Dear Opcode,

Please help me make an OMS Studio Setup. I’ve never done this before. Thank you.

Sincerely,

Valued Customer

Well, Valued Customer, you’ve come to the right place. That’s what this document is designed to do. We’re going to walk through an OMS Setup with you.

Press the Go On button (at the bottom right) to proceed sequentially through this document. That’s what you’ll want to do most of the time, since this is designed for step-by-step instructions. To see the previous page, click Go Back. If you want to jump to a specific topic, clicking on Shortcuts will give you a list of available topics.

Click Go On to get started!
Don’t panic. It’s going to be all right.

We’re about to go through the process of making an OMS Setup step-by-step. This is good news. OMS is a powerful little application that acts as the hub of your computer’s MIDI communication. OMS is here to make your life easier, and this document is here to make OMS easier. Groovy.

Before we proceed, you’ll need to have OMS installed. You may have already done this, which would be great. If not, OMS probably came with your MIDI interface (you remember—the one we’re about to set up). If you lost your OMS disks, or if your dog ate them, you can always download the latest version of OMS free at Opcode’s website:

http://www.opcode.com

We recommend installing the latest version of OMS with which your software is compatible.

OK, let’s get moving. Again, just press the Go On button (at the bottom right) to proceed sequentially through this document. If you want to skip to a particular section, click on one of the links below.

What Kind of Interface do You Have?
SERIAL: Make Physical Connections
(or)
USB: Make Physical Connections
Note About Physical Connections
Launch OMS
Deal with AppleTalk...
The Create New Studio Setup screen
OMS MIDI Device Setup screen...
Identifying MIDI Devices
OMS MIDI Device Setup screen...
Save your Setup
OMS Studio Setup window
Define Your Synths
Device Icon
MIDI Device Info...
You’re Done!
Save Again!
Questions?
Although almost all of the principles we’re about to discuss apply to everybody, the physical connections you’ll make now are slightly different depending on whether you’re using a USB MIDI interface or a serial MIDI interface. In the interest of avoiding confusion, we’ll discuss them separately.

Serial interfaces have ports that look like this: 🌡️. A comprehensive list of serial interfaces would be somewhere between long and really, really long; it includes these Opcode interfaces: MIDI Translator, MIDI Translator II, MIDI Translator Pro and Pro Sync, Studio 3, Studio 4, Studio 5 (and Studio 5 Lx), Studio 64X, Studio 128X, and Studio 64XTC.

USB interfaces have ports that look like this: 🌡️. (Sorry, we couldn’t find a slick picture of one of those ports. We’ll work on it for the next rev of this document.) There aren’t too many of them on the market yet, because these ports are a relatively new innovation while serial ports have been around for a pretty long time in computer years. You’ll find USB ports on iMacs and the new blue G3s. Opcode’s MIDIport 32 is a USB MIDI interface.

Please click one of the links below.

I Have a Serial Interface

I Have a USB Interface
We may as well get the manual labor out of the way. You have a computer, a MIDI interface, and some MIDI devices (synthesizers, samplers, controllers, etc.). Now we'll connect them using different types of cables.

This is the back of an Opcode Studio 64XTC, the interface we're using.

The back of your computer has at least one serial port, which looks like this in real life: . Most desktop computers have two: one printer port, and one modem port. They are labeled with these icons: (Printer) and (Modem).

Your MIDI devices also have MIDI ports, which look like this: . These ports are usually labeled MIDI IN, MIDI OUT, and MIDI THRU.

Your computer doesn't have MIDI ports, which is why you need a MIDI interface in the first place. A (serial) MIDI interface is sort of like a big serial-to-MIDI/MIDI-to-serial adaptor, but this is a very smart adaptor.

Bonus Tractor Tip (two for the price of one!): MIDI cables support data transmission in one direction only, which is why you must connect two cables if you want to send and receive data to and from your gear. MIDI is always sent from an OUT port to an IN port (never from an IN to an OUT). More on this on the News at 6:00.
...MAKE PHYSICAL CONNECTIONS

Step 1: Connect a serial cable from the Macintosh’s Modem port to the MIDI interface’s appropriate port.

Step 2: Connect MIDI cables from the MIDI OUTs of your MIDI devices to the MIDI INs of your MIDI interface.

Step 3: Connect MIDI cables from the MIDI INs of your MIDI devices to the MIDI OUTs of your MIDI interface.

Obvious (and unillustrated) Step 4: Connect power cables and turn on your equipment.

The back of a Macintosh computer

A serial cable connects the 64XTC’s “Mac” port to the Mac’s “Modem” port.

MIDI cables connect the synthesizers to the MIDI interface.

The Korg N1’s MIDI ports (connected to the 64XTC’s Port 1)

The Clavia Nord Lead’s MIDI ports (connected to the 64XTC’s Port 3)
By the way, we should mention that this document assumes that you’ve already installed any necessary drivers for your USB MIDI interface.

We may as well get the manual labor out of the way. You have a computer, a MIDI interface, and some MIDI devices (synthesizers, samplers, controllers, etc.). Now we’ll connect them using different types of cables.

This is the back of an Opcode MIDIport 32, the interface we’re referring to for the next couple of pages. The majority of this document refers to an Opcode Studio 64XTC, but the next couple of pages are a little detour. Please don’t be confused.

Your computer has at least one USB port, which looks like this: 🖱️. If you have a blue G3, the USB ports are on the back. If you have an iMac, the USB ports are on the right-hand side (don’t connect to the USB port on the iMac’s keyboard; use the one on the CPU). You may also have one or more USB ports on a USB PCI card installed in your computer, but if that’s the case, you’ll probably know where to find them.

Your MIDI devices also have MIDI ports, which look like this: 🎹. These ports are usually labeled MIDI IN, MIDI OUT, and MIDI THRU.

Your computer doesn’t have MIDI ports, which is why you need a MIDI interface in the first place. A (USB) MIDI interface is sort of like a big USB-to-MIDI/MIDI-to-USB adaptor, but this is a very smart adaptor.

Bonus Tractor Tip (buy one, get one free): MIDI cables support data transmission in one direction only, which is why you must connect two cables if you want to send and receive data to and from your gear. MIDI is always sent from an OUT port to an IN port (never from an IN to an OUT). Stay tuned for more information.
MAKE PHYSICAL CONNECTIONS

Step 1: Connect a USB cable from the Macintosh’s USB port to the MIDI interface’s USB port.

Step 2: Connect MIDI cables from the MIDI OUTs of your MIDI devices to the MIDI INs of your MIDI interface.

Step 3: Connect MIDI cables from the MIDI INs of your MIDI devices to the MIDI OUTs of your MIDI interface.

Obvious (and unillustrated) Step 4: Connect power cables and turn on your equipment.
Notice that MIDI connections to and from one piece of MIDI equipment (a synthesizer, sampler, or controller, etc.) are always made to the same numbered port on the MIDI interface. For instance, if the device’s MIDI OUT goes into the interface’s MIDI IN port 3, then the device’s MIDI IN should also be connected to the interface’s MIDI OUT port 3.

This connection scheme serves many purposes, not the least of which is to make it easier for OMS to keep track of your devices.

You can buy the cables necessary for these connections at just about any computer store. You need a USB or Macintosh serial cable to connect your interface to the computer; if it’s a serial cable, this must be an Imagewriter II or AppleTalk serial cable. MIDI cables should have the same type of MIDI connection at both ends.

You don’t always have to make MIDI connections both ways (IN to OUT and OUT to IN) for every piece of MIDI equipment. If you have a rack-mount sound module, you only need to connect the interface’s MIDI OUT to the module’s MIDI IN, because you’ll only be sending MIDI information to the module. On the other hand, if you have a controller with no internal sounds (like many wind controllers), you need only to connect the controller’s MIDI OUT to the interface’s MIDI IN.

If you’re using a librarian application (such as Galaxy or Galaxy Plus Editors), you absolutely must make MIDI connections both ways (IN to OUT and OUT to IN). Librarian applications require that MIDI can be sent to and received from devices with which they communicate.
Phew--we’re done lifting the heavy stuff. On to the software.

Launch OMS Setup. Unless you’ve moved the file, it’s in the Opcode>OMS Applications folder. Doubleclick on it.

(Remember, we’re assuming that you already have OMS installed. If not, you need to install it before we can proceed. You probably received a copy of OMS with your MIDI interface. If not, or if you lost your disks, or if you don’t have them for any other reason, you can always download the latest version of OMS at:

http://www.opcode.com

We recommend installing the latest version of OMS with which your software is compatible.)

Okay, back to the land of flowing text. In case you forgot what to do while reading that giant aside, we’ll say it again: launch OMS.

“OMS” stands for “Open Music System”. In bygone years it used to stand for “Opcode MIDI System”, but Opcode made the OMS standard public so that other software and hardware developers could use it. Opcode believes that anything that can make studio gear from different manufacturers work well together is a benefit to everyone involved--you, your dealer(s), and the manufacturers.
Do you see this screen? If not, you can read the next couple of pages from some nifty information, or skip ahead if you’re in a terrible rush. Click on skip ahead to...well, to skip ahead.

Click **Turn It Off** to disable AppleTalk.

If you really want to, you can leave AppleTalk on. You probably won’t notice any difference. However, if you find that you’re having MIDI communication problems, try turning AppleTalk off and see if that takes care of it.
Now, please make sure the AppleTalk network is disconnected (you may need to check an interface’s MIDI/thru switch).

Click **OK**. To be perfectly honest, it doesn’t matter whether you physically disconnect the AppleTalk network or not. Serial Interface Users: if you followed the connection diagram earlier, you won’t have the AppleTalk network physically connected now anyway.

You may be wondering why you keep getting these AppleTalk dialogs when you launch OMS or any OMS-compatible application. You might just want to turn AppleTalk off for good, especially if you’re not actually using it. To do so, go to your computer’s Apple menu (the colorful apple in the upper-left-hand corner of the screen) and select “Chooser”. Select “Inactive” for the AppleTalk setting in that window, and you won’t have to deal with these dialogs again. Neat!
If you don’t see this window automatically, choose **New** from the **File** menu.

A studio setup document is a list of your MIDI devices and cables between them.

You use it to tell applications what's in your studio.

Click **OK** to have OMS automatically locate your MIDI devices and build a new studio setup document.

Click **OK** to create your Studio Setup.
Put a check next to the serial port that your MIDI interface is connected to. In this example, we have an Opcode Studio 64XTC connected to the Modem port, so we’ve put a check next to the modem icon.

Then, click **Search** to begin creating your OMS Studio Setup. OMS will now “look” out your serial ports to see what’s connected.

**Important!**

If you’re using a USB MIDI interface, you don’t have to check any ports in this dialog box. OMS automatically searches all USB ports regardless of what’s checked here.
OMS searches through its installed drivers to find one that matches your MIDI interface.

Don’t press the Stop button while OMS is searching for MIDI interfaces. OMS will automatically move on to the next screen when it’s done.
When done searching, OMS shows you what it found.

Great! OMS found the interface—a Studio 64XTC on the Modem port. Click [OK], because the list is correct.
OMS attempts to automatically detect what type of device is connected to each port of your MIDI interface.

Don’t press the Stop button while OMS is identifying MIDI devices. OMS will automatically move on to the next screen when it’s done.
OMS tells you what it found. Sometimes OMS is “smart” enough to figure out what kind of synths you have connected to your interface, but usually it can’t tell. No problem, though—you’ll be able to define the synths (or controllers, samplers, etc.) that are connected in just a second.

The OMS MIDI Device Setup screen is displayed.

Below is a representation of your studio setup. Ports on which OMS detected MIDI devices are shown by name, and have device icons. Ports on which OMS detected no devices have keyboard/question mark icons. Check the MIDI ports you wish to use, and leave the others unchecked.

Click “OK” when this list is correct. Click “Troubleshoot” if this list is incomplete. Click “Customize” to edit details of your setup. Click “Cancel” to abort OMS setup.
Put X’s in the boxes next to the ports you’re going to use. You may have to scroll down to see all of the available ports.

In this example, we have a Korg N1 on port 1 and a Clavia Nord Lead on port 3. OMS didn’t automatically detect either of the synths, so we manually put checks next to ports 1 and 3. Click OK when you’re done selecting ports.
OMS automatically asks you to save your setup. Never miss a chance to save. You won’t be sorry.

Give the setup any name you like. It’s named “My Studio Setup” by default. It’s a good idea to keep your OMS Studio Setup in your OMS Applications folder so that you can always find it if you need to.

Click when you’ve named the setup and placed it in the correct folder.

You can save as many different Studio Setups as you like, but you can only work with one of them at a time. The “active” OMS Studio Setup (the one that you’re working with at any given time) is referred to as the Current setup. You can always tell whether or not a setup document is current because a current setup has a little diamond to the left of its name (when it’s open in OMS). For example:

The diamond to the left of “My” indicates that this is the current Studio Setup. Have a look at the next page to see “My Studio Setup” in context.
Now that your document has been saved, it is displayed in the OMS Studio Setup window. This is the window you’ll usually use to work with your Studio Setup(s).

The diamond here indicates that this is the current Studio Setup.

Most people never use this, but it won’t hurt anything. Leave it alone, and it will leave you alone.

The QuickTime Music driver is disabled, as shown by the red circle with the line through it. Since you have a MIDI interface, you probably don’t want to use this anyway.

The interface, an Opcode Studio 64XTC on the Modem port.

The as-yet-undefined Korg N1 on MIDI port 1.

The as-yet-undefined Clavia Nord Lead on MIDI port 3.

Above is a picture of the OMS Studio Setup window (labeled so you know what everything is).
At this point you're mostly ready to go, but a few cosmetic improvements will help things make more sense. Let's define the synths as what they actually are, instead of little pictures of keyboards with question marks on them and generic names.

Doubleclick on a keyboard-with-a-question-mark-on-it to define the synth.
This is the MIDI Device Info Window. Right now OMS doesn’t know anything about the Manufacturer, Model, Name, etc. of the synth we selected (we selected the synth on port 3, which is a Clavia Nord Lead). We’re about to change all of that!

Note that the synth is named “Port 3” by default, since that’s the MIDI port that it’s on.
The first thing we’ll do is define the Manufacturer and Model. Click on the pop-up menu next to Manuf: to get a list of manufacturers.

Since this is a Clavia keyboard, we choose Clavia from the list.
Select **Nord Lead** from the **Model** popup menu, and define the MIDI channels you want to Nord Lead to receive on. In this example, the Nord Lead will be receiving on channels 1-4. Click to remove or insert an X.

When you’re done with these definitions, click **OK**. This will bring you back to the OMS Studio Setup window.

See the six little boxes on the right hand side, labeled Receives and Sends at the top? The settings in these boxes control the synchronization capabilities of the selected synth. In this case, OMS automatically knows that the Nord Lead can receive MIDI Beat Clock. Most people will never use these capabilities, so if you don’t know what to check, don’t worry about it. This won’t affect basic MIDI communication (sending and receiving notes, controller data, etc.) at all.
Now let’s define the Korg N1 (on port 1). Doubleclick on it (in the OMS Studio Setup window) to open the MIDI Device Info screen for that synth.

Choose Korg from the Manufacturer popup menu. Choose N1 from the Model pop-up menu.

But wait! N1 isn’t in the list! Luckily, this doesn’t actually matter. Just choose (other) instead.
Then, type “N1” into the Name field. This is purely for your viewing pleasure. The name of the synth here will be the name shown in all of your OMS-compatible applications, but it won’t actually change the way OMS communicates MIDI with your synthesizer (or sampler, controller, etc.). Heck—you can go ahead and call it “Harriett” if you want to...just remember that the N1 has a cute little name when you’re working in another app.

Since the N1 receives on all 16 channels and is a controller, we’ll leave all of these options checked.
Now let's get rid of the goofy keyboard-with-a-question-mark-on-it icon. Click on the icon (in the upper-left-hand corner) to change it.
The Device Icon window opens. Select an itty bitty picture that you like from the icons shown here. Remember to scroll down to see all of the available options.

When you’ve chosen an icon that you like, click **OK**.
You're Done!

Your Studio Setup is complete! It looks mah-velous.

Save! Save! Save!

Go to the next page for some very important conceptual information.
What’s the difference between OMS automatically detecting my synthesizer and me defining it?

Trick question--there is no difference! OMS doesn’t alter the MIDI that it sends and receives based on the device’s Manufacturer/Model/Name definition (in OMS). It just doesn’t. The Manufacturer, Model, and Name settings are just there for you--they make it easier for you to know which synth you’re dealing with when you’re working in an OMS-compatible application. The only time that the Manufacturer/Model settings change communication patterns at all is when you’re working with Galaxy. (The Name setting never has any effect on anything except the way that the device shows up in a list of devices.) If you don’t believe us, try defining your devices as all the wrong stuff and giving them silly names. You’ll still be able to control them in OMS (and any OMS-compatible applications).

What do I set my Device ID’s to? What is that, anyway?

The Device ID is a way to distinguish between two of exactly the same device in a setup. For example, if you have two Korg N1s in the same setup, you’d want to give them different Device ID’s. The Device ID setting is also important when working with System Exclusive information (SysEx data)--if a device’s Device ID is set incorrectly, the SysEx probably won’t be received. SysEx isn’t MIDI, though. Librarian applications like Galaxy use SysEx to communicate, but sequencers generally do not. So this is kind of a trick question too--you don’t have to worry about Device ID settings in most cases. Usually the default setting is just fine--don’t bother changing it. And, contrary to semi-popular belief, your Device ID does not have to match a receive channel.

What are those six little boxes on the right hand side of the MIDI Device Info window?

As described in a Tractor Tip earlier, the settings in these boxes control the synchronization capabilities of the selected synth. For example, if you want to sync the internal sequencer of a synth so that it will play back in tandem with your software, you set it up here. Most people never use these capabilities, so if you don’t know what to check, don’t worry about it. This won’t affect basic MIDI communication (like sending and receiving MIDI notes and controller information) at all.

Why exactly did you give the informational notes a title like “Tractor Tips”?

Because of the picture of the tractor.
We certainly hope this was helpful. Please keep your eye out for more Dear Opcode” letters.

Sincerely,

Opcode

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