

tips on IR tracking

STEP ONE - LIGHT THE WALL/S WITH INFRA RED LIGHT

This method depends on none of the IR light hitting the dancers, only hitting the walls, with an even spread of IR light.

Standard theatre lights focused on the back wall, with lighting gel filters added to each light: **Roscolux 19 (x2) Roscolux 83 (x1) Roscolux 90 (x1)**

These four gels will cut out the visible light spectrum but allow the IR light to still shine from the theatre lights.

NB DO NOT USE THE LIGHTS AT GREATER THAN 50% or they will melt.

This is a fire hazard! Always check the gels often for heat damage and replace as needed.

Alternatively buy or rent SPECIALIST IR LED lights instead.

STEP TWO - RESTRICT A CAMERA TO SEE ONLY IR

Use an **IR B&W security camera** or a **Sony Nightshot** camera.

NB Sony owned the IR Nightshot patent so the camera HAS to be a cheap Sony SD camera for this to work or a good quality B&W security camera.

Add a **Lee 73 (IR) filter** to the camera. Then the camera will only receive the IR light (ie will only 'see') what is lit with the IR light. If a dancer stands in front of the IR lit wall the front of their body is not lit with any IR light and so they appear as a perfect silhouette.

Advantage is that you can watch a much bigger area than you can with the kinect, and you have smooth silhouette edges unlike kinect depth map images. You don't have any depth mapping info, but you get a similar result.. ie a smooth black silhouette against a white background. Video projectors do not emit IR light, so they don't mess with the tracking. You can project onto the IR lit wall and it does not affect the tracking results.

USING IR EMITTERS

IR leds can be worn on the dancer instead if you want to just track that way instead, and then you don't need to wash the back wall with IR light. You now just track the moving IR leds. Perhaps this could be a good way to map onto a moving screen?

PROJECTION MAPPING ONTO A MOVING SILHOUETTE WITH HALF SILVERED MIRROR

Klaus Obermeier did a good example of this with a rear projection screen, IR lights washing the screen, plus front projection mapping onto dancers. However he added the use of a half-silvered mirror so that his front positioned camera could seem to have the exact same position as if it were inside the projector lens, and therefore avoiding any issues of parallax. He was able to perfectly map front projections onto the bodies of the moving dancers only. When used with contrasting imagery on the rear screen, the effect was spectacular (both conceptually and technically).



half silvered mirror

