Square Melodic Cluster Drums

by **Thinkenstein** on May 16, 2012

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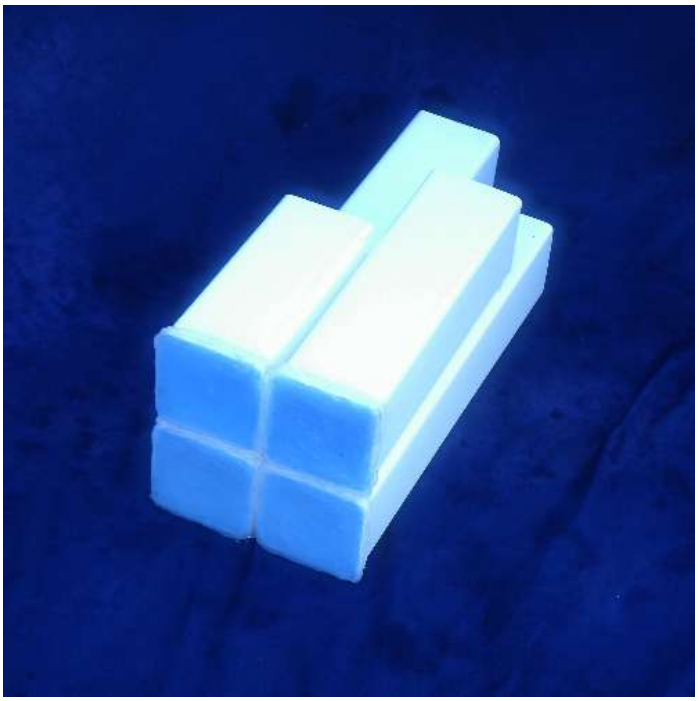
I'm a refugee from Los Angeles, living in backwoods Puerto Rico for about 35 years now and loving it. I built my own home from discarded nylon fishnet and cement.

Intro: Square Melodic Cluster Drums

I have made a variety of cluster drums over the years, drums that use PVC pipe for their bodies and have deeper or higher sounds due to the lengths of the pipes. Most of them have used round pipe and heat-formed PVC connector units. Out of curiosity, I tried making drums out of square pipe, which let me eliminate some of the empty space between the round drums; space which makes no sound. With the square head drums, you can strike blindly and always hit something, almost always get a clean sound. Surprisingly, the quality of the sound is about the same as that of the round drums.

These square drums also use a kind of drum head that does not need tensioning. I make them out of x-ray film material and silicone rubber. They are easy to make. The film is glued down on the top of the drum body. When it is stuck, it is just built up the surface with about an 1/8 inch layer of silicone. The individual drums are then glued into clusters using more silicone.

The sound it makes is pretty nice. Hear it in the last step.

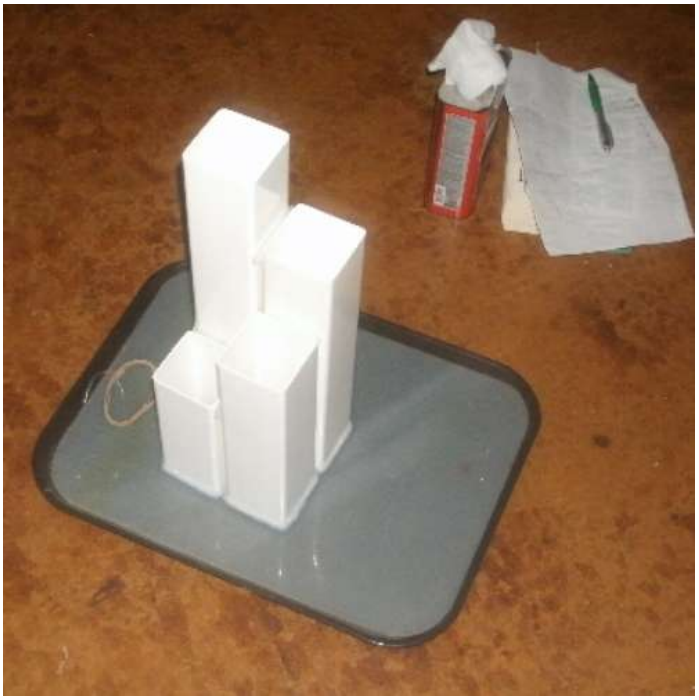


Step 1: Cutting the Pipes

I made three sets of drums, each set with four notes. That makes a convenient bunch to hold between one's knees while sitting, or to hold under one arm.

Without knowing what notes I was going to get, I established the longest pipe, the shortest pipe, and divided the lengths of the other pipes in equal steps between those two end pipes. There were twelve pipes, and I numbered them 1-12. Uniform length changes seems to make for uniform sound changes, so I imagine a similar set of drums could be tuned to standard notes, if one had known starting and end points with appropriate length intervals to get the desired sound intervals.

In cluster one, I used pipes 1,4,7 and 10. In cluster two, I used pipes 2,5,8 and 11. In cluster three, I used pipes 3,6,9 and 12. All the clusters are arranged in the same sort of counter-clockwise pattern of short to long pipe lengths so that repeating the pattern in each cluster will repeat the same sound pattern, only shifted up or down the scale a little.



Step 2: Making the Heads

Making the heads is pretty simple. Glue down a piece of x-ray film material with silicone, after first scouring off the film image with a metallic kitchen scouring pad and water. Silicone sticks very well to the clean plastic material.

When the silicone is dry and the film is stuck down, trim off the excess film material with scissors.

Then, squirt some more silicone over the surface of the drum head and build up about an 1/8 inch thick layer. I use a sort of square spiral pattern, working to the center from the outside. Go over the outside edge of the film and down the side of the pipe about 1/2", to help it adhere to the pipe better. When that hardens up, I use a palette knife, like a little trowel, to spread on a little more and smooth off the silicone surface.

Step 3: Assembling the Drum

I laid the individual drums out on some non-stick polyethylene plastic, heads down to keep them in the same plane, and joined them with silicone where the heads touch. There is a little space between the PVC drum bodies. I bridge the gap with lines of silicone in convenient places, like between the ends of the shorter drums and the walls of neighboring longer drums. This keeps the cluster together.

When that dries, you are ready to start playing. You can play with your fingertips, or with drumsticks. My favorite drumsticks use a handle, metal or plastic, with a silicone covered end. On bigger drum mallets I sometimes mix in some ground up styrofoam as light-weight filler material in the silicone.

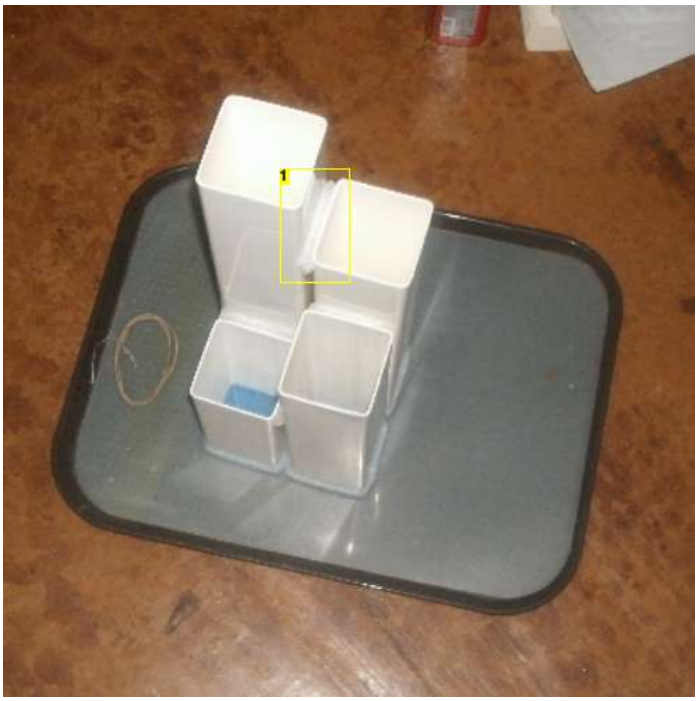


Image Notes
1. One of the lines of silicone that connects neighboring drums.

Image Notes
1. The silicone rubber heads are just sculpted onto the end of the drumsticks.

Step 4: Some Other Cluster Drum Variations

These are some of the older cluster drums I have made. You can also make some interesting variations on the heads. One of my favorite variations is to glue little containers with maraca seeds in them to the underside of the drum head using silicone. That way, in addition to the basic drum sound, you also get a maraca sound with the same strike.

Image Notes
1. Silicone rubber heads with maracas underneath.
2. Oatmeal container cap.
3. Silicone squeeze bulbs with whistle and honk sounds.
4. Various other add-on sounds.
5. Various other add-on sounds.

Image Notes
1. Strap goes around user's waist to hold the drums, which balance on one foot.

Image Notes
1. Heat formed PVC caps using wood molds.
2. Unit is held together with a heat-formed PVC band, tensioned with a nut and bolt.

Step 5: Listen to the Sound of Cluster Drums

This recording uses all three 4-drum units I made, held side by side.

Click on the icon that looks like a dog-eared piece of paper to open the MP3 audio file.

File Downloads

12-5-19 - H square cluster drums.mp3 (1 MB)
[NOTE: When saving, if you see .tmp as the file ext, rename it to '12-5-19 - H square cluster drums.mp3']

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