

# WHEN THE CHIT HITS THE PAN

## OR WHAT I THOUGHT I KNEW ABOUT THE STEEL DRUM

The sound of steel drums has always fascinated me but, in preparing for this article, I found that my assumptions about the music and the instrument were completely wrong. My impression was that of light hearted island music using cheap instruments easily made from found goods. The music conjures up images of a relaxed island culture making music to the easy rhythm of the trade winds. Supposedly, steel drums came into being when islanders discovered that the empty 55-gallon oil drums left behind by World War II GIs could be used to make music. The actual story, however, is one of a world in turmoil, of nations battling for colonies, of slavery and of suppression.

It begins in 1498 when Spain laid claim to the island of Trinidad. Toward the end of the 1780s French planters brought a significant slave population to the island. Then, in 1797, the British defeated the French in Trinidad and put an end to slavery by 1837. The islanders still used drums for their dances and celebrations including Carnival that had begun as a procession of torch bear-

Instrument Name	Range	Musical Function	Skirt Length	No. of Drums	No. of Notes
High Tenor (High Lead)	Soprano (D4 - F#6)	Melody	5"	1	29
Low Tenor (Low Lead)	Soprano (C4 - E6)	Melody	5 1/2"	1	29
Double Tenor (Double Lead)	Soprano/Alto (F3 - B5)	Melody/Counter Melody	6"	2	31
Double Second	Alto (F#3 - C#6)	Melody/Counter Melody/Harmony	9"	2	32
Double Guitar	Tenor (C#3 - G#4)	Harmony	17"	2	20
Triple Cello	Tenor (C3 - B4)	Low Harmony/Melody	17"	3	24
Four Cello	Tenor (Bb2 - C#5)	Low Harmony/Melody	17"	4	28
Quadrophonics	Tenor/Alto (B2 - D6)	Melody/Counter Melody/Harmony	10"	4	40
Tenor Bass	Tenor/Bass (F2 - E4)	Reinforce Bass/Bass Lines	17"	4	24
Bass	Bass (Bb1 - Eb3)	Bass Lines	34"	6	18

Table 1 – The Range of Instruments in the Steel Band

ing Islanders reenacting plantation fire drills with drum accompaniment. In the mid 1880s the British banned the drums on the grounds that they were being used for secret communications and could lead to a revolt. The drums were then replaced by collections of tuned bamboo sticks that were pounded on the ground. These stick-bands came to be known as “bamboo tambou” from the French word *tambour*, meaning drum. Various island groups developed their own unique identifying rhythms that announced their presence much like gang-graffiti does today. These stick-fighting dances were seen as violent by the British colonial rule and, consequently, bamboo tambou was also banned. This process of finding new replacement instruments continued as each subsequent one was criminalized.

By the 1930s bamboo tambou bands had begun using empty biscuit pans and accidentally discovered that a dented pan produced two distinct notes or “ping-pong” as it was called. The birth of the “steel pan” (as it is known everywhere in the world except in United States where it is called the “steel drum”) is considered to be 1938 when bamboo tambou bands began to switch over to steel. In 1939, Winston “Spree” Simon invented and played the first tuned pan. After the WWII Carnival ban was lifted, Simon caused a sensation when he played his 14-note pan at the Trinidad Carnival. Elliot “Ellie” Mannette, one of Simon’s friends, was the one who began using 55-gallon oil drums and by 1947 had an instrument that covered a two octave diatonic range. Chromatic scales were the next logical step. In 1951 the Trinidad All Percussion Steel Orchestra (TAPSO) made up of the top ten pan players including Simon and Mannette was sent to the Festival of Britain in London to represent Trinidad. This appearance began the worldwide appreciation of steel pan music, and the group went on to tour England and France and played for BBC radio and television audiences.

If you think you want to get an old 55-gallon oil drum and make a steel drum take warning—this is a non-trivial task. It takes more than 20 steps to

manufacture and tune one drum, which is why people apprentice for years before they acquire the knowledge and skill to make one. However, if you have made up your mind, you can find a step-by-step process in Ulf Kronman’s book (look below in **Web Sites You Can Visit**). Keep in mind that this complex process of sinking the bottom of the pan, marking notes, grooving, leveling, shaping notes, smoothing, cutting, tempering and so forth, is for making just one pan!

Pans come in ten or eleven different flavors from the highest “ping-pong” to the lowest “boom.” The higher the note, the smaller the surface area required, so the high Tenor Pan has enough room for 29 notes. The lower notes require more surface area; thus, the Bass Pans may have as few as three

notes to a pan and therefore can require up to nine or twelve big pans to create a full chromatic scale for the one instrument. The sides of the instruments, called skirts, are cut so the higher instruments have shorter skirts and the lower ones have longer skirts with the bass instrument keeping the entire skirt length from the original 55-gallon oil drum (see **Figure 2**). This is to properly delay the sound as it travels around the skirt and back to the sounding surface to avoid a phase differential that could cause sound cancellation due to destructive interference (see **Table 1**). **Figure 3** shows that the notes on the Tenor Pan are laid out as adjacent fifths with the higher octaves farther toward the center. This centering makes sense when

you realize that the surface has been stretched thinnest at the center.

As you can see, steel pans are not the simple found goods that they may appear. They are high quality, labor-intensive instruments and can sell for three or four thousand dollars each. To outfit a full steel band can cost tens of thousands of dollars.

The steel drum is the only globally adopted acoustic instrument to be invented in the twentieth century. The interaction of the notes produces overtones not found on other instruments. It’s what gives the steel pan not only its characteristic sound, but is the reason that it is complicated to make and tune. So please keep reading this column and, of course, stay tuned.

### WEB SITES YOU CAN VISIT:

The most complete treatise I could find on steel pan construction and tuning is Ulf Kronman’s 1992 book which is available as a free download off the web at [www.hotpans.se/pan/tuning/pdf/pantuning.pdf](http://www.hotpans.se/pan/tuning/pdf/pantuning.pdf). If you want to experience the adjacent fifth arrangement and hear the steel pan as you try it, you can find a virtual pan at [www.mathsyear2000.org/museum/gallery1/steeldrum](http://www.mathsyear2000.org/museum/gallery1/steeldrum). Elliot “Ellie” Mannette, mentioned above, now lives in West Virginia but has continued the tradition. You can get an idea of current prices from his web site at [www.mannettesteeldrums.com/MSDpricelist.htm](http://www.mannettesteeldrums.com/MSDpricelist.htm)

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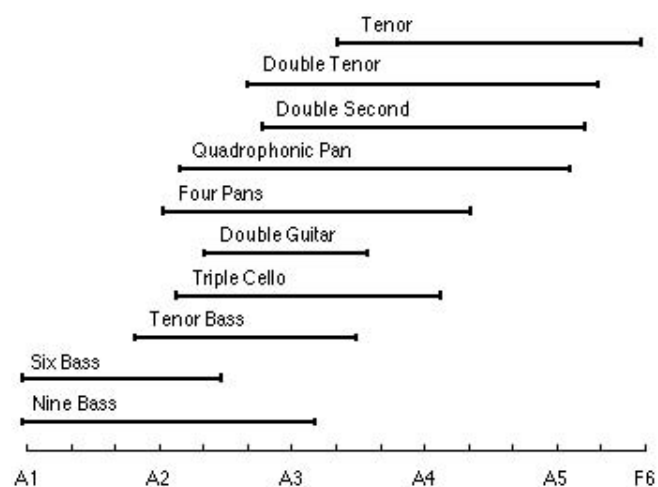


Figure 1 – Comparative Note Ranges



Figure 2 – Some Pans

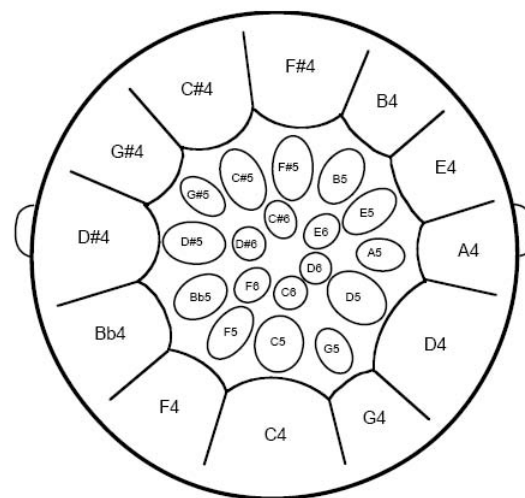


Figure 3 – Tenor Pan Note Layout