

*You want to know about music?*

*You want to know about home recording?*

*You want to learn from the experience of others?*

*You've come to the right place!*



Welcome to the new KM-zine, a free internet publication for artists and home recording enthusiasts.

This publication represents another stage in the Kara-moon journey, offering free content and services to the internet music community. We hope you will enjoy this second edition, entirely written by KM members. We invite other readers and musicians to join us and write articles for this free monthly publication. The future of this publication is completely in the hands of our contributors.

**Due to holiday commitments there will be NO edition in August .**

A word of thanks also to "Off the wall designs" who created the complete layout of the magazine.

No.2 July, 2008



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# 1. Music theory. First principles. By Robert Harvey.

## Music To My Ears

Asking a teenager to define music will result in an answer much different than asking a senior citizen. However, both will stand firm in their feelings about music. It is such a deep felt relationship that most people have a very defined opinion of what music is and what it is not. An explanation of “good music” has caused heated debates among friends and generations, yet it is one of the most refined, studied and precise arts; this has led researchers to conclude that the art and study of music increases one’s intellect and intelligence. It is such a personal, emotional and creative form of expression.

There have been many attempts made at describing just what music is. It’s been said that music is simply sound with a rhythm. *Webster’s Dictionary* gets a little more abstract in their definition, saying it is “the combining of sound and tones as a form of artistic expression.” That definition, by their own extension would include “any combination of sounds that is pleasing to the ear.” What is pleasing to one person may not be so pleasing to another, but everyone holds music dear. Whether it is a particular love song or a reverent hymn, music and song is understood by all. The theory and components that make up music are often not understood by the listener. There are many performers of music who do not conscientiously understand it either, but there are many tasks, languages and math computations taking place in even the simplest of songs.

Music is a language. It is written in a structure that only those who know the language can decode. Reading music is very much like reading a foreign language that must be studied, practiced and then put into use in order to become fluent. There is a unique complexity to this language because while learning it, the only way to comprehend it is to put it into action. It is unique in that it requires physical action on the part of the reader. To learn to read the notes, or musical alphabet, the reader must be able to hear what each note is saying. This is always done with some kind of musical instrument in hand. As the notes are read, and then played, a relationship develops between the eyes, the ears, and the hands. This learning process is very reinforcing; if done incorrectly the result offends the readers ears. The mistake is evident and compels the reader to do it over again to get it right. It is also a language that can be learned by people of all countries and native tongues, then applied to allow a heartfelt communication and expression. An even more astounding aspect of this language is that it is not one that is meant to be expressed singly and in turn. People conversing in the language of music all express themselves at the same time to create a harmonic blend of sound and rhythm that moves not only the artists but also all those within hearing distance.



These audience members often have little understanding of all the expression and simultaneous listening going on by the performers. It is a very complex language, spanning many styles, genres, and cultures, yet it is absolute and strict, requiring an outcome as precise as a math equation.

Maybe that's because music also incorporates math. The rhythm of music is based on a count and a flowing subdivision of that count happening in time. The waltz is based on a count of three. A march is often in a count of two. The overwhelming majority of music is based on a count of four. These basic counts, or beats, are then subdivided in smaller elements in groups of three or four. When the subdivision happens in three it is most likely a swing or shuffle style of song. The division of four is more common and strict, being used for most modern music in this country for the last fifty years or more. A musician, one who can read and express this language, is doing these math calculations instinctively while reading the music and performing on their particular instrument. There are many artistic music pieces that are written in what is called odd-time signatures. These pieces can have a basic beat count of five, seven, eleven or even nineteen beats that need to be subdivided over time. That can add up to some pretty complex math. No wonder the human brain excels when this art is studied over time. So far music involves reading a written foreign language while doing continuous math calculations and taking an action that results in a pleasing sound. As they say in the infomercials- "but wait, there's more!"

As the study of music develops it becomes necessary for an artist to not only rigidly read what is written, but may also be required to improvise. This act requires a knowledge of the theory behind music. Note relationships, chord structures, and scale patterns are all necessary to become proficient at being a musician. The most amazing thing about the ability to improvise is that requires this knowledge to be put to use *in anticipation* of the next note. Every true musician knows that when the time comes to play a note is not the time to figure out what note needs to be played. The note will inevitably be either a wrong note or played late. Since music requires these subdivisions over time it is very evident when a note is not played at the right time. It's now understood that musicians are reading another language, doing math at the same time, and actually thinking ahead to the next note while performing on their instrument.

No wonder so many researchers have reached the conclusion that learning music can expand ones ability to learn other things, and musical therapy is being taught at more and more colleges every day to help those with learning disabilities. It also teaches a discipline of structure and practice that leads one to be diligent in getting the desired results through constant effort.

The reward is that one precious possession everyone has: a favorite song.



## 2. Talking bass. Part 2. By Kara.

### TALKING BASS - part 2

=====

So, did you exercise those patterns from part 1? If you did, you are ready to take the next step, playing some grooves.

The next couple of lessons we will present to you as a series of 'In the style of ...' articles.

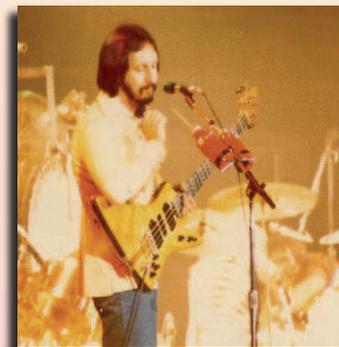
Here is the first one : In the style of John Entwistle

John Entwistle is most known as the famous bass player of The Who. He was born October 9th 1944 in London. He was also known as 'Thunderfinger'. He got this name from the unbelievable groove he had in his fingers. You can hear his incredible finger technique in a couple of The WHO songs like , "Happy Jack", "Trick of the Light", "Young man blues", "Shaking all over",...

For those who don't know his style of playing, have a look (and listen) to this video : [http://uk.youtube.com/watch?v=5\\_1RqyNdzBE](http://uk.youtube.com/watch?v=5_1RqyNdzBE)

A typical example of his playing style, not incredibly busy and not extremely difficult to play but extreme on the beat !

Do you think, you could never play like this ? Well you're wrong, and I'm gonna prove it to you. With some exercises and the basic knowledge you learned in part 1, you should be able to play a lot of Rock shuffle plans.



I've collected a couple of them in the next exercise for you:

**For clarity, these are on the following page.**

As you can see they are all played over an A chord, which you should know by now (remember 5th fret on the thick string). With the knowledge of part 1 of Talking Bass, you should be able to play those grooves over any basic chord now.

As you can see the fingering is pretty easy and we start the easy way with playing only one string or 2 strings. Once you can handle those we'll try on 3 strings.

The best way to do the exercises is to listen to the groove first and start playing the same groove slowly but accurate. Keep on trying until you have that groove in you.

To help you to get the right groove I've put an audio file on the forum to play along. Each groove is played and then there is space to play it yourself. You can loop parts of the exercise to play over it yourself.

Here is the link to the audio example :

<http://www.kara-moon.com/forum/index.php?topic=1924.msg17561#new>



I hope you enjoy playing this.

See you in the next issue.

Kara

♩ = 100 A

A

5 5 5 5 5 5 5 5 | 5 5 5 5 9 9 7 7

A

5 5 5 5 5 5 5 5 | 5 5 8 9 5 5 2 3 4

A

5 5 5 5 5 5 5 5 | 5 5 7 5 8 5 9

A

7 7 7 7 7 7 7 7 | 7 7 7 7 7 9 5 6

A

5 5 9 7 9 5 5 9 7 | 5 5 9 7 9 5 5 9 7

A

5 5 7 7 5 5 7 7 | 5 5 7 7 5 5 7 7

A

5 5 3 4 5 8 5 8 5 3 | 5 5 3 5 5 3

# 3. Powertracks ProAudio 12 review. By Robert Harvey.

Powertracks ProAudio for Windows (PTW) is a 48 track audio/midi sequencer recording software. I've been using PTW since version 2, back when it was a floppy disk release for Windows 3.1. It has grown to be the best bang-for-the-buck recording software out there. Any of the 48 tracks can be used for either midi, mono audio or stereo audio tracks. It's ease of use is helped by it's familiar recording device interface. All the basic functions are present, including cut, copy, and paste, and Powertracks has many unique features like the Audio Chord Wizard and even offers notation for midi tracks in the common time signatures (3/4, 4/4, etc.) including lead sheets and chord analyzing.

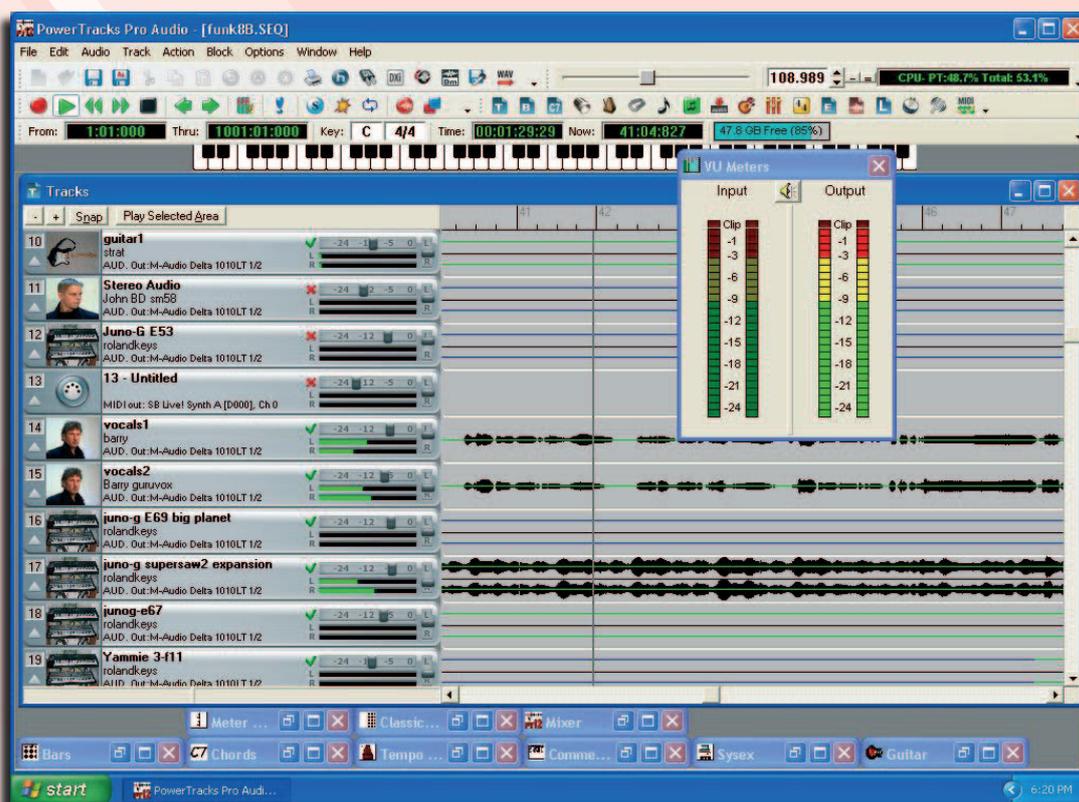
## THE TRACKS

The 48 tracks have their individual VU's, volume and pan settings and a Track FX area. For audio tracks the individual track FX area can hold four DX/VST effects, and for midi tracks the four slots can hold one DXi/VSTi synth and three audio FX to follow it.

Audio tracks can be assigned whatever ports you have available, including multiple soundcards, or multi-output soundcards. If the four DX/VST effects are not enough PTW also has eight aux busses that can each hold four more effects. Each track can be sent to any of the aux busses via a separate send volume dial. This allows you to use a single plugin on multiple tracks, saving on CPU load.

The midi tracks also have an FX area, again with four slots, but for the midi tracks the top slot is for assigning a DXi/VSTi synth port and three audio effects to follow it. Once the midi goes through the virtual synth it is then treated as audio, so your favorite audio plugins are available to use on your midi tracks! There are 16 available softsynth ports, allowing you to use any DXi/VSTi synth on any port. Each track is assignable to any port, making it a very flexible midi playback program. Multiple instances of a synth can be run on separate ports, so you even if you have a favorite mono synth, but need it to play three different parts, you can do it. Of course volume, panning and VU's are right there beside each track for handy access. If your soundcard (or external synth) supports reverb or chorus messages PTW has the controls for that, too.

One impressive feature of the PTW tracks area is the category FX. These allow you to save a set of plugins (and their settings) to a file, and that file can be associated with a bitmap. This is great for identifying tracks; insert a picture of your bands vocalist into the user area and select that set of category effects. You will get the same effects setup and a small icon beside the track of the picture. When working on tracks it's nice to be able to see the singer's picture right beside the track for identification. Pictures of different guitars, synths, etc. can make quickly grabbing the right track very easy.



## MIXING

The mixer in PTW is a familiar look, set up like a common mixer layout. Virtual sliders, VU's and dials all in column. For audio tracks, the dials control the aux buss send, and for midi they control reverb, chorus, modulation and expression controls of your soundcard or synth. The output port is shown at the bottom of the track for convenience.

The mixer sliders control the volume and panning. The volume slider is vertical, and panning is horizontal. It is possible to record movement of these elements to facilitate track automation. The movements are recorded as midi data, making editing a mixer move easy too. Volume changes can also be drawn into the pianoroll screen, again becoming midi data that is editable. The mixer window also contains the aux busses and the main output areas. It is possible to assign each aux buss to a separate output, if output ports are available on your system. If you have multiple outs, it's also possible to assign each track to a separate output and these are controlled in the output section of the mixer. Each of the eight outs can have four different DX/VST effects in them too. With the eight outs & the eight aux busses PTW offers a lot of flexibility.

## Recording

PTW is capable of recording as many tracks as your soundcard and system can handle. My eight input soundcard runs smooth with PTW, many times I've recorded eight audio inputs at a time, while playing back as many as 24 other previously recorded tracks. It also handles midi flawlessly, including sysex. A nice feature of the recording area is the ability to use the plugins available in your system while recording. This is called using the input monitoring and requires an ASIO driver. This makes it possible to record tracks while using effects on the inputs. It's also possible to hear the effects on an input, but record it dry. Great for those vocalists that just can't sing without the reverb.

## Mastering

I find PTW to be a great mastering tool. The ability to run four plugins in the track effects area and four more in the master output section means I have plenty of slots for processing effects. Then there's the aux busses, which get mixed in with the track on it's way to the main output. This is a great spot to put enhancers, exciters, mastering reverbs, and overtone type plugins because you can control how much of the signal gets sent to the plugin and mixed back in. The PGPeakLimit tool is a brickwall limiter that lets nothing get past it over  $-25\text{dB}$ . Yep, a quarter of a decibel under clipping is sometimes just right on those commercial mixes. That leads us to the other plugins that come included with PTW.

## EFFECTS

PTW comes with a generous assortment of all the necessary plugins; five and ten band graphic EQ, PeakLimit, compressor/expander (PGDynamics), distortion, tone control, flanger, chorus, reverb, tremelo, and a great vinyl tool for controlling the clicks and pops of those old vinyl albums, among others.

## EDITING

PTW was originally a midi sequencer. Therefore it has all the midi features you would expect, and some surprising ones too. Not only can it cut, copy, and paste, but also rechannel, change velocities by a percentage, quantize (or randomize), analyze chords, and give notation. The event lists shows every note and control, in order, for easy editing, and the data filters make it easy to edit only those event types you want to edit.

Although PTW was originally a midi sequencing tool, having been written long before audio recording on computers was available for home studios, it's audio editing tools are very efficient. Again, cut copy and paste are the basics, but audio effects can also be hard written to tracks to allow removing a realtime plugin(s) take the load off of the CPU. A vocal remover is included for creating karaoke tracks. Time stretching/ shrinking is available either by percentage or forcing a set time length. Got a commercial ditty that ended up a little over the allotted thirty seconds? Not a problem; PTW will make it thirty seconds on the head.



## EXTRAS

One of the new, very powerful features, is the Audio Chord Wizard (ACW) The name does not befit all that it can do. As the name implies, the ACW will take a track, or a whole song, analyze it, and figure out the chords for it. While it's not perfect (this technology is new) it does a pretty good job of it. The aspect of the ACW I find amazing is the ability to also find the tempo of a song and set the tempo map to match. A few of the possible applications-

Say you recorded a track with no click and the timing wanders a bit. With the ACW it is possible to get a click track to match it, even if it changes every bar. Then you can use your drum beats or patterns to line them up.

Have an mp3 or cd=audio track you need to learn the chords to? The ACW will help by analyzing the chords and writing them back to the original sequence file so you can see them as they play.

Another very impressive feature added recently is the 'realdrums' (with other 'real instruments' to come).

Realdrums are not midi tracks, patterns or loops. They aren't audio loops; they are recorded drum tracks that the programmers at PGMusic (the makers of PTW) took the time to record, break down into bars and sections so they can be assembled to it any song. I have about half of the available drum styles available. They range from rock to reggae to country to mambo, salsa, jazz brush, etc.

These drum parts are assembled and automatically stretched or shrunk to fit the tempo of the song. They recorded the parts at many different tempos so the stretch/shrink requirements are minimal to keep any artifacts from being noticeable. When used in conjunction with the ACW (to set the tempo map) and the chord window (to tell it when to change styles, and put in fills) it is a very impressive tool.

You can find an example that utilizes all these aspects here :

<http://www.yourbestsound.com/files/funk8c.mp3> this song was recorded as a song-writing idea, with the drummer varying from the tempo a bit while he tried to make up the lyrics and melody. You can hear the other instruments vary also because we had never done the song before. I took the demo tracks, ran it through the ACW to find the tempo, assigned a couple styles and fills to it, then generated a realdrum track that matched us pretty well.

## OTHER ESSENTIALS

PTW also has a tuner with automatic note recognition for tuning while recording. The fretboard window can show you various voicings you can choose from while using midi tracks. In the notation window it's possible to print off parts or multiple parts using multiple staves. It's also possible to enter notes in the notation window for those who like to write music. The meter map allows time changes throughout the song. And the sysex window make total control of your synths a snap. Receiving a sysex dump to save system settings in case of a future crash is simple.

All in all it's a very good deal for around \$50 US.

The screenshot displays the PowerTracks Pro Audio software interface. The main window shows a track list on the left with tracks like 'guitar1', 'Stereo Audio', 'Juno-G E53', and 'vocals1'. The central RealDrums dialog box is open, showing options for 'RealDrums Folder Path', 'RealDrums Style' (set to 'RockHardEven8^1-HiHat,Ride'), and 'Audio Output Track'. The 'Generate Drums for' section is set to 'Whole Song'. A 'Chords' window is also visible, displaying a grid of chords for 28 bars. The bottom status bar shows the system tray with the start button and the time 6:22 PM.

Bar	Chord	Bar	Chord	Bar	Chord	Bar	Chord
1a	E	2	E2	3	E	4	G F
5	E	6	Asus G2	7	E	8	G
9	E	10	Asus	11	E	12	G F
13	Em7	14	A7sus G	15	E	16	G G/F
17	E2	18	A7sus G	19b	F#	20	F#7
21	F#	22	F#7 E2	23	F#	24	F#
25	F#7	26	F#7	27	F#	28a	E

# 4. Software of the month.

## MMA - Musical Midi Accompaniment, Part 2

By Bob van der Poel

### MMA - Musical MIDI Accompaniment ... Part 2

Last issue we introduced a few of the concepts of MMA. Hopefully you have installed the program on your computer and have had a chance to read the manual which accompanies the package.

The MMA documentation includes a short tutorial which includes a section, written by someone quite important to this magazine, which shows a different perspective on creating a library file.

MMA comes with an extensive library of common rhythms, but such things are never complete. Recently, on the Kara-Moon MMA forum there was a request for a 7/8 rhythm. I didn't help the poster much at the time, and he did respond that he'd figured out one for himself. Still, it makes a good subject for a little article.

Before we start to create a MMA library file, we should think a bit about what a 7/8 rhythm is. Yes, most of you understand that there are 7 beats or divisions in a bar and a single eight note gets a beat. But, simply banging a snare drum or a strumming a guitar seven times in each bar gets pretty boring.

7/8 time is actually a compound time. It can be sub-divided into 2 and 3 beat chunks. There are three possible combinations: 3+2+2, 2+3+2 and 2+2+3. The style of music will dictate the form. Oh, and yes, there are dances which use 7/8, mostly Middle Eastern, Indian and Balkan. I'll let you do your own research and invite you to upload a video of you doing one of the dances to "youtube".

For this article we are going to use the 3+2+2 pattern. No particular reason, just my choice.

I started out by creating two files. The library or pattern file is called "78-322.mma". A second file "hindi.mma" is used as a test file. Oh, and a disclaimer: I know next-to-nothing about mid-eastern music styles; please treat the following as a very bad example which needs work!

First let's have a look at the library file. We start off with some pretty standard header lines:

```
// 78-322  Mid-east dance beat
Doc  A 7/8 dance beat in the form 3-2-2+
Author Bob van der Poel

SeqClear
SeqSize 1
Time 7
Timesig 7 8
```



The important line is "Time 7" which sets 7 beats to a bar. For the most part the other lines duplicate the defaults and could be deleted. Don't do that!

If you examine the files supplied with the MMA distribution you'll see that most rely on some "standard" include files. I don't plan to do a lot of work in 7/8 so I'm not going to bother creating custom patterns. Instead I just define all the patterns in the MMA file.

We don't need to create defined patterns at all, but having them for drum tones makes creating sequences a bit simpler.

```
// We don't have any handy include files for this, so we create
// our patterns here.

// First, drums. We use somewhat symbolic names for the beats.
//   Eg. 12346  would give hits on 1, 2, 3, 4 and 6
//       146    1, 4 and 6
```

```
Begin Drum Define
  D14    1 0 90;  4 0 90
  D23    2 0 90;  3 0 90
  D6     6 0 90
  D1234  D14; D23
  D12346 D1234; D6
  D236   D23; D6
  D57    5 0 90;  7 0 90
End
```

At this point we have a number of drum patterns. Take a look at the defines. For "D1234" we could have set each hit as a separate item, but, instead, we took 2 existing patterns and combined them.

Also, notice that we are using a volume (more correctly velocity) of 90 for all the beats. I've found it much easier to use a moderate, consistent volume for drums and, if necessary, modify it in the sequence definitions.

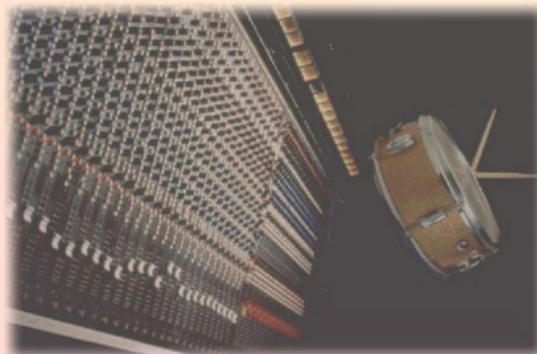
Now we're ready to create a groove.

We start by creating two drum tracks. The first one had a low tone on beats 1 and 4; the second a higher tone on 2, 3 and 6.

```
////////////////////////////////////
// Basic Sequence with drums and sitar
```

```
Begin Drum-Low
  Tone LowBongo
  Volume m
  Sequence D14
End
```

```
Begin Drum-Hi
  Tone HighTom1
  Volume mp
  Sequence D236
End
```



You might notice that we've used a different volume for the Drum-Low and Drum-Hi tracks.

Next we need a chording instrument. To get that Eastern feel I've used a Sitar.

```
Begin Chord
  Voice Sitar
  Sequence { 1 4 90; 4 16 90; 6 16 90 }
  Volume mp
  Articulate 80
  Octave 4
  Voicing Mode=Optimal
  Strum 20
End
```

A few points. The Sequence is defined in-line; no existing defines are used. The {}s indicate the pattern. You might remember from reading that manual that you can have a different pattern for each bar in a sequence, but our sequence size is only 1 bar long, so life is simpler.

The "strum 20" attempts to add some variety to the strumming. It might be a tad too cheesy.

The Voicing option might be totally wrong for this kind of music.

Next we set an acoustic bass to play on beats 1, 4 and 6.

```
Begin Bass
  Voice AcousticBass
  Sequence { 1 8 1 90; 4 8 3 80; 6 8 3 90 }
  Octave 3
  Articulate 60
End
```

On beat 1 we play the root and the third on beats 4 and 6.

```
DefGroove Main A simple 7/8 3+2+2 pattern
```

The "DefGroove" command takes everything we've done so far and puts it in a "container" with the label "Main". Note, also, that we've added a documentation string to the end of the line.

I used the overly creative name "Main" for this pattern. I have no intention of including this file into the standard MMA library so I don't need to worry about groove names conflicting.

We could stop here, but that would be way too simple.

Having the same pattern drone on and on does get on ones nerves, so how about a nice fill groove? The first command here is to call up the groove we just defined. Since nothing has changed we could leave the command out, but it is recommended that you don't do that. This way you can move patterns around and not worry about undefined things.

```
// Now a fill pattern

Groove Main // use the main groove

Begin Drum-Fill
  Tone JingleBell
  Volume p
  Sequence { 1 0 90 }
End

DefGroove Fill Adds a bell to the first beat.
```

All we do is play a bell on beat 1 of each bar. Makes a big difference.  
What's it sound like? Not that great, but it does work. Here's our "hindi.mma" file:

```
use 78-322
```

Notice that we're importing the "78-322.mma" file. It will not be in the standard library so we need to do it this way.

```
Tempo 90
```

If this were a real song you would also insert commands for the key signature and some comments here. For the example we just need the tempo.

Next we call up our groove:

```
Groove Main
```

And play some chords. Three bars should be enough.

```
1 C
2 Dm
3 C
```

For a fourth, final, bar we change to the "Fill" groove.

```
+Groove Fill
```

And play one more chord.

```
+4 G
```

If you place the 2 files in the same directory the command "mma hindi" should work just fine and produce the file "hindi.mid".

Your challenge for this month is to create a better version of this groove and a danceable song. Share with others via this magazine or visit the kara-moon MMA forum.

Not got your copy of MMA yet? Grab it from:

<http://www.mellowood.ca/mma>

It's free and fun ... what a deal.

If you have a question you'd like discussed here, drop me a note: [bob@mellowood.ca](mailto:bob@mellowood.ca).

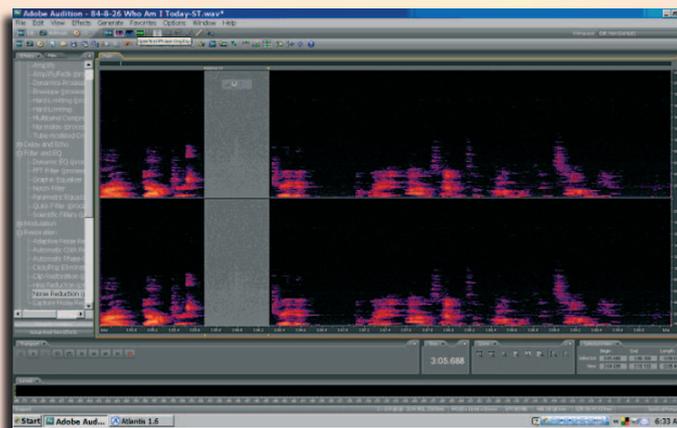
Have fun. I'll be back next time with more MMA topics.

Bob van der Poel



# 5. Audio Noise Reduction

Getting that noisy audio wonderfully clean - Part 1 By Wyatt



To begin our exploration of audio restoration, in this installment, we are going to discover the best way to use that de-noising software. There is no automatic-push-the-button software that can begin to compare with what you can accomplish yourself. You are going to love what you can do with this ..all you need to do is proceed step by step.

I use Adobe Audition for audio restoration work, but these suggestions apply to other software as well. The important thing is that you have the ability to preview your results ..both the audio itself, and the noise separately.

Using automatic noise reduction routines usually cause more harm than good. Incorrect use can leave ugly sonic artifacts, and lose important sonic content. This is true of any sort of automatic software routine. Best to make your own decisions, and not leave it to the software.

Here's how to have more certainty about your results. You are making a subjective evaluation, and you can eliminate the risk.

1. Select a representative silence for your noise profile. Use a section that doesn't have music or vocal content.

2. Then select, say, 20-30 seconds of representative audio content to preview. [This allows you to listen to the exact bit over and over for easier comparison of your tweaks].

3. Now, this is the important part:

Once you have decided the level you \*think\* you like, select 'listen to removed noise' or its equivalent, such as: 'keep only noise', etc. and listen to the noise all by itself.

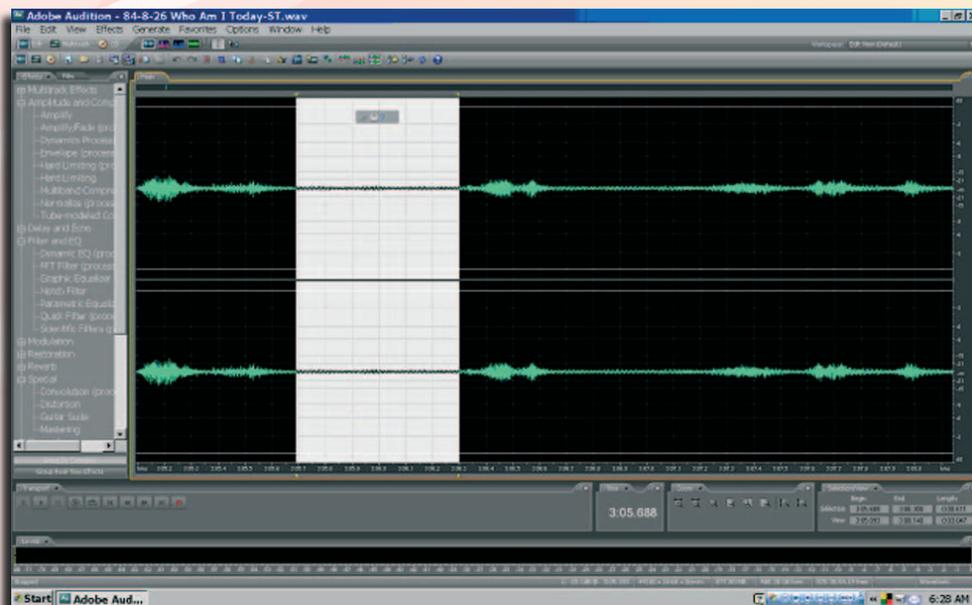
How much of what you want to keep is in with this noise when you preview it? If the noise has a crisp, definitive beat, then you are removing too much. If you can make out the words in a vocal track, then you are removing too much. This is where your audio content is preserved or destroyed, so be careful.

By previewing the noise, you know at what point you are sacrificing content for the Noise-Redux, and usually sacrificing content is a bad trade-off..

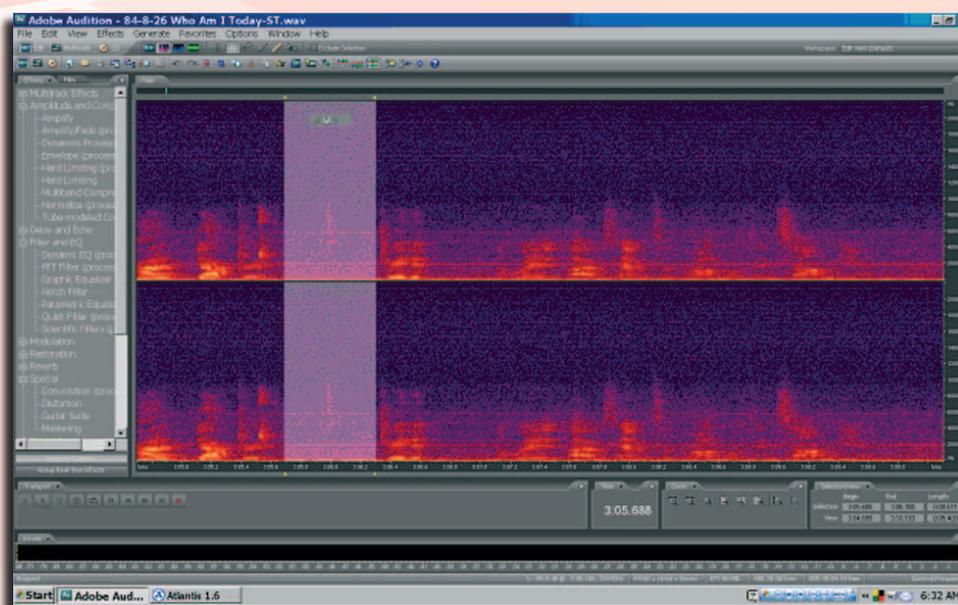
4. Now you are in a position to make a more informed decision. Be sure to remember your settings, remember to select 'remove only noise', and don't forget to apply the process to the entire file, [and not just your test segment] .

That's it for the first installment. Stay tuned for the next one, where we will explore some other, often overlooked possibilities for getting your audio wonderfully clean.

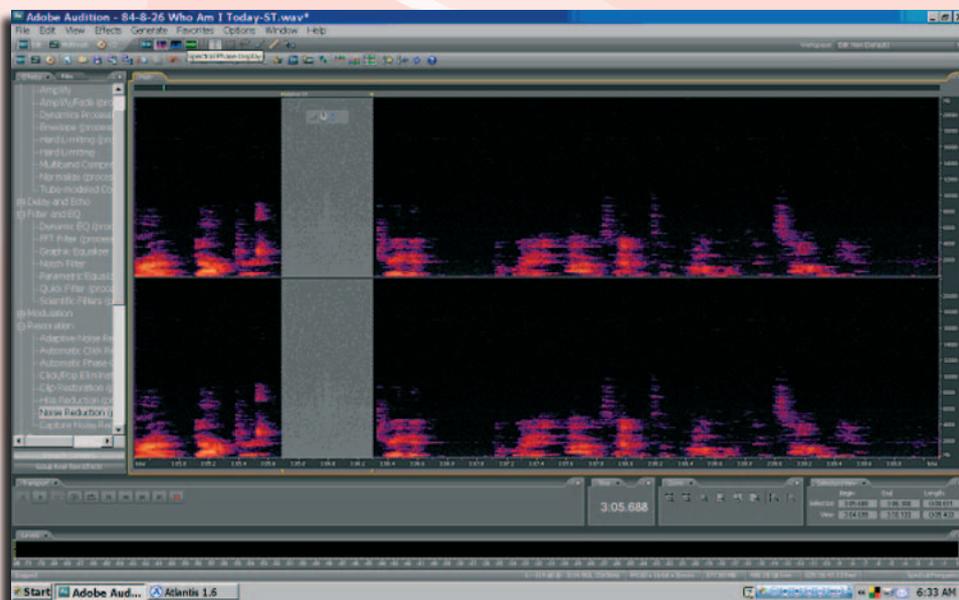
To capture a noise profile, be sure to select it from a segment that has no audio content, as in this screen-shot of the selection being taken between sentences of a question and answer session:



Once you have followed the steps, and made sure you are removing only noise, and not audio content, you will be able to see the difference, as well as hear the difference.



In this "After" shot, you can see that the entire wave form is affected. We are getting closer on this one, and we will never be sorry that we took the extra steps to ensure that our noise-reduction software doesn't cannibalize our audio!



## 6. Repo Audio - take back what's yours. Part 2. By Oren Thomas Fisher

Mastering your music on a home computer.  
Episode 2. Tuning up your audio file.



### Choose your format-

Are you mastering for uncompressed wave file format, MP3, or Ogg Vorbis?  
Each of them has their own tonal and dynamic qualities: A file being mastered for MP3 or Ogg Vorbis benefits from more compression than one destined for a 16bit/44.1KHz wave file.

MP3 files sound better when frequencies above 10,000Hz are boosted 2 or 3dB.  
Both MP3 and Ogg Vorbis benefit from frequencies below 125Hz being attenuated.

### Choose your resolution-

The smaller the intended file size, the more it can benefit from attenuated bass frequencies, and compression of the dynamic range.

You are trying to pack in as much of the "functional" frequency response and dynamic quality as possible, while discarding non-essentials.

### Fix any glitches-

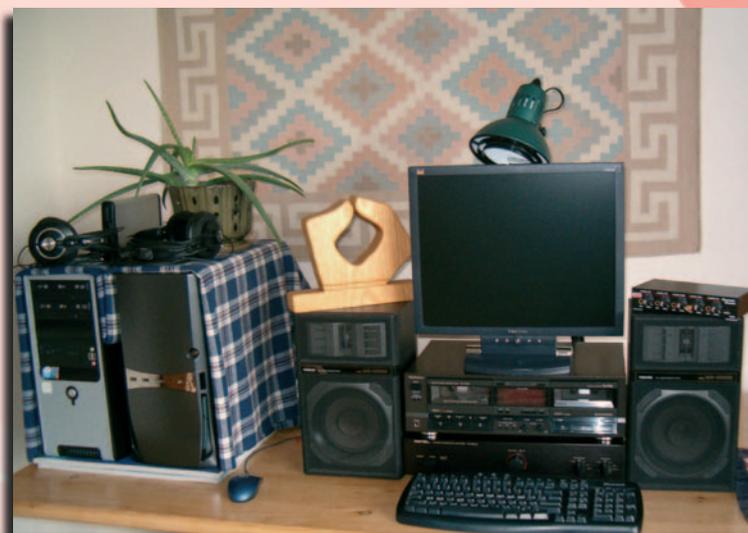
Any unintentional noises can be addressed by "zooming in" with your audio editor, locating the sound, and making tone or volume adjustments at that specific point.

Another approach is to zoom in and "cut" the file at that point; literally removing that section of audio where the noise occurs.

Care must be taken not to interfere with the rest of your sound; sometimes the offending noise simply cannot be removed, but it usually can be minimized.

### Tailor your tone-

Listen to the recording and determine if there are tonal qualities you would like to enhance, and any that should be moderated. Select an equalizer that suits your taste, and cut/boost the various frequencies until the tonal characteristics you had aimed to modify begin to sound like an improvement over the original audio file.  
Experiment until you achieve the optimum settings.



### Bring up your levels-

To bring up the perceived audio impact or loudness, your audio file can be "compressed". The over-all level of the audio is increased, while the loudest sounds are limited to a pre-determined peak level. The difference in audio level from softest sounds to loudest sounds (dynamic range) is decreased. The perceived listening level is increased.

### Trim up the ends-

Removing excess silence at either end of the audio file will make the length of the finished file fit the audio content. Sometimes the added use of a "fade" is advantageous in helping to smooth the intro or ending.

### Listen carefully-

Monitor the resulting file closely to assure your efforts have achieved the effect you are aiming for. Go back and make further adjustments as necessary, until your ears tell you the deed is done.

## 7. Hardware of the month. Processors for a DAW PC By Mr. Moon.

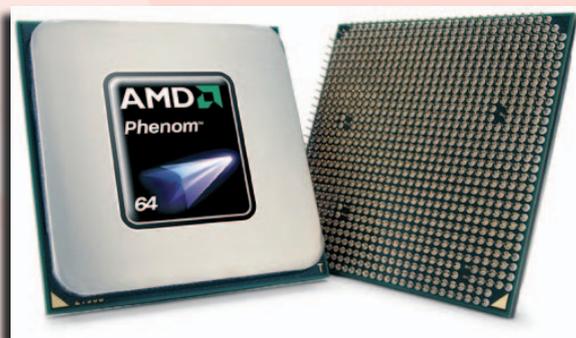
I remember some years ago how simple it was to choose a processor for a DAW PC. Nowadays, the choice is not that obvious since there are many CPU's to choose from. I image that not everybody will agree with me, because generally Intel dominance of the market is a strong presence in today's perception. Indeed, when considering the performance per watt ratio, then Intel seems to have the technical advantage. Still, one may ask if this advantage is large enough not to consider an AMD processor for a DAW?



So, let's take some time to look at the facts and have a look at two of Intel's finest processors, the Intel Core 2 DUO E8500 and Intel Core 2 Quad 9450. These two processors score about the same in theoretical performance test. Relatively speaking, both have a score of about 1.63. The Quad 9450 has the advantage of being a quad processor, meaning, when using many applications simultaneously, you might get an advantage with it. Does this mean that your music software will run more smoothly? Not necessarily, because today's software is not always optimized for quad processors. In that case you are better off with a processor which is clocked at a higher frequency, like the E8500. The Intel E8500 consumes max 65 Watt, which is very low for a processor running at 3.16 Ghz. The Q9450 will run at maximum 95 Watt.

But where does that leave AMD? AMD released their quad processor around November 2007. At the time of their release, there were 2 main issues with it:

- They suffered from a bug that allows out-of-date memory addressing information to hang around in the CPU's cache
- They were, in comparison with Intel's offering, more expensive when compared on their performance



However, this has changed: the new AMD quad processors don't have the bug anymore, and their prices have dropped considerably making them more of a match with Intel's offering. (Do note, when getting a new AMD Phenom processor, be sure to get one with a model number ending in 50, since these don't have that famous bug!).

When looking at their relative performance, the AMD Phenom X4 9850 scores about the same as Intel's Quad Q6700, being 1.58. Ok, this is less than the 1.63 from Intel's E8500 or Intel's Q9450, but the difference is just a few percentages. Also important to note is that, at the time of writing this, the Phenom is less expensive than Intel's range.

So, yes, AMD can hold its place, or can it? Well, the equation is not finished yet: when also comparing the AMD's power specs, you will notice that AMD's 9850 needs 125 Watts. This is quite a lot, and since much power means much heat and much cooling, the AMD new Phenom processor seems to look less attractive for usage in a DAW.

Does this mean we don't have to consider an AMD processor for a DAW?

Well, don't jump to that conclusion yet. First of all, the performance scores you read about on the internet are theoretical numbers. The fact that these CPU's run on different motherboards with different chipsets make the score even more relative. I've read an interesting article in July 2008 issue of PC PRO (a British magazine). When reviewing some motherboards, they used the Intel E8500 against AMD's 6400+. Based on the relative scores of the CPU's, one should expect that the Intel E8500 would be much faster. However, this didn't seem to be the case: both configurations had about the same performance scores.

Regarding the power consumption, you should expect that AMD would have higher power consumption. Again, at idle consumption, the difference between the 2 was very small. Meaning, real life situations don't always reflect the theoretical figures!



Also, the most important question you really want to ask yourself is “how much power do I need”. Let’s be honest, why do you need so much CPU power ? For running more VSTi’s simultaneously? No, not really, because every serious sequencer program has a track ‘freeze’ function that allows to save CPU power. The real reason we need more CPU power is because we might want to run VISTA and our ANTI-VIRUS software.

I think when you read this, your hair is starting to raise.... Vista, anti-virus software... aren’t we talking about a DAW ? Why should you want to use Vista and Anti-virus software on your DAW ? As far as I know, today, Vista doesn’t offer advantages over XP for a DAW, and you shouldn’t be browsing the net with your DAW, so consequently you don’t need Vista nor anti-virus software for your DAW. So do we need all that power anyway? I really don’t think so. What you really need to make music in a DAW is stability and enough performance, which doesn’t mean the best possible performance.

That brings me to the AMD lower end offerings: let’s have a look at AMD Athlon’s 64 X2 5200+. This processor consumes 65 Watt, and scores a relative score of 1.10. Yes, I know this is considerably less than those shiny new Phenom and Intel’s processors, but believe me, this processor is fast, reliable and powerful enough to run your DAW software and this processor is unbelievably cheap.

One thing also to consider; if you have an older AMD system, you may want to check the motherboard’s CPU socket. If the system is not too old, you’ll find an AM2 socket in there, meaning you can upgrade your processor. Also note that when upgrading your PC, you won’t have to do a re-install although windows might ask you to re-activate windows because your system has changed considerably.

What am I using ? Interesting question. Actually, I have 2 PC’s that I use as DAW PC’s. The first one is a +/- 1 year old Intel based PC with an E6700 processor. The second PC is 1 year older; it’s an AMD based system in which I upgraded the processor to an X2 5200+. When comparing both systems, they seem to behave more or less the same. When running Sonar, they both display very similar CPU readings and they both are very stable (actually I can’t remember a single crash).

### Conclusion:

Ok, time for a conclusion: what processor should I get for a DAW? Well, to be honest, if you go for a duo or quad CPU, it really doesn’t matter that much. Today’s duo and quad processors are fast enough to give you enough room to work with. My advice: choose a processor that consumes no more than +/- 65 to 75 Watt. This is energy friendly and it will keep your system quiet. Do have a look at your current system and consider an upgrade before buying a whole new system. If you go for Intel, do have a look at the new E8500 processor. If this one is too expensive, checkout the E6750 which offers an outstanding price performance ratio. When opting for an AMD, a cheap 5200+ might do the job for you. When considering a new Phenom processor, like the 9850 or 9750, do consider the cooling issue since this processor has a higher watt reading.

And certainly, before spending money, learn to use your DAW efficiently before you decide you need more CPU power !

## 8. User Review. Roland Juno Stage. By greendearthstudio.

### MY THOUGHTS ON THE ROLAND JUNO STAGE

After having been gravely disappointed with the utter failure of the Fantom G, I had just about written off Roland altogether, as Roland never seemed to be able to measure up fully to all of their hyped propaganda.... but with Roland's introduction of their latest addition to the Juno legacy, I was pleasantly surprised.

Although the Juno Stage is just a prototype at this particular juncture, it is still, nonetheless, quite impressive sonically, whilst also providing some unique functionality as well.

The first aspect of this keyboard that caught my attention, is the 76 weighted keys, which is a first (at least to my knowledge).

Secondly, it seems as though Roland has steered their focus more on sound quality, which is apparent in the video demos I have seen from the summer Namm show, as well as the demos on the Roland website.

I was particularly impressed with the drum samples-in fact, astonished greatly in this area and I found the synth sounds to be superior to the Fantom series.

The acoustic sounds such as the pianos and e-pianos seemed to be on par with the Fantom series.

This synth was certainly geared towards live performances and it really shines in this area, considering the 128 note polyphony, 16 part multitimbrality, 1,027 programs with 256 user memories, the ability to organize playlists, the ability to play WAV/AIFF/MP3 directly from a USB flash drive, a 1/8 inch auxiliary input for portable devices, XLR mic input with phantom power, effects and vocoder, an arpeggiator with 128 presets and drum pattern editing functions.

One of my personal favorites, is the 7 real time parameter controls for tweaking on-the-fly.

All in all, in my opinion, Roland's strengths have always remained in stand-alone synths, rather than workstations and the Roland Juno Stage thus far, is a shining example of what I think Roland does well in.

From what I've gathered so far, the asking price for this product is around \$1600(USD), but due to lack of info, I am not sure whether this price is MSRP or a street price-but in any event, I suspect it will not be any more than this and most likely less than said price.

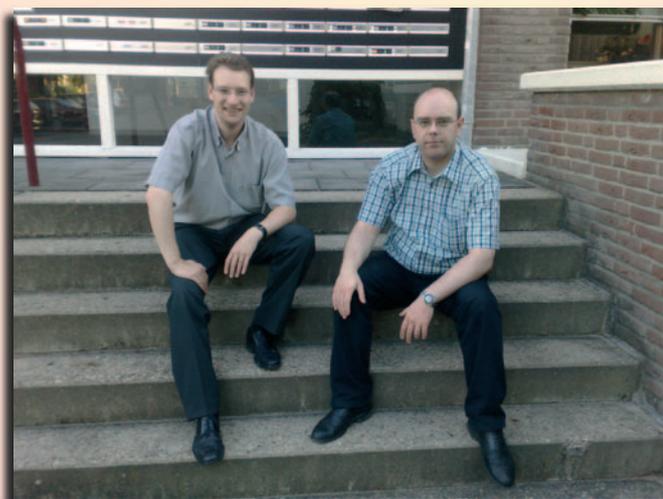
To sum it all up, I think the Juno Stage is a modestly priced synth for it's sound quality and functions-which is paramount in my book.... I only wish that Roland would incorporate this level of quality in their workstations, as this product would be on my gear list if it were a workstation.

Thomas Sneddon



## 9. Artist of the month.

# 87pm



87pm.music is a collaboration of Percy TKNX and Marc JX8P. They have been creating music together for 20 years now and just released their latest album called 'Ocean Coast' which combines music of an atmospheric nature around the Ocean.

### 1. Can you tell us a bit about yourself as an artist?

- We met in highschool in 1987 (hence the 87 in our name) and started making music right away. Percy loved music from the start. When he was 5 he played Beethoven's 9th Symphony on his flute with colors and at 7 he started playing electric organ. He always wanted to go to the conservatoire but because of the anticipated stress of a musician's life he chose another job while remaining active in music. He played in several bands and choirs and of course in 87pm! Marc started out as a computer enthusiast with a side interest in music and after learning a few chords from Percy never got rid of the addiction of actually making music. He loves to research the technical stuff behind the music and this, in combination with Percy's musical background creates the music of 87pm.

### 2. What are your influences in music ?

- Marc JX8P: Definitely Jean Michel Jarre. Mike Oldfield and Alan Parsons play another big role. I'm also a big fan of Pink Floyd and Depeche Mode.  
- Percy TKNX: Aside from the ones Marc mentioned, Kitaro, Vangelis, Tangerine Dream. Also a fan of Dire Straits and groups like Coldplay.

### 3. What equipment do you use ?

- On the hardware side, a Fantom Xa as and a JX8P, but mostly we use software: Kontakt 3, Kore 2 and the GForce synths like ImpOSCar and MiniMonsta are very important. Sequencing is done in Cubase 4 Studio. Percy uses a Technics KN6000 for his work in his other band.

### 4. Do you play live ?

- Percy regularly performs as a member of his band 'HAND' (Have a Nice Day) which features two singers, a guitarist, a drummer and Percy on keyboards. They play covers of songs from the 60's until now. Marc doesn't - though he does occasionally get drafted for a 87pm mini concert.

### 5. How do you think the internet influences the music industry ?

- It creates many more opportunities for smaller artists to be heard on a wider scale than ever before. While the industry will probably always continue as a bandwagon for the biggest mainstream acts, the internet allows smaller names - or just less famous ones - to be heard by a bigger public. Of course, there's also the issue of piracy via the internet but in general we think the internet has been a positive thing for music and is something that should be seen as separate from the mainstream music industry. Next to that it's wonderful to meet so many other musicians you otherwise would not have known.

### 6. Would you sign a contract with a major label ?

- Marc JX8P: It would depend on the contract... :-)
- Percy TKNX: Definitely not! :-)

### 7. What is your favourite internet spot?

- Marc JX8P: Kara-Moon! :-) Aside from that, Sonic State is a fantastic site with loads of music news, videos from music exhibitions like NAMM and a very entertaining weekly podcast.
- Percy TKNX: Kara-Moon... Also, MySpace, Facebook and Twitter.

### 8. Anything else you want to say about yourself ?

- Only that we hope people will enjoy our new album. It has taken lots of years to get to this selection of music and it has been fun getting there and bringing it to a point where it can be released. So now it's off to a new project - which will probably feature a land-based theme.



No.2 July, 2008

We, at Kara-Moon, hope that you have found this set of articles to be both informative and entertaining.

Kara-Moon is made up of people just like you. Those who have a passion for music and home recording and wish to share that passion with like minded musicians from around the world.

We hope that you enjoy your visits to our Auditorium and only ask you to add your voice to ours in spreading the word around the globe.

Thank you for visiting us.

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