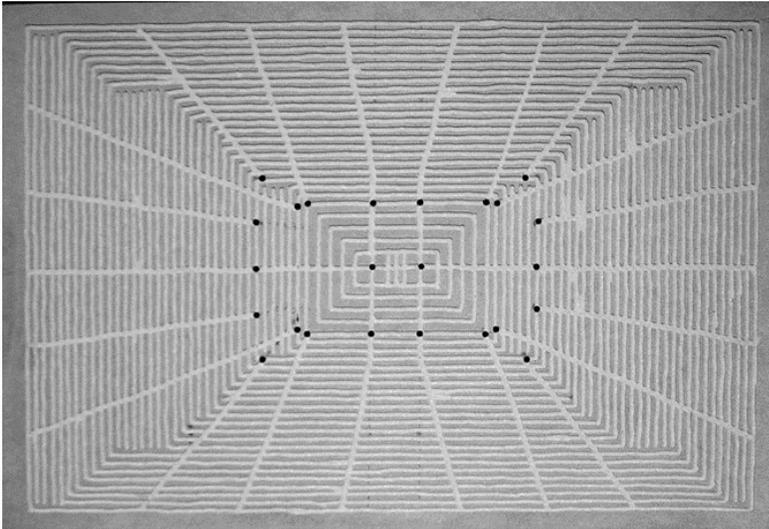


Photographic Vacuum Board

Designed and built by Lincoln Cushing, 2004
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Design and construction notes

This vacuum board is designed for specifically for the purpose of photographing posters. It is modeled after a commercial film vacuum camera back produced by Walzberg for the lithographic trade. The front surface is black Formica, with 1/16" holes drilled in a 1/2" grid. Several standard paper sizes are highlighted with holes spaced 1/4": 8 1/2 x 11", 11x17", 17 1/2 x 22 1/2", 19 x 25", and 23 x 35". The maximum size poster that can be accommodated in the grid is 31 x 45", but the board surface extends to 36 x 48".



The surface is glued onto a sheet of 1/4" Masonite which has been routed in such a way as to allow vacuum to reach all the holes yet provide a support for the surface (see adjacent photo). This layer is mounted onto 3/4" hardwood plywood which assures a rigid and flat substrate. 1/2" holes are drilled through the routed channels to the back of the board where a plenum evenly distributes the vacuum.

Installation and use

Brackets or hooks must be added to the back of the board to allow wall mounting; one can use standard hardware which can be safely screwed in to the back of the board as long as the screws do not pass into the Formica. Remember that the photographic environment requires enough distance from the wall mount for the camera to focus full frame as well as lateral space for 45° lighting from the sides. Although any vacuum source will work, a high-power industrial vacuum pump will be better at handling recalcitrant (heavy curl) posters. It is also prudent to isolate the vacuum motor via rigid PVC pipe to reduce noise level in the camera room. Remember that the vacuum draws from the middle outwards, so always place items in the center of the board. The vacuum inlet hole at the back of the box is slightly larger than standard hoses to allow for diameter variations; if it's loose, a wrap or two of duct tape on the nozzle should provide a tight fit.

Care

Formica is very durable, and should hold up to many years of use. It is brittle, however, and will crack or chip if hit. The surface can be safely cleaned with Windex or other nonabrasive cleanser. A light wiping with ArmorAll will help keep the board free from fingerprints.

Materials cost:

Plywood	\$50
Formica	\$40
Masonite	\$10
Glues, finishes	\$30
Router, drill bits	\$25
Misc. consumables	\$45

Total materials **\$200**

Labor - 20 hours, donated