

COPYING SLIDES USING A PROJECTOR FOR ILLUMINATION

(Robert Cullen)

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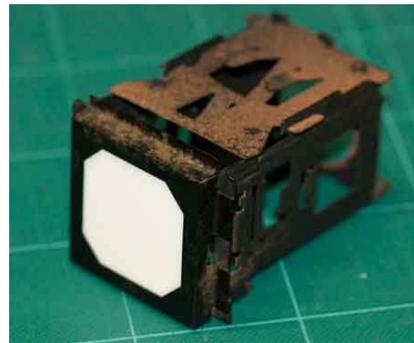
Projector Conversion-

1. Open internals and remove all focusing lenses and mirror from about the bulb in the light 'box' (*QI bulbs do not like being touched by fingers!)
2. Leave the flat 'heat shield' glass in place



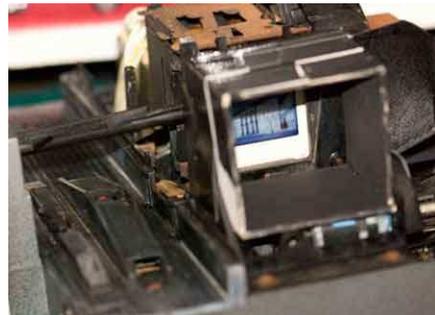
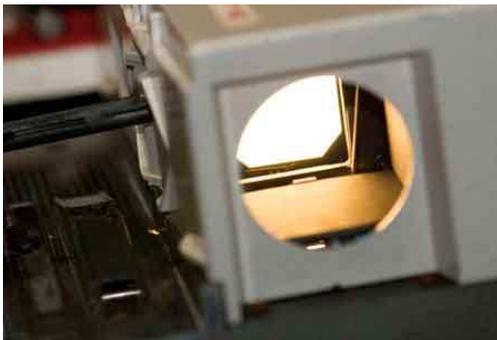
3. Cut to size white perspex (use dense pure white if possible) and mount close to the slide positional slot (between heat shield & slide).

Its possible the perspex may mount in place of a glass lens piece if cut to match.



4. Remove main projection lens and replace with a tube of black paper or construct a box of black cardboard. (auto-focus mechanisms may need to be removed)

Inside case may require black paint to reduce excessive stray light reflections.



Method-

1. Best lens is 105mm macro or any quality lens ~100mm with tubes to enable close focusing.
Longer focal length allows space between lens front and slide position in projector.
2. Mount projector and camera+lens firmly on one baseboard.
A focusing rack is ideal for fine manual focusing. Heights may need adjusting to perfectly align the slide position with the camera.
3. Set camera to TUNGSTEN white balance or a specific value.
(Tests indicated WB set to specific 2850k best for my projector lamp)
4. EXPOSURE MODE set to MANUAL as determined from metering one perfect sample slide. Adjust aperture (or shutter) for slides that are over or under exposed.
5. Press the shutter button- you have one easy and FAST digital copy!



Notes-

Any old projector may be modified- Better models will have rotary trays, remote slide change or even auto change (eg. every 8 seconds)

Slide 'popping' because of heat may be a problem but without the internal mirror & lenses, and the Perspex diffuser, bulb light is less intense. (My macro auto-focuses ..great! and small aperture gives better DOF)

My average exposure is about 1/125th f11

With my camera remote release and projector remote, one in each hand, I can copy almost as fast as slides change from a 100 slide rotary magazine..

Slide magazines require slides to be RELOADED so slides are-

1. Horizontal (even if image was taken vertically) to match camera orientation.
2. Correct way up for horizontal images (as viewed when hand held up to the eye)
3. Front facing the camera - so they appear to the camera in the correct orientation as taken.
(2. and 3. are not critical, as errors here can be corrected by computer editing and flipping.)

Achieving close focus can be done in many ways however a true "macro" lens is best as most macros easily give 1:1 copying. A 100mm macro will allow the camera lens to be mounted away from the projector case. Even enlarger lenses ~75-100mm could be used on bellows to achieve magnification close to the slide dimensions.



1st copy- daylight WB -Old Kodachrome Slide



2nd copy- WB=2850k & edited in Photoshop.