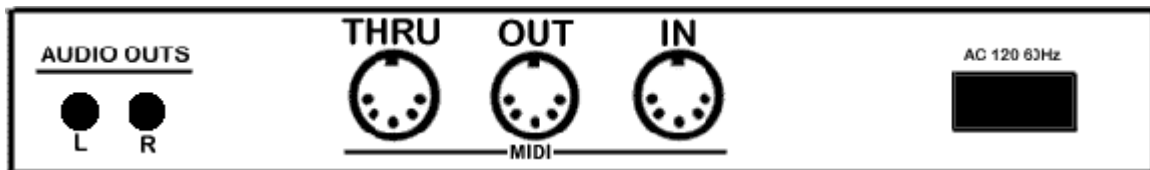


## Connecting Keyboards to the Miditzer Virtual Organ

The term MIDI will be used frequently throughout this document. It stands for “Musical Instrument Digital Interface”. This is the MIDI in **Miditzer**.

MIDI provides a standard way of connecting musical instruments together. This article is about connecting your Organ or Keyboards to a computer so that they are able to communicate with the Miditzer. You will use MIDI to do this.

Most MIDI devices have three ports for communicating with another MIDI device or passing information through to another MIDI device. The three ports and their definition appear below.



- MIDI Out port is used to transmit MIDI messages originating within a device such as an Organ or a keyboard to the IN port of another device.
- MIDI In port is used to receive messages from an external device such as an Organ or a Keyboard from their OUT port.
- MIDI Thru port is used to retransmit a copy of every message received by the IN port. It does not merge in the MIDI messages originating within the device.

Since our purpose is to transmit data to the computer we will be concerned with the OUT and IN ports only. Forget that the THRU port exists. It is not used to connect to the Miditzer. Note that all the MIDI ports use the same type of jack. A MIDI cable has the same type of plug on both ends:



The Golden Rule of MIDI cabling is:

## OUT to IN

When connecting one MIDI device to another you always connect the OUT port to the IN port of the following device.

Where will you find the MIDI ports on your Organ or Keyboard? Consult the operations guide for your equipment. Become familiar with the MIDI specifications for your Organ/Keyboards. A careful look around will probably reveal the distinctive round 5 pin MIDI connectors. Look closely and you will probably find the IN and OUT labels.

### Connecting to the Computer

To connect to the computer you must have a MIDI interface to give your computer a MIDI In Port and a MIDI Out Port. A MIDI to USB interface will be the best choice for most people. You can find examples of MIDI to USB interfaces in the Miditzer Marketplace. The type of interface device you need will be determined by the type of console you are connecting to the Computer. For our purpose organ consoles can be categorized as one of two types:

- Integrated Consoles
- Component Consoles

The integrated console will most likely be a true organ console. In an integrated console one MIDI OUT port provides all of the MIDI signals for all the Organ keyboards and other controls. This type of console needs only one pair of ports on the MIDI to USB interface, a 1 X 1 interface like the Midisport Uno:



The component console is a collection of keyboards with each keyboard having its own MIDI OUT connection. To connect the keyboards to the computer, you will need a MIDI to USB interface with a MIDI In port for each keyboard. Fortunately, you can obtain interfaces with more than one MIDI IN Port. Most users with a component console will want a 4x4 MIDI to USB interface like the Midisport 4x4, which has 4 pairs of MIDI ports. This gives you enough

ports for 2 or 3 keyboards and a pedalboard. As you might have guessed, the multiple interface devices are nothing more than a group of 1 X 1 interfaces in the same box sharing one USB cable. Each MIDI port will appear as a separate device on your computer.



To review the types of interfaces that are available at a reasonable cost, click on the following link to go to the Miditzer Marketplace.

[www.VirtualOrgan.com/Marketplace/](http://www.VirtualOrgan.com/Marketplace/)

Be sure you get a MIDI cable of sufficient length for every MIDI Out port you need to connect. Once you have decided on and have purchased an interface, install the driver software for the MIDI interface and connect it to your computer following the manufacture instructions. Then connect your MIDI Out port from your console to the MIDI In port of the computer interface. If you have a component console and you are new to MIDI, just connect you Solo keyboard and get that working correctly before you add the remaining keyboards. It will be less confusing to add keyboards one by one.

### Configuring the Miditzer

If you are connecting just one keyboard to your computer, there is a pretty good chance it will already be set up to play the Solo manual on the Miditzer Style 216. Try it and see. If it doesn't control the Solo manual, or anything at all, or if you are connecting more than one keyboard, press the yellow M in the upper left corner of the Miditzer display and select Miditzer Settings... This will open a control panel where you can tell the Miditzer where it can find the MIDI messages from each of your keyboards. Start by adding all the MIDI In Devices that are connected to your keyboards to the Active MIDI input devices list. There will be just one MIDI input device for an integrated console and one MIDI input device for each keyboard that is connected in a component console. The following screen shot illustrates a possible MIDI In

Device configuration for a component console with 3 keyboards (2 manuals and pedals) using the Midisport 4x4 interface:



All MIDI note messages look pretty much the same. They contain data that says what note is being played and whether that note has just been pressed or released. An organ typically has three or more keyboards (the pedals count as one keyboard). And they all have a lot of notes that are the same. A channel number is included in a MIDI message so that up to 16 different devices can all send the same note on the same MIDI cable without the notes getting mixed up.

On Integrated Consoles all the keyboards share one MIDI Out port, so each keyboard has to be assigned a unique channel to identify its note messages. Since only one MIDI In port is used on the computer, there will be only one MIDI In device that has all of the MIDI input. Leave the MIDI In device set to Omni so that the Miditzer does not consider what device the MIDI messages occurred on. You are only concerned with the first 3 numbers in the Chan column which tell the Miditzer what MIDI channel will carry messages for the keyboard identified on the left. Consult your instrument documentation to determine what MIDI channel has been assigned to each keyboard. If no documentation is available, or you just can't understand it, use the "Trial and Error" method to identify the channels. Right click on the channel number to select the right number for each keyboard. The following screen shot illustrates a possible Integrated Console configuration:

Right-click to select MIDI input devices and channels:

Clavier	MIDI input device	Chan	Low	High	Trans	2nd Touch	Pres	Chan
Solo	Omni	1	C00	G9	0	Chan	0	1
Accomp.	Omni	2	C00	G9	0	Chan	0	2
Pedal	Omni	3	C00	G9	0	Note	0	3
<auxiliary>	Omni	16						

On Component Consoles each keyboard has its own MIDI Out port and so each keyboard will be on a different MIDI In Device in the computer. The MIDI messages can be identified by what MIDI In device they were received on as well as by the MIDI channel. Thus it is not necessary

for each keyboard to use a unique channel in this configuration. Some MIDI keyboards allow you to assign a MIDI channel for the keyboard. If no channel select capability exists, the MIDI channel number is most likely Channel 1. To configure a component console you need to know what MIDI In Device and what MIDI Channel each keyboard uses. You are only concerned with the six values indicated below, a MIDI input device and a Chan for each of the three keyboards. On the Miditzer's MIDI Input control panel, right click on the MIDI input device to select the correct device for each keyboard and right click on the channel number to select the correct channel for each keyboard. The following screen shot illustrates a possible Component Console configuration:

Right-click to select MIDI input devices and channels:

Clavier	MIDI input device	Chan	Low	High	Trans	2nd Touch	Pres	Chan
Solo	In-A USB MidiSport 4x4	1	C00	G9	0	Chan	0	1
Accomp.	In-B USB MidiSport 4x4	1	C00	G9	0	Chan	0	1
Pedal	In-C USB MidiSport 4x4	1	C00	G9	0	Note	0	1
<auxiliary>	Omni	16						

### IMPORTANT: Changing the Pedal Channel

If you change the Pedal Channel, be sure to change the Chan at the far right to the same channel. If you don't, you won't be able to play the drums and cymbals on the pedal. See Configuring Second Touch for details.

Right-click to select MIDI input devices and channels:

Clavier	MIDI input device	Chan	Low	High	Trans	2nd Touch	Pres	Chan
Solo	Omni	1	C00	G9	0	Chan	0	1
Accomp.	Omni	2	C00	G9	0	Key	0	2
Pedal	Omni	4	C00	G9	0	Note	0	4
<auxiliary>	Omni	16						

**Set both Pedal Chans to the same value**

If after reading this document and following the instructions herein you are not able to successfully configure your keyboard, go to the Miditzer Forum and describe your problem in the Connecting Keyboards area and someone is sure to have a solution for you. The following link will take you to the Forum. If you are not a Forum member please join.

[www.VirtualOrgan.com/Forum/](http://www.VirtualOrgan.com/Forum/)