

# The Unexplained Applications of *Pro Tools*

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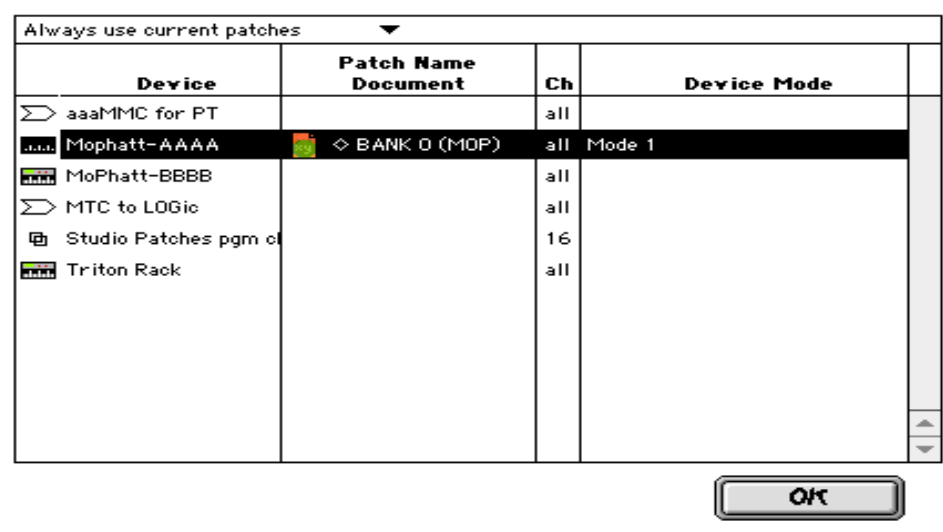
# Section 1:

## OMS - Patch Names Editor

**Warning:** Do not open OMS patch names editor without OMS on your system, your computer will crash!!!

### I. Writing personalized Patch Names for synthesizers and Samplers no longer supported By Open Music Software (OMS)

When you first open the Patch names editor provided for you, you will see a window looking like this...

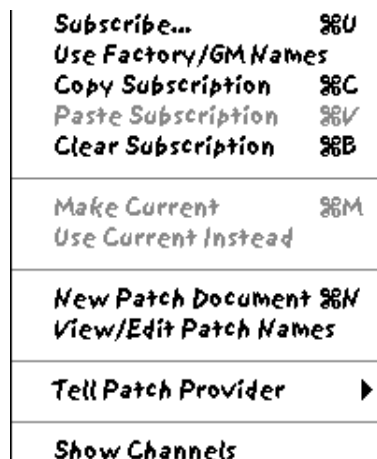


## PREPARATIONS:

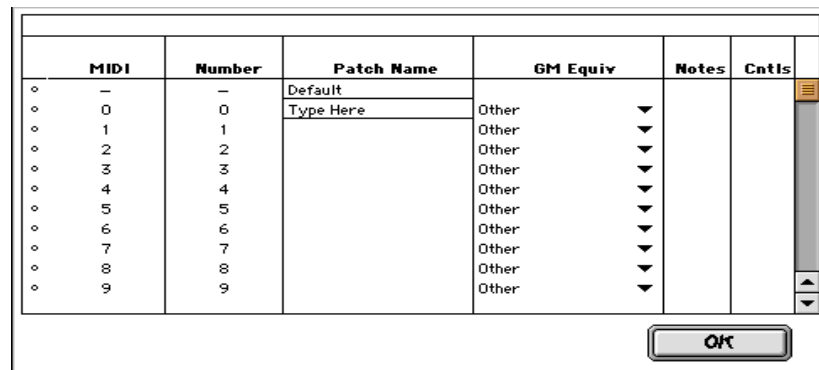
- The left column is a list of all the instruments you have included in your OMS Studio Setup.
- If the instrument you plan to write Patch Names for is not listed in the left column you must exit the patch editor, and create a new device in OMS studio setup for this instrument.

## Using the Patch Editor:

- Click on the icon for the instrument for which you plan to write the patch names.
- This instrument should be highlighted with a black bar, as it is above.
- Go into the pull down-Menu Bar > Names > New Patch Document.



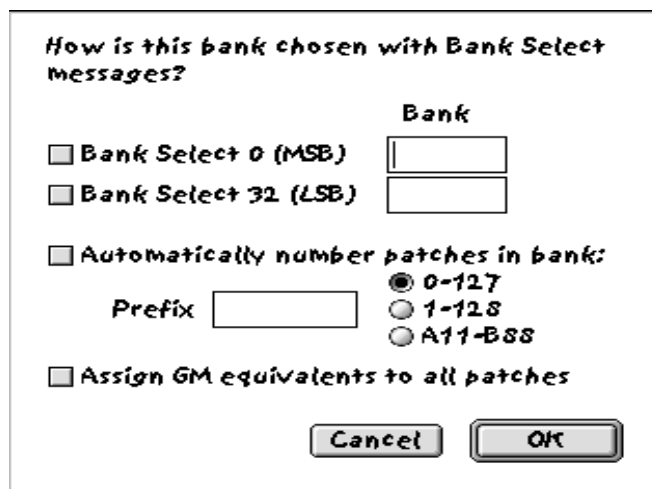
- The new window that appears will look like this...



- In this window you need to single click on the bulls eye in front of row Two, in the column labeled MIDI.
- You must now go into the Menu Bar Patches > Bank Select / Numbering.



- A new window will appear. It looks like this...



## ABOUT THIS WINDOW:

When original MIDI specifications were developed, synths had only about 8 to 40 different patches. At that time, to be able to choose from no more than 128 different patches was not much of a limitation. Because of this initial 128-patch specification, all banks are grouped into 128 patches.

As technology grew MIDI specifications had to grow along with it, and now multiple banks are used in order to accommodate the growing sounds on synths. It was decided that Bank select commands would use what is called Continuous Controllers 0, and 32 to identify a bank of instruments. These continuous Controllers or CC's allow up to 16,384-banks of 128-patches. Continuous Controller's make it possible for Bank selections to be made on individual MIDI channels.

Continuous Controller 0, or CC 0, is the MSB (Most Significant Byte).

Continuous Controller 32, or CC 32, is the LSB (Least Significant Byte)

Normally you need to send both MSB and LSB controllers to implement a bank change.

## Using the Patch Editor:

- This is where you must know the MSB and LSB of your specific synth.

HINT: Look in the index of your synth manual for “Bank selection”, or “Program Change”. Remember every new bank that you write needs a new MSB, and LSB specification.

- The prefix box is going to be the name of the bank. Name the banks according to your synth's bank names.

- Leave GM box unchecked. Click OK and this window will appear.

	MIDI	Number	Patch Name	GM Equiv	Notes	Cntls
◦	—	—	Default			
◦	0	0	Type Here	Other ▼		
◦	1	1		Other ▼		
◦	2	2		Other ▼		
◦	3	3		Other ▼		
◦	4	4		Other ▼		
◦	5	5		Other ▼		
◦	6	6		Other ▼		
◦	7	7		Other ▼		
◦	8	8		Other ▼		
◦	9	9		Other ▼		

OK

- Start typing in the empty box at MIDI 0.
- As you get further and add more banks it will help you to know how OMS is organizing your patch names. This is what your patch names editor will look like as you get further.

	MIDI	Number	Patch Name	GM Equiv	Notes	Cntls
◦	13/0/0	BANK 00	BTS Becky Boise	Other ▼		
◦	13/0/1	BANK 01	BTS The Ultimate	Other ▼		
◦	13/0/2	BANK 02	BTS Iced Out	Other ▼		
◦	13/0/3	BANK 03	BAS Sublevel	Other ▼		
◦	13/0/4	BANK 04	GTR Wah Guit	Other ▼		
◦	13/0/5	BANK 05	BTS Mooshoo Clan	Other ▼		
◦	13/0/6	BANK 06	KEY Chords hits	Other ▼		
◦	13/0/7	BANK 07	PAD Spirit CALL	Other ▼		
◦	13/0/8	BANK 08	STR goth String	Other ▼		
◦	13/0/9	BANK 09	BTS HotnSteam	Other ▼		
◦	13/0/10	BANK 010	BTS 8nt Urz	Other ▼		

OK

- The MSB number, LSB number, and patch number are shown in the MIDI column, respectively (MSB/LSB/Patch).

- The bank number, and patch number are shown in the number column respectively.

	<b>MIDI</b>	<b>Number</b>	<b>Patch Name</b>
◦	13/0/0	BANK 00	BTS Becky Boise

Bank Number, and Patch Number with no separation.

MSB, LSB, and Patch number.

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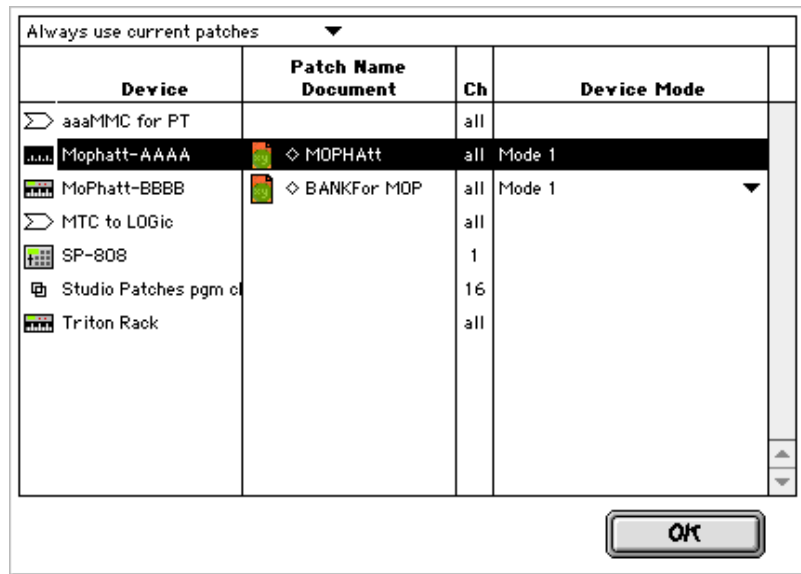
## II. Setting Up OMS Patch Libraries with **Pro Tools**

- The Finder will not always recognize these libraries on its own. You must put these libraries at the same level as your digidesign folder. All this means is that you need to be able to see your digidesign folder, and OMS names library at the same time without any folder open.





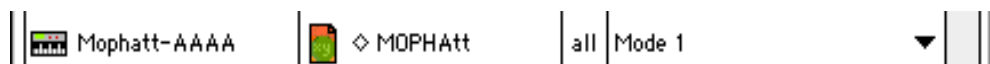
- Re-open the OMS Names Application. In the Device column single click your synth to highlight the instrument.



- In the Names menu bar, click subscribe.





- A finder will appear when you do this. Go to the hard drive where your library is saved and choose the appropriate library, its icon will replace the highlighted icon.
- For your Instrument the patch names editor window should look like this...



- Quit, and you are now ready to use this library in Pro Tools.

### III. Using OMS Patch Names in **Pro Tools**.

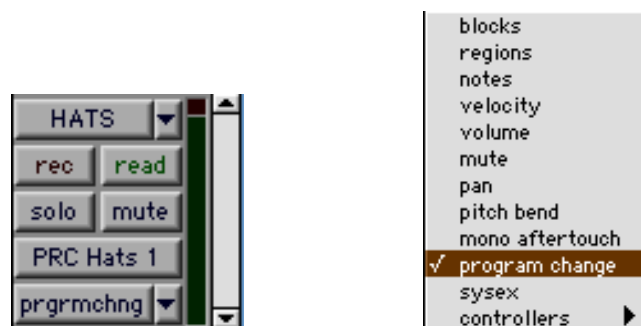
- Open a session in **Pro Tools**.
- Create a MIDI track.
- In the Mix Window choose an instrument and a MIDI channel.
- On that same MIDI track, click on the  button.
- A blank window will appear with the word “none” and the numbers 0 127.
- Click on the word  in the upper right hand corner.
- This tab will give you a listing of the banks that you have just written in the OMS names Patch Editor.
- When you click on one of the patches, a midi signal will be sent to your synth, and change your synth’s preset patch to the patch you have just chosen on that particular midi channel.
- The Window looks like this...




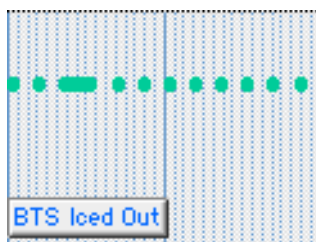
- You are now sending program changes from **Pro Tools**.

## IV. Sending Patch Name changes in real-time within Pro Tools.

- This is a very strait forward function and can be very powerful when you have your synth's banks, and patch names declared in OMS.
- Go into the edit window within **Pro Tools**.
- On the MIDI track that you have just created click the tab that changes track view, and click program change.



- Go to the measure in the sequence were you are changing the existing patch to a new patch.
- Some synth's stutter when you give them a program change. It is suggested that you do a program change when that channel is silent.
- When you click on the position in the sequence you want to insert the program change. The patch names list will pop up just as it does when you click the  button in the mix window.
- When you have finished choosing your synth's instrument, the program change view should look like this.



- You are now sending MIDI program changes mid-sequence.

## Section 2:



# Using **Pro Tools** as a dedicated Phrase Sampler Sequencer

**Pro Tools** is most widely known for its ability to chop and sequence audio in its four editing modes, grid, slip, spot, and shuffle. By becoming proficient at using Slip and Grid mode **Pro Tools** can become the world's most powerful music recycler. I use **Pro Tools** in order to sequence a group of one-shot samples usually and eighth note or quarter note in length.

I use these samples from one or more songs in order to sequence a new phrase that then can be bounced to a single audio track. This method can be very time consuming but because of **Pro Tools** precision of audio editing you can create sequences that seem as if they were not rearranged at all.

### I) Advantages:

- Use of editing modes in order to fine tune sample sequence.
- Use of **PT's** [Reference pitch](#) generator in order to find individual samples root note or key.

- Use of **PT's** Audio Suite Gain Function () in order to change sequence dynamics.
- Use of **PT's** Audio Suite reverse function in order to smooth transitions between samples.
- Use of **PT's** Audio Suite's Pitch shift in order to create half step note variations in sample Sequence. ()
- Use of **PT's** Audio Suite's Time Compression/Expansion in order to change note duration from that which it was originally sounded.
- Use of all Audio Suite functions to change original sound of one-shot samples.
- Use of **PT's** Fade Generator in order to make sample transitions smoother.
- Use of pans and volume fader automation in order to give a bigger stereophonic sound.
- Use of **Pro Tools** Bouncing in order to create multiple mix-down versions of your sequence.
- Ability to redraw aiff wave's to eliminate crackles and pops that occur when sampling from records.
- Mix-down samples can then be exported to hardware sampler.

## Disadvantage: (non-plural)


- This process can often be very time consuming.

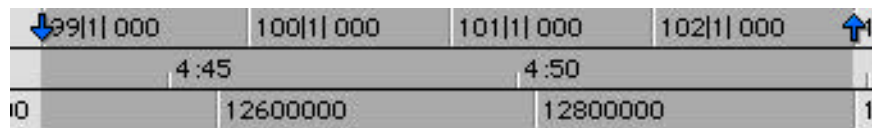
## II. Sampler Session Setup

- Create a new session.
- Create three stereo audio tracks and two mono audio tracks.

## II. Recording, Chopping, Editing, Sequencing and Bouncing

### Recording:

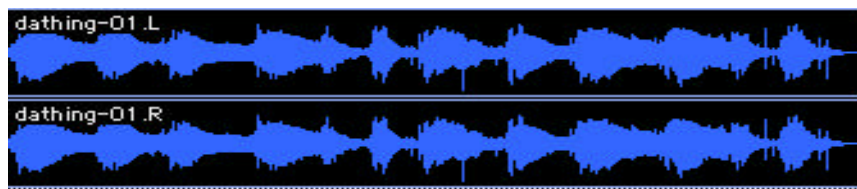
- First things first, you must choose your sample.
- Record it onto the stereo track.
- You are going to have to find the tempo of this sample, so truncate everything at the beginning and end of your loop in slip mode.  

- Now that your loop is isolated, sounds clear, and does not stutter, put **PT** in grid mode.
- Put this sample on the downbeat of one of the grid marks.
- Change the tempo of the session until your sample begins and ends on one whole measure. Click on the tempo values in the Transport window so that the tempo is highlighted. Use the up and down arrows until sample fits perfectly into grid marks. (there are many ways to do this, this is just one method)
- If the sample does not end precisely on the bar, then click on the markers at the top of the screen and move them to the bar as shown below.



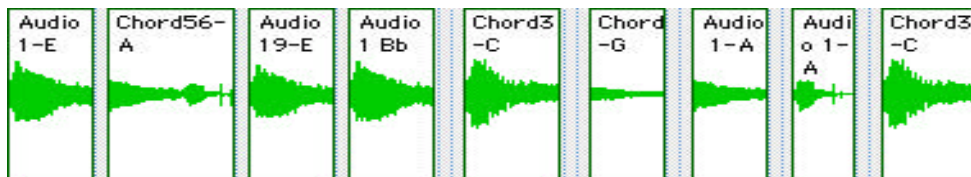
- Now play the selection and see if the loop is still precise. If it is, consolidate the selection and rename it.
- This gives you the ability to duplicate samples and maintain the session tempo.

## Chopping:

- Go back into slip mode and edit the main sample into its individual components. Be sure to use the magnifying tool to zoom in on waveform while changing the loop points on the time line with the markers as shown above.
- Be sure to cut all samples at the zero Y-axis.
- When this one-shot sample comprised of the first note of the “main” samples phrase is looped properly, it should be cleanly repeating the first note of the main sample.
- Follow through and do this to the remaining elements of the original sample, getting the largest amount of individual one-shot samples out of the main sample.
- If your main sample looked like this...




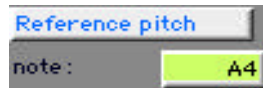
- After breaking it down, it may look like this...



NOTE: These samples are monophonic, some are only from left and others are only from the right of the original stereo file. More on that later in “Editing Tricks (1)”.

## Editing:

- Now that you have individualized each sound from the main sample, redraw the beginning and end points so that they occur on the zero y-axis.  

- Knowing the note of the one-shot sample can be very helpful for sequencing. Using the **Reference pitch** generator in the Digidesign Audio Suite Pitch Shift plugin is the easiest way to find a sample's root note.
- Set the decibel level to about -30.
- When **Reference pitch** is enabled, and note is edit enabled as it is here in the yellow....



- You can now use the up and down arrows on the keyboard to change the signal pitch.
- When you press **preview** your sample will sound against the reference pitch.
- Find the root note of that sample and rename the sample with its corresponding sample name and pitch.

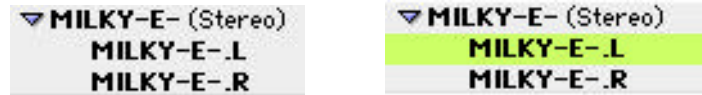
## Editing Tricks:

### 1) Using Individual Monophonic Files from Stereo Files to Accent Different Instrumentation

- Look and listen to the individual parts of the stereo sample that you have chopped and listen for differences in left and right channel.



- If left or right channel accents a certain instrument more, you can use that left or right channel as a monophonic sample by pulling it from the region bin.



## 2) Using Pitch Shift Function to Create Tonal Variation

- If some of your samples are only single notes and not chords use the pitch shift AS function to give you tonal variation and name the new sample accordingly.
- Make sure to pitch shift the duplicate of the sample, not the only remaining one-shot sample. You could pull this sample from the region bin, but often samples get lost in the bin



(NOTE: This number labeled “semitones” represents half steps, not chromatic steps through a scale)

### 3) Using Reverse Function for Transitions

- Use the (AS) reverse function to subtly bring you into a new note phrasing.
- The highlighted note is the note reversed.



#### 4) Using the Fade in and out Function to Create Smoother Transitions

- Use the Fade function in **PT's** pull-down edit menu to create smoother transitions from one note to the other.
- Notice the fade just before the downbeat of bar three.



- For a fade-in you must highlight the blank space before, part of the sample, and the portion of the sample you want the fade-in to. Then go to Edit -> Fade. (Apple F)

#### 5) Using the Gain Function to Create Dynamics

- Use the gain function to change dynamics of different samples
- This can lead to a very large region bin
- If you want to get rid of all of the samples in region bin you are not using, push the audio tab on the top of the region bin and select “select unused” -> and then “Clear selected”.

**Warning:** This removes every sample that is not used in the audio edit window.

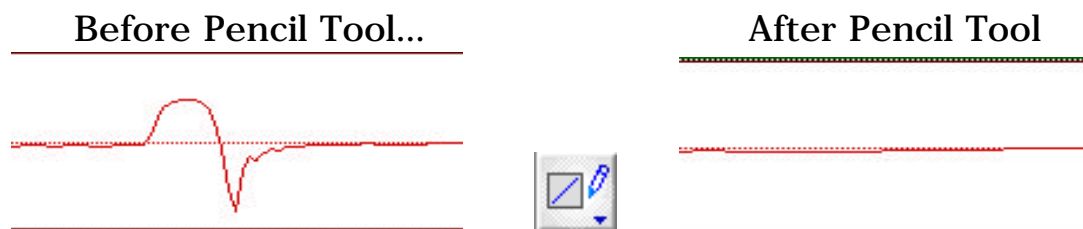
## 6) Using Time Compress Function for Variation of Note Duration

- Time Compress and expand your one-shot samples so that you can use variation in the note duration of your samples.
- I do not suggest compressing or expanding your sample past half the samples original length, i.e., Don't make a quarter note sample longer than a dotted quarter, and do not make it shorter than an eighth note.

(  and  )

## 7) Eliminating Clicks and Pops from Samples Recorded from Vinyl.

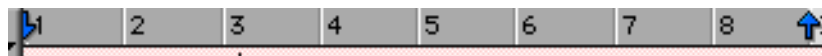
- First, zoom in on the section of the sample where you are hearing the click or pop.
- Zoom until you are at sample level, as shown below.
- Use the pencil tools to redraw and eliminate the pop.



## Sequencing:

Now that your one-shot samples and loops are set to fit the grid tempo of your session you can now use **Pro Tools** as you would with Sonic Foundry's Acid.

- You can use the time line cursor to set up a loop that you want to manipulate.
- Highlight an eight bar progression and push the play button.



- It is best to set up a general chord progression first.
- Use the samples that you have figured out the root note of and create a defined chord progression with them.
- You can edit the sequence in real time while it plays.
- However, many producers use the idea of “Squaring” when making loops on computers.
- If you were to start with a drum line, it is common to start with the bass drum.
- The Squaring technique is to make a simple one bar loop, and then duplicate it.
- After duplicating the phrase, alter the duplicate to give you a slightly different phrasing.
- Now duplicate the two bar bass drum loop and then again slightly change the phrasing of the last bar, in order to create a resolution to the first bar (keep it simple, it's a bass drum).
- This technique works because it keeps the rhythmic ideas and makes the ideas resolve into that instruments main idea.
- This technique also works for all instruments.
- However, it is easiest to start with a looped drum line and work on the melody with this technique applied to the instrumentation.
- Enjoy making music...