

# Shadowed - User Manual

Detailed instructions, performance notes, hardware recommendations and software installation for  
*Shadowed*  
for soprano saxophone and interactive computer

## Nicolas Scherzinger

For use with MAX version 5.x with Macintosh Computer (OS 10.4.x or later)

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### PROGRAM NOTE

*Shadowed* (2006) is a single movement piece of approximately eleven minutes for soprano saxophone and interactive computer (*it is also possible to perform the piece as a solo work without the computer*). The computer listens to the pitch (frequency) of the saxophone throughout the performance for cues, leaving the saxophonist in complete control of the pacing of the piece. All the electro-acoustic sounds originate from the live saxophone sound; there are no pre-recorded sounds, and all the sounds from the computer are processed at close to real-time. Therefore, as the title suggests, the saxophonist is “shadowed” throughout the piece by the electro-acoustic sounds. Most of these sounds consist of delayed effects that are modulated or filtered. The computer also records the saxophonist during the performance and then plays back granulated samples near the end of the piece. *Shadowed* was commissioned by Randall Hall, who premiered the work at the 2006 North American Saxophone Alliance Conference in Iowa City, Iowa, and the piece is dedicated to him with admiration.

### UPDATES AND TECHNICAL SUPPORT:

If you experience any problems with any of the piece (score or computer part), please contact Nicolas Scherzinger at **Nicolas@ScherziMusic.com** for help.

For updates for the software, please go to the following link:

**<http://www.scherzimusic.com/works-shadowed.html>**

**PLEASE NOTE:** You do not have to be a “computer geek” to perform this piece. If you or your technician have any problems with setup, please contact the composer, Nicolas Scherzinger, for tech-support: **Nicolas@ScherziMusic.com**

INSTALLATION INSTRUCTIONS

Follow these 7 easy steps to install the application and the patch:

1. Download the “**Shadowed\_Install\_Max5 Folder**” in the **Shadowed Tech Support** section (near the bottom of the page)

Go to: <http://www.scherzimus.com/works-shadowed.html>  
 Then look for the “**Shadowed\_Install\_Max5\_Folder.dmg**” link.  
 After it downloads, double-click on the file to open.  
 Copy the “**Shadowed Patch Folder**” onto your hard drive.

2. Download the **Max5 Runtime (or Max5 full version)** application

Go to: <http://www.scherzimus.com/works-shadowed.html>  
 Then look for the “**Click here (MaxMSP5 Runtime)**” link in the **Shadowed Tech Support** section (near the bottom of the page)

(or)

Go to: <http://www.cycling74.com/>  
 Then follow the links to download **Max5**  
 (all you need to run SHADOWED is **MaxMSP Runtime**, version 5.x). If you own a licensed copy of **MaxMSP version 5.x**, you can also run SHADOWED using your own copy as well.

3. Install **MaxMSP Runtime (or Max5 full version)** onto your computer (follow the installation instructions that comes with the installer)

4. Install the “**pitch~**” file (this is the pitch detection object, necessary to perform SHADOWED. NOTE: the SHADOWED PATCH will not work unless you manually install this file).

find the “**add to externals**” folder in the “**Shadowed\_Install\_Max5\_Folder**”  
 Double-click on “**pitch~\_1.3.2.tar.gz**”  
 drag the item named “**pitch~.mxo**” into the MaxMSP “**msp-externals**” folder (SEE BELOW)

*- the location of the “msp-externals” folder you are looking for is....*  
**APPLICATIONS/Max5 Runtime/Cycling '74/msp-externals** ← (place “**pitch~.mxo**” in this folder)

5. Open MaxMSP Runtime (or Max5, full version if you own a licensed copy)

go to: **APPLICATIONS/Max5 Runtime/**  
 then double-click on **MaxMSP Runtime**

(do not click on **MaxMSP** unless you own a licensed copy of **Max**. If you own a licensed copy of **Max**, feel free to use your version of the program, otherwise use **MaxMSP Runtime**, the free version of **MaxMSP** that lets you run patches, but does not let you edit them). The patch works perfectly using both **MaxMSP Runtime**, as well as **MaxMSP**.

6. Load the patch

go to **FILE/OPEN** in **MaxMSP Runtime** and **OPEN** “**Shadowed\_ST\_v2.2.maxpat**” located in the “**Shadowed Patch Folder**” folder.

\* The “**Shadowed\_ST\_v2.2.maxpat**” version is a standard 2-channel (Stereo) version of the patch. This patch can also be used with a subwoofer (see pages 7-8 in this manual)

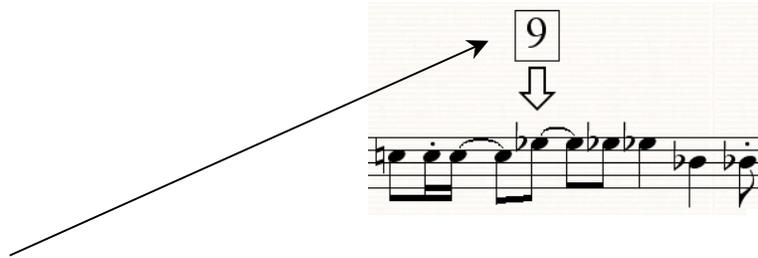
7. Setup your hardware (hardware, see pages 7-8 in this manual) and start playing

for questions or tech support, please contact: Nicolas Scherzinger at: [Nicolas@ScherziMusic.com](mailto:Nicolas@ScherziMusic.com)

PERFORMANCE NOTES

Accidentals apply only to the notes they immediately precede.

The slap-tongue section (PAGE 4 at CUE 34) is *optional*. The performer may use slap-tongue at will (ad libitum), either for selective notes or not at all. It is completely up to the performer. If the performer chooses NOT to use slap-tongue, this section should be performed “*molto marcato*.”



Throughout the score there are many CUES indicated with a NUMBER and an ARROW above certain notes. These are cues for the computer. It is important that these notes are clearly *heard* by the computer. The CUE number marked in the score should ALWAYS match the CUE number indicated in the computer patch. The computer listens to the pitch (*frequency*) of the saxophone, so it is important that these *cued* notes are always played in the correct sequence and in tune.

There is a great deal of flexibility in performing this piece. The computer listens and waits for notes from the saxophone before it loads particular effects or sounds. Therefore, the saxophonist is in complete control of the pacing of the piece.

Although it is not a requirement to have a technician monitor the performance, it is advisable to do so. The technician can control overall audio output levels during performance. The technician can also follow the score and if necessary, manually trigger the cues (click on the number boxes 1-48 on the left-hand side of the patch – see “Key to MaxMSP patch” on page 9).

There are no pre-recorded sounds for this piece. However, the patch does record the live saxophone sound at designated times during the performance, and then plays back these passages later in the piece. Unfortunately, because of this fact, it is not possible to start the piece in the middle. It is only possible to run the entire piece from beginning to end. After running through the entire piece, it is advisable to close the patch, and then re-load the patch when you want to run the piece again. This will ensure that the patch will load correctly from start-up.

BASIC SETUP AND REQUIREMENTS:

To perform this piece, you will need the score and the software application and file (which can be downloaded online), this manual, a computer with all the software properly installed, a microphone, cables, and a set of powered speakers (or an amplifier and speakers).

TECHNICAL SETUPHardware required

1. Macintosh computer (G4 or higher), OSX 10.4.x or 10.5.x
2. audio interface
3. microphone (instrument microphone or any near field microphone)
4. speakers (Stereo pair with or without sub-woofer)

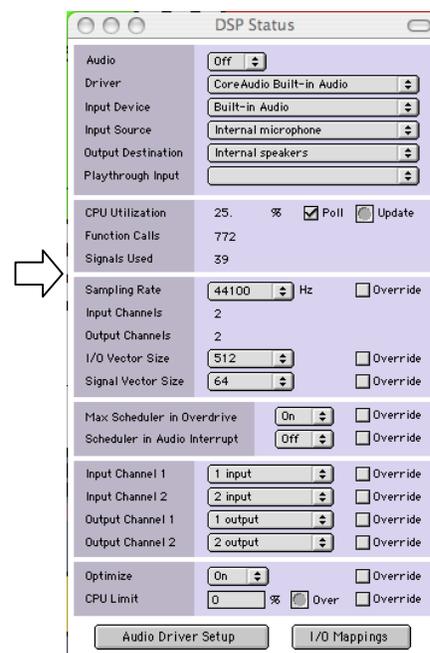
Software required

All the software required for the piece is included on the installation CD.

Installation instructions are included in the *read me* file on the CD (and in this manual, page 2)

Computer setup

1. make sure you have an audio interface connected to your computer, with all inputs and outputs connected correctly.
2. turn off: file sharing, internet, sleep functions, all virus and system utilities (Norton, etc.) and anything else that might be running in the background that would “bog down” the computer.
3. when you start **MaxMSP Runtime** for the first time,
  - click on **DSP status** under the OPTIONS menu. – (see the picture of the DSP STATUS window)
  - Make sure the DRIVER and INPUT DEVICE are both set to the audio interface you are using.
  - Sample rate should be set to 44100.
  - I/O Vector size should be set to 512. Signal Vector Size should be set to 64. Max Scheduler in Overdrive should be set to “on”
  - In most cases, you should setup your input as follows: Input Channel 1 should be set to “1 input”, and Input Channel 2 should ALSO be set to “1 input”, In other words, the input for the mic signal for the saxophone is MONO, and should appear in both left and right channels in the patch
4. When you open the maxMSP patch "**Shadowed\_ST\_v2.2.maxpat**" you can also double check the DSP status by clicking on the yellow button (within the patch itself) that says “click here for DSP Status”



**DETAILED INSTRUCTIONS FOR SETUP AND PLAYBACK**

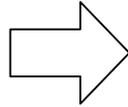
see page 9 for a “Key” to the patch

1. Start the application MaxMSP Runtime

2. Open the MaxMSP patch “Shadowed\_ST\_v2.2.maxpat”

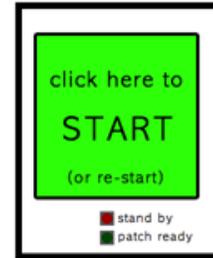
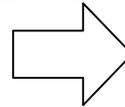
3. Turn on audio

- Click the AUDIO OFF toggle switch and change to AUDIO ON (bottom, left-hand side of patch)



4. Load the sounds for the patch

- CLICK on "click here to START" the BIG GREEN BUTTON on TOP-RIGHT-HAND side of patch.

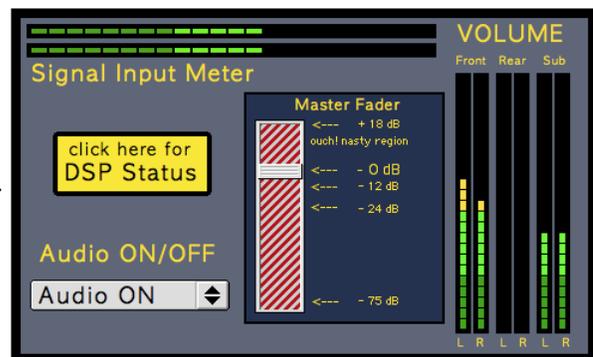
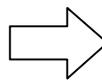


*NOTE:*

*Wait about 10 seconds while the patch gets ready. The patch will be ready when the STAND BY red LED stops blinking and the PATCH READY green LED turns on. The green LED will turn off after a few seconds. Do not be alarmed; the patch is still in ready mode, with all sounds turned on and waiting for the saxophone.*

5. Adjust the INPUT SIGNAL and OUTPUT SIGNAL

- Adjust the INPUT SIGNAL (mic level) by adjusting the input level on your audio interface.
- bring MASTER FADER up to about 0 dB
- bring up volume on your amp or speakers or mixer
- You can monitor the input levels with the SIGNAL INPUT METER and the output levels with the VOLUME METERS. (see the picture to the right)

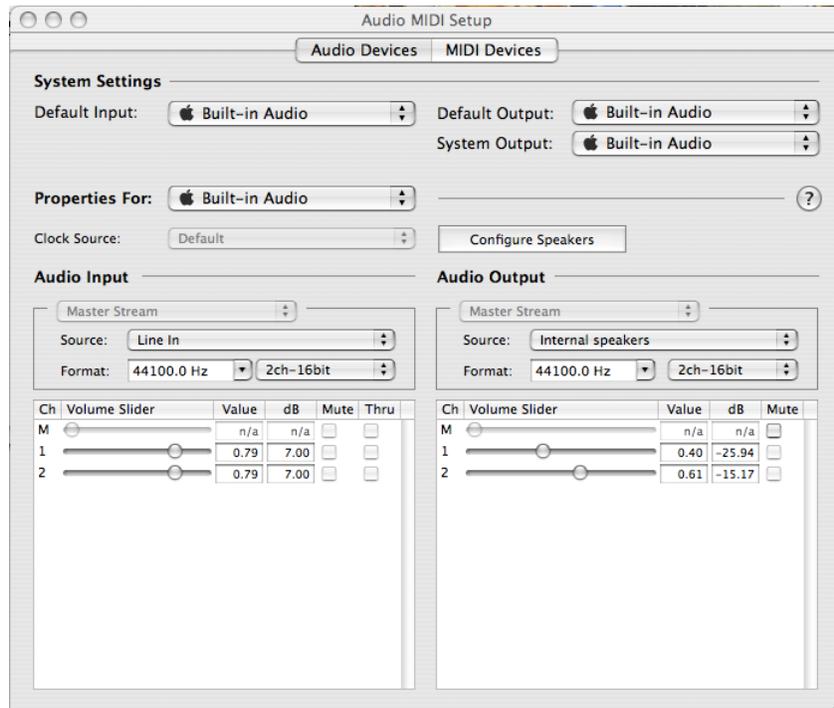


NOTE: *there is no control over audio input level within the patch itself. The microphone level (input volume) should be adjusted from your audio interface. If your interface does not have input level control on the interface itself, you may have to control input level from within the interface control panel (software) on the computer.*

Or, you can adjust levels from within the **AUDIO MIDI SETUP** window. To do this, click on the **AUDIO DRIVER SETUP** button (located on the bottom of the **DSP STATUS** window).



This should open the **AUDIO MIDI SETUP** window. From here you can select **INPUT** and **OUTPUT** levels. (see the picture below)



## 6. Do a sound check

You should now do a quick sound check. The volume between the saxophone and the computer-generated sounds should be evenly balanced (the computer should not over power the saxophone). After a sound check, make sure you click on "click here to START" the **BIG GREEN BUTTON** on **TOP-RIGHT-HAND** side of patch – this will re-set the patch for playback for performance (this will not affect input and output levels).

HARDWARE SETUP (SPEAKERS, INTERFACE, COMPUTER, MICROPHONE, ETC).

There are 2 possible setups for the audio playback of the computer part:

- 2 channel playback WITHOUT sub-woofer
- 2-channel playback WITH sub-woofer

Make sure you load the correct patch on your computer (there is a 4 channel and 2-channel version).

You will also need to setup your **inputs** and **outputs** correctly within the MaxMSP program. The picture to the right shows the DSP Status window. Make sure you select your audio interface with the correct **Driver**. (See the picture to the right)

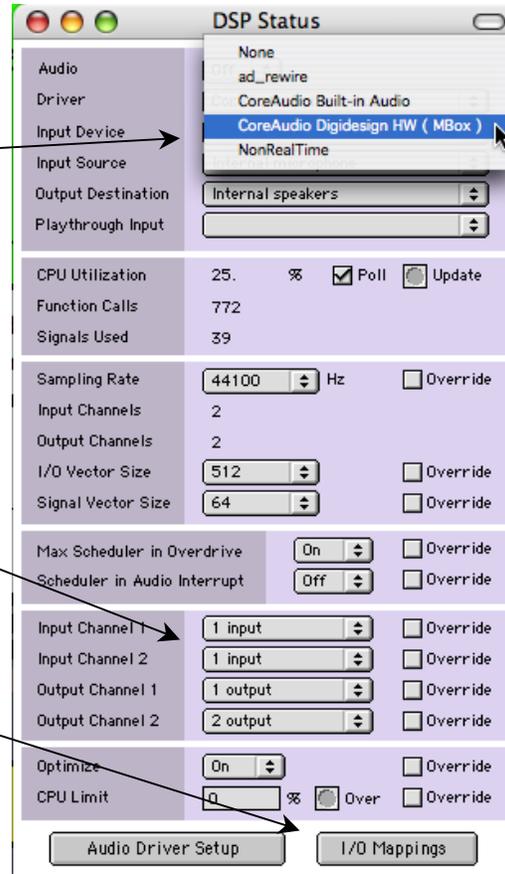
Now you should setup your input:

Plug your microphone into INPUT channel 1 of your audio interface. Now in the DSP Status window, make sure **Input Channel 1** is set to **1 input**. (See the picture to the right)

Now you should setup your output:

Click on the **I/O Mappings** button on the bottom of the DSP Status window.

(continued on next page)



Under **Output Mapping** you should select the correct outputs:  
 (see the picture of the **iomap** window BELOW)

**2 channel playback WITHOUT sub-woofer**

Channel 1 = 1 output

Channel 2 = 2 output

*(Connect your speakers to OUTPUT channels 1 & 2 of your audio interface)*

**2-channel playback WITH sub-woofer**

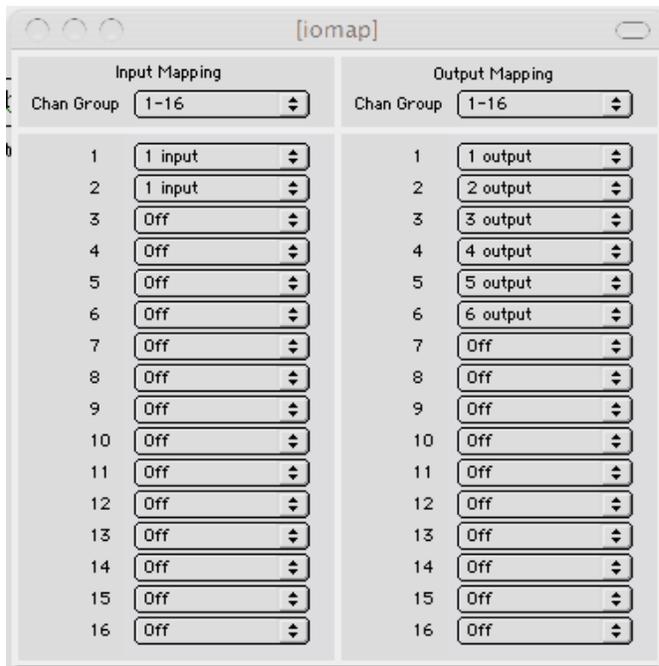
Channel 1 = 1 output

Channel 2 = 2 output

Channel 3 = 3 output

Channel 4 = 4 output

*(Connect your speakers to OUTPUT channels 1 & 2,  
 and your sub-woofer to OUTPUT channels 3 & 4 of your audio interface)*



# KEY TO THE MAX PATCH

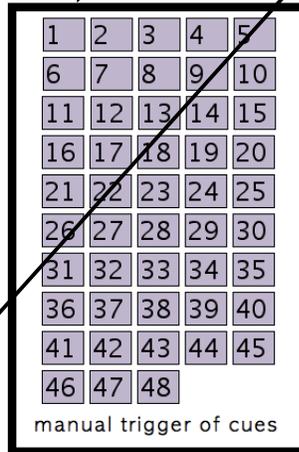
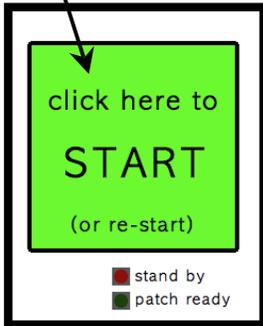
Click here to start (load) the patch. This prepares the sound settings. You can also click on this button to re-set

Click here to STOP ALL SOUND.  
This will turn off all sound VERY QUICKLY.  
If you click on this button, you should QUIT the program, then re-start the program, and then re-load the patch.  
If the program "freaks out" or does something very strange, it might be best to re-start your computer.

Although the piece is completely automated, an audio technician may *manually trigger* each cue number. This should ONLY be done if the technician notices that the CUE NUMBER in the patch does not match the CUE NUMBER of where the saxophonist is in the score.

It is very important that CUE NUMBERS are pressed in the *correct sequential order*, or the patch will not work.

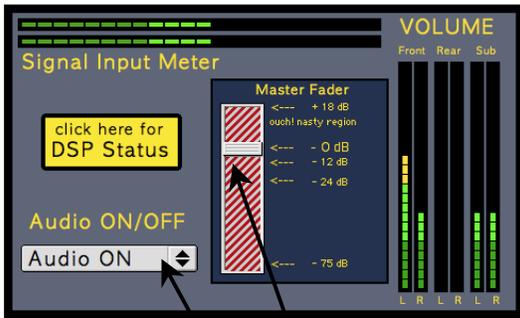
CUE NUMBER (this number will change during performance and should match the cue in the score).



- BASIC INSTRUCTIONS:
1. turn on sound
  2. bring up volume
  3. CLICK on "click here to START" button  
- wait until the stand by button stops flashing
  4. do a quick sound check.
  5. click on the "click here to START" button again to reset the patch.
- for detailed instructions, see the performance notes in the score

← the technician who is monitoring the performance may manually trigger the cues in the score by clicking on the appropriate cue # (to the left)

Shadowed  
by Nicolas Scherzinger  
max patch version: 1.01  
date: 3.2006



DSP SETTINGS  
I/O VECTOR SIZE = 512  
Max Scheduler in Overdrive = On  
This is a 2-channel version

SIGNAL INPUT METER  
(Sax microphone level)

Volume (output) METERS

Click here to turn on audio

Move this slider to adjust output (VOLUME)

If you experience any problems with any of the piece (score or computer part), please contact Nicolas Scherzinger at **Nicolas@ScherziMusic.com** for help.

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