

Notes on using Jitter with net cameras

The trick to using network cameras in Jitter is to find compatible cameras and then discover their addressing peculiarities.

To have a chance of working at all, the camera must support MPEG-4, RTSP streaming protocol and the H.264 codec. Although these are common, they cannot be assumed. Research the specs of any camera you plan to buy.

All network cameras establish a unique IP via DHCP. We must discover this before we can access the camera. Most cameras come with a setup program that automatically searches for the camera and presents us with the necessary information. Unfortunately, these never seem to run on Macs. If you have a PC available, fine. However, if the camera supports bonjour or zerconfig discovery service the IP can be detected in Bonjour Browser¹ or similar software. (This is another thing to check before you buy.) The cameras seem to list their service under HTML.



Figure 1.

Once you have found the base IP, you can open this address in a browser or JWEB object. You may be asked for a username and password. ADMIN is a good guess, but this should be in documentation somewhere. The browser will show the camera setup page, as in figure 2. Typically, there is a front page with the camera image and a choice of setup tabs. The controls available depend on the quality of the camera

¹ Free from <http://www.tildesoft.com>

and the inclination of the marketing department. You may have a choice of resolution and frame rates, iris settings (under lighting) even color balance.

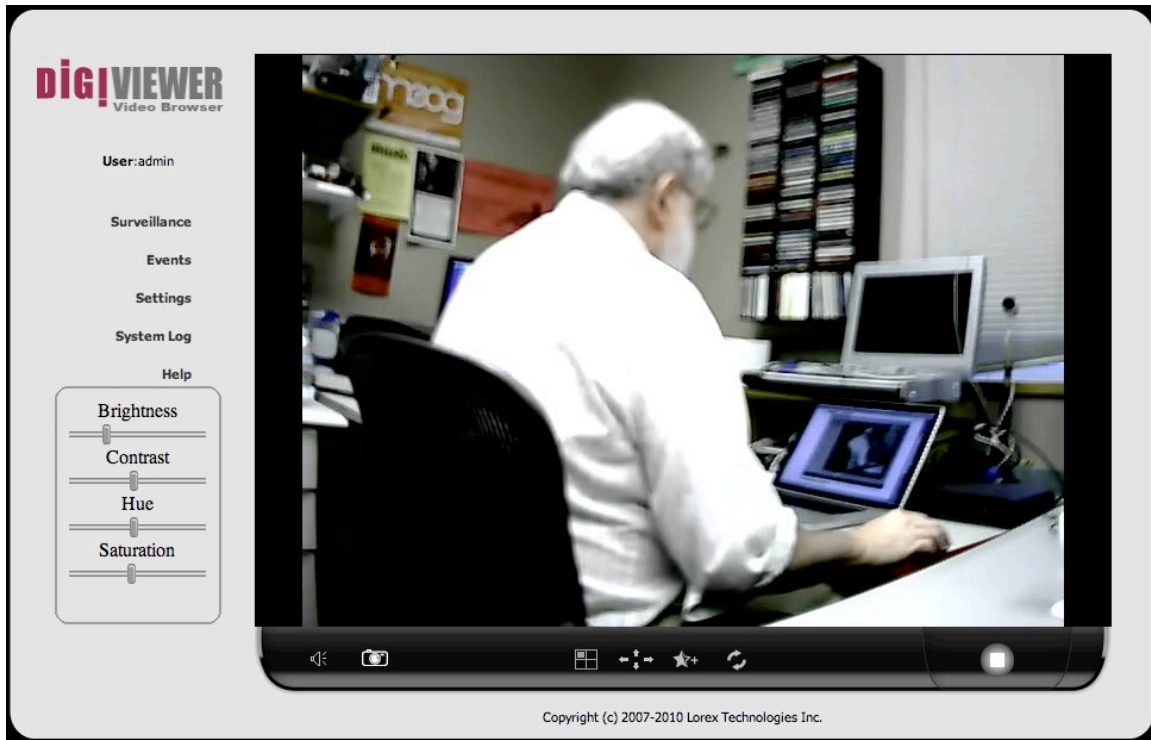


Figure 2.

If your camera has pan, tilt or zoom features those should be controllable via the JWEB object.

Since jweb has no output feature, we need a direct access to the video. Once you have dealt with passwords, `jit.qt.movie` can get the video feed via a read message. Figure 3 shows the basic patch. `Jit.qt.window` can open media files from URLs with the read command. The URL must include the protocol followed by a colon and two slashes. For rtsp cameras, the format is "read rtsp://ip.ip.ip.ip/streamname." For example, the Lorex cameras use `rtsp://ip.ip.ip.ip/video.mp4`.



Figure 3.

Discovering the stream name can be quite a trick. Sometimes it is in the documentation, sometimes in the setup application. It is often buried deeply. Listings for many cameras can be found at <http://www.soleratec.com/rtsp/>. (Include that page in your initial research.) Some common cameras:

Model	URL	Account	Password
Lorex LNE1001 Lorex LNE3003	video.mp4	ADMIN	ADMIN
D-Link DCS-942L D-link DCS-5222L	play1.sdp play2.sdp	ADMIN	none
Logitech Alert 720i	HighResolutionVideo		

When you first connect, you will get this image:



Figure 4.

This means quicktime is buffering and the image will turn up eventually. The longer this appears, the greater the delay in the image. If the blue worm at the bottom stops crawling back and forth, the connection has timed out.

If there are problems, error messages will be posted to the Max window. There's no point in trying to decipher the message number-- if the camera page shows in jweb, there is something wrong with the read message to jit.qt.movie. If jweb cannot load the setup page, the URL is incorrect.

Many cameras include a microphone. This audio will be played directly from the computer rather than MSP (just like movie sound tracks). The vol 0 message to jit.qt.movie will turn this off.

Wireless setup

A camera that does wireless probably has a dedicated tab for wireless in the setup page. You may need a wired connection to turn wireless on, unless the camera has a switch. Passwords, if needed, are entered into the camera on the wireless setup tab. Note the IP address shown once wireless communication is set up.

Getting the image from jweb

If the camera works with jweb but the rtsp feed is not working, your last resort is jit.desktop.



Figure 5.

Figure 5 shows how to set jit.desktop up. The rect command with left, top, right, and bottom screen coordinates will position the area to capture. This is not the most efficient system, and it has to be adjusted every time the window moves, but it is something. Actually, this can be used with a browser, or any application that shows the camera image. In that case, I strongly recommend a second monitor so the patch window does not get in the way of the image.