The mioXL front panel features a high-resolution OLED (Organic Light Emitting Diode) display. OLED is a modern display technology with a wider viewing angle, greater contrast ratio, and quicker response time when compared to LCDs.

The OLED Display is a key component of the mioXL user interface and displays a variety of data in the various mioXL menu screens.

### Parameter/Power Knob

The Parameter/Power Knob is a dual-purpose knob/pushbutton and performs various functions as it is rotated and pressed. To make reading easier, we will refer to it as the “Parameter Knob”, “Parameter Button”, or “Power Button”, depending on the operation being performed. Its operation is detailed in the guide’s [mioXL User Interface](#) section.

### Front I/O Jacks

The mioXL front panel features several ports that communicate by various MIDI protocols.



If you are not already familiar with the MIDI protocols discussed in this guide, check out the iConnectivity Knowledge Base at: [Intro to MIDI Connections](#)

## DIN-MIDI I/O Ports

There are 8 DIN-MIDI I/O ports on the front of the mioXL, each carrying its own unique stream of MIDI data. Connect these ports to other devices with DIN-type MIDI connectors.

Data flows into the mioX on MIDI In ports and flows out from the mioX on MIDI Out ports. The mioXL has a total of 8 DIN-MIDI inputs and 12 outputs. Therefore, you will notice that DIN 7 and DIN 8 are MIDI I/O pairs and DIN 9, DIN 10, DIN 11, DIN 12 are MIDI output only.

Internally, the mioX routes MIDI data between these and all other I/O ports, as configured by **Auracle for X-Series** software.

## Host Ports

The 10 mioXL **Host Ports** (4 on the front, 6 on the rear) “host” additional USB-MIDI devices (for example: a keyboard controller). Internally, the mioX routes MIDI data between Host Ports and all other I/O ports, as configured by **Auracle for X-Series** software.

Note that the **Host Ports** have no numbers associated with them. That is because host assignments are flexible: you can plug a USB-MIDI device into any of these ports at any time. The first USB-MIDI device plugged in will be assigned HST 1, the second device assigned HST 2, and so on. If you desire consistent host port numbering, **Auracle for X-Series** software may be used to reserve port numbers for specific USB-MIDI devices in your setup, regardless of what order your devices are plugged into the host ports.



For more information on USB-MIDI Host port usage, peruse the iConnectivity Knowledge Base at: [mio X-Series Host Port](#)

## Device Port

The Device Port, labelled **USB-DAW**, is a standard USB Type-B connector. Using the provided USB cable, connect your mioX to your computer (Type-B end of the cable to the mioX **USB-DAW** port and the Type-A end to the computer). If your computer does not have USB Type-A ports, you will need to purchase an adapter. Once connected, the mioX will appear on your computer as a USB MIDI interface.



Before making this connection, Windows users should first download and install our Unified Windows Driver from our web site at: [Windows Drivers](#)

Internally, the mioX routes MIDI data between this and all other I/O ports, as configured by **Auracle for X-Series** software.

# Rear Panel



## RTP / Network MIDI

The **RTP-MIDI** port transmits and receives RTP/Network MIDI on a standard ethernet-type connector. Use the provided ethernet cable to connect to an RTP MIDI network (for example: your computer or another mioX). If you need a longer run of cable, you can supply your own standard ethernet cable of sufficient length. Internally, the mioX routes MIDI data between this and all other I/O ports, as configured by **Auracle for X-Series** software.

The **RTP-MIDI** jack incorporates two useful LEDs:

- The **yellow-orange** LED lights to indicate the interface is connected to a functioning network. This LED will stay on continually while you are connected to the network.
- The **green** LED lights to indicate network traffic, i.e., it will flash each time an ethernet signal is sent or received via the RTP-MIDI port. Note that it is normal for this LED to flash occasionally while it is connected to a network, even if you are not currently sending MIDI at the time.

## Host Ports

In addition to the 4 Host Ports on its front panel, mioXL has another 6 **Host Ports** on its rear panel for “hosting” additional USB-MIDI devices. Internally, the mioX routes MIDI data between these and all other I/O ports, as configured by **Auracle for X-Series** software. For more info on Host Ports, consult the mioXL front panel [Host Ports](#) section of this guide.

## DIN-MIDI I/O Ports

In addition to the DIN-MIDI I/O ports on the front of the device, there are 6 more pairs of DIN-MIDI I/O ports on the back of the mioXL, each carrying its own unique stream of MIDI data. Connect these ports to other devices with DIN-type MIDI connectors. Once again, remember that data flows into the device on a MIDI In connector and flows out from the device on a MIDI Out connector.

Internally, the mioX routes MIDI data between these and all other I/O ports, as configured by **Auracle for X-Series** software.

## Power Port



mioX requires power via its **Power Port**. Plug one end of the provided power adapter into the device's **Power Port** and the other end into your wall or power strip outlet. Depending on your location, you may need to use one of the included international plug adapters.

Always use the iConnectivity provided power supply. If you lose or damage yours, we sell direct replacements. See the [Specifications](#) section of this guide for details.

## GND



**Chassis GND** is provided by a Phillips-head screw at the right end of the rear panel. Although it is usually not necessary, depending on the location of your mioX and your overall system configuration, you may need to connect the mioX **Chassis GND** to other GND connections in your system. If you lose or damage your GND screw, see the [Specifications](#) section of this guide for more details.

# mioXL User Interface

The interactive Touch Panel on the front of the mioXL is an integrated touch sensitive controller with two rows of status LEDs. The Touch Panel, combined with the OLED Display and Parameter/Power Knob, are referred to collectively as the User Interface (UI). The UI controls various configuration parameters and modes of mioXL operation. This section will discuss the operation of the various UI elements.



## Parameter/Power Knob

The Parameter/Power Knob to the right of the display is a dual-purpose knob/pushbutton and performs various functions as it is rotated and pressed. To make reading easier, we will refer to it as the “Parameter Knob”, “Parameter Button”, or “Power Button”, depending on the operation being performed.

One of the primary pushbutton functions is to set the current mioX mode of operation:

- **Powering On:** If the mioXL is currently in a Power Off state, quickly press and release the Power Button to power up the interface into Normal Mode. On start-up, mioXL will light the LEDs in a sequence of green and red colors and then display its banner page (the product name and firmware version number) for a few seconds:



The display give way to the current memory preset number and preset name. The mioXL is now in Normal Mode.



- **Powering Off:** To power off the mioXL, press and hold the Power Button (for 4 to 5 seconds) until the OLED display and all LEDs are turned off, then immediately release the Power Button.
- **Entering Bootloader Mode:** Bootloader Mode can only be manually entered from the Power Off state. First verify that the mioX is powered off and then press and hold the Power Button down (for 4 to 5 seconds) as the unit cycles the eight LEDs through green then red colors. After all LEDs are off, immediately release the Power Button. Bootloader Mode is then indicated by a blank display and alternately flashing green DIN-MIDI and USB-MIDI LEDs.

## Top Row Controls

The four top row LEDs of the Touch Panel illuminate whenever there is activity on each type of I/O port:

- **USB-DAW** (USB MIDI between mioX and your computer)
- **RTP-MIDI** (RTP/Network MIDI)
- **DIN-MIDI** (MIDI on DIN Ports)
- **USB-MIDI** (MIDI on USB Host Ports)

When the mioX *transmits* data to another device, the corresponding LED will light up **green**. When the mioX *receives* data from another device, the corresponding LED will light up **red**.

For example: When mioX receives USB MIDI from a connected computer, the **USB-DAW** LED will light **red**. When mioX transmits MIDI data out any of the DIN-MIDI ports, the **DIN-MIDI** LED will light **green**.

The top row LEDs are also touch-sensitive controls that select screens for monitoring MIDI activity. Each type of port has a page that displays activity on all ports simultaneously. All MIDI monitor pages appear and operate in a similar fashion; take DIN-MIDI for example:



The upper line of dots indicates activity on DIN In ports 1 through 8. The lower line of dots indicates DIN Out ports 1 through 12. In this example, the two brighter dots indicate DIN-MIDI activity present on IN 2 and OUT 3.

While monitoring MIDI activity, you may quickly switch pages by turning the Parameter Knob clockwise or counterclockwise. You may also exit a MIDI monitoring page by pressing any bottom row control.

## Bottom Row Controls

The bottom row LEDs are touch-sensitive controls that affect preset operation:

- The **Back** control decrements the Preset number and wraps from Preset 1 to Preset 32.
- The **Next** control increments the Preset number and wraps from Preset 32 to Preset 1.
- The **Load** control selects a Preset Memory and makes it active.
- The **Save** control saves a copy of the current preset to a Preset Memory.

## Preset Manipulation

The mioXL stores up to 32 presets in Preset Memory. There are three primary methods for manipulating presets:

1. Use the front panel bottom row controls
2. Use the Parameter Knob
3. Use Auracle for X-Series software



To learn more about Auracle for X-Series software, please visit the iConnectivity web site at: [Auracle for X-Series](#)

We will describe the first two methods here.

Pressing a **Back** or **Next** control, or rotating the **Parameter Knob**, will increment or decrement your way through all of the preset memory locations, allowing you to preview presets before committing to load or save them.

Remember: Previewing is a temporary action; it does not automatically change presets.

### Loading a Preset

To load a new preset, preview your way to the desired preset memory location and either press the **Load** control or the **Parameter Button**.

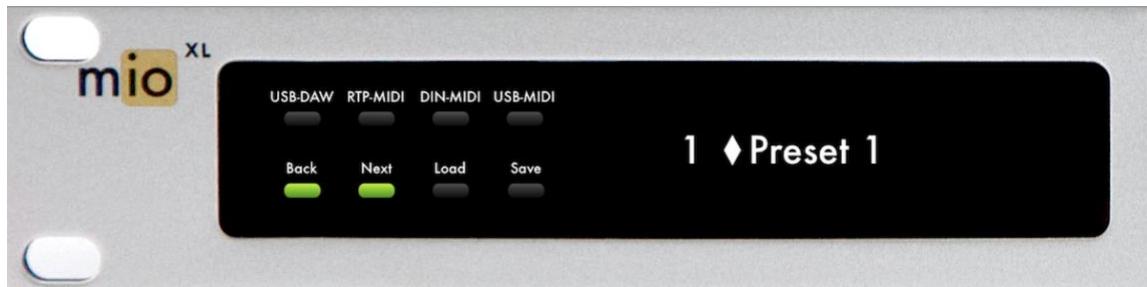
## Saving a Preset

To save the current preset back to the current preset memory location, simply press the **Save** control.

To save the current preset to another preset memory location, preview your way to the desired destination preset memory location via the **Back** or **Next** controls (or by rotating the **Parameter Knob**) and then press the **Save** control.

## “Edited Preset” Indication

If the current preset has been edited (by **Auracle for X-Series** or other control software), the mioXL will display a diamond character to the left of the preset name:



This is to remind you to save your work before loading another preset. Once you save the preset, or deliberately load a new one, the diamond will disappear.

# Chapter 6: Using Presets

mio X-Series devices store various elements of your setup internally. The stored parameters are classified as preset memory (“Preset”) parameters or Global parameters.

## Preset Parameters

Presets are the setup memories (4 on mioXM and 32 on mioXL) that may be stored and recalled by the user at any time. The following parameters are saved as a Preset:

- Preset Name
- MIDI Routing
- MIDI Filters
- MIDI Channel Remapping

## Global Parameters

Global parameters are those that apply regardless of what preset is loaded. In other words, elements of your global setup are used across all presets. In addition, when you edit global parameters from **Auracle for X-Series** software, they are stored immediately to the mioX device. The following are global parameters:

- Port Names
- USB Host Port Reservations
- RTP / Network MIDI Setup

## Naming Presets

mioX preset names must comply with the following rules:

1. The minimum name length is 1 character
2. The maximum name length is 15 characters
3. The name allows the use of all printable ASCII characters

# Naming Device Ports and RTP Sessions

Device Port and RTP Session naming is a little more restrictive than preset naming. The following rules apply to Device Ports and RTP Sessions:

1. The minimum name length is 2 characters
2. The maximum length is 15 characters
3. The first character of the name must be a letter (upper or lower case)
4. The name must be made up of allowable characters only:

    upper case letters 'A' to 'Z'

    lower case letters 'a' to 'z'

    numbers '0' to '9'

    ' ' space

    '\_ underscore

    '.' period

    ',' comma

    '-' minus

    '+' plus

    '/' forward slash

    '(' curve bracket left

    ')' curve bracket right

    '<' angle bracket left

    '>' angle bracket right

    '[ square bracket left

    '] square bracket right

    '{ curly bracket left

    '} curly bracket right

# Chapter 7: Specifications

## USB Host Port Power Delivery

	Max Current (per port)	Total Current (per unit)
mioXM	500 mA	2000 mA (2A)
mioXL	500 mA	3000 mA (3A)

## Power Adapter

<b>Output</b>	+12V DC, 3A (36W)
<b>Input</b>	100V - 240V AC, 50/60 Hz
<b>Plug</b>	Center pin positive 2.5 mm inside diameter 5.5 mm outside diameter 12 mm length
<b>Model #</b>	iConnectivity iCP4

## Dimensions and Weights

	mioXM	mioXL
<b>Height</b>	1U: 1.48" (37.5 mm)	1U: 1.75" (44.5 mm)
<b>Width</b>	8.43" (214 mm)	19" (483 mm)
<b>Depth</b>	5.51" (140 mm)	4.72" (120 mm)
<b>Weight</b>	2.18 lbs (989 g)	4.02 lbs (1825 g)

## Other

<b>GND Screw</b>	M3 x 0.5 x 6 mm, pan head, Phillips, black zinc
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# Appendix A: Software Installation

Software should be installed on your computer before using your mioX device. Complete full-featured mioX operation relies on three different software components:

- Software (USB MIDI) device drivers
- RTP/Network MIDI support
- **Auracle for X-Series** configuration software

## Full-Featured Operation

### MacOS Users

MacOS full-featured installs are easy. The first two components are built into MacOS! The third component, **Auracle for X-Series** software, must be downloaded from the iConnectivity web site [Auracle for X-Series](#) page and installed on your computer. Be sure to download the MacOS version specifically.

### Windows Users

For full-featured Windows use, none of the three components are built-in; however, the installation is still easy. Merely download the Windows version of **Auracle for X-Series** software from the iConnectivity web site [Auracle for X-Series](#) page and run the installer. The **Auracle for X-Series** installer will install all three components onto your computer.

## Basic USB MIDI Interface Operation

In order to unleash the full power of your mioX (including but not limited to firmware updates, MIDI routing and filtering, and RTP/Network MIDI), we strongly recommend that you install all three software components listed above. However, some users may want to run their mioX as a simple USB MIDI interface with no advanced functionality.

### MacOS Users

For basic USB MIDI interface operation, MacOS users merely connect the mioX device to their computer's USB port and start playing.

### Windows Users

For basic USB MIDI interface operation, Windows users download and install the latest version of our Unified Windows Driver from the iConnectivity web site [Windows Drivers](#) page.

# Appendix B: Using Bootloader Mode

Bootloader Mode is a special service mode used to perform firmware updates. It may be entered automatically (via iConnectivity software **Auracle for X-Series**, Auracle, and iConfig) or manually (via a specific sequence of manual steps).

The preferred method for updating your device's firmware is to use iConnectivity software. Our software can check if newer firmware is available and if so, download it into your device. The software method is automated and switches your device modes for you.

In rare situations, you may prefer to manually update your firmware using the bootloader. This will require several steps:

1. Download the firmware from the iConnectivity website [Firmware Page](#)
2. Manually set your mioX interface to Bootloader Mode: [\[mioXM\]](#) [\[mioXL\]](#)
3. Transmit the firmware file to the mioX interface and allow the update to complete
4. Manually restart your mioX by first powering off the device: [\[mioXM\]](#) [\[mioXL\]](#) and then powering on again: [\[mioXM\]](#) [\[mioXL\]](#)

## Firmware File Format

iConnectivity firmware is formatted as a Standard MIDI File with a .MID file extension. That means that standard MIDI software such as DAWs, Standard MIDI File Players, and System Exclusive (a.k.a. “SysEx”) applications can be used to transmit the firmware data to your interface.

Examples of software that we have tested and can recommend are:

- [Snoise SysEx Librarian](#)
- [Sweet MIDI Player](#)
- [MIDI-OX](#)



For more details on using standard MIDI software to manually update your firmware, please see [this Knowledge Base article](#).

# Appendix C: More Resources

The iConnectivity website and iConnectivity Knowledge Base contain a wealth of helpful written articles and tutorials, as well as instructional videos.

For your convenience, selected hyperlinks into these systems are listed below:

The iConnectivity Knowledge Base main page is located at: [iConnectivity Support Website](#).

Download our latest Unified Windows Driver from the website [Windows Drivers](#) page.

Download **Auracle for X-Series** software from the website [Auracle for X-Series](#) page.

[Video Guides](#) on configuring your system using **Auracle for X-Series** software.

Download the latest firmware from the website [Firmware](#) page.

MIDI protocols are explained on our Knowledge Base [Intro to MIDI Connections](#) page.

USB-MIDI Host Port usage is described on our Knowledge Base [mio X-Series Host Port](#) page.

The Factory Reset procedure is described at the Knowledge Base [mioX Factory Reset](#) page.