PRIMOVA

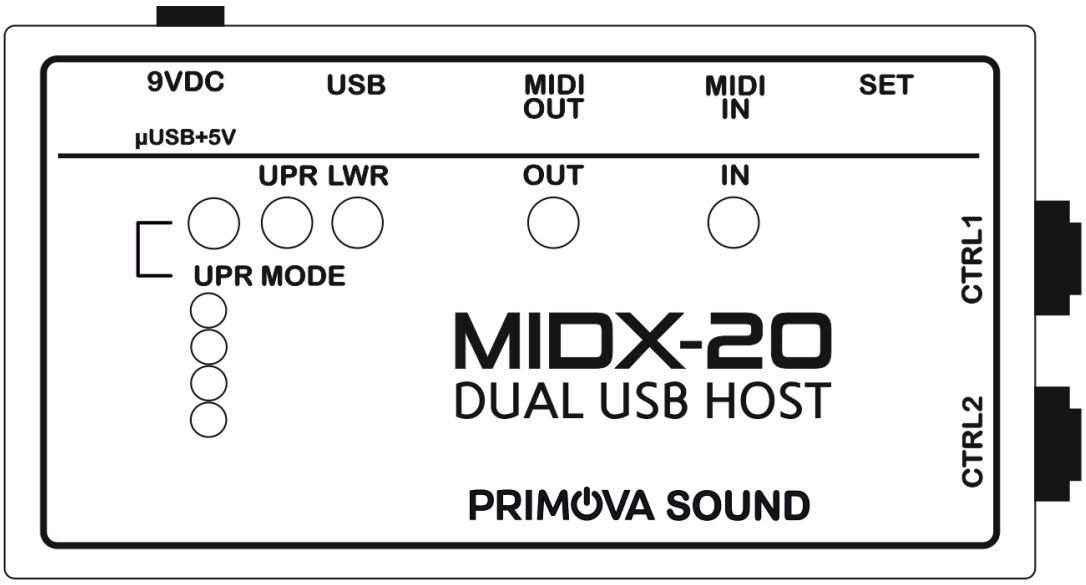
MIDX-20

DUAL USB MIDI Host

V1 and V2 – Firmware

Class Compliant USB MIDI devices
Roland/BOSS devices
BOSS Katana Amplifiers
Fender Mustang™ Amplifiers

USER'S MANUAL



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www.primovasound.com

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MIDX-20 DUAL USB Host

FIRMWARE DIFFERENCES AND VARIANTS

This manual covers both firmware versions 1.x and 2.x
When the MIDX-20 is started it does a 'lamp test' by cycling the LED's on/off.
To easily determine if you have version 2.x installed, you can observe the MIDI IN & MIDI OUT (GREEN) LED's and see if they simultaneously flash two times at the end of the startup sequence.

If there's no double-blink on the two LED's you don't have the V2 firmware and should consider an upgrade using the Assistant PC Software V2.X available at www.primovasound.com.

MIDI BRIDGES EXPLAINED

A "MIDI Bridge" is a software that allow you to communicate with, and modify a specific target device. The Bridge listens for Continuous Control (CC) messages and Program Change (PC) messages. When it receives a CC assigned to a specific task by the bridge CC MAP, the bridge talks to device and executes the request. The MAP is different for each device and is documented in separate documents.

Due to limitations in MIDX-20 memory, not all bridges fit into the program memory.
To change firmware variant (bridge bundle), use the Assistant PC program.

Currently (May 2018) there's six firmware variants:

a) All core features including the **Fender Mustang V2 MIDI Bridge**.
b) All core features including the **Boss GT-1 MIDI Bridge** and **Boss GP-10 Bridge**.
c) All core features including the **Boss MS-3 MIDI Bridge** and **Boss GP-10 Bridge**.
d) All core features including the **Katana MIDI Bridge** and **Boss GP-10 Bridge**.
e) All core features including the **Katana MIDI Bridge** and **Boss GT-1 Bridge**.
f) All core features including the **Katana MIDI Bridge** and **Boss MS-3 Bridge**.

Unless specified with order, the unit is delivered with the Katana and MS-3 variant installed.

There's a separate manual for the **Assistant Windows PC program**. You need this software if you wish to change the current firmware variant or utilize any of the advanced features of the MIDX-20.

Version comparison chart / feature list

Firmware version	**V1.x**	**V2.9 or newer**
MIDI TRAFFIC		
Four different MIDI routing modes	Yes	Yes
MIDI THRU/MERGE	Yes	Yes
MIDI Channel translators	-	Yes
MIDI Data duplication to other channel	-	Yes
MIDI Filters	-	Yes
CC# Translations (channel and/or CC#)	-	Yes
CC# Duplications (channel and/or CC#)	-	Yes
CC# Value operations (Lin-Log,Log-Lin,Reverse,Toggle)	-	Yes
CC# Removal	-	Yes
CC# Toe-Down on/off to any CC# stream (example Wah on/off) - Yes	-	Yes
CC# to PC# conversion MIDI OUT Delay (0ms, 3ms, 5ms, 7ms)	-	Yes
BRIDGES		
Fender Mustang V2 MIDI Bridge	Yes	Yes
Fender Mustang V2 Tap Tempo (Delay only)	-	Yes
Boss Katana MIDI Bridge (with 'Sneaky' amps and effects)	-	Yes
Boss GT-1 MIDI Bridge	-	Yes
Boss MS-3 MIDI Bridge	-	Yes
Boss GP-10 MIDI Bridge	-	Yes
CONTROL JACKS		
Exp. pedal Curve adjustment (6 different types)	-	Yes
Exp. pedal Heel calibration	-	Yes
Foot switch CC# Toggling mode	Yes	Yes
Foot switch CC# Momentary mode	Yes	Yes
Foot switch Fixed PC# mode	Yes	Yes
Foot switch PC# Increment mode	Yes	Yes
Foot switch PC# Decrement mode	Yes	Yes
Foot switch START, STOP, CONTINUE	Yes	Yes
Foot switch Custom MIDI momentary mode	Yes	Yes
Foot switch Custom MIDI toggling mode	-	Yes
Number of Custom MIDI bytes	24	11
Foot switch CC# Value Increment	-	Yes
Foot switch CC# Value Decrement	-	Yes
Foot switch PC# Incr./Decr. Min & Max Range	-	Yes
Foot switch CC# Incr./Decr. Min & Max Range	-	Yes
Foot switch Incr./Decr. auto-repat	Yes	Yes
Foot switch polarity inverter	Yes	Yes

DESCRIPTION

The MIDX-20 unit has **two USB Host ports** (USB A sockets), a **MIDI IN** and a **MIDI OUT** (both 5 pin MIDI) port, plus **two controller jacks** for generating MIDI from external expression pedals or dual foot switches.

There are **various programmable MIDI routing possibilities** between the connectors. A USB MIDI (foot) controller may control a USB device as well as other 5-pin MIDI equipment.

Another routing possibility is when a 5-pin MIDI (foot) controller controls up to two USB devices (see separate chapter for full description of the routing capabilities).

When connecting a guitar synthesizer with Guitar-to-MIDI conversion an external synthesizer can be used for playback.

The unit also has an optional **MIDI THRU/MERGE mode**, sending 5-pin MIDI IN to the 5-pin MIDI OUT at the same time as other data from the USB devices is transmitted.

Any MIDI class compliant USB device may be used with the unit, such as Fishman TriplePlay, KMM SoftStep2, Logidy UMI3 USB MIDI Foot Controller, etc.

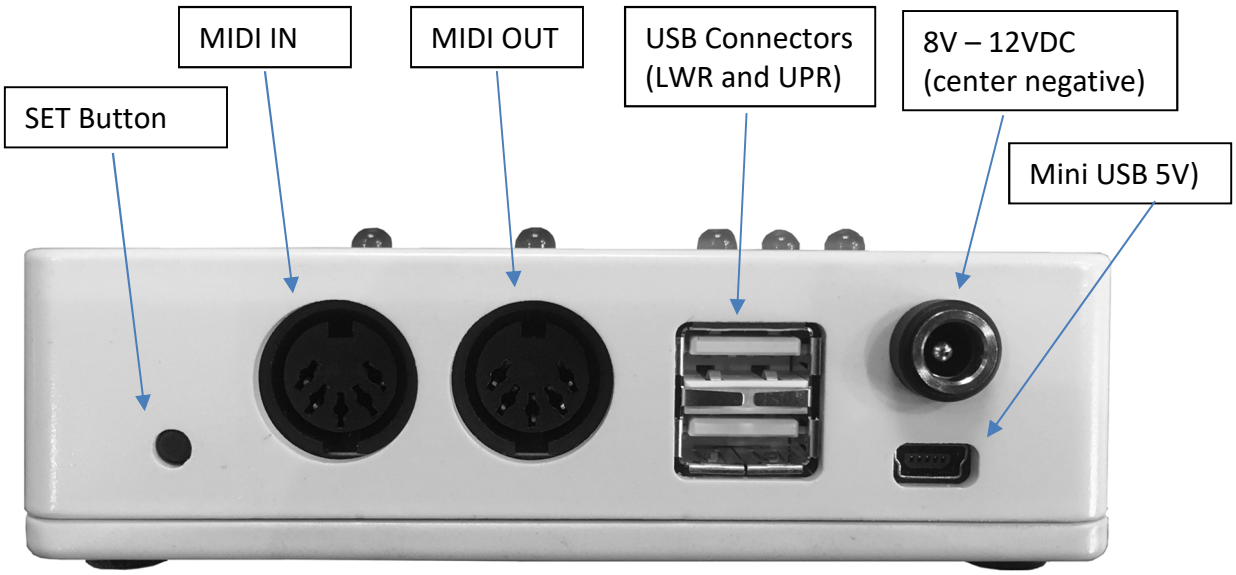
The two USB connectors are fully **Roland/Boss compatible** allowing any Roland/Boss USB device to be connected for control or playback. These devices use a vendor-specific USB MIDI communication protocol. The MIDX is directly compatible using “midi assigns” with the following Roland/BOSS Guitar devices: **GT-10, GT-100, GT-001, VG-99, GR-55, GP-10** and **SY-300.**

The MIDX is also fully compatible with **GT-1**, **MS-3**, **KATANA** and **Fender MustangV2** using so called “MIDI Bridges”. See separate MIDI-chart documentation.

The MIDI USB Host is powered by a regulated 8-12V (center negative) mains adaptor (not supplied) or a 5V Mini USB cable via a phone charger (not supplied).

Important:

- The MIDX-20 does NOT support USB Hubs.
- Powering the unit using a Mini USB cable directly connected to a Personal Computer works, but is not recommended as digital noise may be introduced.
- The unit can deliver a current up to 1.0 Amp assuming the power supply (pedal board adapter or Mini USB adapter) is rated at that level.



CONNECTORS

MIDI IN AND MIDI OUT 5-PIN CONNECTORS

The two 5-pin MIDI connectors allow for connection of 'classic' MIDI devices in the communication stream. The unit provides an optional MERGE/MIDI THRU feature (enabled with the SET button), which will forward any incoming MIDI message from the MIDI IN 5-pin connector directly to the MIDI OUT 5-pin connector. If there's a collision between USB messages from the USB device with messages from MIDI IN, the message that started first gets priority to complete before the other streams are allowed to pass through.

USB CONNECTORS

The MIDX-20 USB Host connectors allow communication with two Roland/BOSS devices, Mustang™ Amplifiers, or any other class compliant MIDI devices. The connector is of 'stacked' type with an upper and a lower USB slot.

The lower connector (LWR) is intended for a device controlled either by the upper (UPR) connector or via 5-pin MIDI, and cannot be reconfigured.

The upper connector (UPR) is configurable and may be programmed for a second device controlled by 5-pin MIDI or may be configured for a USB Foot controller.

POWER CONNECTORS

The MIDX-20 can be powered by:

1. Normal DC pedal board adapter (not included) 250mA – 2.0A (8V - 12V DC, center pin negative). If the wrong polarity is used the unit will not be harmed, but it will not work.
2. Mini USB cable (5V DC) from a phone charger (not included).

When connected to most devices the current draw by USB is negligible however the LEDs and microcontroller circuitry require a few milliamps. The unit can deliver a current up to 1.0 Amp assuming the power supply (pedal board adapter or Mini USB adapter) is rated at that level.

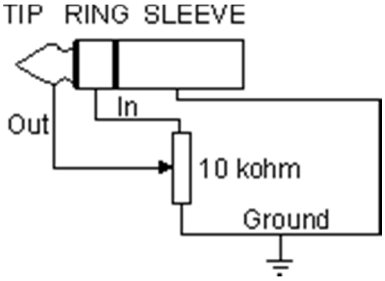
PHYSICAL DIMENSIONS

Dimensions	120 x 65 x 35 mm (max)
Weight	200g

CONTROLLER JACKS 1 & 2

Each of the jacks allows you to connect either a Roland EV-5 expression pedal, a Roland FS-6, or Roland FS-7 compatible dual foot switch. The expression pedals or foot switches will be continuously monitored and converted to MIDI control commands.

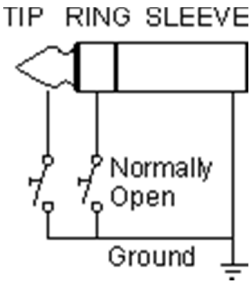
EXPRESSION PEDALS (ANALOG CONTROL)



Expression pedals compatible with MIDX-20 require a 10 kOhm potentiometer. The stereo plug TIP is connected to the center tap of the potentiometer (Output), the SLEEVE is connected to one end of the potentiometer (Ground) and the RING (Input) is connected to the other end of the potentiometer. At heel-down position the lowest resistance should be obtained between Tip (Output) and Sleeve (Ground)

Recommended expression pedals:
Roland EV-5, EV-7, Boss FV-500L

DUAL FOOT SWITCHES (ON/OFF CONTROL OR PROGRAM CHANGE)



Dual footswitches compatible with MIDX-20 require:
- One switch to short the TIP to SLEEVE when pressed.
- The other switch short the RING to SLEEVE when pressed.

The switches must be of MOMENTARY type (or the switch unit must be configured to MOMENTARY mode).

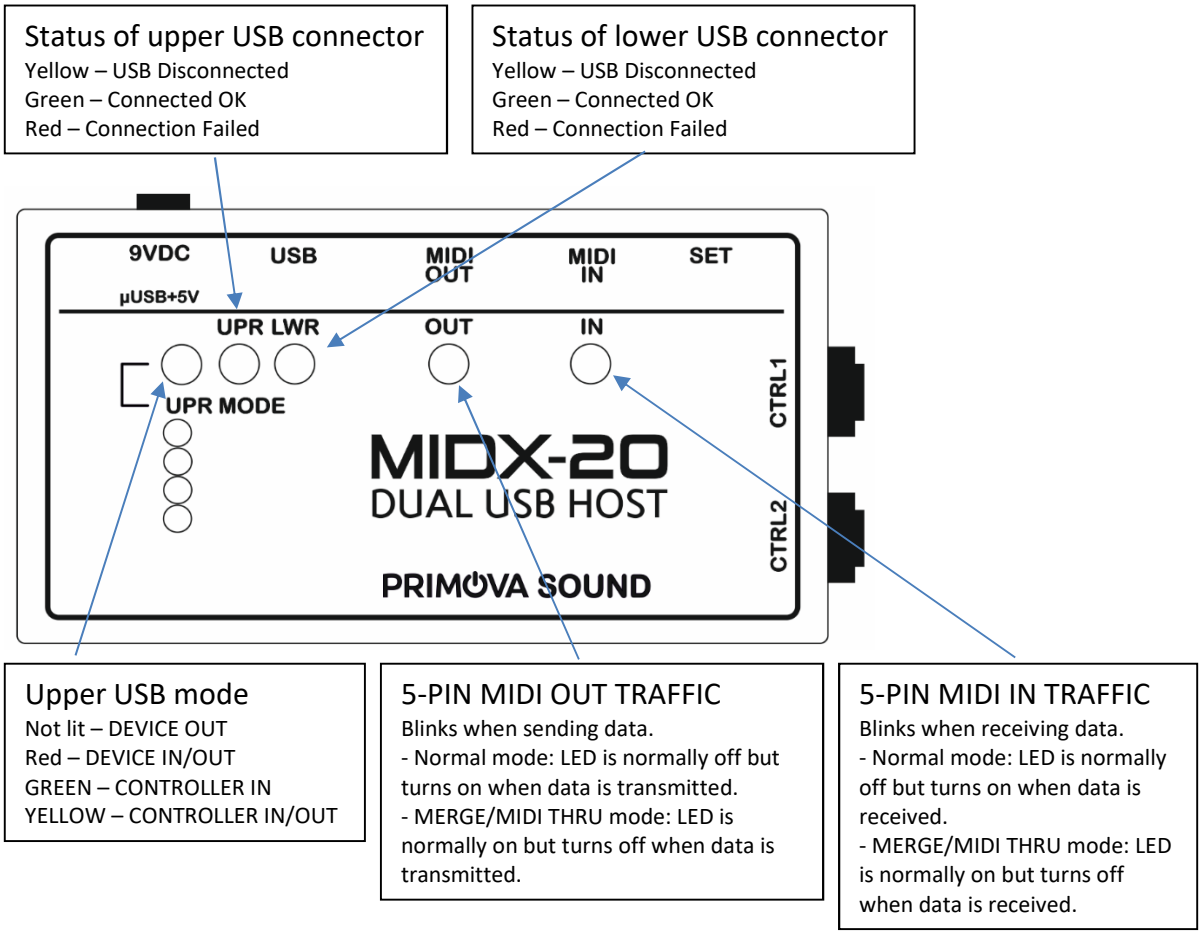
Recommended switches:
Boss FS-6 and Boss FS-7

IMPORTANT NOTE:

For FS-7 use these settings:	Polarity = II (RIGHT),	Mode = FS-5U Momentary.
For FS-6 set both switches:	Polarity = RIGHT,	Mode = FS-5U Momentary.

STATUS LEDS

In normal operation the LED's show the following information.



Mustang™ V2 Bridge, Boss Katana, GT-1 and MS-3 Bridge

MIDX-20 contains special software that allows control of one or two Fender Mustang™ V2 Amplifiers or one or two Katana amplifiers, or Katana + GT-1 or Katan + MS-3 using regular MIDI commands. (CC#)

You may control the devices using an external MIDI controller connected to the MIDX-20 and/or by using expression pedals/foot switches connected to the CTRL1 and CTRL2 jacks.

IMPORTANT NOTE:
If you connect a Mustang™ amp, Katana™ amp or GT-1 to the upper USB connector the MIDX-20 need to be in "DEVICE IN/OUT" mode (the leftmost LED showing RED) for proper operation.
If you connect a Mustang™ or Katana™ to the lower USB connector all of the Upper USB Modes may be used.

SETTING UP THE UNIT WITHOUT PC-ASSISTANT

Use the small pushbutton to configure the basic features of the MIDX-20. If you cannot reach the pushbutton with your finger, use a tooth pick or a small screw driver.

FAST CLICK: Turn MIDI THRU/MERGE mode ON/OFF

 SHORT x 1

If you click the button quickly (< 1 second) the MIDI MERGE mode will toggle on or off. The status is shown on the MIDI IN and MIDI OUT LEDs. If they are off MERGE is OFF, if they show a GREEN light then MERGE is ON.

LONG HOLD: Change MODE of the UPPER USB CONNECTOR

 LONG x 1

If you hold the button in for more than 2 seconds the UPR MODE will change.
The status is shown on the UPR MODE LED:
LED is OFF – Mode for two USB devices, UPR is only sending data.
LED is RED – Mode for two USB devices, UPR is bidirectional.
LED is GREEN – Mode for a USB Controller on UPR, UPR is only receiving data.
LED is YELLOW – Mode for a USB Controller on UPR, UPR is bidirectional.

NOTE: For a full description of modes see chapter 'MIDX-20 MODES / MIDI DATA FLOW'

CLICK 5 TIMES: Run the Setup Wizard

 SHORT x 5

If you quickly press the button 5 times the unit will go into a 'Setup Wizard' mode.

Note: We strongly suggest you use the MIDX-20 Assistant PC software to configure the MIDX-20. Only basic settings are accessible using the "one-button" interface described here. Please visit www.primovasound.com to download this easy-to-use software.

While in Setup Wizard mode the following button press patterns can be used at any time:

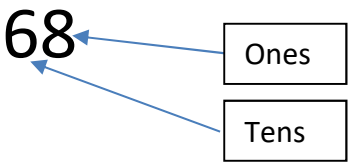
 *x 1* *'EDIT' - Increment value at the current Wizard step. After reaching maximum value it will resume at the minimum value.*

 *x 2* *'NEXT SETTING' - Move forward to the next setting of the Wizard.*

 *x 3* *'PREVIOUS SETTING' - Move back to the previous setting of the Wizard.*

 *x 5* *'SAVE' - Immediately store settings and exit the Wizard. All settings following the current step will be as they were before you started the Wizard.*

"Ones" and "Tens" – Numbers 00-99 are setup in two steps. First you set the "Tens" part and then the "Ones" part. Example: For the number 68, Tens='6' and Ones='8'.



Description of foot switch modes:

Send CC# Latched	The first time the foot switch is pressed, the value 127 will be sent to the control. The next time 0 will be sent, and so on in a toggling/latched fashion. The next Wizard step will setup the Control number used.
Send CC# Momentary	When foot switch is held down, 127 will be sent to the control, and when released 0 will be sent. The next Wizard step will setup the Control number used.
Send fixed PC#	When the foot switch is pressed a fixed Program Change (PC) number will be sent. The next step will set up what fixed number to use.
Decrement PC#	When the foot switch is pressed the current Program Change number will be decremented and sent. The next step will set up the STARTING (power-on) program number.
Increment PC#	When the foot switch is pressed the current Program number will be incremented and sent. The next step will setup the STARTING (power-on) program number. *Note: if one FS is used for decrement and the other FS is used for increment, the decrement STARTING number is used for both switches.*
Send START	This will send out a START command. The next two Wizard steps have no meaning.
Send CONTINUE	This will send out a CONTINUE command. The next two Wizard steps have no meaning.
Send STOP	This will send out a CONTINUE command. The next two Wizard steps have no meaning.

STEP 1 - Set CTRL1 MIDI Channel

UPR MODE	UPR	LWR	MIDI OUT	MIDI IN	Meaning
RED FLASH	-	-	-	-	Channel 1
RED FLASH	-	-	-	GREEN	Channel 2
RED FLASH	-	-	GREEN		Channel 3
RED FLASH	-	-	GREEN	GREEN	Channel 4
RED FLASH	-	GREEN	-		Channel 5
RED FLASH	-	GREEN	-	GREEN	Channel 6
RED FLASH	-	GREEN	GREEN	-	Channel 7
RED FLASH	-	GREEN	GREEN	GREEN	Channel 8
RED FLASH	GREEN	-	-	-	Channel 9
RED FLASH	GREEN	-	-	GREEN	Channel 10
RED FLASH	GREEN	-	GREEN	-	Channel 11
RED FLASH	GREEN	-	GREEN	GREEN	Channel 12
RED FLASH	GREEN	GREEN	-	-	Channel 13
RED FLASH	GREEN	GREEN	-	GREEN	Channel 14
RED FLASH	GREEN	GREEN	GREEN		Channel 15
RED FLASH	GREEN	GREEN	GREEN	GREEN	Channel 16

 x 1 The Channel number will increment by 1, After Channel 16 it will resume at Channel 1.

 x 2 When the preferred channel is selected, double-click the button to advance to the next step of the Wizard.

STEP 2 - Set CTRL2 MIDI Channel

UPR MODE	UPR	LWR	MIDI OUT	MIDI IN	Meaning
YELLOW FLASH	-	-	-	-	Channel 1
YELLOW FLASH	-	-	-	GREEN	Channel 2
YELLOW FLASH	-	-	GREEN		Channel 3
YELLOW FLASH	-	-	GREEN	GREEN	Channel 4
YELLOW FLASH	-	GREEN	-		Channel 5
YELLOW FLASH	-	GREEN	-	GREEN	Channel 6
YELLOW FLASH	-	GREEN	GREEN	-	Channel 7
YELLOW FLASH	-	GREEN	GREEN	GREEN	Channel 8
YELLOW FLASH	GREEN	-	-	-	Channel 9
YELLOW FLASH	GREEN	-	-	GREEN	Channel 10
YELLOW FLASH	GREEN	-	GREEN	-	Channel 11
YELLOW FLASH	GREEN	-	GREEN	GREEN	Channel 12
YELLOW FLASH	GREEN	GREEN	-	-	Channel 13
YELLOW FLASH	GREEN	GREEN	-	GREEN	Channel 14
YELLOW FLASH	GREEN	GREEN	GREEN		Channel 15
YELLOW FLASH	GREEN	GREEN	GREEN	GREEN	Channel 16

 x 1 The Channel number will increment by 1. After Channel 16 it will resume at Channel 1.

 x 2 When the preferred channel is selected, double-click the button to advance to the next step of the Wizard.

STEP 3 - Set MIDI Bridge (Katana/Mustang) MIDI Channel

UPR MODE	UPR	LWR	MIDI OUT	MIDI IN	Meaning
GREEN FLASH	-	-	-	-	Channel 1
GREEN FLASH	-	-	-	GREEN	Channel 2
GREEN FLASH	-	-	GREEN		Channel 3
GREEN FLASH	-	-	GREEN	GREEN	Channel 4
GREEN FLASH	-	GREEN	-		Channel 5
GREEN FLASH	-	GREEN	-	GREEN	Channel 6
GREEN FLASH	-	GREEN	GREEN	-	Channel 7
GREEN FLASH	-	GREEN	GREEN	GREEN	Channel 8
GREEN FLASH	GREEN	-	-	-	Channel 9
GREEN FLASH	GREEN	-	-	GREEN	Channel 10
GREEN FLASH	GREEN	-	GREEN	-	Channel 11
GREEN FLASH	GREEN	-	GREEN	GREEN	Channel 12
GREEN FLASH	GREEN	GREEN	-	-	Channel 13
GREEN FLASH	GREEN	GREEN	-	GREEN	Channel 14
GREEN FLASH	GREEN	GREEN	GREEN		Channel 15
GREEN FLASH	GREEN	GREEN	GREEN	GREEN	Channel 16

 x 1 The Channel number will increment by 1. After Channel 16 it will restart at Channel 1.

 x 2 When the preferred channel is selected, double-click the button to advance to the next step of the Wizard.

The following steps (4-11) show how to configure the CTRL1 jack for expression pedals or dual footswitches. Steps 12-19 for configuring CTRL2 properties are identical. To save pages in this document the CTRL2 steps are not included.

STEP 4 - Set CTRL1 EXPR. PEDAL Control Number (CC#) 1st Digit (Tens)

UPR MODE	UPR	LWR	MIDI OUT	MIDI IN	Digit
YELLOW	-	-	-	-	0
YELLOW	-	-	-	GREEN	1
YELLOW	-	-	GREEN	-	2
YELLOW	-	-	GREEN	GREEN	3
YELLOW	-	GREEN	-	-	4
YELLOW	-	GREEN	-	GREEN	5
YELLOW	-	GREEN	GREEN	-	6
YELLOW	-	GREEN	GREEN	GREEN	7
YELLOW	GREEN	-	-	-	8
YELLOW	GREEN	-	-	GREEN	9

 x 1 Increment the "Tens" digit of the CC#.

 x 2 Advance to the next step of the Wizard.

STEP 5 - Set CTRL1 EXPR. PEDAL Control Number (CC#) 2nd Digit (Ones)

UPR MODE	UPR	LWR	MIDI OUT	MIDI IN	Digit
YELLOW FLASH	-	-	-	-	0
YELLOW FLASH	-	-	-	GREEN	1
YELLOW FLASH	-	-	GREEN	-	2
YELLOW FLASH	-	-	GREEN	GREEN	3
YELLOW FLASH	-	GREEN	-	-	4
YELLOW FLASH	-	GREEN	-	GREEN	5
YELLOW FLASH	-	GREEN	GREEN	-	6
YELLOW FLASH	-	GREEN	GREEN	GREEN	7
YELLOW FLASH	GREEN	-	-	-	8
YELLOW FLASH	GREEN	-	-	GREEN	9

 x 1 Increment the "Ones" digit of the CC#.

 x 2 Advance to the next step of the Wizard.

Note:

If CC# is 00 then the Expression Pedal is turned OFF

STEP 6 - Set Mode of CTRL1 “TIP” Foot switch

UPR MODE	UPR	LWR	MIDI OUT	MIDI IN	Digit
RED FLASH	RED FLASH	-	-	-	Send CC# Latched
RED FLASH	RED FLASH	-	-	GREEN	Send CC# Momentary
RED FLASH	RED FLASH	-	GREEN	-	Send fixed PC#
RED FLASH	RED FLASH	-	GREEN	GREEN	Decrement PC#
RED FLASH	RED FLASH	GREEN	-	-	Increment PC#
RED FLASH	RED FLASH	GREEN	-	GREEN	Send START
RED FLASH	RED FLASH	GREEN	GREEN	-	Send CONTINUE
RED FLASH	RED FLASH	GREEN	GREEN	GREEN	Send STOP

 x 1 The Mode will increment. After the last mode it will resume at the first.

 x 2 Advance to the next step of the Wizard.

STEP 7 - Set CTRL1 “TIP” Foot switch 1st Digit (Tens)

This number (Tens) combined with the next step (Ones) is used by the Mode you have selected. If the mode is CC# (latched or momentary) it’s the CC# to use. If it is PC# fixed then it’s the PC# to use. If it’s PC# decrement/increment, it’s the starting PC# when the unit is started up. For START, CONTINUE and STOP this value has no meaning.

UPR MODE	UPR	LWR	MIDI OUT	MIDI IN	Digit
RED	-	-	-	-	0
RED	-	-	-	GREEN	1
RED	-	-	GREEN	-	2
RED	-	-	GREEN	GREEN	3
RED	-	GREEN	-	-	4
RED	-	GREEN	-	GREEN	5
RED	-	GREEN	GREEN	-	6
RED	-	GREEN	GREEN	GREEN	7
RED	GREEN	-	-	-	8
RED	GREEN	-	-	GREEN	9

 x 1 Increment the “Tens” digit.

 x 2 Advance to the next step of the Wizard.

STEP 8 - Set CTRL1 “TIP” Foot switch 2nd Digit (Ones

UPR MODE	UPR	LWR	MIDI OUT	MIDI IN	Digit
RED FLASH	-	-	-	-	0
RED FLASH	-	-	-	GREEN	1
RED FLASH	-	-	GREEN	-	2
RED FLASH	-	-	GREEN	GREEN	3
RED FLASH	-	GREEN	-	-	4
RED FLASH	-	GREEN	-	GREEN	5
RED FLASH	-	GREEN	GREEN	-	6
RED FLASH	-	GREEN	GREEN	GREEN	7
RED FLASH	GREEN	-	-	-	8
RED FLASH	GREEN	-	-	GREEN	9

 x 1 Increment the “Ones” digit.

 x 2 Advance to the next step of the Wizard.

Notes:

BOSS FS-7: If the stereo plug is connected to jack B, then FS-B is “TIP” and FS-A is “RING”. If the stereo plug is connected to jack A, the FS-A is “TIP” and ‘B’ is not available. **BOSS FS-6**: If the stereo plug is connected to jack A&B, then FS-B is “TIP” and FS-A is “RING”. If CC# mode and CC#=0 then the foot switch is off.

STEP 9 - Set Mode of CTRL1 “RING” Foot switch

UPR MODE	UPR	LWR	MIDI OUT	MIDI IN	Digit
GREEN FLASH	GREEN FLASH	-	-	-	Send CC# Latched
GREEN FLASH	GREEN FLASH	-	-	GREEN	Send CC# Momentary
GREEN FLASH	GREEN FLASH	-	GREEN	-	Send fixed PC#
GREEN FLASH	GREEN FLASH	-	GREEN	GREEN	Decrement PC#
GREEN FLASH	GREEN FLASH	GREEN	-	-	Increment PC#
GREEN FLASH	GREEN FLASH	GREEN	-	GREEN	Send START
GREEN FLASH	GREEN FLASH	GREEN	GREEN	-	Send CONTINUE
GREEN FLASH	GREEN FLASH	GREEN	GREEN	GREEN	Send STOP

 x 1 The Mode will increment. After the last mode it will resume at the first.

 x 2 Advance to the next step of the Wizard.

STEP 10 - Set CTRL1 “RING” Foot switch 1st Digit (Tens)

This number (Tens) combined with the next step (Ones) is used by the Mode you have selected. If the mode is CC# (latched or momentary) it’s the CC# to use. If it is PC# fixed then it’s the PC# to use. If it’s PC# decrement/increment, it’s the starting PC# when the unit is started up. For START, CONTINUE and STOP this value has no meaning.

UPR MODE	UPR	LWR	MIDI OUT	MIDI IN	Digit
GREEN	-	-	-	-	0
GREEN	-	-	-	GREEN	1
GREEN	-	-	GREEN	-	2
GREEN	-	-	GREEN	GREEN	3
GREEN	-	GREEN	-	-	4
GREEN	-	GREEN	-	GREEN	5
GREEN	-	GREEN	GREEN	-	6
GREEN	-	GREEN	GREEN	GREEN	7
GREEN	GREEN	-	-	-	8
GREEN	GREEN	-	-	GREEN	9

 x 1 Increment the “Tens” digit.

 x 2 Advance to the next step of the Wizard.

STEP 11 - Set CTRL1 “RING” Foot switch 2nd Digit (Ones)

UPR MODE	UPR	LWR	MIDI OUT	MIDI IN	Digit
GREEN FLASH	-	-	-	-	0
GREEN FLASH	-	-	-	GREEN	1
GREEN FLASH	-	-	GREEN	-	2
GREEN FLASH	-	-	GREEN	GREEN	3
GREEN FLASH	-	GREEN	-	-	4
GREEN FLASH	-	GREEN	-	GREEN	5
GREEN FLASH	-	GREEN	GREEN	-	6
GREEN FLASH	-	GREEN	GREEN	GREEN	7
GREEN FLASH	GREEN	-	-	-	8
GREEN FLASH	GREEN	-	-	GREEN	9

 x 1 Increment the “Ones” digit.

 x 2 Advance to the next step of the Wizard.

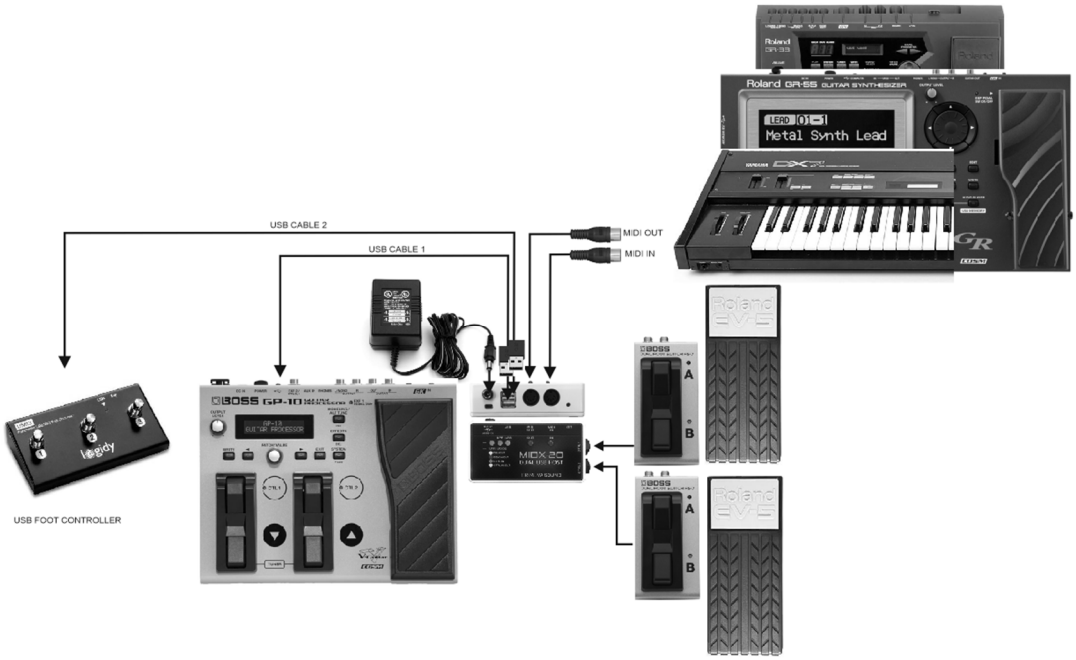
NOTE: AT THIS POINT THE WIZARD WILL CONTINUE WITH STEPS 12-19 TO CONFIGURE CTRL2 JACK PROPERTIES. THESE STEPS ARE IDENTICAL TO STEPS 4-11.

MIDX-20 CONNECTION EXAMPLES

USB 'UPR' IS SET AS CTRL IN (or IN/OUT)

In this mode a USB foot controller plus external foot controllers and expression pedals may control for instance a GP-10 and GR-55.

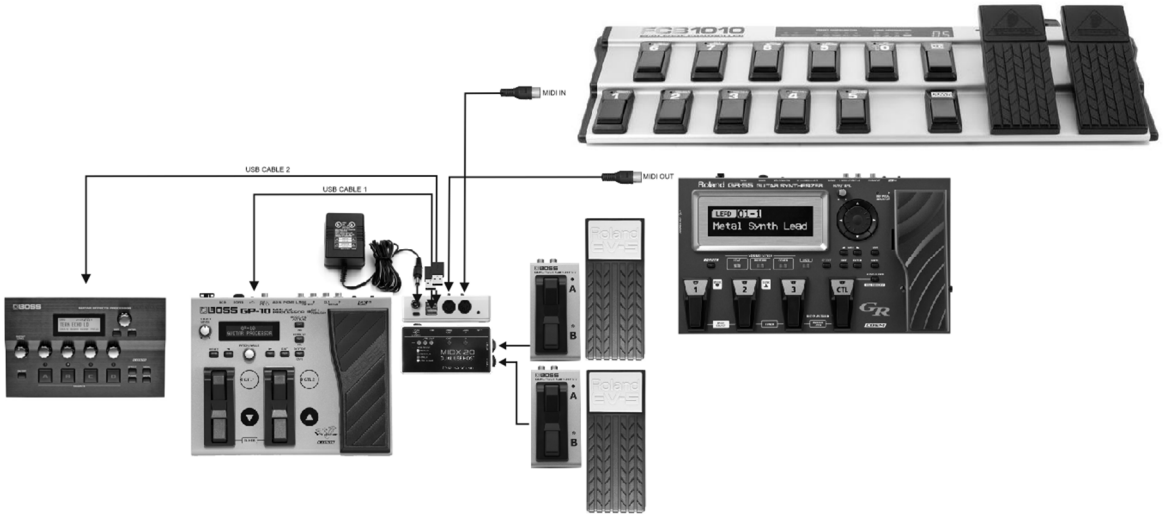
Guitar-to-MIDI from the GP-10 can be played back to a 5-Pin MIDI Synth.



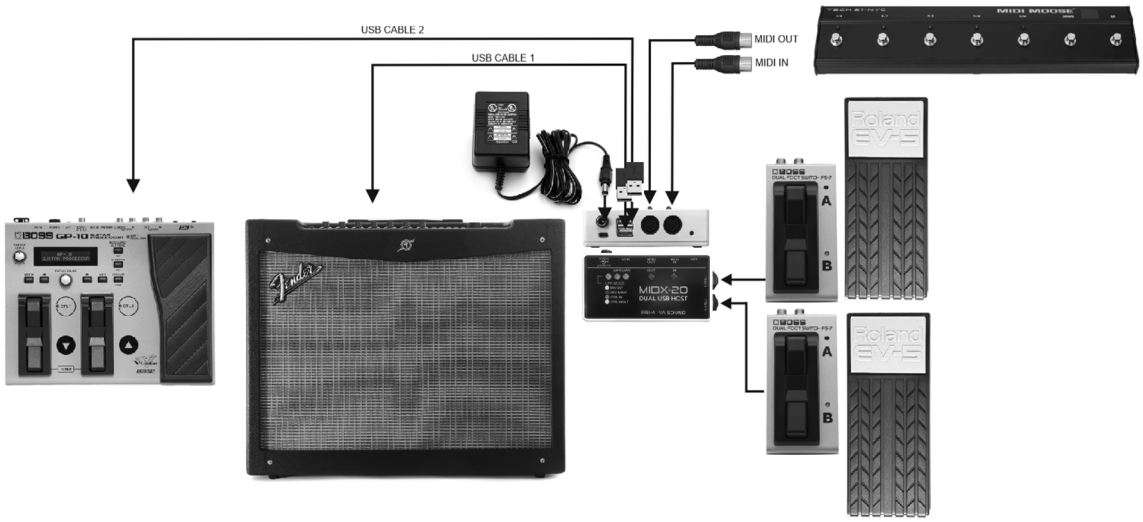
USB 'UPR' IS SET AS DEV OUT (or IN/OUT)

In this mode the 5-PIN MIDI foot controller and the FS-7, EV-5s control three devices, GT-001, GP-10 and GR-55.

Guitar-to-MIDI from the GP-10 can be played back to any 5-Pin MIDI Synth.



Another two-device example, controlling both a Mustang™ and a GP-10:



REAL-TIME MESSAGES

MIDI Clock - When power is first applied, no input is defined as a master and all clock messages from both inputs will be passed until one input is defined as a master. The input to receive the most recent START command will become the clock master. That input continues to be the clock master until another input satisfies the above condition.

Active Sensing - The first input to receive an active sensing message will become the active sensing master. Active sensing messages from that input will be passed to the output and any active sensing messages received at other inputs will be ignored. The input will remain the active sensing master until no additional active sensing messages are received at that input for a period of a few seconds. Then the other input has the opportunity to become the active sensing master.

MIDX-20 MODES / MIDI DATA FLOW

As there are three bidirectional MIDI connections (2xUSB + Standard MIDI) and two controller jacks, the flow of data between the connectors can be configured in many different ways. To cover most cases, four modes have been elected for the MIDX-20, selected using the SET button. A LONG HOLD of the button will cycle through the four modes and the current mode will show on the UPR MODE LED.

LED is OFF – Mode for two USB devices, UPR is only sending data.
LED is RED – Mode for two USB devices, UPR is bidirectional.
LED is GREEN – Mode for a USB Controller on UPR, UPR is only receiving data.
LED is YELLOW – Mode for a USB Controller on UPR, UPR is bidirectional.

Each of the four modes may also have MIDI THRU/MERGE ON or OFF rendering the total number of possible configurations to eight. The following flow charts describes in detail how the unit operates in these eight modes.

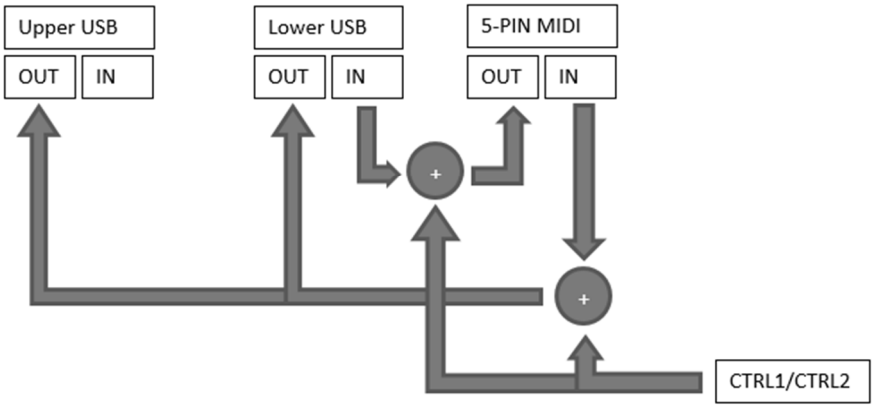
This symbol  is used to indicate a merge of two or more MIDI data streams.
If there's a collision between USB messages, the message started first gets priority to complete before the other stream is allowed to pass through.

Note:
The MIDI MERGE mode allows for forwarding MIDI data and daisy-chaining several devices (or MIDX-20 units) via the 5-Pin MIDI connections.

UPR IS 'DEV OUT' and MIDI THRU/MERGE is 'OFF'

Use this mode if any or all of these statements are true:

1. I have a 5-PIN MIDI controller and want to control one or two USB (synth) devices.
2. I want to control 1-3 devices using the CTRL1/CTRL2 jacks.
3. I want to use Guitar to MIDI conversion for playback on a 'classic' MIDI synth, and use Lower USB for MIDI conversion and connect the 'classic' synth to MIDI OUT.

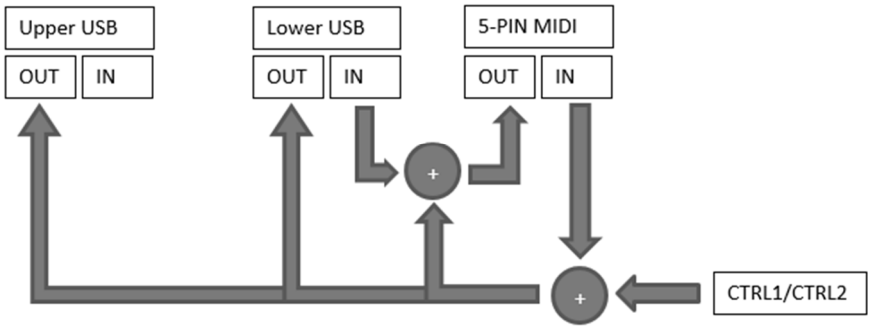


* Data received on MIDI IN will be transmitted to USB OUTPUTS (LWR and UPR).
* Data received on USB LWR IN will be transmitted to MIDI OUT.
* Data received on USB UPR IN will not be used.
* The CTRL1/CTRL2 jacks will transmit MIDI to ALL OUTPUTS (MIDI OUT, USB LWR OUT and USB UPR OUT).

UPR IS 'DEV OUT' and MIDI THRU/MERGE is 'ON'

Use this mode if any or all of these statements are true:

1. I have a 5-PIN MIDI controller and want to control one or two USB (synth) and one 5-PIN MIDI device.
2. I want to forward the MIDI IN to MIDI OUT.
3. I want to control 1-3 devices using the CTRL1/CTRL2 jacks.
4. I want to use Guitar to MIDI conversion for playback on a 'classic' MIDI synth, and use Lower USB for MIDI conversion and connect the 'classic' synth to MIDI OUT.

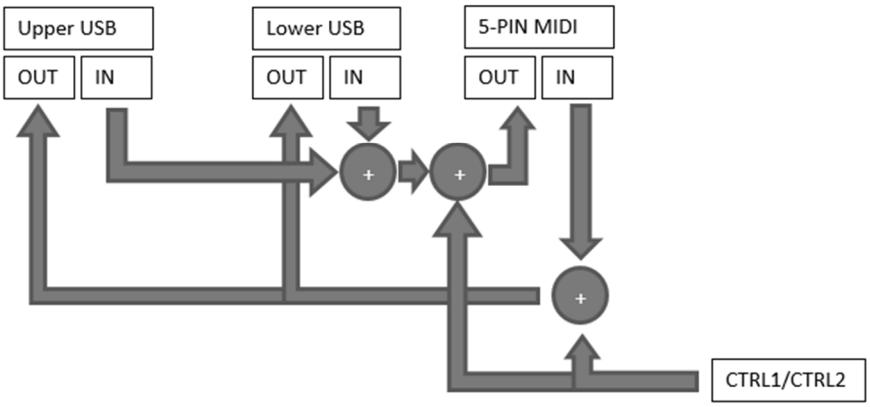


* Data received on MIDI IN will be transmitted to ALL OUTPUTS (MIDI OUT, USB LWR OUT and USB UPR OUT).
* Data received on USB LWR IN will be transmitted to MIDI OUT.
* Data received on USB UPR IN will not be used.
* The CTRL1/CTRL2 jacks will transmit MIDI to ALL OUTPUTS (MIDI OUT, USB LWR OUT and USB UPR OUT).

UPR IS 'DEV IN/OUT' and MIDI THRU/MERGE is 'OFF'

Use this mode if any or all of these statements are true:

1. I have a 5-PIN MIDI controller and want to control one or two USB (synth) devices.
2. I want to control 1-3 devices using the CTRL1/CTRL2 jacks.
3. I want to use Guitar to MIDI conversion for playback on a 'classic' MIDI synth, and use Lower USB for MIDI conversion and connect the 'classic' synth to MIDI OUT.
4. I want the MIDI output of both USB devices to be transmitted to 5-PIN MIDI OUT.

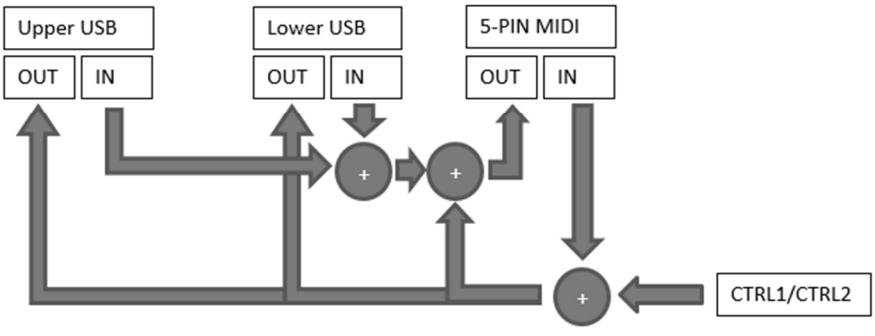


* Data received on MIDI IN will be transmitted to USB OUTPUTS (LWR and UPR).
* Data received on USB LWR IN will be transmitted to MIDI OUT.
* Data received on USB UPR IN will be transmitted to MIDI OUT.
* The CTRL1/CTRL2 jacks will transmit MIDI to ALL OUTPUTS (MIDI OUT, USB LWR OUT and USB UPR OUT).

UPR IS 'DEV IN/OUT' and MIDI THRU/MERGE is 'ON'

Use this mode if any or all of these statements are true:

1. I have a 5-PIN MIDI controller and want to control one or two USB (synth) and one 5-PIN MIDI device.
2. I want to forward the MIDI IN to MIDI OUT.
3. I want to control 1-3 devices using the CTRL1/CTRL2 jacks.
4. I want to use Guitar to MIDI conversion for playback on a 'classic' MIDI synth, and use Lower USB for MIDI conversion and connect the 'classic' synth to MIDI OUT.
5. I want the MIDI output of both USB devices to be transmitted to 5-PIN MIDI OUT.

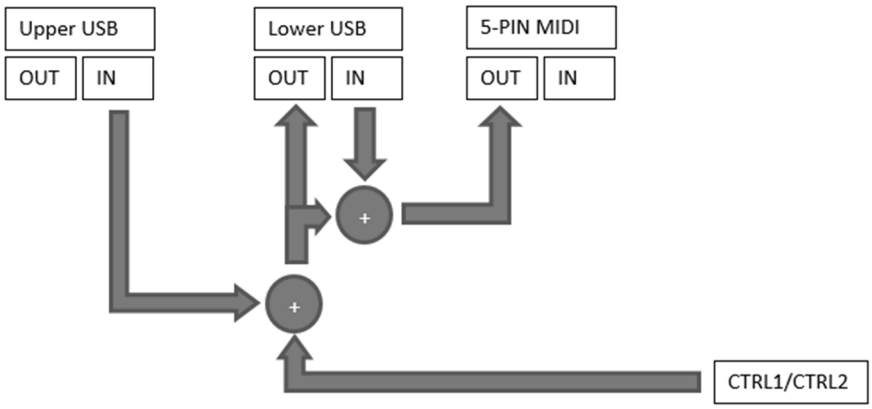


* Data received on MIDI IN will be transmitted to ALL OUTPUTS (MIDI OUT, USB LWR OUT and USB UPR OUT).
* Data received on USB LWR IN will be transmitted to MIDI OUT.
* Data received on USB UPR IN will not be used.
* The CTRL1/CTRL2 jacks will transmit MIDI to ALL OUTPUTS (MIDI OUT, USB LWR OUT and USB UPR OUT).

UPR IS 'CTRL IN' and MIDI THRU/MERGE is 'OFF'

Use this mode if any or all of these statements are true:

1. I have a USB MIDI controller and want to control a USB device.
2. I have a USB MIDI controller and want to control a 5-PIN MIDI device.
3. I want to control the devices using the CTRL1/CTRL2 jacks.
4. I want to use Guitar to MIDI conversion for playback on a 'classic' MIDI synth, and use Lower USB for MIDI conversion and connect the 'classic' synth to MIDI OUT.

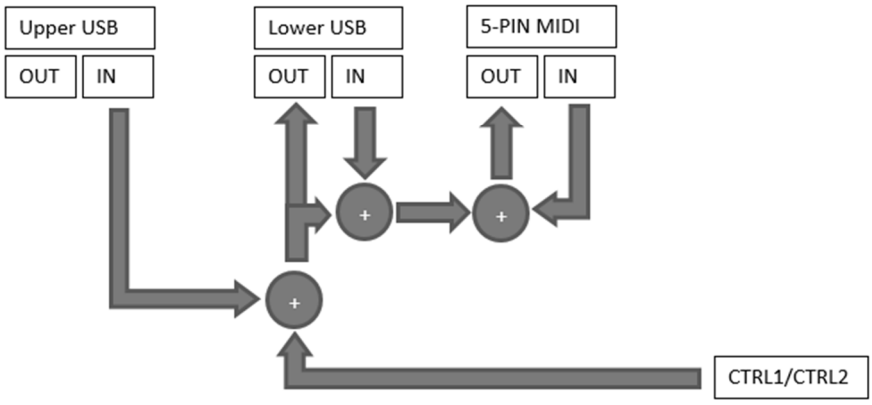


* Data received on MIDI IN will not be used.
* Data received on USB LWR IN will be transmitted to USB LWR OUT and MIDI OUT.
* The CTRL1/CTRL2 jacks will transmit MIDI to MIDI OUT and USB LWR OUT.

UPR IS 'CTRL IN' and MIDI THRU/MERGE is 'ON'

Use this mode if any or all of these statements are true:

1. I have a USB MIDI controller and want to control a USB device.
2. I have a USB MIDI controller and want to control a 5-PIN MIDI device.
3. I want to control the devices using the CTRL1/CTRL2 jacks.
4. I want to use Guitar to MIDI conversion for playback on a 'classic' MIDI synth, and use Lower USB for MIDI conversion and connect the 'classic' synth to MIDI OUT.
5. I want the forward 5-PIN MIDI IN to 5-PIN MIDI OUT.

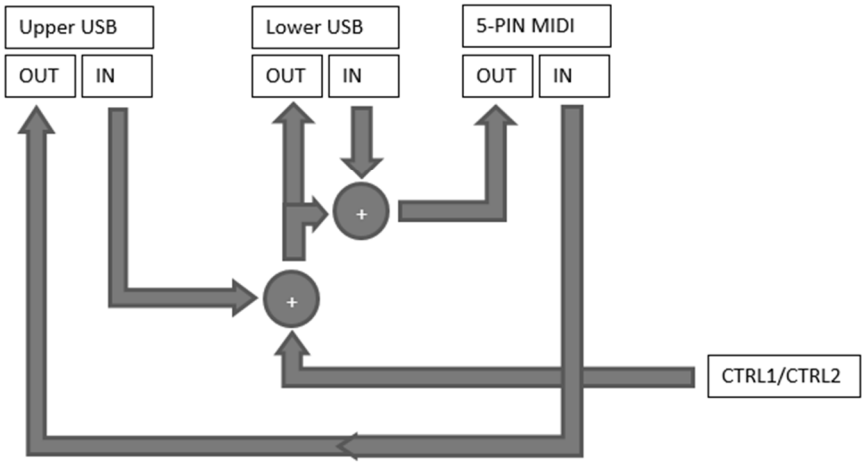


* Data received on MIDI IN will be transmitted on MIDI OUT.
* Data received on USB LWR IN will be transmitted to USB LWR OUT and MIDI OUT.
* The CTRL1/CTRL2 jacks will transmit MIDI to MIDI OUT and USB LWR OUT.

UPR IS 'CTRL IN/OUT' and MIDI THRU/MERGE is 'OFF'

Use this mode if any or all of these statements are true:

1. I have a USB MIDI controller and want to control a USB device.
2. I have a USB MIDI controller and want to control a 5-PIN MIDI device.
3. I want to control the devices using the CTRL1/CTRL2 jacks.
4. I want to use Guitar to MIDI conversion for playback on a 'classic' MIDI synth, and use Lower USB for MIDI conversion and connect the 'classic' synth to MIDI OUT.
5. I want incoming MIDI IN to be transmitted to USB UPR OUT.

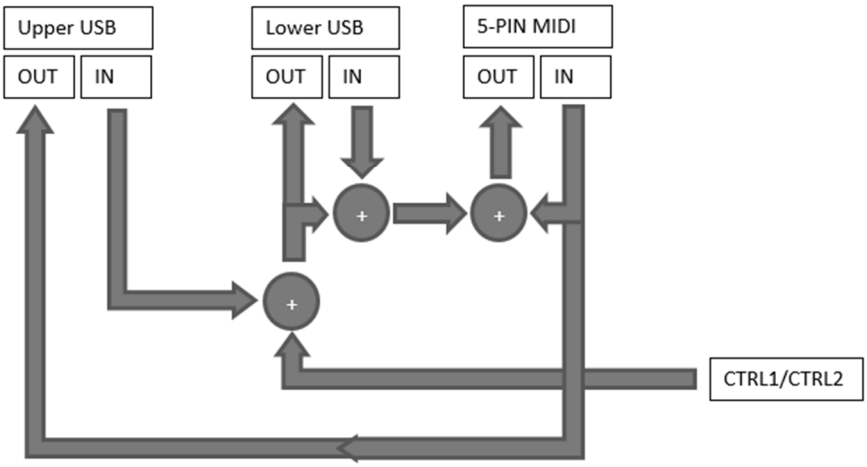


* Data received on MIDI IN will be sent to USB UPR OUT
* Data received on USB LWR IN will be transmitted to USB LWR OUT and MIDI OUT.
* The CTRL1/CTRL2 jacks will transmit MIDI to MIDI OUT and USB LWR OUT.

UPR IS 'CTRL IN/OUT' and MIDI THRU/MERGE is 'ON'

Use this mode if any or all of these statements are true:

1. I have a USB MIDI controller and want to control a USB device.
2. I have a USB MIDI controller and want to control a 5-PIN MIDI device.
3. I want to control the devices using the CTRL1/CTRL2 jacks.
4. I want to use Guitar to MIDI conversion for playback on a 'classic' MIDI synth, and use Lower USB for MIDI conversion and connect the 'classic' synth to MIDI OUT.
5. I want incoming MIDI IN to be transmitted to USB UPR OUT.
6. I want the forward 5-PIN MIDI IN to 5-PIN MIDI OUT.



* Data received on MIDI IN will be sent to USB UPR OUT.
* Data received on MIDI IN will also be forwarded to USB OUT.
* Data received on USB LWR IN will be transmitted to USB LWR OUT and MIDI OUT.
* The CTRL1/CTRL2 jacks will transmit MIDI to MIDI OUT and USB LWR OUT.

CONFIGURE THE MIDX-20 USING PC SOFTWARE

The MIDX-20 Assistant application allows you to fully configure the MIDX-20 and utilize all MIDX-20 features using a PC connected to the MIDX-20 via a standard USB to MIDI converter ‘cable’ such as Roland UM-ONE.

Note: There’s a separate user’s manual for the Assistant software.

For newer version of this manual or to download of the MIDX-20 Assistant V2.x program or manual, please visit www.primovasound.com

FIRMWARE UPGRADES

Starting from MIDX-20 Assistant V2 the firmware is included in the Assistant PC software. There’s no longer a need for separate firmware files, just make sure you have the latest Assistant software installed.

WARRANTY

PRIMOVA WARRANTS THE MIDX-20 PRODUCT FOR ONE YEAR. TWO YEARS IF INSIDE EU.

LIMITATION OF LIABILITY AND WARRANTY

NO WARRANTIES OF DAMAGES TO CONNECTED EQUIPMENT OR CABLES.
NO WARRANTIES IF UNSUITABLE VOLTAGE HAS BEEN APPLIED TO CONNECTORS.
PRIMOVA AB ONLY WARRANTS THE MIDX-20 UNIT ITSELF.
CONNECTING THE MIDX-20 UNIT OR THE MIDX-20 BOARD, TO COMPONENTS SUCH AS SYNTHESIZERS OR COMPUTERS IS AT OWN RISK.
IN NO EVENT WILL PRIMOVA BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR THE INABILITY TO USE THE MIDX-20 UNIT EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN PARTICULAR, PRIMOVA IS NOT RESPONSIBLE FOR ANY COSTS INCLUDING BUT NOT LIMITED TO THOSE INCURRED AS A RESULT OF LOST PROFITS OR REVENUE, LOSS OF USE OF THE MIDX-20 PRODUCT, LOSS OF DATA, THE COST OF SUBSTITUTING THE MIDX-20 UNIT, OR ANY CLAIMS BY THIRD PARTIES.

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