MIDX-10

Roland/Boss compatible USB MIDI Host

USER'S MANUAL

Rev. 2015-10-29

Table of Contents

MIDX-10 USB Host

INTRODUCTION

The MIDX-10 was developed with Boss GP-10 and GT-001 in mind as these units lack 5-pin MIDI connectors. The Roland/Boss pedals use a vendor specific USB MIDI communication protocol which is not USB MIDI Class compliant, which means that any mainstream USB to 5-pin MIDI adapter can't communicate with Roland/Boss devices.

The MIDX-10 contains a microprocessor dedicated to operate as an USB Host and has firmware adjusted for Roland/Boss devices, but yet supporting non-Roland/Boss class compliant MIDI devices.

The unit also provides an optional feature (enabled with a switch) called "Merge", 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 colliding with messages from MIDI IN, the message started first get priority to complete before the other stream is allowed to pass through.

In the "Merge" mode system time message have highest priority and is forwarded as soon as possible.

The port polling rate is only about 15-30uS so the MIDX-10 should not delay any MIDI traffic significantly.

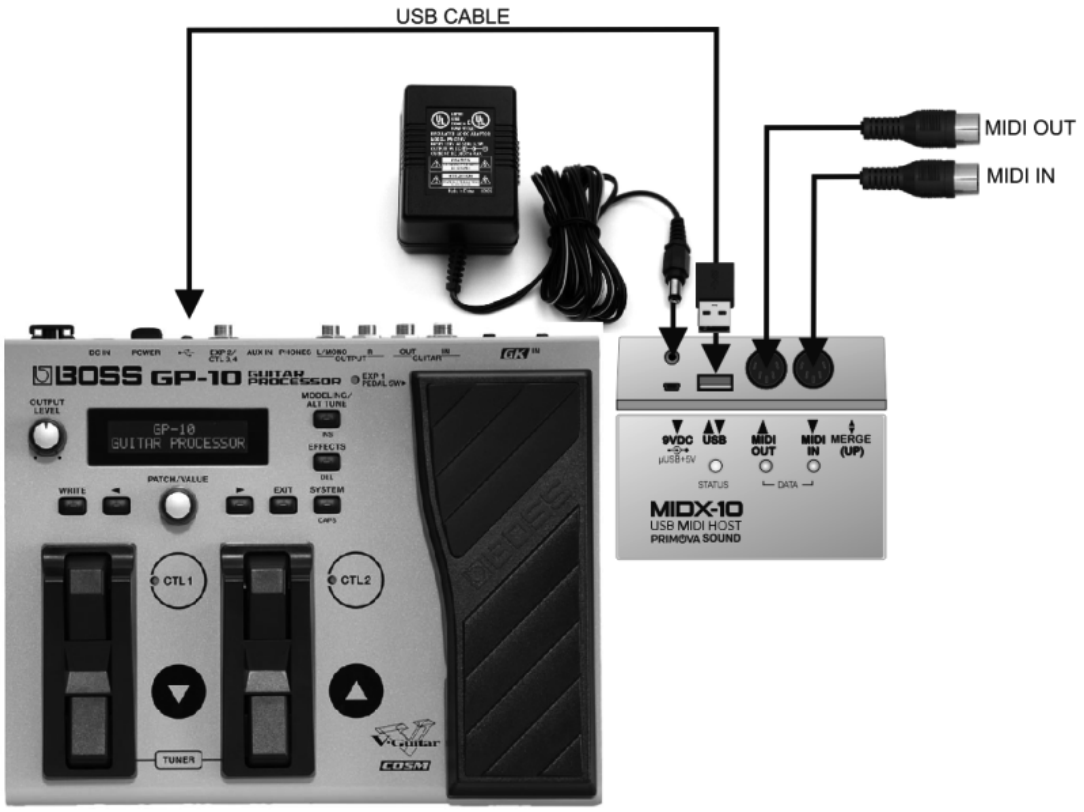
The MIDX-10 also has a special powering circuitry allowing it to be:

1. Powered by normal pedal board adapters (8V - 12V DC)
2. Powered by Micro USB cable (5V DC).

When connected to a device like GP-10 the current draw by USB is negligible however the LED's and the microcontroller circuitry requires a few 10'Th of milliamps. If connected to a class compliant device the current consumption can be up to abt. max 150mA.

Note: The circuitry in this host only can provide 100mA to the USB device.
Any device requiring 500mA should not be used.

CONNECTIONS



Connect the USB device (GP-10, GR-55, VG-99, SY-300, GT-001, GT-100, GT-10 etc.) to the connector marked “USB” using a high quality USB cable (not included). Use 5-pin MIDI cables (not included) to connect to your other equipment.

To power the unit you need a DC power adapter (not included) 8-12V providing at least 250mA or more to the power connector (centre pin is negative). If the power adapter has wrong polarity it will not harm the unit but it will not operate. Change polarity if that’s the case.

You may also power the unit using any power adapter for cell phones with a micro USB connector (5V).

LEDS

The Light Emitting Diodes (LED's) will cycle as the power is turned on. The leftmost LED is the status indicator and can produce three colors/patterns:

YELLOW:	USB device is un-attached.
GREEN:	A USB device is attached.
FLASHING RED:	A severe error has occurred (should not happen), If flashing red, try a power off, power on. If problem persist, contact sound@primova.se

The green LED marked "IN" will briefly flash as incoming MIDI messages are received. The green LED marked "OUT" will briefly flash as outgoing MIDI messages are sent. MIDI System Time messages will not be indicated by the LED's.

In Merge mode, the functions of the IN and OUT LED's are inverted.

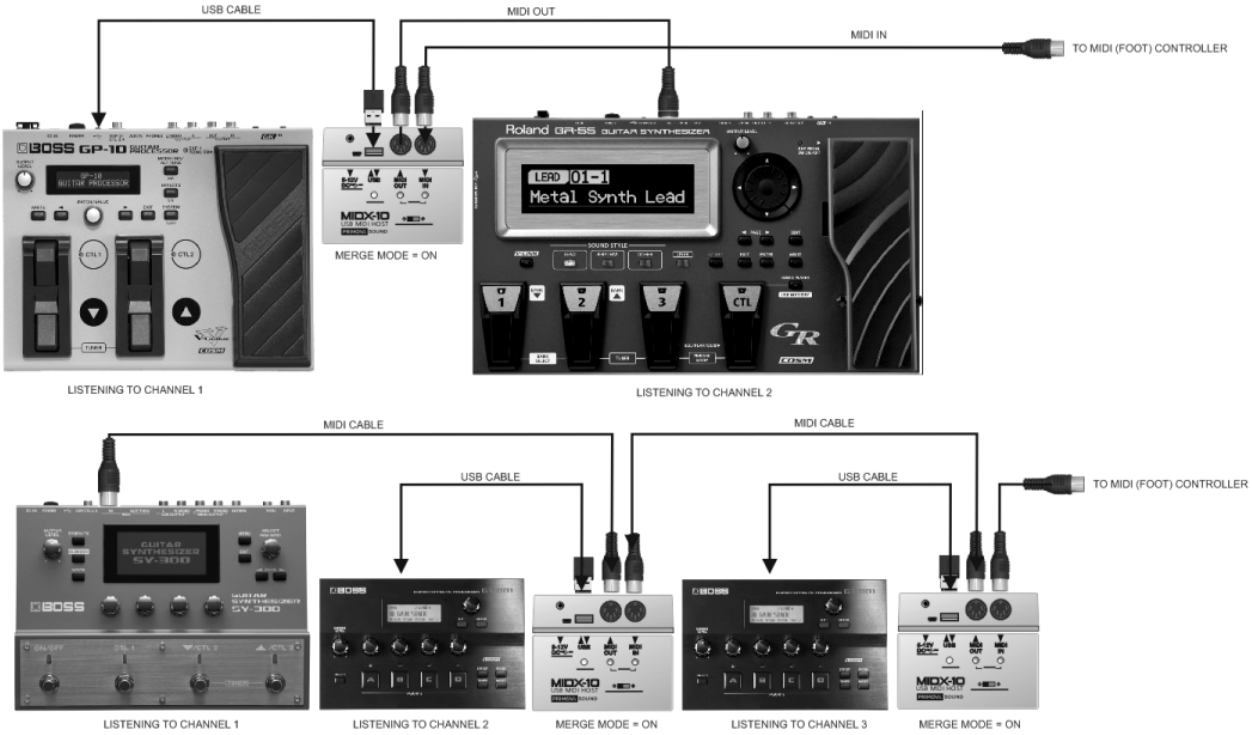
MERGE SWITCH

If the switch marked Merge is on "Merge" position any incoming 5-pin MIDI will be forwarded directly to the MIDI OUT 5-pin connector. If there's a collision between USB messages from the USB device colliding with messages from MIDI IN, the message started first get priority to complete before the other stream is allowed to pass through. If any lengthy message is delayed during the collision there's a 150ms timeout cancelling the ongoing transfer and the other is let in.

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 most recent input to receive a START command will become the clock master. That input continues to be the clock master until another input satisfies the above condition.

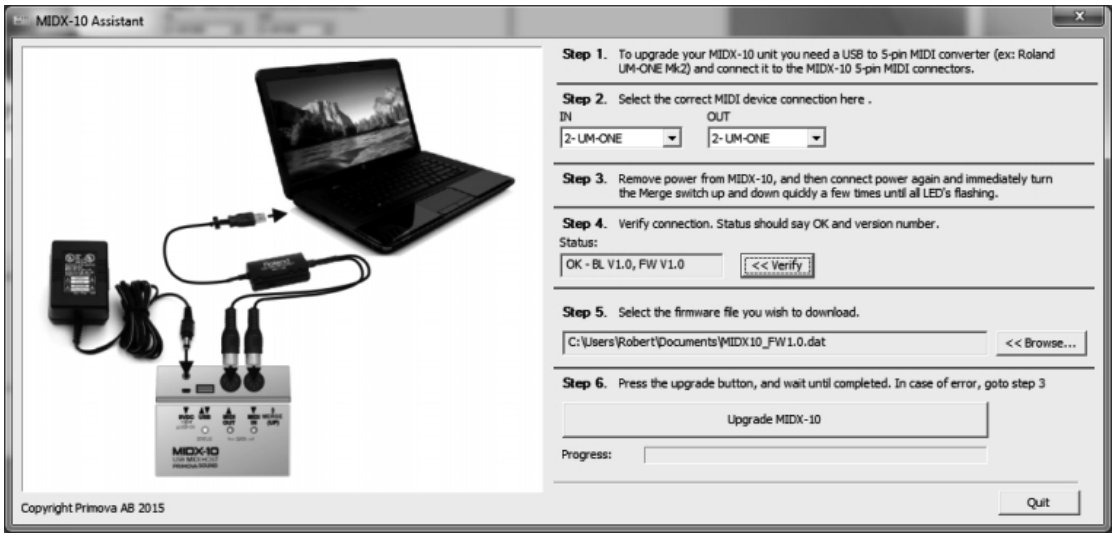
Active Sensing
The first input to receive an Active Sensing message will become the Active Sensing master. Active sensing messages from that input will be passed to the output, any active sensing messages received at other inputs will be ignored. An input will stay as Active Sensing master until no more 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.

The Merge mode opens up for forwarding MIDI streams and chaining several devices.



FIRMWARE UPGRADES

In the future firmware upgrades may be available at www.primovasound.com, along with the MIDX-10 Assistant PC-software. To download new firmware you will also need a standard USB to MIDI converter such as Roland UM-ONE.



WARRANTY

PRIMOVA WARRANTS THE MIDX-10 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-10 UNIT ITSELF.
CONNECTING THE MIDX-10 UNIT OR THE MIDX-10 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-10 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-10 PRODUCT, LOSS OF DATA, THE COST OF SUBSTITUTING THE MIDX-10 UNIT, OR ANY CLAIMS BY THIRD PARTIES.

PRIMOVA AB
Kurlandaallén 21
68151 Kristinehamn, Sweden
www.primovasound.com, email: sound@primova.se