

# Apogee Duet 2 Users Guide - Print Version

Created: July 2011



This version of the Duet 2 Users Guide is for PRINT purposes only. The latest and most up-to-date Users Guide is available at:  
<http://support.apogeedigital.com>

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# Quick Start

## Introduction



Thank you for purchasing Duet 2. This QuickStart guide describes how to set up Duet 2 with your Mac, connect speakers or headphones to play back music and connect mics and instruments to record your own creations with Apple's Logic Pro or Logic Express.

### **Duet 2 - The new standard in personal recording**

Duet set the standard for professional portable recording on the Mac. Duet 2 expands upon this award-winning legacy with next generation sound quality and groundbreaking new features that will raise the bar for the personal recording studio. Compact and simple to use, Duet 2 lets you capture your best take anywhere with ease and without compromise.

## Packaging Contents

The following items are included in the Duet 2 box.

Software and Firmware for this Apogee Product is available online only at <http://www.apogeedigital.com/downloads.php>

- Duet 2
- QuickStart Guide
- Breakout Cable
- USB Cable
- Universal Power Adapter for US, UK and EU



Duet 2



QuickStart Guide



Breakout Cable



USB Cable

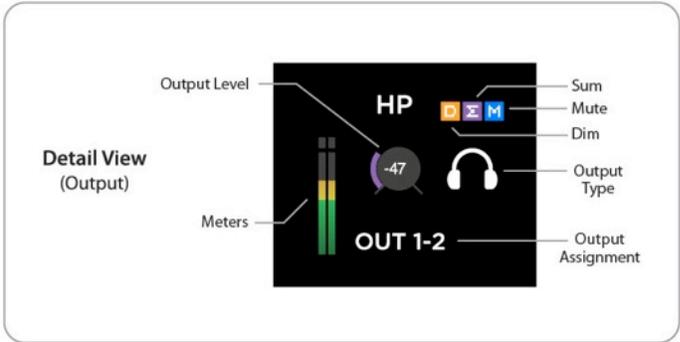
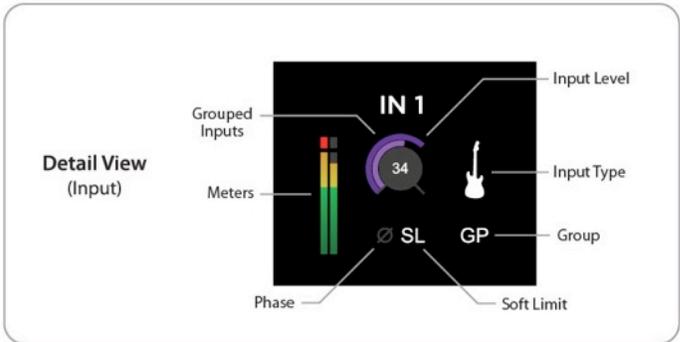
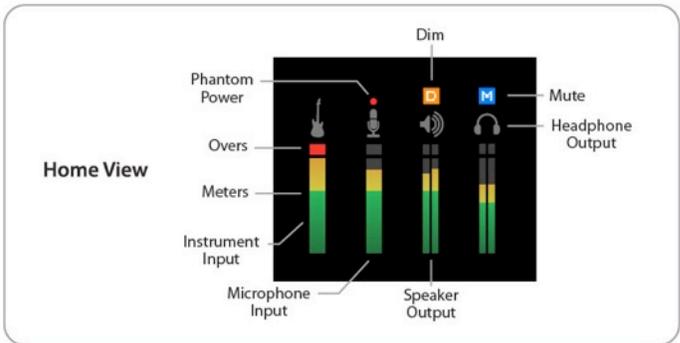


Universal Power Adapter  
for US, UK and EU

## Duet 2 Panel Tour



# OLED Panel Tour



## Connecting to your Mac

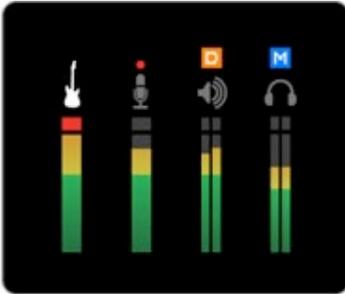
### System Requirements

- Intel Mac 1.5 GHz or faster
- MacOS X 10.6.4 or greater
- 2 GB minimum RAM, 4 GB recommended

## Install Duet Software

1. Remove the protective film from the front panel, otherwise the Touch Pads will not work
2. Connect Duet 2's USB port to a USB port on your Mac using the supplied USB 2 cable.
3. Go to <http://www.apogeedigital.com/downloads.php>
4. Follow the onscreen steps to get the latest Duet 2 software installer.
5. Once you have downloaded the package, double-click the open box icon to run the installer.
6. You will be required to restart your computer after the install is complete.

As Duet 2 is powered through the USB connection, the display's Home View will illuminate, indicating that Duet is now powered on.



## Choosing Duet 2 for Mac Sound I/O

After restarting your Mac, a dialog box will prompt you to choose Duet 2 for Mac sound input and output. Click Yes.



## Connect to Headphones or Speakers

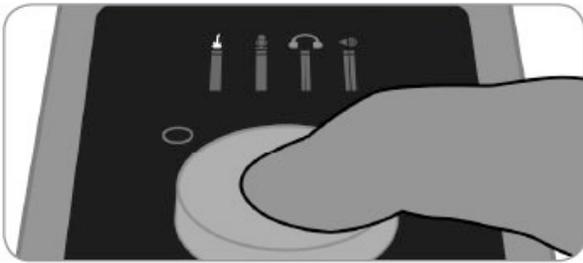
Connect headphones to the headphone output on the front of the unit. Connect the provided breakout cable to I/O Breakout Port on the rear of the unit. Then connect the 1/4" speaker outputs of the breakout cable to the inputs of your active (powered) studio monitors or amplifier.

## Check Audio Playback in iTunes

To verify Duet 2's output, open iTunes (found in your Mac's Applications folder), choose a song, and click Play.

## Adjusting Volume

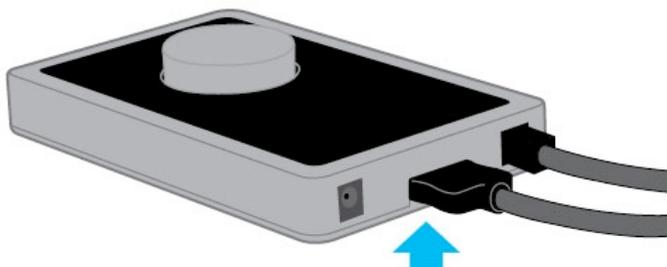
To adjust the volume, press Duet 2's Multi-function Controller Knob until the speaker or headphone icon is lit on the display's Home View and turn the knob clockwise to increase the volume.



If you get a message warning about USB current draw, connect Duet 2 to the supplied Apogee AC Power Adapter. For more details about current draw on the USB bus, please see Current Draw on page 23.

## Configuring the Input

Connect the provided breakout cable to Duet 2.



Connect a microphone or instrument to the breakout cable's combo jack.

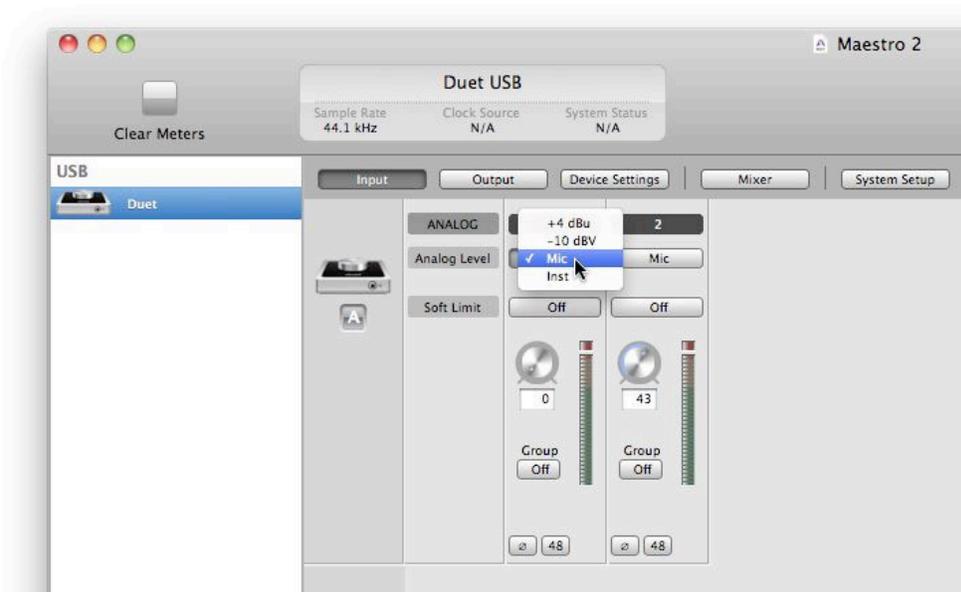


Open Apogee Maestro 2 from the Applications folder and select the Input tab.

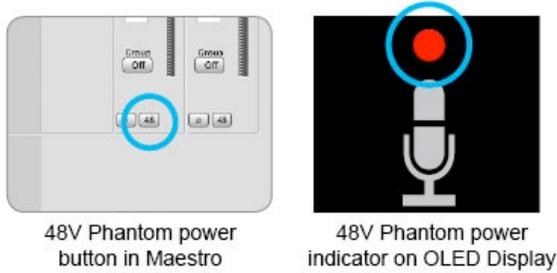


Select the Analog Level setting that corresponds to the device you have connected to Duet 2's input(s).

For example, if you have a microphone connected to the XLR input of the breakout cable's combo jack, select "Mic" from the Analog Level menu.



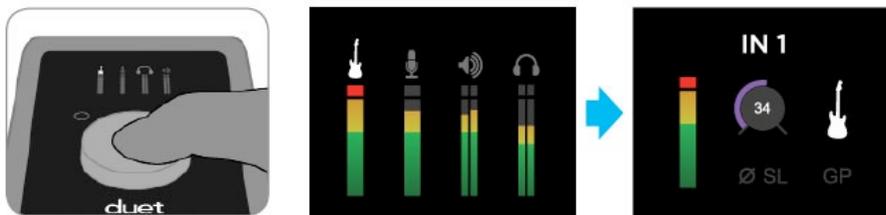
Note: If you are using a condenser microphone that requires phantom power, then select the 48V box on the Input tab of Maestro 2. Phantom power is indicated on Duet 2's display by a red dot above the microphone icon.



If you have an instrument connected to the 1/4" input of the combo jack, then select "Inst" from the Analog Level menu.



Push the Multi-function Controller Knob until the microphone or instrument icon is lit on the Duet 2's display and turn the knob to raise or lower Duet 2's input level\*.

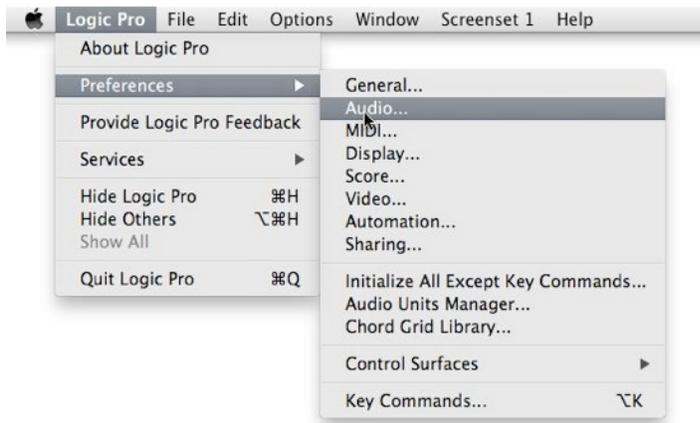


\*See the Duet 2 User's Guide for a more detailed description of setting recording levels.

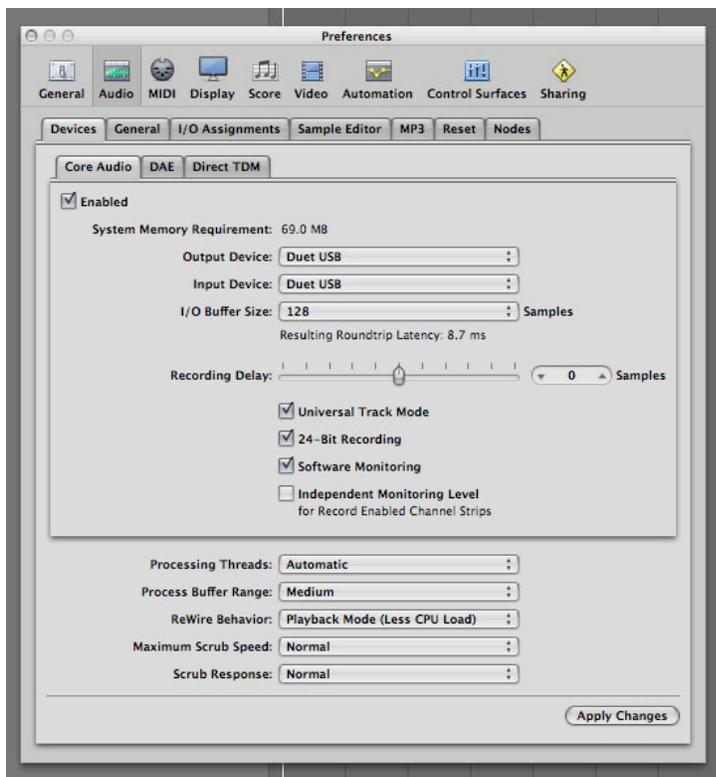
# Using Duet with Logic

**Warning! Apogee's Control Panel within Logic is not compatible with Duet 2**

Go to the Logic Pro or Logic Express menu and choose **Preferences > Audio**.



In the Core Audio pane of the Device tab, select Duet 2 for Output Device and Input Device.

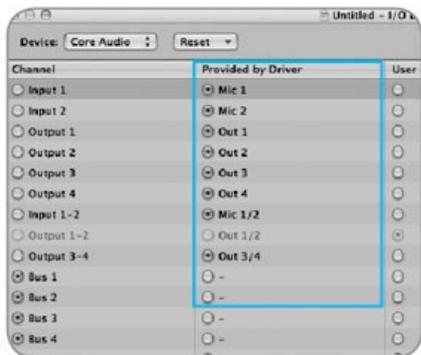


Set the I/O Buffer Size to 128.

Click Apply Changes at the bottom of the Preferences window.

By selecting Duet 2 input and output labels in Logic, the labels you see in Logic's Channel Strip input and output slots correspond exactly to Duet 2's hardware inputs and outputs, making I/O assignment much easier.

1. In Logic, choose Options > Audio > I/O Labels.
2. Select the labels in the Provided by Driver column.
3. Close the IO Labels window.



Now Input 1 has the label Mic 1



Select these labels so Logic's Channel Strip input and output slots correspond exactly with Duet 2's hardware inputs and outputs.

Now close the Logic Pro Preferences window and select New > Collection > Empty Project from the Trackmenu.



If you are recording a single microphone or instrument, make the following selections in the New Tracks dialog box:

Number: 1

Type: Audio

Format: Mono

Input: Input 1

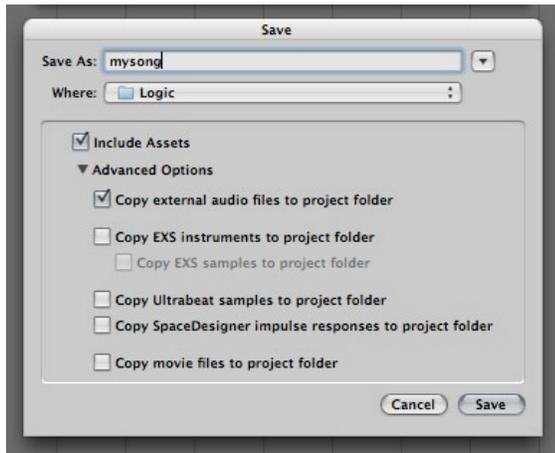
Output: 1-2

Check the Input Monitoring checkbox

Check the Record Enable checkbox



Logic will now ask you to name the project and save in on your hard drive.



Click the Record button in the transport control at the bottom of the Logic window.



You're now recording with Duet 2!

# Operation

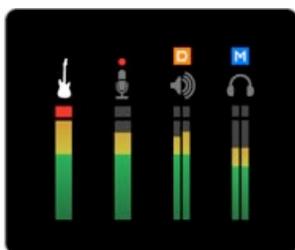
## Multi-Function Controller Knob

Duet's multi-function controller knob allows you to easily switch between Inputs and Outputs as well as adjust their levels.



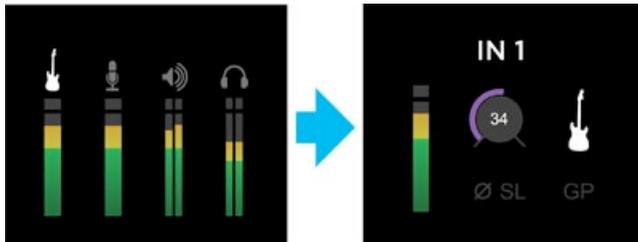
## Duet's OLED Display

Duet's OLED display provides full color visual feedback and metering.



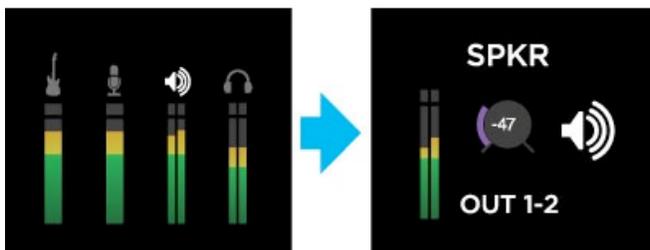
### Input level

To change Duet's input level (i.e the recording level of mics and instruments), press and release the encoder repeatedly until the desired input is highlighted at the top of the OLED display. Then turn the encoder until the desired recording level is obtained (as seen in your recording software).



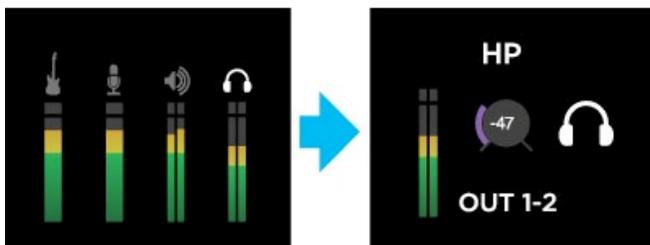
### Speaker Output level

To change Duet's speaker output level (i.e the listening level of connected speakers), press and release the encoder repeatedly until the image of the speaker is highlighted on the OLED display. Now, turn the encoder to the desired listening level. The hardware encoder operates in parallel with any software level controls.



### Headphone Output level

To change Duet's headphone output level (i.e the listening level of connected headphones), press and release the encoder repeatedly until the headphone icon is highlighted on the OLED display. Now, turn the encoder to the desired listening level. The hardware encoder operates in parallel with any software level controls.



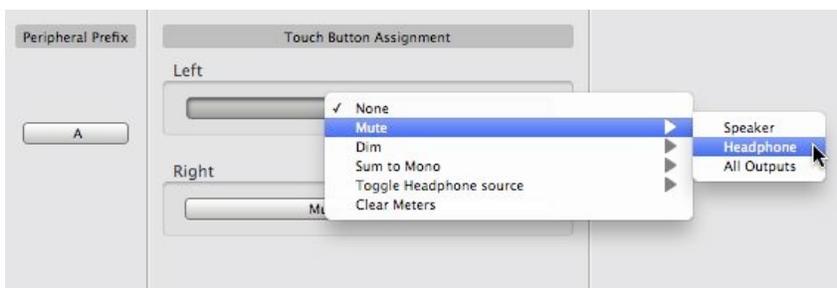
## Duet's Assignable Touchpads

Duet's two assignable touchpads can be assigned to control many of Duet's settings and parameters. Use them to setup advanced muting functions when recording yourself or to toggle between program and cue during a DJ set. Assigning functions to the touchpads is done on the Device Settings tab of Maestro.



### Mute outputs

To mute the speaker and headphone outputs, assign one of the user assignable touchpads in Maestro 2 to the desired mute function.



## Dim outputs

The Dim function lowers the output volume by 15 dB. This function is convenient when you want to briefly lower the playback volume in the speakers or headphones in order to hold a conversation without completely muting the output.



## Sum to Mono

The Sum to Mono function is used to examine phase relationships on stereo tracks. When it is engaged, phase errors become more noticeable. See [Sum to Mono \(as link\)](#) for more information.



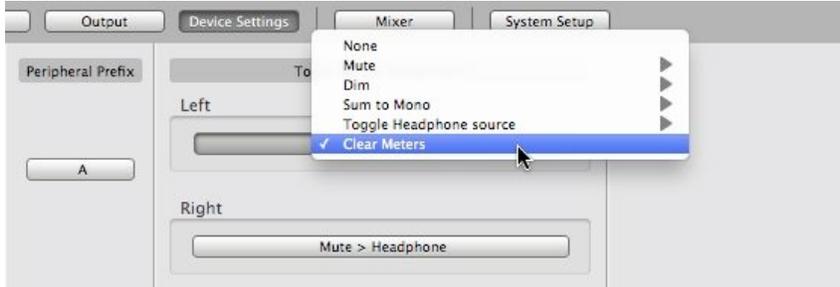
## Toggle Headphone source

Toggle Headphone source is used to switch the Headphone output between Out 1-2, Out 3-4 and Mixer. This function is especially useful for digital DJs to switch the headphone output between the House output (sent to Out 1-2) and a cue output (sent to Out 3-4).



## Clear Meters

The Clear Meters function will remove held peak and over indicators on software and OLED meters when Peak Hold or Over Hold (in the System Setup tab window) is set to Infinite.



## OS X System Preferences

The OS X System Preferences Sound window provides settings to choose Duet for Mac sound input and output. If you didn't choose Duet for Mac sound I/O in step 3 of the Quickstart guide, you may do so in this window.

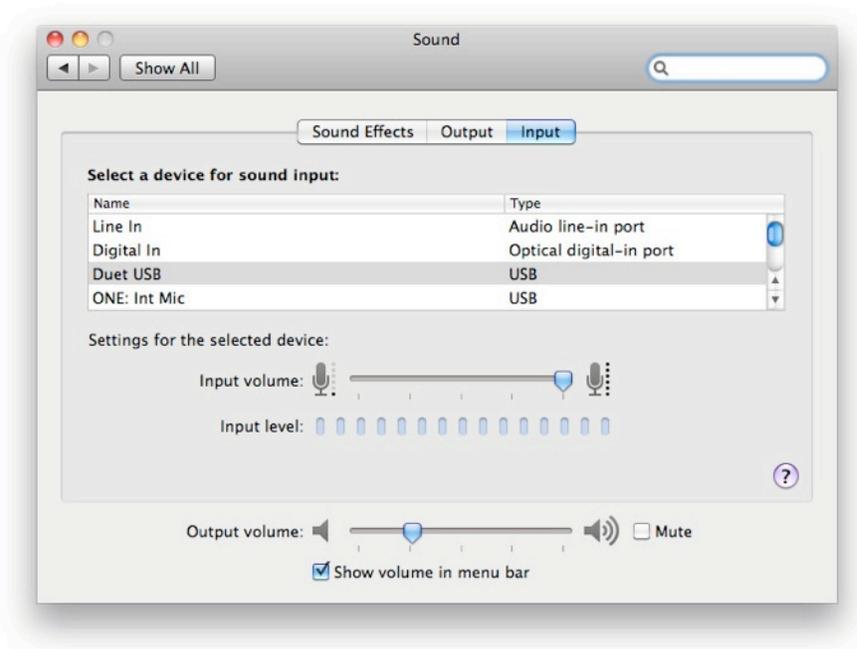
Go to the **Apple menu > System Preferences**. Open the Sound preference window by clicking on the speaker icon.



Click on the Output tab and select Duet in the Device window.



Click on the Input tab and select Duet in the Device window.



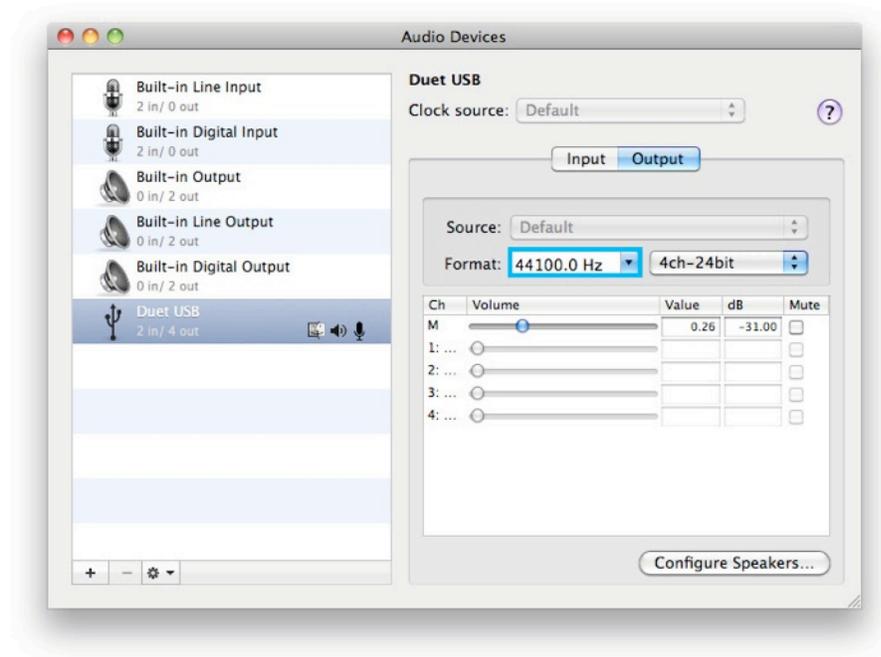
# OS X Audio MIDI Setup

OS X Audio MIDI Setup is found in **Applications > Utilities** and provides control of Duet's sample rate and output level, as well as settings to choose Duet for Mac sound input and output. To control Duet's output level and muting from AMS or from the Mac keyboard, set Default Output to Duet.



## Setting Sample Rate

Duet operates at all standard sample rates between 44.1 kHz and 192 kHz. In most cases, the sample rate is set by the audio application with which Duet is communicating. For example, when using Duet with GarageBand, Duet's sample rate is automatically set to 44.1 kHz, to match the GarageBand song's sample rate. For those audio applications that don't include a sample rate setting, such as iTunes, Duet's sample rate may be set in Audio MIDI Setup or on the System setup tab of Maestro 2.



## Apogee Maestro 2

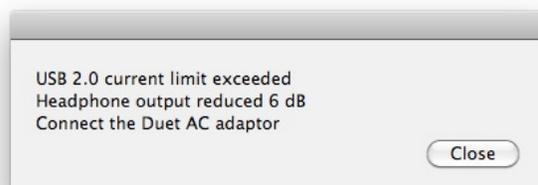
Apogee Maestro software provides the most complete control of Duet, including;

- Control of all settings
- Store/recall of configurations
- Low latency mixing

## Using the AC Adapter



If the "Connect AC adaptor" warning is displayed on the top panel OLED, or the "USB current limit" warning (shown below) appears on the Mac desktop, connect the supplied AC adaptor between Duet's DC power input and a standard wall socket. The AC adaptor may be connected to any AC voltage between 100 and 240 volts AC, thus making it compatible with virtually any wall socket in the world. Also included with the AC adaptor are NEMA (North America), "Europlug" and British "BS 1363" plug adaptors.



Duet 2 is easily powered by any available USB port on your Mac in most applications. However there may be scenarios where connecting the external AC power adaptor is preferred or required.

There are two factors contributing to increased power consumption:

- output volume into low impedance headphones
- phantom power for condenser mics.

If you have Duet 2 set at a reasonable volume, you are not drawing that much power over the USB bus and you will be able to connect any microphones that require phantom power. When you are using low impedance headphones and your volume is very high you are drawing more power over the USB bus and may need the AC adaptor to use power hungry condenser mics.

Duet 2 has a sophisticated built-in power management system and will notify you with a message on its display when the use of the external power supply is recommended. In extreme cases (fault conditions, like accidental full volume on headphones) Duet 2 will automatically reduce the headphone output in favor of continued use of phantom power such that a possible running recording session will not be interrupted.

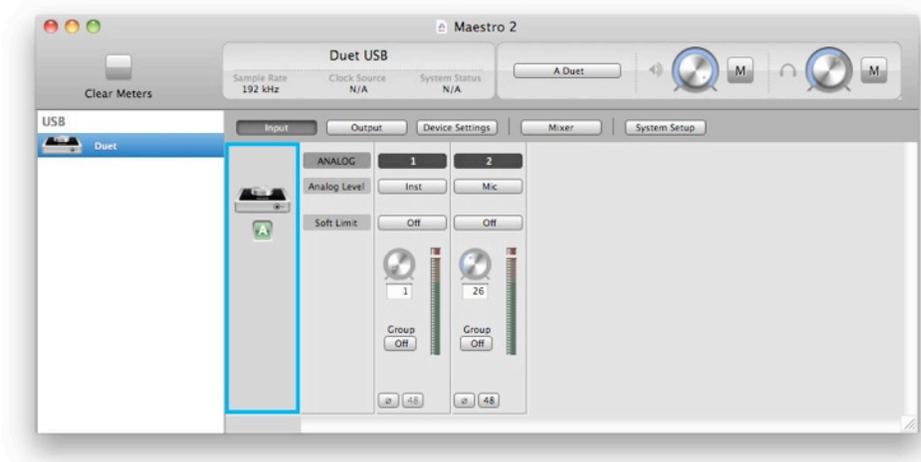
# Maestro 2

## Devices Sidebar



Any Maestro-compatible Apogee interfaces connected to the host computer are displayed in the Devices sidebar, regardless of whether the connection is made via Symphony PCI card, USB or FireWire. Hardware settings are displayed by first selecting one or more interfaces in the Devices sidebar and then clicking on a tab.

## Device Icon & ID Button



A device icon and ID button is placed adjacent to each row of parameters to identify the hardware unit to which the row belongs. By clicking on the ID button, the corresponding hardware unit's front panel will illuminate. Each hardware unit is assigned a Peripheral

Prefix (A-Z, found in Maestro's Device Settings tab window) which is displayed on the ID button.

## Input Tab Window



1. **Device Icon & ID Button** - see the description above.
2. **Analog Level** - Use this menu to select microphone, instrument, or line input.
3. **Soft Limit** - Use this menu to engage Soft Limit. Soft Limit is Apogee's proprietary analog process for taming transients before A/D conversion. By gently rounding transients in a transparent manner, it's possible to maximize level BEFORE the A/D conversion stage.  
Soft Limit is most effective with signals with large transients such as drums, percussion and plucked instruments. Soft Limit may not be the appropriate choice for signals such as bass or organ.
4. **Input Level** - The gain of each input is controlled with these software knobs. The gain level is indicated in the value box below the knob.
5. **Analog Input Meter** - This meter displays the level of the analog input after A/D conversion.
6. **Group On/Off** - Use this to group the gain setting of both inputs so that the multi-function knob on Duet or one software gain knob controls both input gains simultaneously. If a gain offset is present between inputs when Group is set to On, this offset is preserved.
7. **Phase** - Check this box to reverse the polarity of the input signal. Under certain circumstances, when two mics are used on one source, reversing the polarity of one mic may result in a fuller sound. For example, when top and bottom mic'ing a snare drum, a fuller sound is obtained when the polarity of the bottom mic is reversed.
8. **48 V / Phantom Power** - Engage this button for 48 volts phantom power on the XLR connections. Condenser mics require phantom power to operate.

# Output Tab Window

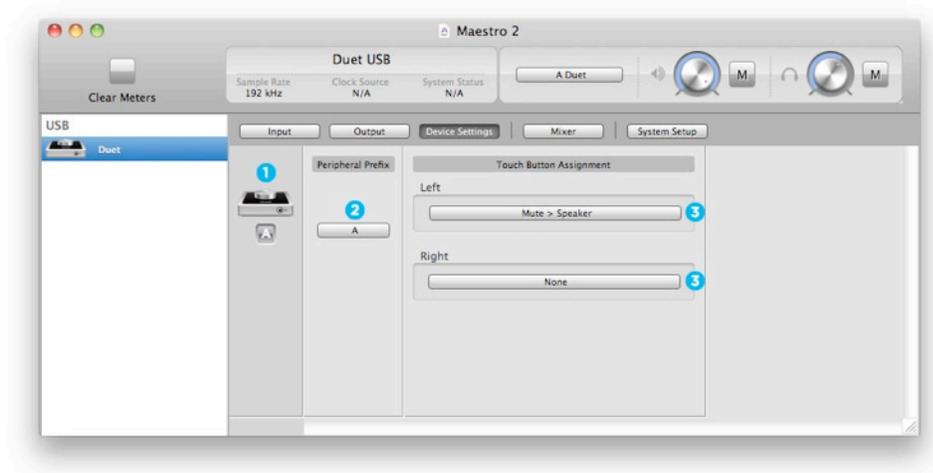


1. **Device Icon & ID Button** - see the description above.
2. **Analog Output Meter** - This meter displays the level of the analog output before D/A conversion, in the range -48 to 0 dBFS.
3. **Speaker Out Selection** - This menu selects the software output that is sent to the speaker outputs.
4. **Speaker Out Level** - This knob controls the speaker output level.
5. **Headphone Out Selection** - This menu selects the software output that is sent to the headphone outputs.
6. **Headphone Level** - This knob controls the output level of the front panel HP 1 output.
7. **Dim** - Engage dim if you want to lower the output level by 15 dB. This function is convenient when you want to briefly lower the playback volume in the speakers or headphones in order to hold a conversation without completely muting the output. Duet's top panel touch buttons may be set to engage Dim on the Speaker outputs, the headphone outputs or both at the same time. See Device Settings Tab Window.
8. **Sum to Mono** - Engage this to sum the left and right channels of the output to mono. At many points of the production process, this function is useful to check mono compatibility. For example, when recording with a stereo pair of mics, it's always a good idea to sum both channels to mono and check for unevenness in the frequency range caused by phase cancellation and reinforcement of particular frequencies. If the sound changes significantly or sounds "hollow" when summed to mono, this may indicate phase issues caused by a less than optimal mic placement. When mixing, it's also a good idea to check mono compatibility. Beyond questions of phase, any masking caused by overlapping frequencies is most easily heard when listening in mono. Try starting a mix with Sum to Mono engaged - once you have something that sounds good, then disengage Sum to Mono and revel at the beautiful stereo mix you've created!

Duet's top panel touch buttons may be set to engage Sum to Mono on the Speaker outputs, the headphone outputs or both at the same time. See Device Settings Tab Window.

9. **Mute** - Engage this to mute the output.

## Device Settings Tab Window



1. **Device Icon & ID Button** - see the description above.
2. **Peripheral Prefix** - Use this drop down menu to assign a letter prefix (A-Z) to each peripheral device displayed in the Devices Sidebar. The letter prefix is included in all graphic representations of the peripheral as well as I/O labels in Maestro and Core Audio compatible applications.
3. **Touch Button Assignment** - Use these menus to select the parameter controlled by the user assignable touchpads.

# Mixer Tab Window

Use the Mixer Tab Window to adjust the Mix of input and output signals as well as configure Low Latency Mixing.



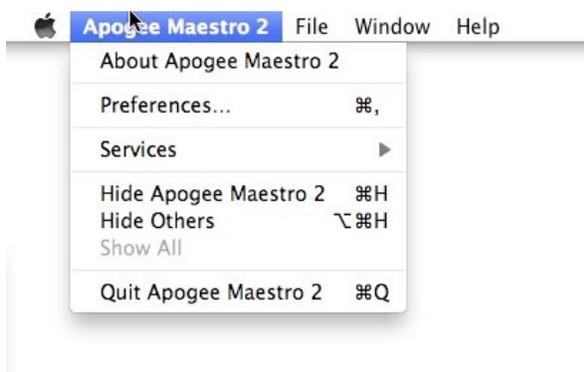
1. **Device Icon & ID Button** - see the description above.
2. **Pan** - This rotary knob pans the input signal between the left and right sides of the Maestro mixer's stereo output.
3. **Input Level fader** - This slider sets the level of the input signal in the Maestro mixer's stereo output.
4. **Meter** - This bargraph style meter displays the pre-fader input level.
5. **Level Value Window** - The level value, between -48 and 0 dBFS.
6. **Solo** - This button mutes all other channels whose Solo buttons are not engaged.
7. **Mute** - This button mutes the input channel.
8. **Software Return Fader** - This stereo input channel provides level control, metering, and mute/solo functions for the signal from the software application containing playback. Match your recording software application's mixer output and the Software Return menu selection. In most cases, the recording software mixer output and Maestro's Software Return will be set to 1-2.
9. **Mixer Master** - This is the level control and meter for the mixer's output.

# System Setup Window



1. **Sample Rate** - This drop down selects the sample rate. Under certain circumstances, (for example, when a DAW session is open) this setting will be overridden by software sample rate settings.  
The following settings determine the behavior of the front panel and Maestro software level meters.
2. **Peak Hold** - This pop-up menu sets the time that peak indications are held on software and front panel meters.
3. **Over Hold** - This pop-up menu sets the time that over indications are held on software and front panel meters.
4. **Keyboard Volume Control** - Peripheral, Audio Output - These drop down menus set the hardware output to be controlled by the Mac keyboard's volume control. First, select the hardware peripheral that includes the desired output using the Peripheral drop down then select the specific audio output using the Audio Output drop down.

# Menu Bar Menus



**About Apogee Maestro** - Choose this menu item to display version information.

**Preferences** - Choose this menu item to display Maestro's Preference panel.

Check Launch Maestro automatically when connecting a device to launch Maestro when the Mac is started.

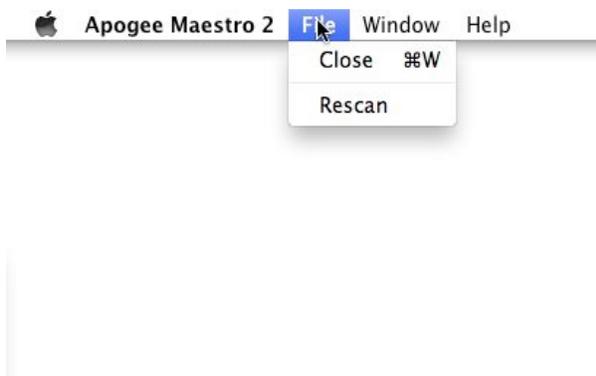
Check Display Pop-ups to show top panel encoder adjustments.

**Hide Apogee Maestro 2** - Choose this menu item to hide the Maestro application.

**Hide Others** - Choose this menu item to hide all other open applications.

**Show All** - If any open applications have been hidden, choose this menu item to reveal all open applications.

**Quit Apogee Maestro 2** - Choose this menu item to quit Maestro.



**Close** - Choose this menu item to close the Preferences panel when opened.

**Rescan** - Choose this menu item to re-initialize the link between Maestro software and Apogee hardware connected to the Mac, in the case where the hardware is correctly connected and powered on but not detected in Maestro.



**Minimize** - Choose this menu item to minimize the Maestro window to the OS X Dock.

**Zoom** - Choose this menu item to maximize the size of the Maestro window.

Choose any of the currently active tabs to open the tab window. Type Command + number to open the tab window.



# Low Latency Mixing

While recording, if you notice a delay between the moment you play or sing a note and when you hear it in your headphones you are experiencing latency. Maestro's low latency mixer may help and can be configured by clicking the Mixer tab in Maestro.



## Maestro Low Latency mixing

A bit of background information concerning latency and computer-based digital recording setups will help you better understand these functions.

When recording with most computer-based digital audio applications, the delay between the input and output of the recording system often disturbs the timing of the musicians performing. This delay, known as latency, means that the musician hears the notes played a few milliseconds after having actually played them. As anyone who has spoken on a phone call with echo knows, relatively short delays can confuse the timing of any conversation, spoken or musical.

To illustrate the effect of latency, **figure A** depicts the typical signal path of a vocal overdub session. A vocalist sings into a microphone, which is routed to an analog to digital converter then to the audio software application for recording. In the software application, the vocalist's live signal is mixed with the playback of previously recorded tracks, routed to a digital to analog converter, and finally to the vocalist's headphones. A slight delay accumulates at each conversion stage, while a much greater amount of delay occurs through the software application, resulting in the vocalist hearing his performance in headphones delayed by several milliseconds.

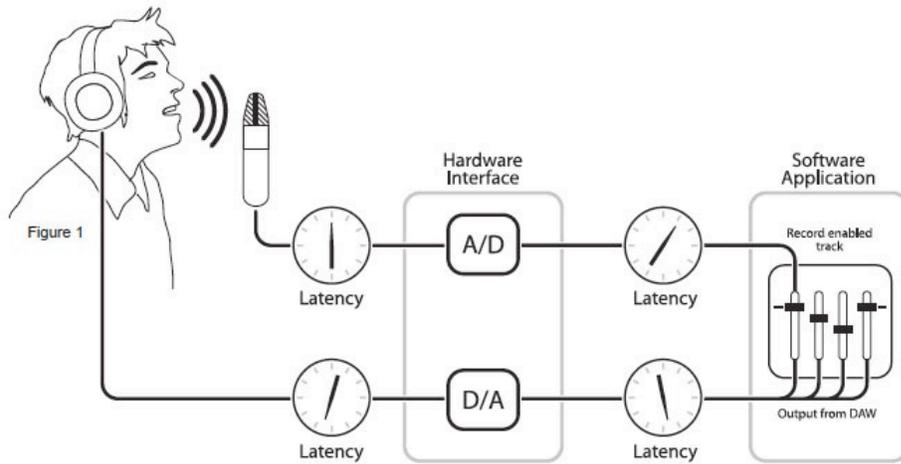


Figure A

By routing the hardware input directly to the hardware output and mixing in playback as shown in **Figure B**, it's possible to provide the vocalist a headphone monitoring signal with a much shorter delay.

First, the signal being recorded (in this case, a vocal mic) is split just after the A/D stage and routed to both the software application for recording and directly back to the hardware outputs without going through the latency-inducing software. This creates a low latency path from mic to headphones. Next, a stereo mix of playback tracks is routed to the low latency mixer and combined with the hardware input(s). This allows the performer to hear himself while listening to playback tracks without a confusing delay in order to comfortably record overdubs.

Note that the software application's mixer is used to set a stereo mix of playback tracks while the low latency mixer is used to set the balance between the stereo playback mix and the hardware inputs.

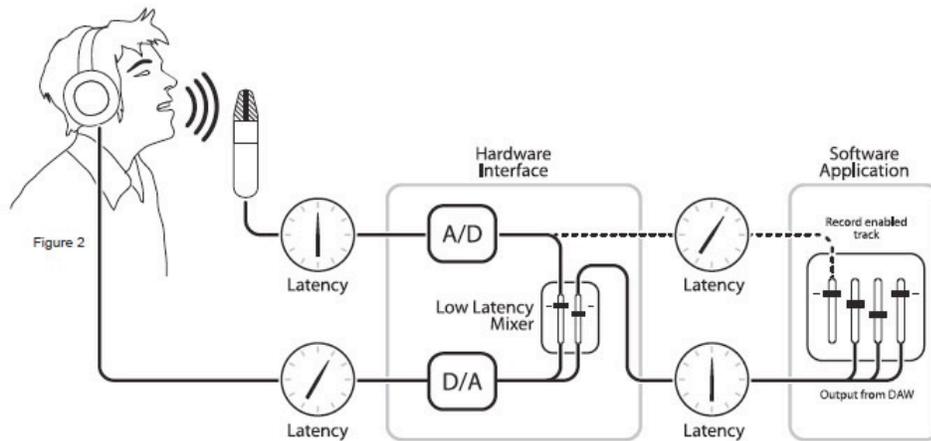


Figure B

## Working with the Maestro Mixer

Do I need the Maestro Mixer?

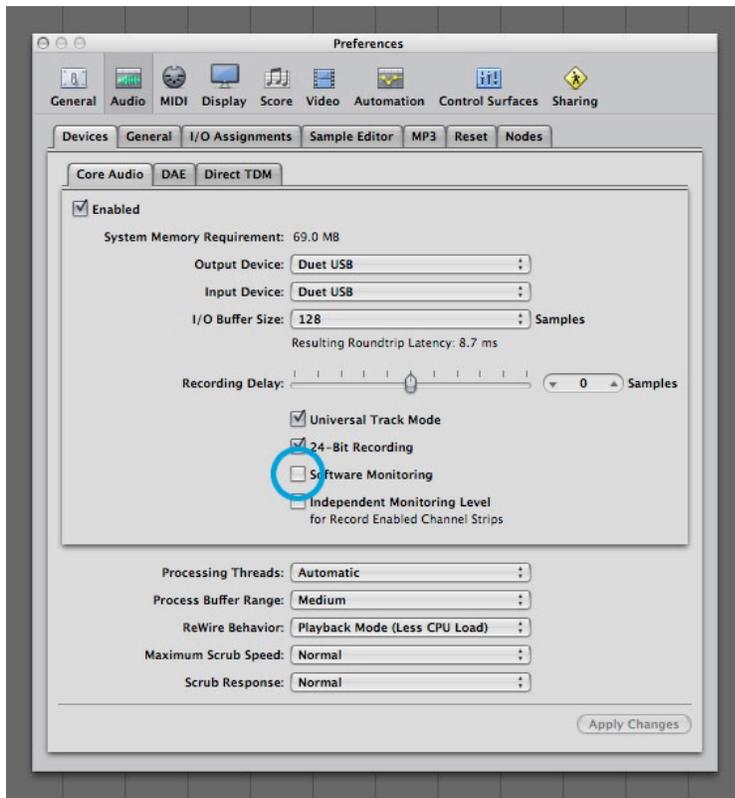
The Maestro mixer serves to provide a low latency monitoring mix while recording. Therefore if you're using Duet to listen to iTunes or audio from another program, there's no need to use the mixer. Leave the outputs set to 1-2 or 3-4 to disable the mixer.

It's possible that the latency of your particular recording system is low enough to be unnoticed. The system latency is determined by the recording software's buffer setting, and if your Mac is powerful enough, it's possible to set the buffer to a lower value (shorter latency) without encountering clicks and pops in the audio output. If the latency doesn't pose a problem while recording, the mixer may be disabled by simply leaving the outputs set to 1-2 or 3-4.

## Recording software settings

Before using the Maestro mixer, it's necessary to change a few settings in your recording software.

**Software monitoring** - Because the signal to be recorded is monitored through the Maestro mixer, the outputs of software tracks actively recording should be muted - after all, that's the source of the latency. Most software applications provide an option to turn off software monitoring of recording tracks. In Logic Pro, for example, the software monitoring option is found in the same Audio preferences window used to select Duet as the hardware device (Logic Pro menu > Preferences > Audio). Uncheck the Software Monitoring box.



**Playback mix** - In your recording software, set up a mix of all playback tracks and route it to Out L-R. If a master fader controls the global output of the mix, it's suggested to set the fader to 0 dB.

## Maestro Mixer Settings

Initially, set the Input, Software Return, and Mixer Master faders to 0 dB.



On the Output tab of Maestro, set the speaker, headphone, or both outputs to Mixer.



After making the input selection and setting gain, the signal should be displayed on both the Input and Mixer Master meters. If the Input's Over LED lights, reduce the input gain in the Maestro Control window. If the Mixer Master's Over LEDs light, reduce the Input fader.



Now start playback in your recording software. The playback signal should be displayed on the Software Return and Mixer Master's meters. Use the Software Return and Input faders to establish your desired balance between the input and playback signals. If you've found a good balance but the Mixer Master's Over LEDs light, reduce the Mixer Master fader.

# Connections

## Monitors and Headphones

Connect powered monitors (Duet will not power unpowered monitors) to the 1/4" outputs with the icons labeled OUT-L and OUT-R on the breakout cable.



Connect headphones to the 1/4" output with the icon.



## Instrument and Mic

Connect an instrument to the combination jack's 1/4" instrument input 1



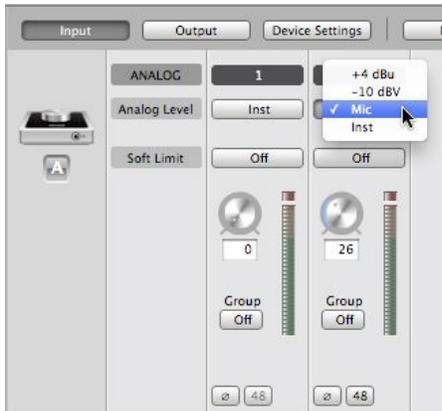
In Maestro, change Input 1 to instrument



Connect a microphone to the combination jack's XLR input 2



In Maestro, change Input 2 to Mic



## Connecting Two Microphones

Connect microphone #1 to the combination jack's XLR input 1.



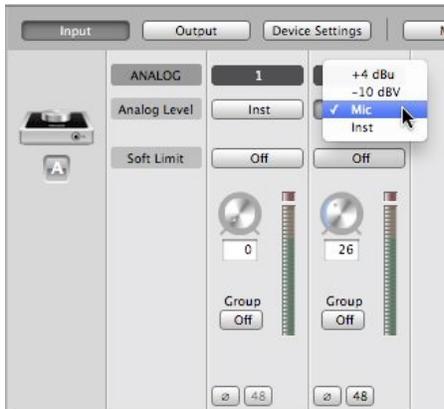
In Maestro, change Input 1 to Mic



Connect microphone #2 to the combination jack's XLR input 2.



In Maestro, change Input 2 to Mic

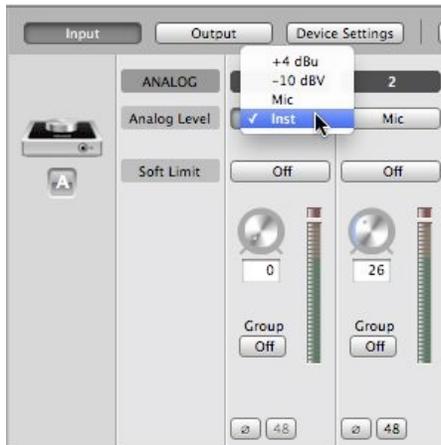


## Connecting Two Instruments

Connect instrument #1 to the combination jack's 1/4" instrument input 1



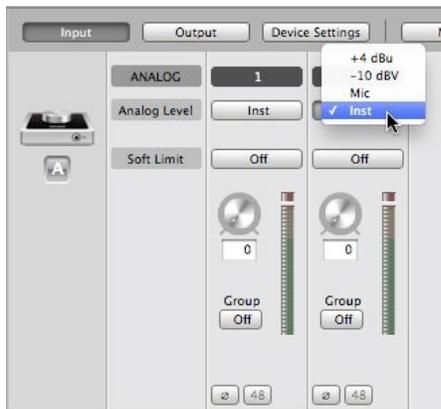
In Maestro, change Input 1 to instrument



Connect instrument #2 to the combination jack's 1/4" instrument input 2



In Maestro, change Input 2 to instrument



## Powered Monitors

Duet is also the best way to listen to audio from your Mac, be it from your iTunes library, an Internet radio station, or CD/DVD playback.

To connect Duet's line outputs directly to powered monitors (Duet will not power unpowered monitors), you'll need 2 cables with 1/4" tip-ring-sleeve plugs on one end to connect to Duet's OUT-L and OUT-R jacks and the appropriate connector on the other ends to connect your monitors.



## Connecting To A Home Stereo

To connect Duet directly to your home audio system, insert 1/4" to RCA adapters in Duet's OUT-L and OUT-R jacks and use a commonly available RCA to RCA cable to connect to the AUX or CD input of your receiver.

When connecting to a home audio system, set Duet's output to 0 dBFS (i.e full volume) and use the receiver's volume control to set playback level.

Once audio connections have been made, connect Duet's USB port to your Mac using the provided USB 2 cable. Once connected, the dialog box shown below will appear. Click Yes to choose Duet for Mac sound output and input.

This selection may also be made in the System Preferences > Sound > Output panel.

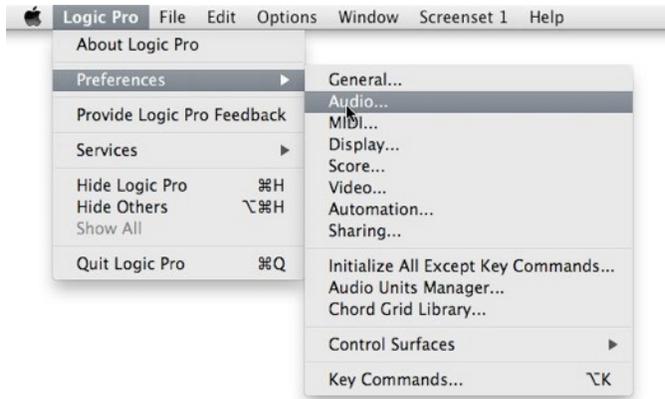
In iTunes, select Computer as the sound output. Any audio that is played back in iTunes will now be routed to Duet and the output will be available on your home audio system.

# Applications

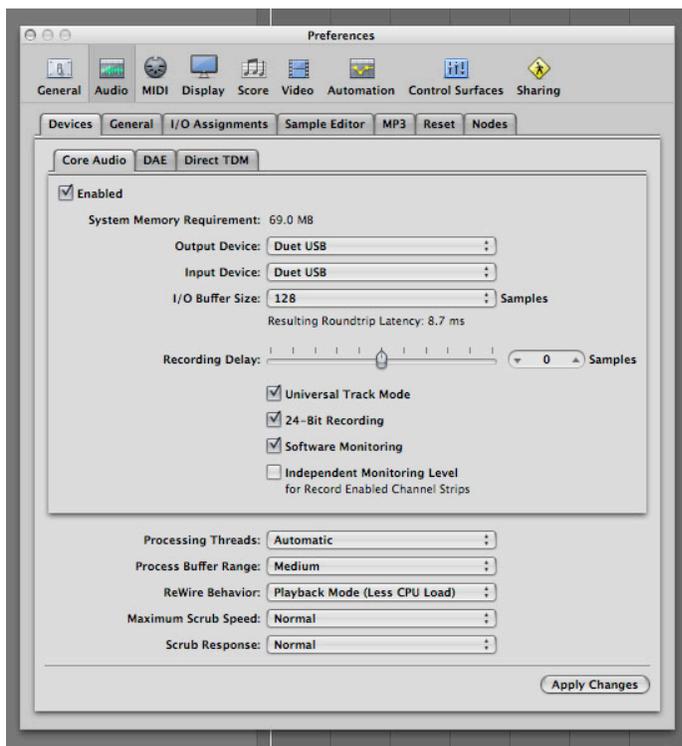
## Using Duet with Logic

**Warning! Apogee's Control Panel within Logic is not compatible with Duet 2**

Go to the Logic Pro or Logic Express menu and choose **Preferences > Audio**.



In the Core Audio pane of the Device tab, select Duet 2 for Output Device and Input Device.

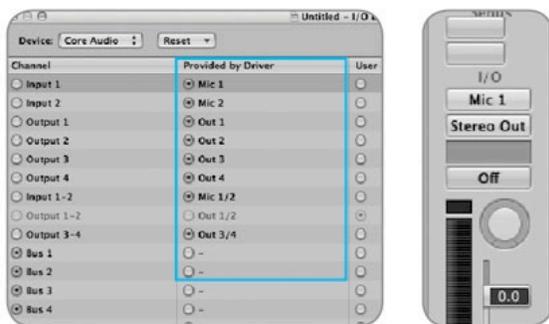
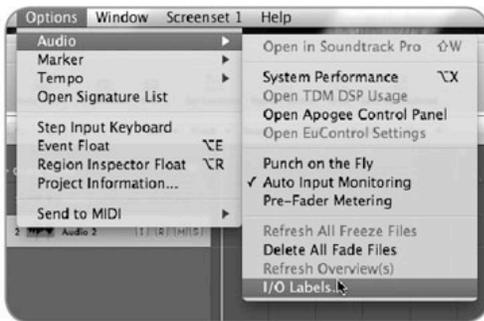


Set the I/O Buffer Size to 128.

Click Apply Changes at the bottom of the Preferences window.

By selecting Duet 2 input and output labels in Logic, the labels you see in Logic's Channel Strip input and output slots correspond exactly to Duet 2's hardware inputs and outputs, making I/O assignment much easier.

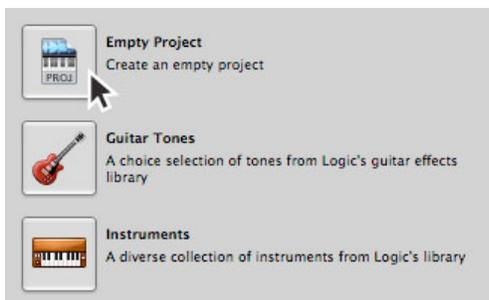
1. In Logic, choose Options > Audio > I/O Labels.
2. Select the labels in the Provided by Driver column.
3. Close the IO Labels window.



Now Input 1 has the label Mic 1

Select these labels so Logic's Channel Strip input and output slots correspond exactly with Duet 2's hardware inputs and outputs.

Now close the Logic Pro Preferences window and select New > Collection > Empty Project from the Trackmenu.

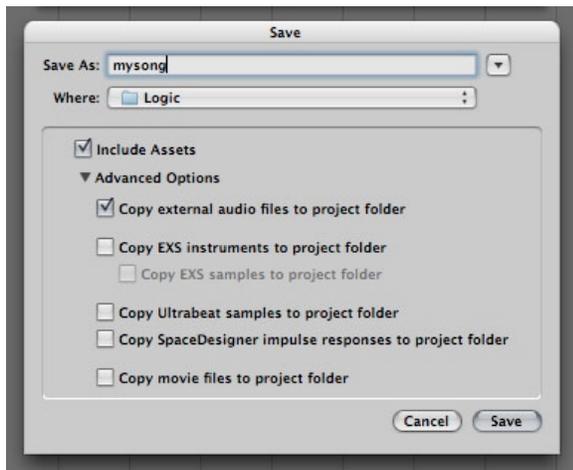


If you are recording a single microphone or instrument, make the following selections in the New Tracks dialog box:

- Number: 1
- Type: Audio
- Format: Mono
- Input: Input 1
- Output: 1-2
- Check the Input Monitoring checkbox
- Check the Record Enable checkbox



Logic will now ask you to name the project and save in on your hard drive.



Click the Record button in the transport control at the bottom of the Logic window.



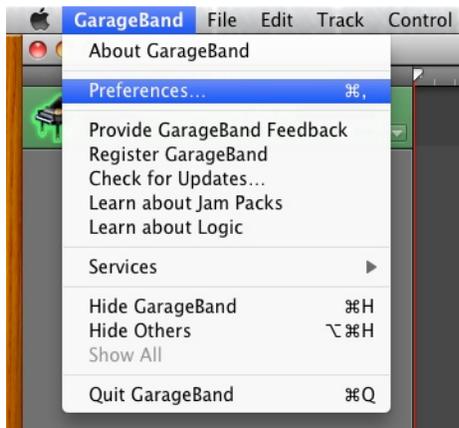
# Using Duet with Apple's GarageBand

## Warning! Apogee's Control Panel within GarageBand is not compatible with Duet 2

If you have Duet connected when you launch GarageBand



Choose GarageBand > Preferences.

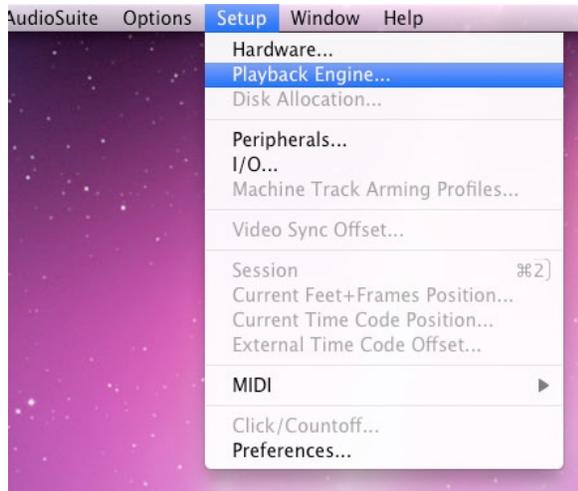


Choose Duet USB for Audio Output and Audio Input

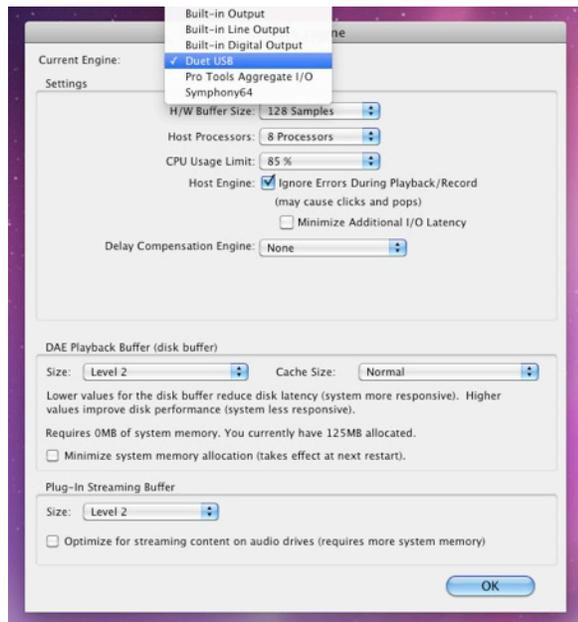


# Using Duet with Avid Pro Tools 9

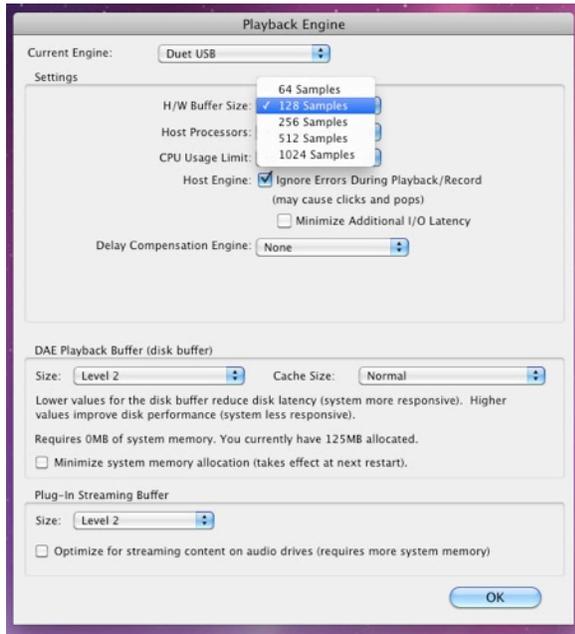
Choose Setup menu > Playback Engine.



Choose Duet for Current Engine.



Set the Buffer Size to 128. Click OK.

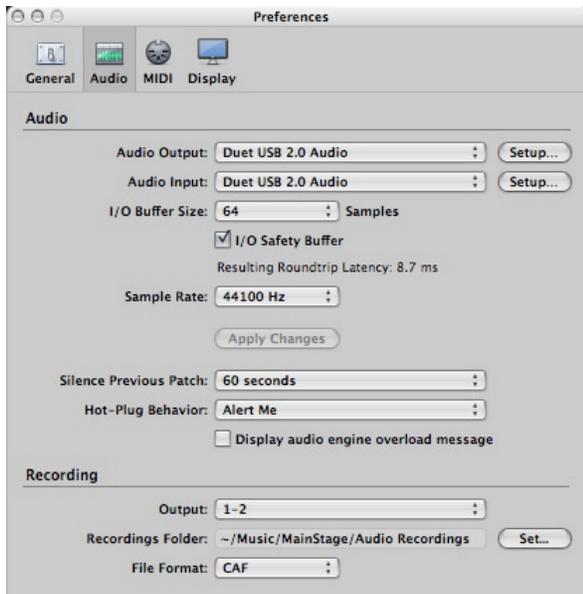


# Using Duet with Apple MainStage

**Warning! Apogee's Control Panel within MainStage is not compatible with Duet 2**

Choose MainStage > Preferences

Click on the Audio/MIDI tab Select Duet in the Audio Output and Audio Input menus Set I/O Buffer Size to 128 Close the Preferences window after making settings.



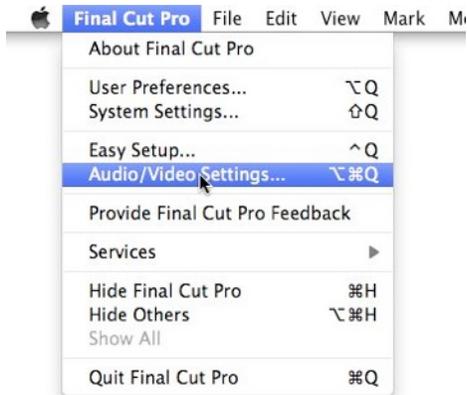
# Using Duet with Ableton Live

Choose Live > Preferences

Click on the Audio tab. Select CoreAudio in the Driver Type menu. Select Duet in both the Audio Input Device and Audio Output Device menus. Set Buffer Size to 128. Close the Preferences window after making settings.

# Using Duet with Apple Final Cut Pro

Choose Final Cut Pro > Audio/Video Settings.



Click on the A/V Devices tab. Select Duet in the Audio menu. Click OK.

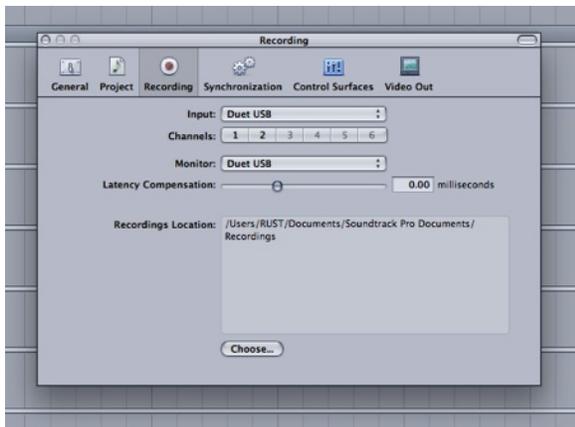


# Using Duet with Apple Soundtrack Pro

Choose Soundtrack Pro > Preferences.

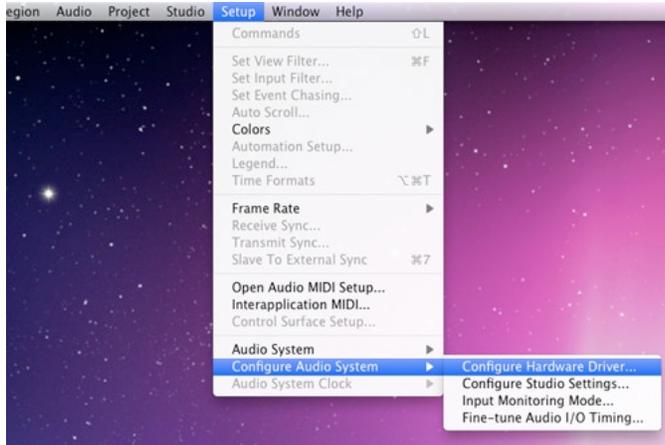


Click on the Recording tab. Select Duet in both the Input and Monitor menus. Close the Preferences window after making settings.

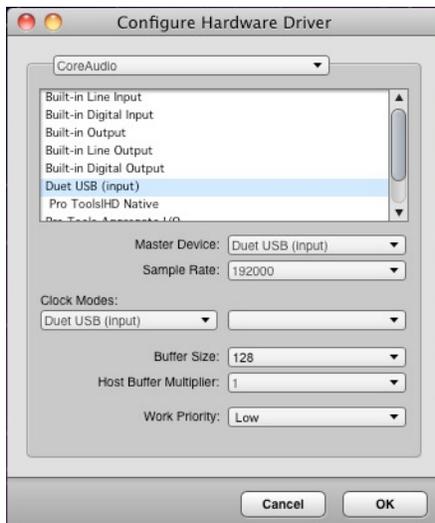


# Using Duet with MOTU Digital Performer

Choose Setup > Configure Audio System > Configure Hardware Driver



In the Configure Hardware Driver window, select CoreAudio in the topmost menu.



Select Duet in the device list. Set Buffer Size to 128.

Set Host Buffer Multiplier to 1. Set Work Priority to Low. Click OK.

## Using Duet with Steinberg Nuendo

Choose Devices > Device Setup

In the Devices window, click on VST Audio System. Select Duet in the ASIO menu. Once Duet is recognized by Nuendo, select Duet in the Devices window. Click on Control Panel. In the ASIO Settings pop-up, set Buffer Size to 128 and click OK. In the Device Setup window, click OK.

# Troubleshooting/FAQs

**Q: What does the display of a white Apogee logo "A" on the top panel OLED indicate?**

A: The white "A" indicates that USB is disconnected. Connect USB, try a different USB cable or a different Mac USB port.

Q: What does the display of a purple Apogee logo "A" on the top panel OLED indicate?

A: The purple "A" indicates that Duet is loading its firmware.

Q: When I press the encoder to select an input or output, the selection is unavailable. Why?

A: When the inputs are set to XLR line, the encoder is disabled.

**Q: I've connected my guitar, but I'm not getting any input. What should I check?**

A: On the Input tab of Maestro, be sure to set Analog Level to Instrument (Inst).

**Q: I'm not getting any output from audio software applications. What should I check?**

A: If you have chosen Mixer for the output then the Software Return fader must be raised to send audio software application outputs to Duet's outputs.

**Q: I want Maestro to open automatically each time I connect Duet. What should I set?**

A: Open Maestro > Preferences and check the Launch Maestro automatically when connecting a device checkbox.

Q: Can I set the headphone and line outputs to different levels?

A: Yes!

**Q: How do I reset Duet?**

A: To reset Duet unplug the USB cable, hold down Multi-Function Controller knob and reconnect USB cable

**Symptom: The audio quality is compromised (distortion, choppy audio, "buzzy" audio).**

Solution: There are several remedies for audio that is distorted, choppy or otherwise compromised:

- 1) Hotplug Duet
- 2) Toggle sample rate (in your DAW or, in the case of iTunes, Audio MIDI Setup)
- 3) Reload DAW driver (for example, in Logic choose Logic Pro > Preferences > Audio.

Click on the Devices tab, then the Core Audio tab. Uncheck Enabled, then re-check it.  
4) In iTunes, stop then re-start audio playback.

**Symptom: The touch buttons don't work consistently.**

Solution: Be sure that the top panel protective film has been removed.

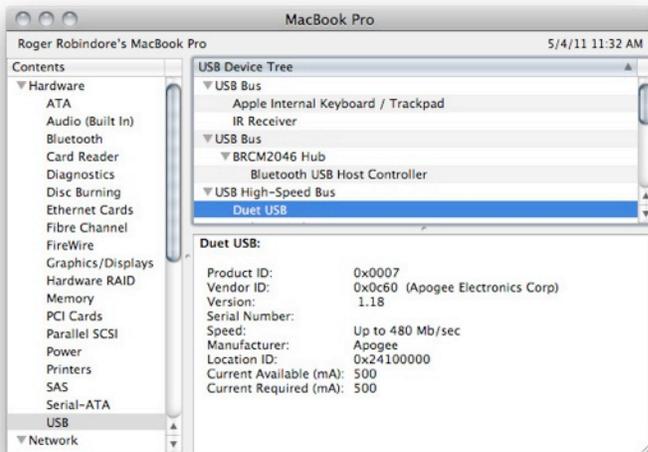
Symptom: Duet isn't recognized in System Preferences, Maestro or my DAW application.

Solution: Here are the steps, in order, to check if Duet isn't recognized:

Open System Profiler by choosing About This Mac under the Apple menu and clicking More Info...

In System Profiler's Contents column, open the Hardware disclosure triangle and click USB.

Find Duet USB in the USB Device Tree and click on it to display the device's properties. Verify that the properties are the same as shown below:



If Duet 2 doesn't appear in the USB Device Tree

1) hotplug Duet

1) try a different USB cable or try a different USB port on your Mac.

If the Version shown in System Profiler doesn't match the Version shown above, run the Duet 2 Software Installer.

## Further Troubleshooting Resources

If you still haven't found a resolution to your issue, Apogee provides a wide range of resources to help you.

### Apogee Website

For any questions concerning product information, please visit our website:

[www.apogeedigital.com](http://www.apogeedigital.com)

To peruse Apogee videos, including Symphony I/O Module Installation tutorials, please visit our video section: [video.apogeedigital.com](http://video.apogeedigital.com)

For more technical information, including FAQs, User Guides and downloads, please visit the support section: [support.apogeedigital.com](http://support.apogeedigital.com)

### Apogee Support

Apogee's Support department may be contacted via email, telephone or Live chat. In order to provide you with the most efficient technical support, we ask you to register your Apogee product before contacting us, at: [apogeedigital.com/account.php](http://apogeedigital.com/account.php). Also, it's best to have the Apogee product on-hand and operational when calling Support.

Email: [support@apogeedigital.com](mailto:support@apogeedigital.com)

Phone support is available from 7am to 7pm (19h00) Pacific Standard Time at: +1 (310) 584-9394

Live chat is available from 10am to 4pm (16h00) Pacific Standard Time - please go to [support.apogeedigital.com](http://support.apogeedigital.com)

Fax Apogee Support at: +1 310 584-9385

### Apogee Product Repair

If, for some reason, your Apogee product requires repair, please contact Apogee Support to obtain a Return Materials Authorization (RMA).

**Any Apogee product shipped to us without a clearly indicated RMA number must be refused delivery.**

Please consult the Warranty information for more details.

# Specifications

Features	Duet 2
Computer Connectivity	USB 2.0 High Speed
Roundtrip Latency Performance	32 buffer @ 96kHz = 3.6 ms 64 buffer @44.1 kHz = 5.8 ms
Power	USB Bus Power (DC power optional)
Bit resolution/sample rate	24-bit/44.1kHz
Input Channels	24-bit/44.1kHz
Output Channels	4 (Stereo headphone out & L/R speaker outs)
Speaker Outputs	Balanced
Independent Headphone Out	✓
Microphone Preamps	2
Microphone Preamp Gain	up to 75 dB
Line Level Input	+4 dBu, -10 dBV
OLED Display	✓
Touch pads	✓
Metering	Full Color OLED
Breakout Cable Design	2 Combi In, 2 1/4" Out
Maestro Version	Maestro 2
Phantom Power	✓
Soft Limit	✓
Group Inputs	✓
Mute Outputs	✓
Sum to Mono	✓

Features	Duet 2
Dim Outputs	✓
Toggle Headphone Source	✓
Core Audio Compatible	✓

# System Requirements

- Intel Mac 1.5 GHz or faster
- MacOS X 10.6.4 or greater
- 2 GB minimum RAM, 4 GB recommended

# Duet 2 Warranty Information and Legal Notices

## Registration and Warranty Information

Be sure to register your Duet 2, either by filling in the enclosed Registration Card or by completing the on-line registration form at our Web site: [apogeedigital.com/account.php](http://apogeedigital.com/account.php). If you do so, Apogee can contact you with any update information. As enhancements and upgrades are developed, you will be contacted at the registration address. Firmware updates are free for the first year of ownership unless otherwise stated.

Please address any inquiries to your dealer or directly to Apogee at:

APOGEE ELECTRONICS CORPORATION  
1715 Berkeley St Santa Monica, CA 90404, USA  
TEL: (310) 584-9394, FAX: (310) 584-9385  
email: [support@apogeedigital.com](mailto:support@apogeedigital.com)

APOGEE ELECTRONICS CORPORATION warrants this product to be free of defects in material and manufacture under normal use for a period of 12 months. The term of this warranty begins on the date of sale to the purchaser. Units returned for warranty repair to Apogee or an authorized Apogee warranty repair facility will be repaired or replaced at the manufacturer's option, free of charge.

**ALL UNITS RETURNED TO APOGEE OR AN AUTHORIZED APOGEE REPAIR FACILITY MUST BE PREPAID, INSURED AND PROPERLY PACKAGED, PREFERABLY IN THEIR ORIGINAL BOX.**

Apogee reserves the right to change or improve design at any time without prior notification. Design changes are not implemented retroactively, and the incorporation of design changes into future units does not imply the availability of an upgrade to existing units. This warranty is void if Apogee determines, in its sole business judgment, the defect to be the result of abuse, neglect, alteration or attempted repair by unauthorized personnel. The warranties set forth above are in lieu of all other warranties, expressed or implied, and Apogee specifically disclaims any and all implied warranty of merchantability or of fitness for a particular purpose. The buyer acknowledges and agrees that in no event shall the company be held liable for any special, indirect, incidental or consequential damages, or for injury, loss or damage sustained by any person or property, that may result from this product failing to operate correctly at any time.

**USA:** Some states do not allow for the exclusion or limitation of implied warranties or liability for incidental or consequential damage, so the above exclusion may not apply to you. This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

## **Service Information**

The Duet 2 contains no user-serviceable components; refer to qualified service personnel for repair or upgrade. Your warranty will be voided if you tamper with the internal components. If you have any questions with regard to the above, please contact Apogee. In the event your Duet 2 needs to be upgraded or repaired, it is necessary to contact Apogee prior to shipping, and a Return Materials Authorization (RMA) number will be assigned. This number will serve as a reference for you and helps facilitate and expedite the return process. Apogee requires that shipments be pre-paid and insured — unless otherwise authorized in advance.

**IMPORTANT: ANY SHIPMENT THAT IS NOT PRE-PAID OR IS SENT WITHOUT AN RMA NUMBER WILL NOT BE ACCEPTED.**

## **Warnings**

### **FCC warning**

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to take whatever measures necessary to correct the interference at his own expense.

## **Copyright Notice**

Duet 2 is a computer-based device, and as such contains and uses software in ROMs. This software, and all related documentation, including this User's Guide contain proprietary information which is protected by copyright laws. All rights are reserved. No part of the software and its related documentation may be copied, transferred, or modified. You may not modify, adapt, translate, lease, distribute, resell for profit or create derivative works based on the software and its related documentation or any part thereof without prior written consent from Apogee Electronics Corporation, U.S.A.

## Software Notice

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1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

## Declarations of Conformity

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference
2. This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits of 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. 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:

1. Re-orient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a different circuit from that to which the receiver is connected.

4. Consult the dealer or an experienced radio/TV technician for help.

**NOTE: The use of non-shielded cable with this equipment is prohibited.**

**CAUTION: Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.**

Apogee Electronics Corp.  
1715 Berkeley Street  
Santa Monica, CA 90404, USA

Betty Bennett, CEO.

### **Industry Canada Notice**

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations. Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

### **Declaration of Conformity – CE**

Apogee Electronics Corporation hereby declares that the product, the Duet 2, to which this declaration relates, is in material conformity with the following standards or other normative documents:

- EN50081-1/EN55022; 1995
- EN50082-1/IEC 801-2, 3, 4; 1992  
following the provisions of:
- 73/23/EEC – Low Voltage Directive
- 89/336/EEC – EMC Directive

### **Declaration of Conformity – Japan**

Apogee Electronics Corporation hereby declares that Duet 2, to which this declaration relates, is in material conformity with the VCCI Class A standard.

### **Declaration of Conformity – Australia**

Apogee Electronics Corporation hereby declares that the Duet 2 is in material conformity with AN/NZS standard requirements.