

# **EROShambo ProTools and MIDI OMS Setup**

**11/2/2000**

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## **ProTools**

ProTools is a leading audio (and MIDI) editing and sequencing software package. In the case of the EROShambo project, ProTools was used as a show control record/playback device.

ProTools allows you to play a digital audio file and MIDI file simultaneously. It also allows you to sequence MIDI notes or messages along an audio track, making changes very easy.

Common ProTools operations are described below:

### **I. Importing Audio Tracks**

Once an audio track has been "ripped" from a CD or other source, it can be imported into ProTools as a .AIFF or .WAV file. Popular audio software such as PEAK was used to convert CD audio tracks into digital audio files.

Once a new session is setup in ProTools, a new audio track can be created by selecting FILE > New Track, and selecting Audio as the type. Next, an audio file can be imported by selecting FILE > IMPORT AUDIO/TRACK. A digital audio file can then be loaded and imported. If the file selected is STEREO (most common), ProTools will automatically split the sound file into Left and Right tracks.

From this point, the audio can be cut, copied, blended and faded. Please see the ProTools manual for these features. Since ProTools uses standard CUT, COPY, PASTE commands, the interface tends to be very intuitive.

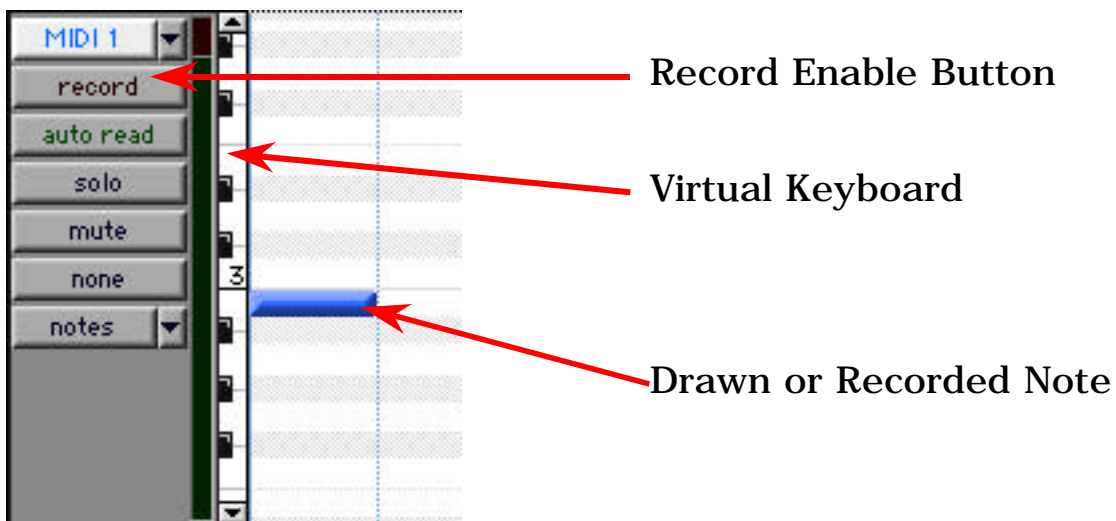
## II. Creating a new MIDI Track

To create a new MIDI Track, follow the same steps as creating a new Audio Track. Select FILE > New Track, and select MIDI as the type.

Now, when the PLAY button (or space bar) is pushed, ProTools will simultaneously play the stereo audio tracks and MIDI track.

## III. Recording MIDI

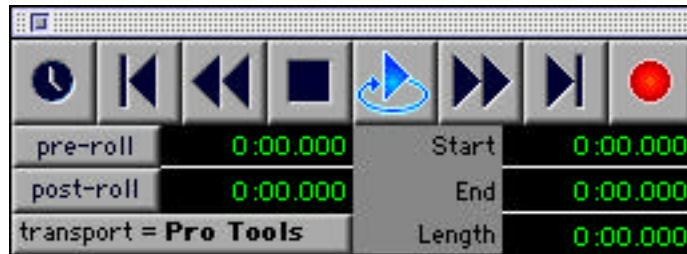
To record MIDI signals (most likely MIDI notes that activate pre-recorded animation sequences), the MIDI track must be record enabled by clicking on the record enable button. Notes can then be recorded using a MIDI input device (keyboard or console) or physically drawing the notes within ProTools.



Drawing notes is as easy as finding the correct note on the "Virtual Keyboard," and drawing them with the pen tool:



To record notes via a different input device, the MIDI track must again be record enabled. The recording starts after the record, then play button is clicked on the control deck:



To stop recording, push the stop button or the space bar. To play back the sequence, click the play button or push the space bar.

## **MIDI Communication (OMS)**

### **I. General OMS Setup**

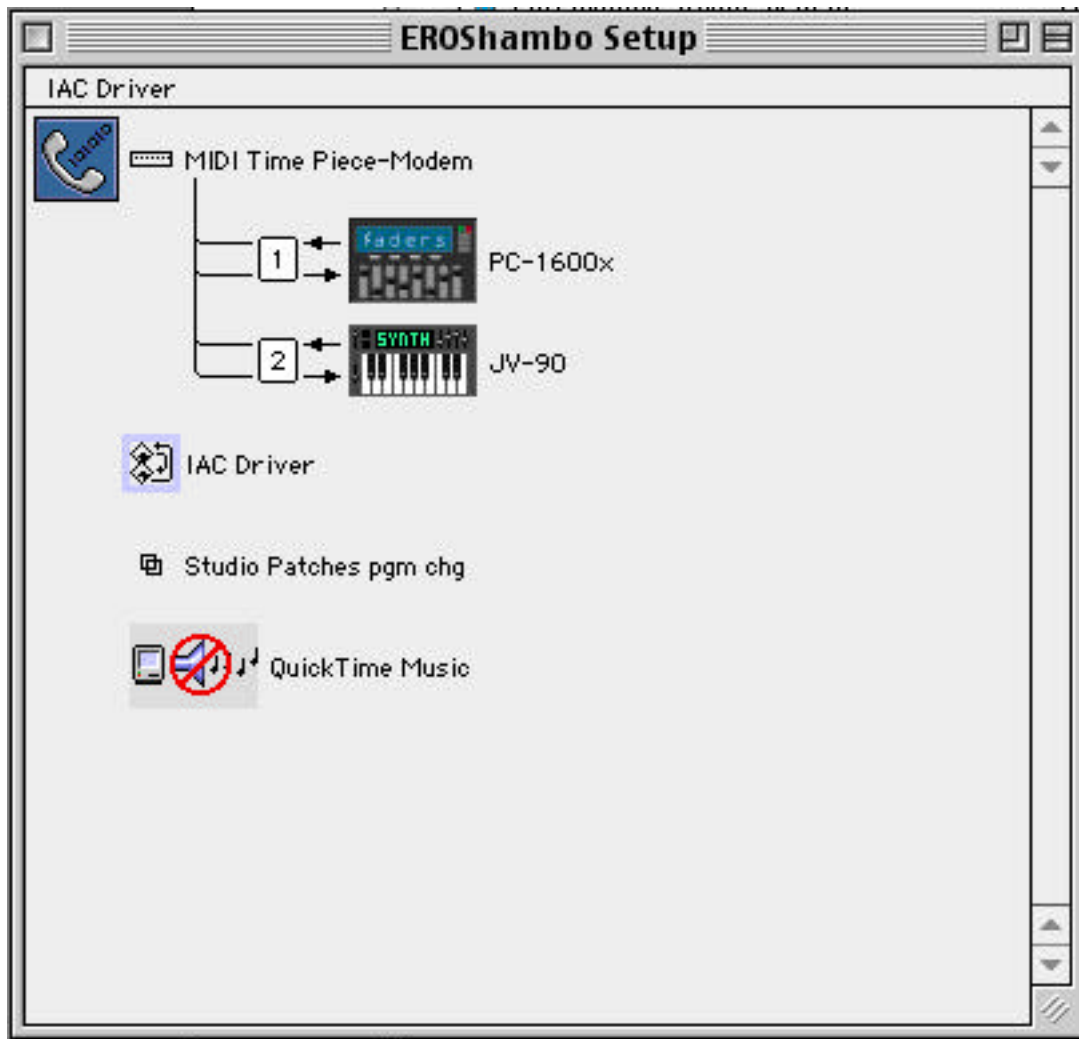
ProTools was used as a recording tool and a playback tool. When recording, we needed MAX (graphical MIDI programming language) and ProTools to "listen" to the same MIDI IN. When playing back from ProTools, we wanted the MIDI OUT to go to MAX *internally*. To do this, the **OMS** (Open Music System) is utilized. OMS is a wide-spread MIDI management system for the Macintosh. More specifically, the **IAC** (Inter-Application Communication) within the OMS is used for internal communication.

For overall OMS setup, the program titled '**OMS SETUP**' is utilized. The OMS setup named EROShambo is used for our tool. It is a general setup that uses the purchased MIDI interface, MIDI Console, and Keyboard. If there is a need to create a new OMS setup, please use the well-written html

file located in the EROShambo Documentation folder: OMS Setup.html. This can be found (if still active) at the following URL:

<http://faculty-web.at.nwu.edu/music/webster/C37/macEMT/emtsoft/oms.html>

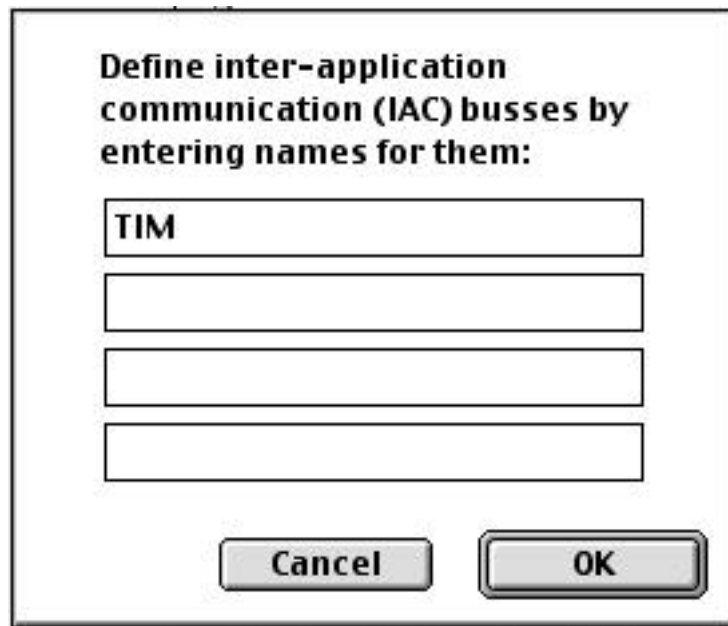
The EROShambo OMS setup looks like this when opened:



The two input devices used, the Peavey PC-1600x (16 channel MIDI control console) and the JV-90 (MIDI Keyboard) are connected to the modem port, which is

consequently connected to the external MIDI interface (see MIDI Studio System documentation).

Also present in the OMS setup is the IAC Driver. Within this driver, four custom IAC configurations can be saved. Double clicking on IAC driver will bring up a window which allows you to name the four IAC busses. For the EROShambo setup, it looks like this:



The image shows a dialog box with a black border. At the top, the text reads: "Define inter-application communication (IAC) busses by entering names for them:". Below this text are four empty rectangular input fields stacked vertically. The first input field contains the text "TIM". At the bottom of the dialog box, there are two buttons: "Cancel" on the left and "OK" on the right.

Only one IAC bus is needed in this project, and is named TIM (after the author).

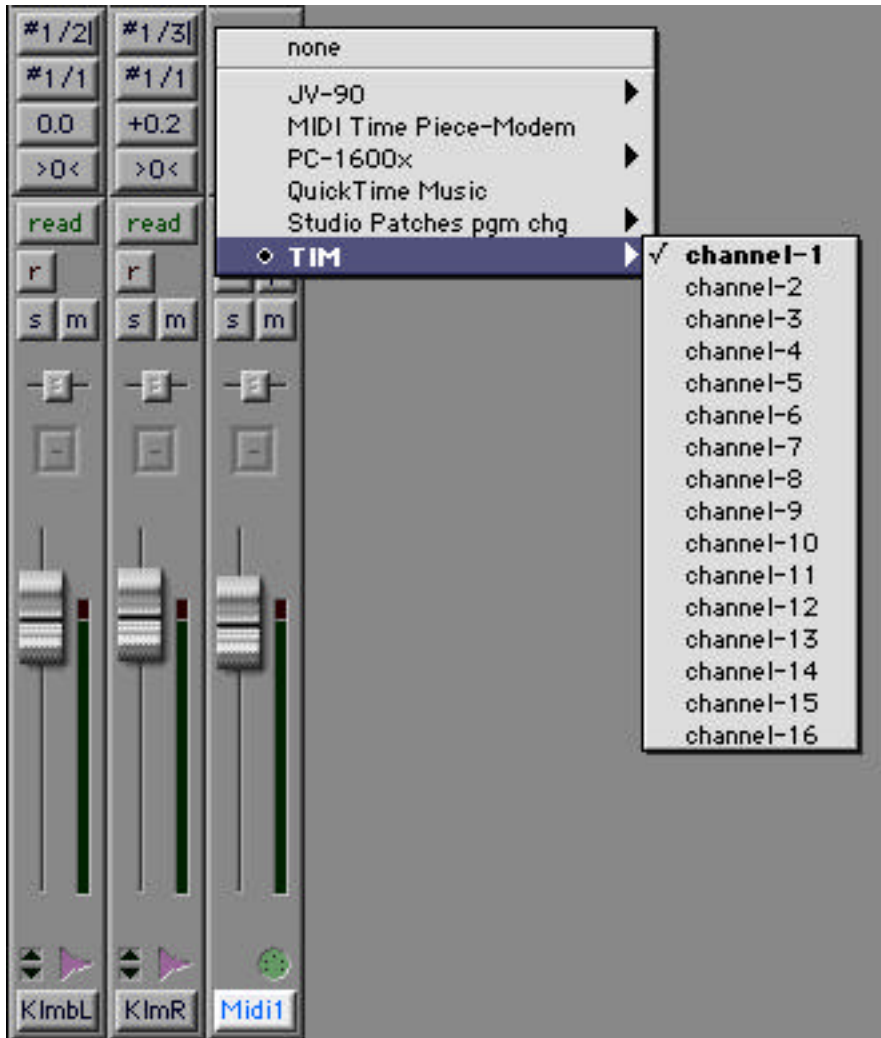
There is no need to change the OMS setup or IAC busses, unless a new project dictates the need. The information given here is a reference for the current setup and can be extrapolated into a different configuration if needed.

## II. ProTools

To configure the MIDI IAC in ProTools, select **WINDOWS > SHOW MIX**. This allows you to direct where the MIDI output goes. Go to the MIDI track, and click and hold on the top gray button.

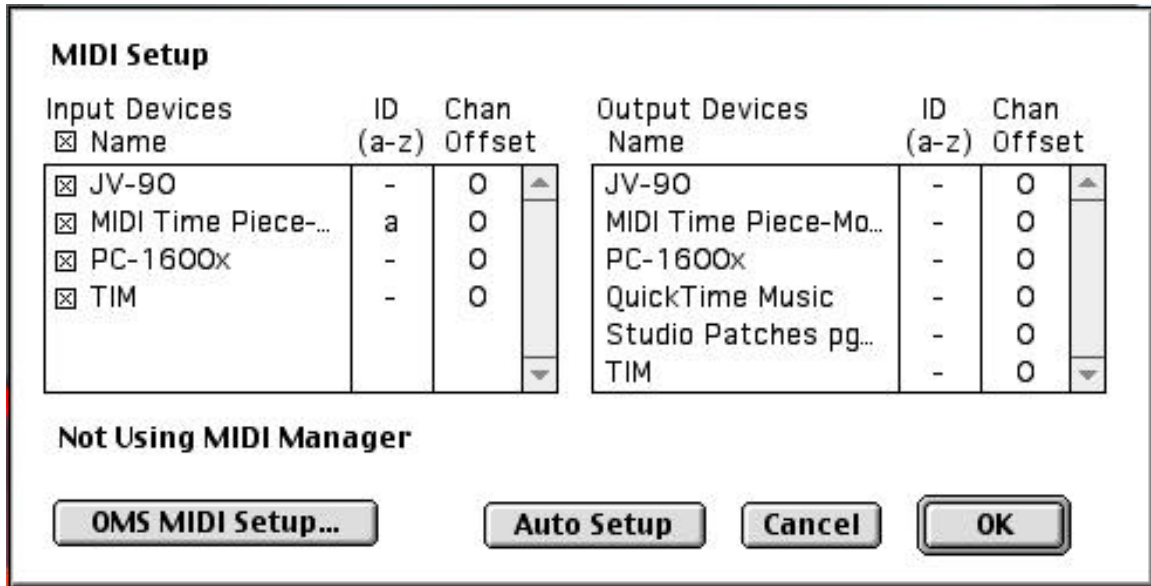


Now you can select the MIDI output to be the preferred OMS setting, in our case it was called TIM. Select TIM, Channel 1-1. This means the MIDI output will go through the internal OMS on MIDI Channel 1 number 1.



### III. MAX

Since ProTools is outputting MIDI on an IAC bus named TIM (Channel 1-1), we'd like MAX to listen to that. In MAX, select FILE > MIDI SETUP. The following window will pop up:



Here, you can select which input devices Max "listens" to. You can select or deselect (by clicking on the boxes) individual input devices, including the IAC bus that was pre-named TIM.

It is advantageous to select all possible input devices. That way, Max is capable of blending MIDI inputs in real time. This is what makes it possible to simultaneously record and playback (previous) motions.

*~Fin~*