

USING WEBCAMS TO SPY ON SOMETHING



An International
Association of Technology
& Computer User Groups

Virtual Technology Conference
November 7, 2015

by Francis Chao
fchao2@yahoo.com



Web location for this presentation

<http://aztcs.org>

Click on “Meeting Notes”

SUMMARY

- You can use various models of Webcams to spy on your home(s), business(es), and pets. They can alert your cell phone and/or your computer when they detect motion.

SUMMARY (continued)

- In addition to these basic functions, the Internet cloud can now provide you with:
A means of communicating with a Webcam from points unknown
and
cloud storage for saving snapshots and video clips either automatically when motion is detected by your Webcam or on-demand.

TOPICS

- Webcam Basics
- History of Webcams
- Legal Issues Regarding Webcams
- Security Issues Regarding Webcams
- Wired USB Webcams
- A Free Motion-Detection Alarm Using a Wired USB Webcam

TOPICS (continued)

- Wi-Fi Webcams
- Cloud-based Webcams
- "Netgear Arlo": A Totally-Wireless Cloud-based Webcam

WEBCAM BASICS

- According to <https://en.wikipedia.org/wiki/Webcam>

<start of quote>

A webcam is a video camera that feeds or streams its image in real time to or through a computer to (a) computer network.

When "captured" by the computer, the video stream may be saved, viewed or sent on to other networks via systems such as the internet, and email as an attachment.

<end of quote>

WEBCAM BASICS (continued)

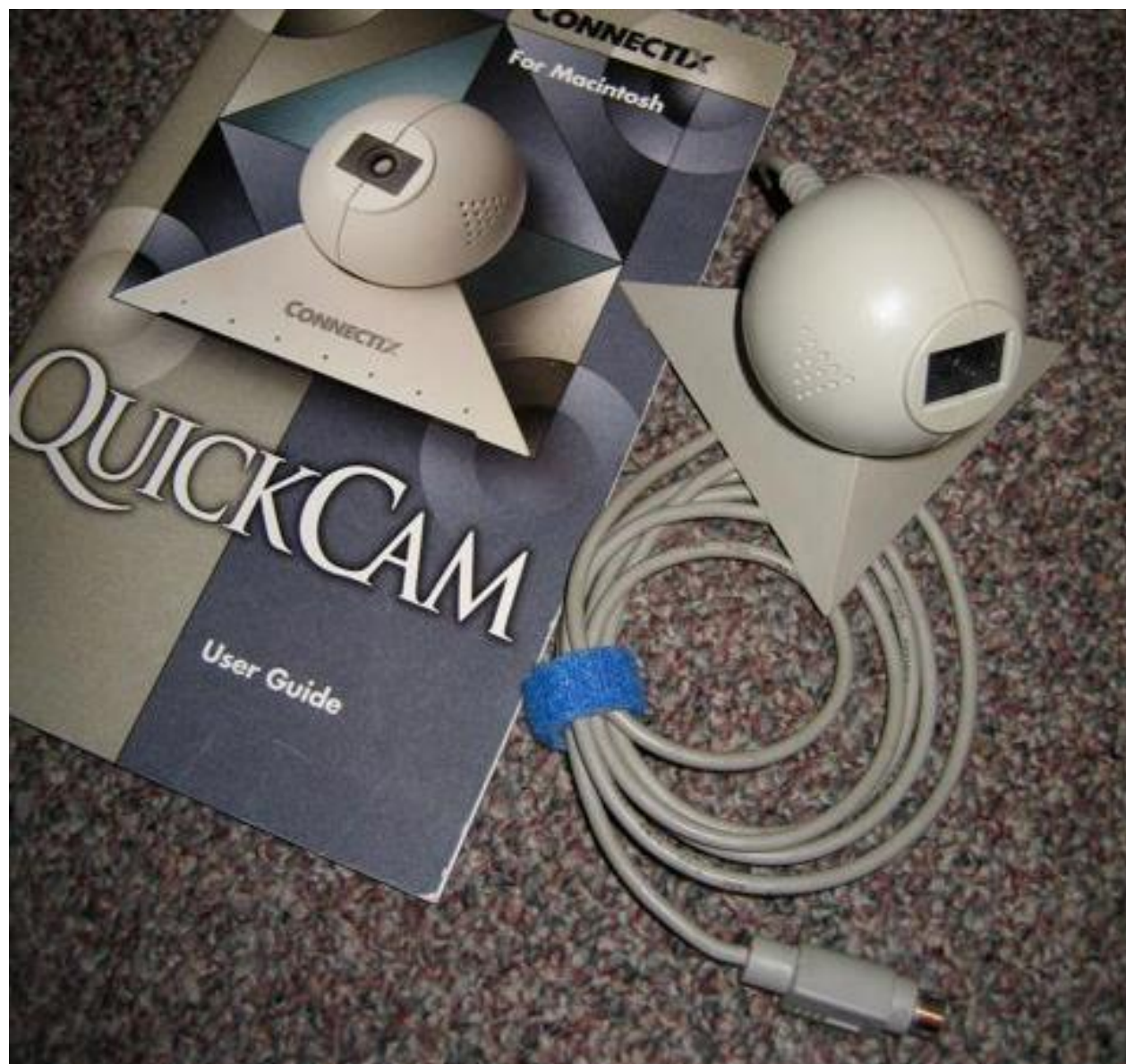
- The term "Webcam" is sometimes used for wired USB-connected cameras only.
- It is more commonly used to refer to wired USB-connected cameras, wired IP cameras (IP=Internet Protocol), Wi-Fi cameras (which require an AC power outlet), and totally-wireless Wi-Fi cameras.

WEBCAM BASICS (continued)

- Details of Webcams:
- See <http://www.ebay.com/gds/5-Types-of-IP-Cameras-/10000000178450438/g.html>
and
<http://webcam-review.toptenreviews.com/1080p-2.0-mega-pixels-understanding-webcam-technical-terms.html>

HISTORY OF WEBCAMS

- 1994: Connectix's "Quickcam" for Macintosh (serial port and parallel port models).
The very first model had a "mini DIN" serial plug:





Pair of female Mini DIN-8 connectors used for RS-422 serial ports on a Macintosh LC computer



HISTORY OF WEBCAMS (continued)

- 1996: Wired IP Webcams with a Cat 5 jack
- 1998: Logitech's "Quickcam Home" and "Quickcam Pro" (USB 1 and parallel port models)
- 2000: Webcams integral to laptops and some monitors
- 2001: Webcams with a wired USB 2 cable
- 2005: Wi-Fi wireless cameras

HISTORY OF WEBCAMS (continued)

- 2006: HD Webcams (HD = "High definition")
- 2012: "Drop Cam" Wi-Fi Internet Webcam
- 2014: "Drop Cam" evolved into "Nest Cam"
- 2015: Netgear "Arlo" (first battery-powered, totally-wireless camera)

LEGAL ISSUES REGARDING WEBCAMS

Legalities for you to be aware of:

- Most Federal and state laws regarding video surveillance pertain to recording audio, so a Webcam that does not record audio may be safer for you to use from a legal standpoint

LEGAL ISSUES REGARDING WEBCAMS (continued)

Legalities for you to be aware of (continued):

- Every state of the U.S.A. and every country has different laws pertaining to the use of Web cams
- "Reasonable expectation of privacy" is a legal precedent that keeps lawyers employed
- Different laws apply to hidden cameras versus cameras that are in plain sight

LEGAL ISSUES REGARDING WEBCAMS (continued)

Legalities for you to be aware of (continued):

- See <http://www.supercircuits.com/resources/blog/hidden-cameras-and-the-law>
and <http://science.opposingviews.com/rules-legal-use-video-surveillance-1801.html>
- See also <http://www.securityoptions.com/an-easy-guide-to-video-surveillance-laws/>

LEGAL ISSUES REGARDING WEBCAMS (continued)

Legalities for you to be aware of (continued):

- See also
[http://www.brickhousesecurity.com/category/hidden+cameras/hidden+spy+camera+laws.do](http://www.brickhouseseecurity.com/category/hidden+cameras/hidden+spy+camera+laws.do)
and
<https://www.care.com/a/nanny-cam-yes-or-no-1209271139>

LEGAL ISSUES REGARDING WEBCAMS (continued)

Legalities for you to be aware of (continued):

- See also
<http://www.backstreet-surveillance.com/security-cameras-made-easy-1/state-video-audio-surveillance-laws-regulations.html>

SECURITY ISSUES REGARDING WEBCAMS

Hacker attacks on Web cams:

- According to <https://en.wikipedia.org/wiki/Camfecting> **Camfecting**.. is the fraudulent process of attempting to hack into a person's webcam and activate it without the webcam owner's permission. The remotely activated webcam can be used to watch anything within the webcam's field of vision...

SECURITY ISSUES REGARDING WEBCAMS (continued)

Hacker attacks on Web cams (continued):

- According to https://en.wikipedia.org/wiki/Remote_administration_software

"A **remote administration tool (RAT)** is a piece of software that allows a remote "operator" to control a system as if he has physical access to that system." One of the results of using a "RAT" might be screen/camera capture or image control.."

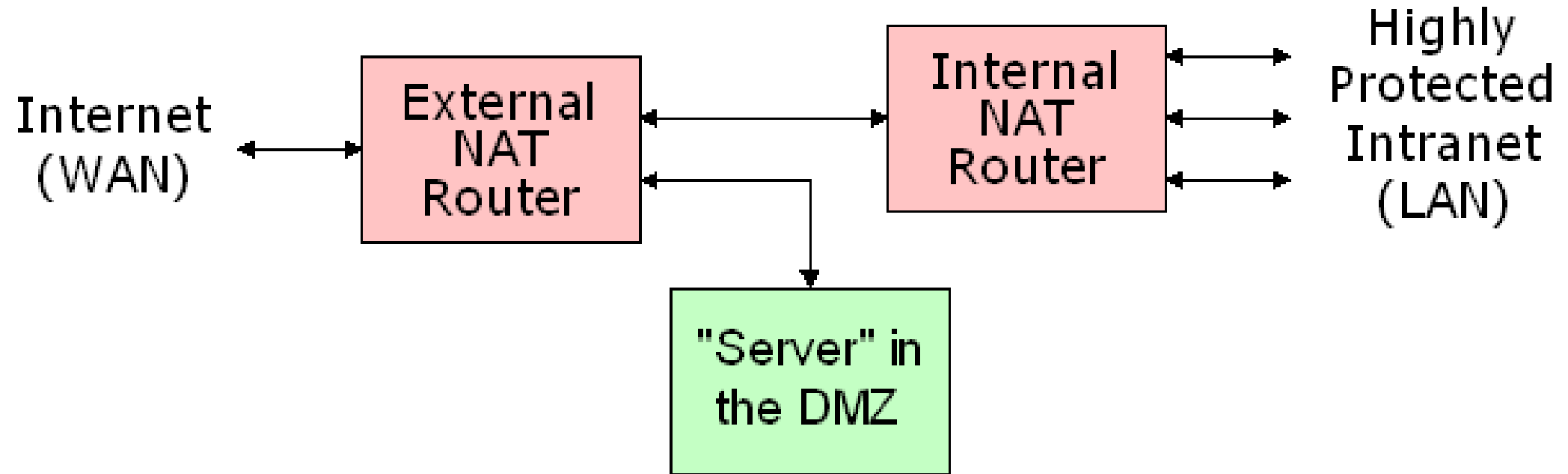
SECURITY ISSUES REGARDING WEBCAMS (continued)

Hacker attacks on Web cams (continued):

- A **two-router "Demilitarized Zone"** is an effective way to block "camfecting" and "RAT" hacks.

See

http://aztcs.org/meeting_notes/winhardsig/secureWeb/secureWeb.pdf



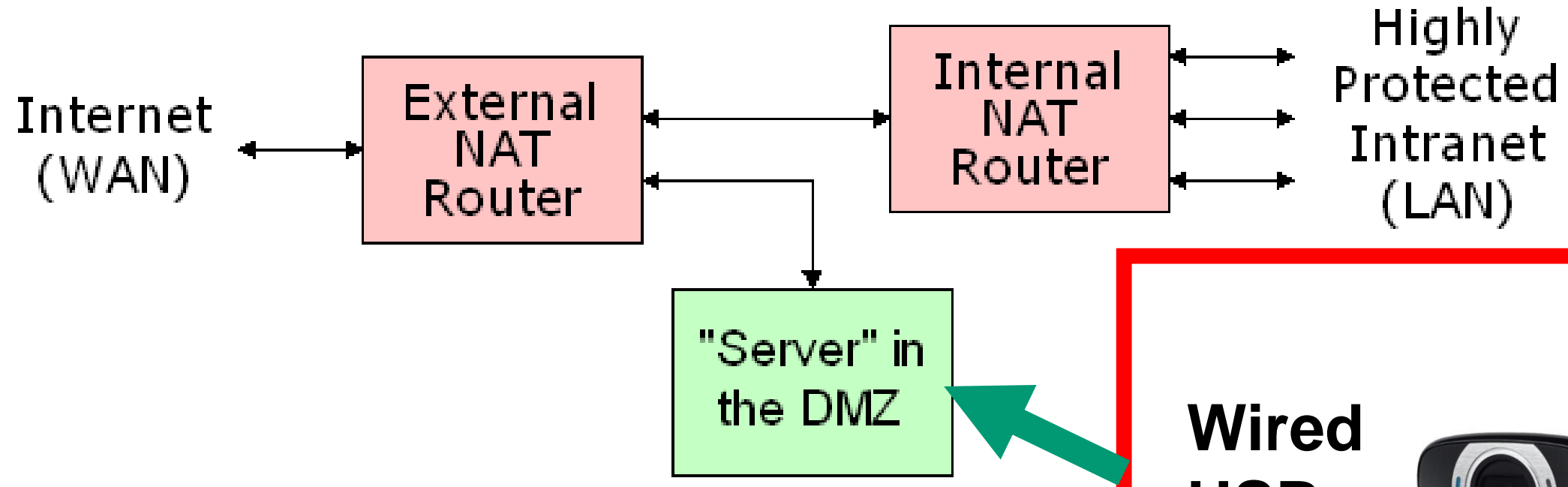
Reference:

<https://www.grc.com/nat/nat.htm>

SECURITY ISSUES REGARDING WEBCAMS (continued)

Hacker attacks on Web cams (continued):

- To protect against **Camfecting** and **Remote Administration Tool (RAT)** attacks from hackers on the Internet, you can connect a Webcam to a computer or a router in the DMZ area of a two-router DMZ configuration.



Reference:
<https://www.grc.com/nat/nat.htm>

WIRED USB WEBCAMS

- Most "Wired USB Webcams" have a USB 2 cable that must be connected to a USB 2 or USB 3 port of a computer
- Only a few models of super-expensive Webcams have a USB 3 cable that must be connected to a USB 3 port of a computer

**Your
computer**

**Webcam-
friendly app**

**USB cable
transmits
video to
the
computer**

**USB cable
provides
DC power
to the
Webcam**

**Wired
USB
Webcam**



WIRED USB WEBCAMS (continued)

- "Wired USB Webcams" get DC power from their USB 2 or USB 3 cable (so they do not require a separate AC power adapter)
- 16.4 feet (5 meter) limitation for "USB 2" cables
- Active (powered) USB extension cables do not work with wired USB webcams
- This means that the distance between your computer and a wired USB Webcam is limited to 16.4 feet

WIRED USB WEBCAMS (continued)

- "Wired USB Webcams" are the only type of Webcam that work with online meeting services such "Skype", "Adobe Connect", "zoom.us", "appear.in", "Face Time", etc. The other types of Webcams (Wi-Fi Webcams, cloud-based Webcams, and the "Arlo" Webcam) do not work with online meeting services, at the present time.

WIRED USB WEBCAMS (continued)

- Example of a very popular wired USB Webcam:



Roll over image to zoom in

Logitech HD Portable 1080p Webcam C615 with Autofocus

by [Logitech](#)

★★★★★ ▾ 1,161 customer reviews | 270 answered questions

List Price: ~~\$69.99~~

Price: **\$44.99** & **FREE Shipping**. [Details](#)

You Save: **\$25.00 (36%)**

In Stock.

Want it tomorrow, Nov. 3? Order within **7 hrs 12 mins** and choose **One-Day Shipping** at checkout. [Details](#)

Ships from and sold by Amazon.com. Gift-wrap available.

Package Type: **Standard Packaging**

- Full 1080p HD video recording and fluid 720p HD video calling in 16:9 wide-screen
- Dazzling 8 MP photos
- Auto Focus for extreme close-ups
- 360-degree full motion rotational camera, fold-and-go portability and triPod-ready base
- Works with PC and Mac
- Full 1080p HD video recording and fluid 720p HD video calling in 16:9 wide-screen
- Dazzling 8 MP photos



Logitech HD Portable 1080p Webcam C615 with Autofocus

by Logitech



1,161 customer reviews | 270 answered questions

List Price: ~~\$69.99~~

Price: **\$44.99** & **FREE Shipping**. [Details](#)

FREE MOTION DETECTION ALARM USING A WIRED USB WEBCAM

- If you install (or already have) a Webcam and you install the free "ContaCam" or "Yawcam" software programs into your "Windows.." computer, you can use the "Simple Mail Transfer Protocol" (SMTP) server of your email service to have "ContaCam" send photos of motion detection events (intruders, wildlife, authorized personal, etc.) to your cell phone or laptop.

FREE MOTION DETECTION ALARM USING A WIRED USB WEBCAM (continued)

Here is how it works:

- A moving person, object, or animal triggers the motion sensing function of the "ContaCam" or "Yawcam" program in your "Windows.." computer.
- The "ContaCam" or "Yawcam" program begins recording still photographs and/or a video of the "motion detection" events.

**Wired
USB
Webcam**



**USB cable
transmits
video to
the
computer**

**USB cable
provides
DC power
to the
Webcam**

Your computer

**"Yawcam"
software
program**

Motion detected!

Inbox | X



fchao2@yahoo.com

[show details](#) 7:11 PM (1 minute ago) ,

Yawcam has detected motion in front of your camera!
Yawcam



Yawcam_motion_2010-01-10_19.11.21_185.jpg

34K [View](#) [Download](#)

Motion detected!

Inbox | X



fchao2@yahoo.com

Yawcam has detected motion in front of your camera!

Yawcam

FREE MOTION DETECTION ALARM USING A WIRED USB WEBCAM (continued)

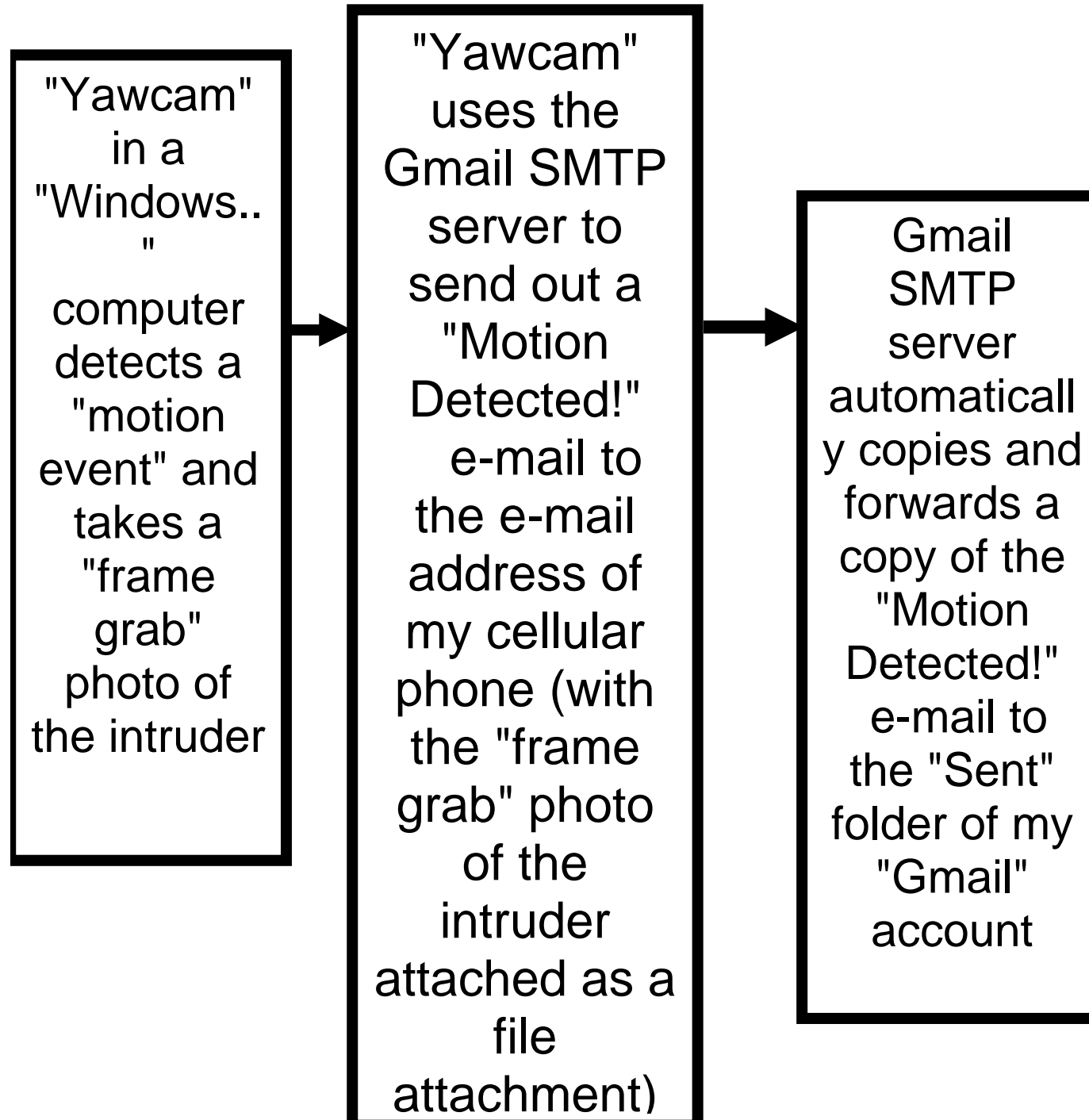
Here is how it works (continued):

- The "ContaCam" or "Yawcam" program stores these recordings as files onto a local hard drive that is part of your "Windows.." computer.

FREE MOTION DETECTION ALARM USING A WIRED USB WEBCAM (continued)

Here is how it works (continued):

- The "ContaCam" or "Yawcam" program immediately sends emails to any or all email accounts that you have including the ones that are inside your cellular phone or tablet device.
- You view the photos or video file attachments to determine what to do about the situation.

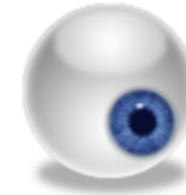


FREE MOTION DETECTION ALARM USING A WIRED USB WEBCAM (continued)

- "Yawcam" is available for free at <http://www.yawcam.com/>
(Do not click on the ad that is below the top-most banner.)
"Yawcam" only works with wired USB Webcams.

YAWCAM

- Yet Another Webcam Software -



[Home](#)
[News](#)
[Download](#)
[Language](#)
[Screenshots](#)
[Contact](#)
[Links](#)
[Help](#)
[FAQ](#)

[Forum](#)



Regular version



Premium version



Social Modules

Yawcam

What is Yawcam?

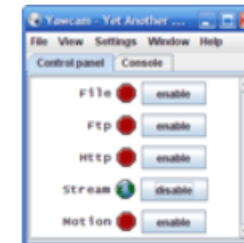
Yawcam is short for *Yet Another WebCAM software*, and that's exactly what it is ;-)

More precise Yawcam is a webcam software for Windows written in Java. The main ideas for Yawcam are to keep it simple and easy to use but to include all the usual features.

Features

- Video streaming
- Image snapshots
- Built-in webserver
- Motion detection
- Ftp-upload
- Text and image overlays

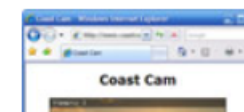
Latest Release:
[Yawcam 0.4.2](#)



Control panel



Settings



Start Download

Download Videos To Your Desktop & Convert To Any Format - All Free!



FREE MOTION DETECTION ALARM USING A WIRED USB WEBCAM (continued)

- "Contacam" is available for free at <http://www.contaware.com/contacam.html>
"Contacam" works with most wired USB Webcams.
"Contacam" works with some Wi-Fi Webcams.

ContaCam - Video Surveillance software

This **Free Video Surveillance and Live Webcam software for Windows** is extremely easy on system resources, and does not contain unnecessary bloat. It is **fast, light, and versatile** enough to meet all your security needs while still being very **user friendly** and able to run on even the most moderate systems.

Only three easy steps are necessary to setup a camera:

1. Decide for the **usage** (security surveillance, live snapshot webcam or manual records / snapshots)
2. Enter a friendly camera **name**, choose the web **appearance & language**
(English, Spanish, Portuguese, French, Italian, German, Russian, Slovak, Czech, Dutch, Bulgarian, Polish)
3. Configure how long to **keep the files** on your hard disk

Take a look at the [Camera Basic Settings screenshot](#). For the **experts** there are dozens of additional configuration options, check these [screenshots](#).

With Version 5.0.1 (October 3rd 2015) **NEW!**

- This is a **stable release**, download it from [here](#)
- Web interface has a new **html5 calendar picker** (browser must support it)
- **Enhanced ContaCam service installation**
- Audio support for Axis ip cameras (thanks to Michi for sponsoring the development)
- Disallow standby and hibernate when there are cameras running
- Full Vietnamese language support (thanks to toan.nguyenk@gmail.com)
- **Attention:** with version 4.3.0 we removed UDP networking because it was ContaCam's proprietary streaming protocol not compatible with any current standard (it's still possible to stream a video source through the web server, see this [FAQ entry](#))
- See the full [Changelog](#)



FREE MOTION DETECTION ALARM USING A WIRED USB WEBCAM (continued)

- For "Yawcam", see our how-to document which is located at
http://aztcs.org/meeting_notes/winhardsig/add-ons/Yawcam/Yawcam01.pdf

FREE MOTION DETECTION ALARM USING A WIRED USB WEBCAM (continued)

- Part 1 of Yawcam Motion Alarm Presentation
can be found at
<https://www.youtube.com/watch?v=R2d8y9wTFHc>
- Part 2 of Yawcam Motion Alarm Presentation
can be found at
<https://www.youtube.com/watch?v=kz-nTH9u84c>

Part 1 of Yawcam Motion . x

← → ↺ <https://www.youtube.com/watch?v=R2d8y9wTFHc>

≡ YouTube yawcam



0:14 / 9:58 CC ⚙️ 📺 🔍

✎ ✨ 🎵 💬 ⓘ CC Analytics Video Manager

Part 1 of Yawcam Motion Alarm presentation

 fchao2 [Channel settings](#)

3,359

Part 2 of Yawcam Motion . x

https://www.youtube.com/watch?v=kz-nTH9u84c

YouTube



0:43 / 5:55

Analytics Video Manager

Part 2 of Yawcam Motion Alarm Presentation

fchao2

Channel settings

1,214

WI-FI WEBCAMS

- Wi-Fi Webcams communicate wirelessly with your computer through your existing wireless Wi-Fi router
- Wi-Fi Webcams have a separate an AC power adapter which requires a 110-volt AC power outlet.



wiseGEEK

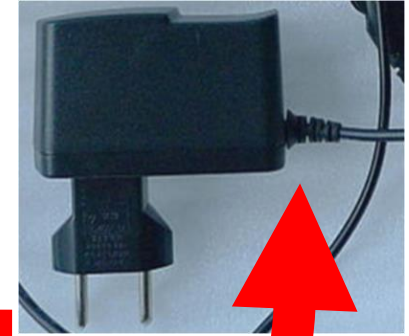
Existing Router or Network Switch

wired or
wireless
network
connection

wireless
Wi-Fi
connection

Your
computer,
tablet, or
cell phone

Web Browser or
provided app



Wi-Fi Webcam
generates local
Web page
showing the
video stream



Roll over image to zoom in

WI-FI WEBCAMS (continued)

- To use a Wi-Fi Webcam, you have to use a supported Web browser and you have to install the Webcam manufacturer's Adobe Flash-based browser add-on software to make the Webcam work with the supported Web browser.

WI-FI WEBCAMS (continued)

- These highly-proprietary restrictions severely limit which Web browser and which operating system will work with a specific model of Wi-Fi Webcam.
- All four of Wi-Fi Webcams that we tested would only communicate with one of the browsers that we attempted to access them with.

WI-FI WEBCAMS (continued)

- We tested four Wi-Fi Webcams during May through October of 2015:
 - ✓ Trendnet model TV-IP572WI_A
 - ✓ RF-Link model VMI-1201
 - ✓ D-Link model DCS-932L
 - ✓ D-Link model DCS-1130

WI-FI WEBCAMS (continued)

- Out of the box, only the RF-Link model VMI-1201 Webcam could be configured by its configuration software without a firmware upgrade from the manufacturer

WI-FI WEBCAMS (continued)

- The other three cameras would not work with their manufacturer's bundled/downloadable configuration software programs until we ran updated their firmware with their manufacturer's downloadable firmware updater:
 - ✓ Trendnet model TV-IP572WI_A
 - ✓ D-Link model DCS-932L
 - ✓ D-Link model DCS-1130

WI-FI WEBCAMS (continued)

- Technical hurdles of Wi-Fi Webcams:
 - Rapid firmware obsolescence (sold to you with old firmware)
 - Many browsers not supported by a specific Webcam
 - As new models are released, (initially) they usually lack software support by third-party software such as the free "Contacam"
 - Require AC power outlet for a power adapter (hard to hide)



Roll over image to zoom in

TRENDNET TV-IP572WI / Wireless N Day Night Inet Cam

by [TRENDnet](#)

[Be the first to review this item](#)

Price: **\$130.35** + \$5.49 shipping

Only 4 left in stock.

Ships from and sold by [IPC-Store](#).

Estimated Delivery Date: Nov. 5 - 12 when you choose Expedited Shipping at checkout.

• MPN: TV-IP572WI

5 new from **\$129.07**



Overstock Deals
in Computers & Accessories [Shop now](#)



TRENDNET TV-IP572WI / Wireless N Day Night Inet Cam

by [TRENDnet](#)

[Be the first to review this item](#)

Price: **\$130.35** + \$5.49 shipping

WI-FI WEBCAMS (continued)

Trendnet model TV-IP572WI_A notes:

- This Webcam records a video stream that is jerky and appeared to be missing a lot of frames in our Windows 8.1, Windows 10, Mac OS X 10.10, and Mac OS X 10.11 computers.

WI-FI WEBCAMS (continued)

Trendnet model TV-IP572WI_A notes (continued):

- Out of the retail box, this Webcam did not work until we used a "Windows 8.1" computer to download and install a firmware update from the Trendnet Web site.
- This firmware update was only available in a "Windows.." format so Mac OS X 10.10 and OS X 10.11 users would be unable to update the firmware of this "Webcam".

WI-FI WEBCAMS (continued)

Trendnet model TV-IP572WI_A notes (continued):

- Trendnet's setup program for this Webcam is only available for "Windows.." computers so Mac OS X 10.10 and 10.11 users are out of luck for a second "gotcha".
- This means that Mac computer users would have to run Windows 8.1 or Windows 10 in a "Boot Camp" partition or in a Parallels or VMware Fusion "Virtual Machine" in order to perform the initial setup of this Webcam.

WI-FI WEBCAMS (continued)

Trendnet model TV-IP572WI_A notes (continued):

- Once we struggled through the firmware and initial setup of the Web, it worked okay in both Macs and PCs.
- In a "Windows 7", "Windows 8.1", or "Windows 10", Mac OS X 10.10, or Mac OS X 10.11 computer, the video that is displayed in a Web browser or that is recorded is jerky and appears to be missing a lot of frames.

WI-FI WEBCAMS (continued)

Trendnet model TV-IP572WI_A notes (continued):

- In "Windows 8.1" and "Windows 10, the Internet Explorer 11 browser is able to display and record the video stream but the Chrome browser is unable to do so.

WI-FI WEBCAMS (continued)

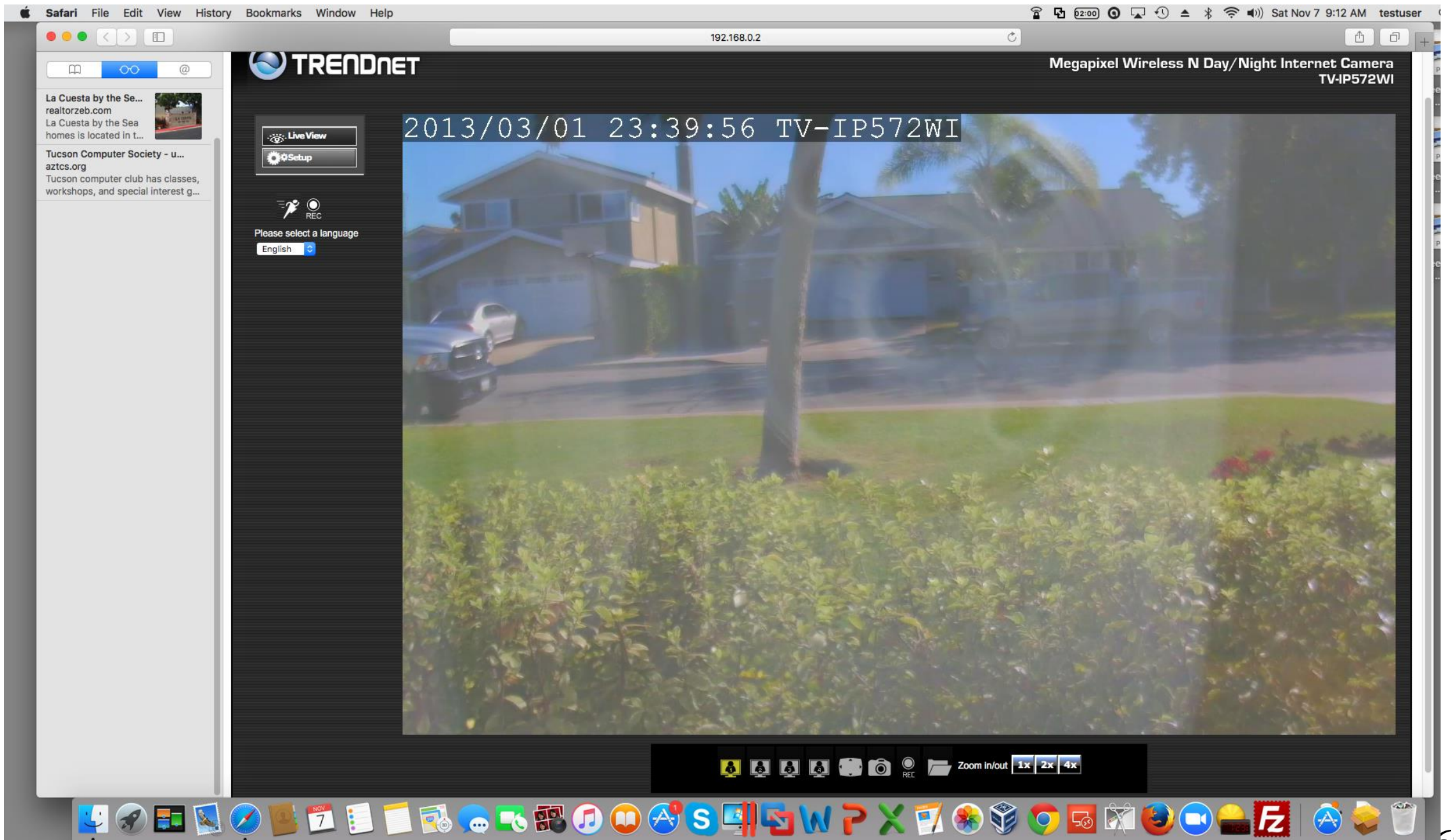
Trendnet model TV-IP572WI_A notes (continued):

- In our Macs running OS X 10.10 Yosemite and OS X 10.11 El Capitan, both the Safari and Firefox browsers were able to display and record video streams. However, the Chrome browser was unable to do so.

WI-FI WEBCAMS (continued)

Trendnet model TV-IP572WI_A notes (continued):

- In our Mac running OS X 10.11 El Capitan, here is how it looks in the Safari browser:



WI-FI WEBCAMS (continued)

Trendnet model TV-IP572WI_A notes (continued):

- In our Mac running OS X 10.11 El Capitan, here is how it looks in the Firefox browser:

WIRELESS INTERNET CAMERA ...

192.168.0.2/eng/liveView.cgi

Search

☆

📁


📧

⬇

🏠

😊

☰



Megapixel Wireless N Day/Night Internet Camera
TV-IP572WI


👁️ Live View

⚙️ Setup

📺 REC

Please select a language
English

2013/03/01 23:48:01 TV-IP572WI



👤

👤

👤

👤

📺

📷

📹

Zoom in/out

1x

2x

4x

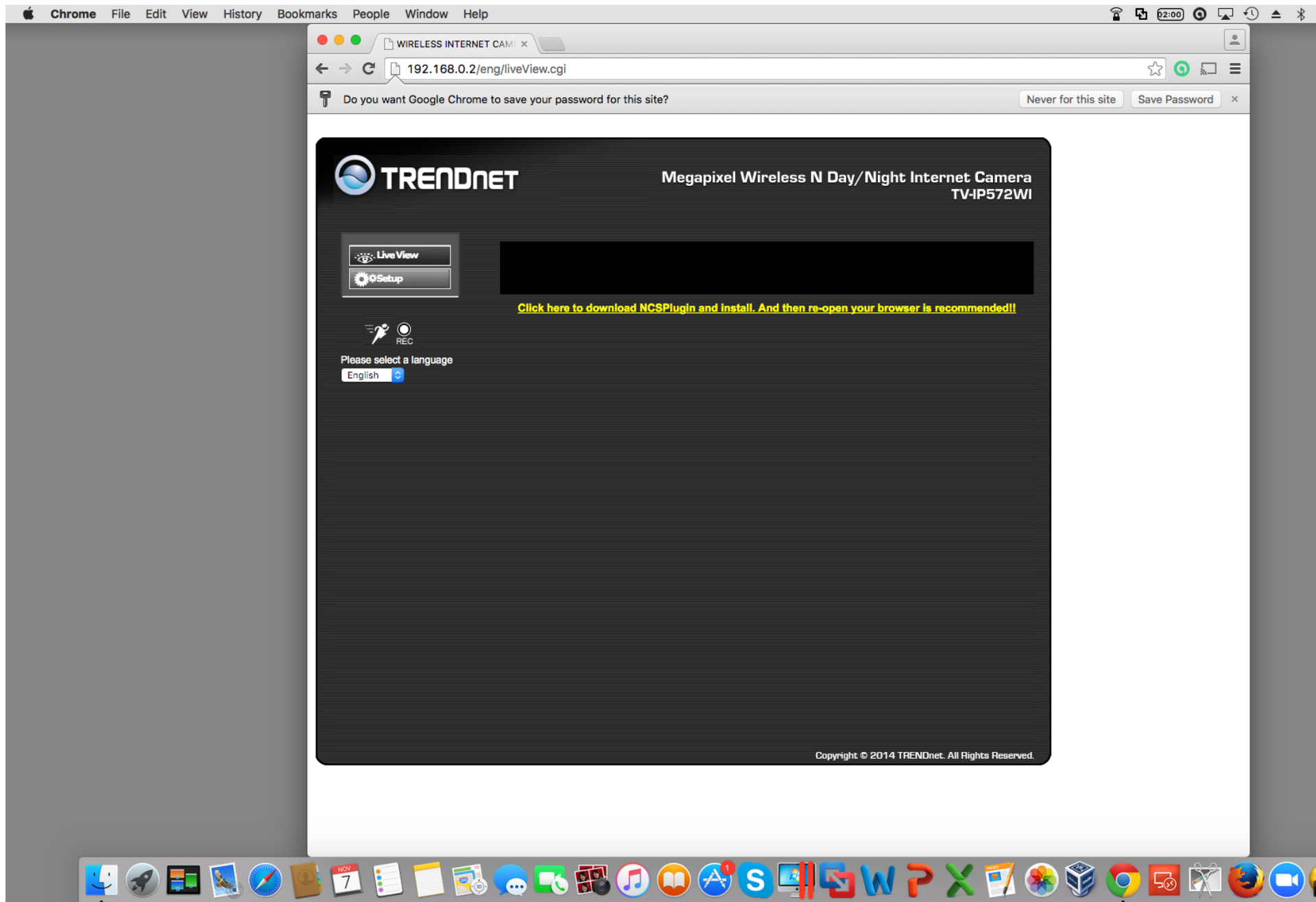
Copyright © 2014 TRENDnet. All Rights Reserved.

WI-FI WEBCAMS (continued)

Trendnet model TV-IP572WI_A notes (continued):

- In our Mac running OS X 10.11 El Capitan, all we got was error messages in the Chrome browser:

[Click here to download NCSPlugin and install. And then re-open your browser is recommended!!](#)



WI-FI WEBCAMS (continued)

Trendnet model TV-IP572WI_A notes (continued):

- In a "Windows 8.1" or a "Windows 10" computer, the Web page that is accessed by "Internet Explorer 11" shows a video stream that looks like this:



http://192.168.0.2/eng/liveView.cgi



WIRELESS INTERNET CAME... x



Megapixel Wireless N Day/Night Internet Camera
TV-IP572WI

Live View

Setup



Color

Please select a language

English

2013/03/01 07:26:45 TV-IP572WI



Zoom in/out

1x

2x

4x

Copyright © 2014 TRENDnet. All Rights Reserved.

2013/03/01 07:28:34 TV-IP572WI



WI-FI WEBCAMS (continued)

Trendnet model TV-IP572WI_A notes (continued):

- In a "Windows 8.1" or a "Windows 10" computer, when we use the Chrome browser to access the Web page that is generated by this Webcam, we get repeated notices to download the "NCS Plugin" which failed to install:



Megapixel Wireless N Day/Night Internet Camera TV-IP572WI

 Live View

 Setup



Please select a language

English ▼

[Click here to download NCSPlugin and install. And then re-open your browser is recommended!!](#)

[Click here to download NCSPPlugin and install.](#)

The Chrome browser does not support NPAPI plug-ins and therefore will not run all Java content. Switch to a different browser (Firefox, Internet Explorer or Safari on Mac) to run the Java plug-in. [More info](#)



Roll over image to zoom in

RF LINK VMI-1201 HD Wi-Fi Smart i-Cam Camera (White)

by [RF Link](#)

★★★★★ ▾ [2 customer reviews](#)

List Price: ~~\$149.99~~

Price: **\$104.38** & **FREE Shipping.** [Details](#)

You Save: **\$45.61 (30%)**

Only 1 left in stock.

Sold by [D.R. Worth and Sons](#) and [Fulfilled by Amazon](#). Gift-wrap available.

Want it Wednesday, Nov. 4? Order within **20 hrs 11 mins** and choose **One-Day Shipping** at checkout. [Details](#)

- Easy set up without Ethernet cable or QR code
- Monitoring and control iCAM camera on smartphone or tablet via free APP on WiFi/3G/4G network
- Support HD720p/VGA/QVGA video resolution
- Provide push message alert when motion/voice detected
- Allow multiple users to monitor simultaneously

WI-FI WEBCAMS (continued)

RF-Link model VMI-1201 notes:

- This is the only Wi-Fi Webcam (of the four that we tested) that did not require a firmware update prior to initial configuration.
- We were unable to get this Webcam to work with a Mac running OS X 10.10 or OS X 10.11. We failed to access this Webcam with the Safari, Chrome, and Firefox Web browsers in OS X 10.10 or OS X 10.11

WI-FI WEBCAMS (continued)

RF-Link model VMI-1201 notes (continued):

- In a Windows 8.1 or a Windows 10 PC, we were able to get this Webcam working with the Internet Explorer browser but we were unable to get it working with a Chrome browser.

WI-FI WEBCAMS (continued)

RF-Link model VMI-1201 notes (continued):

- When we used "Internet Explorer 11" in a Windows 8.1 or a Windows 10 computer, the video stream on this Webcam's Web page looked like this:

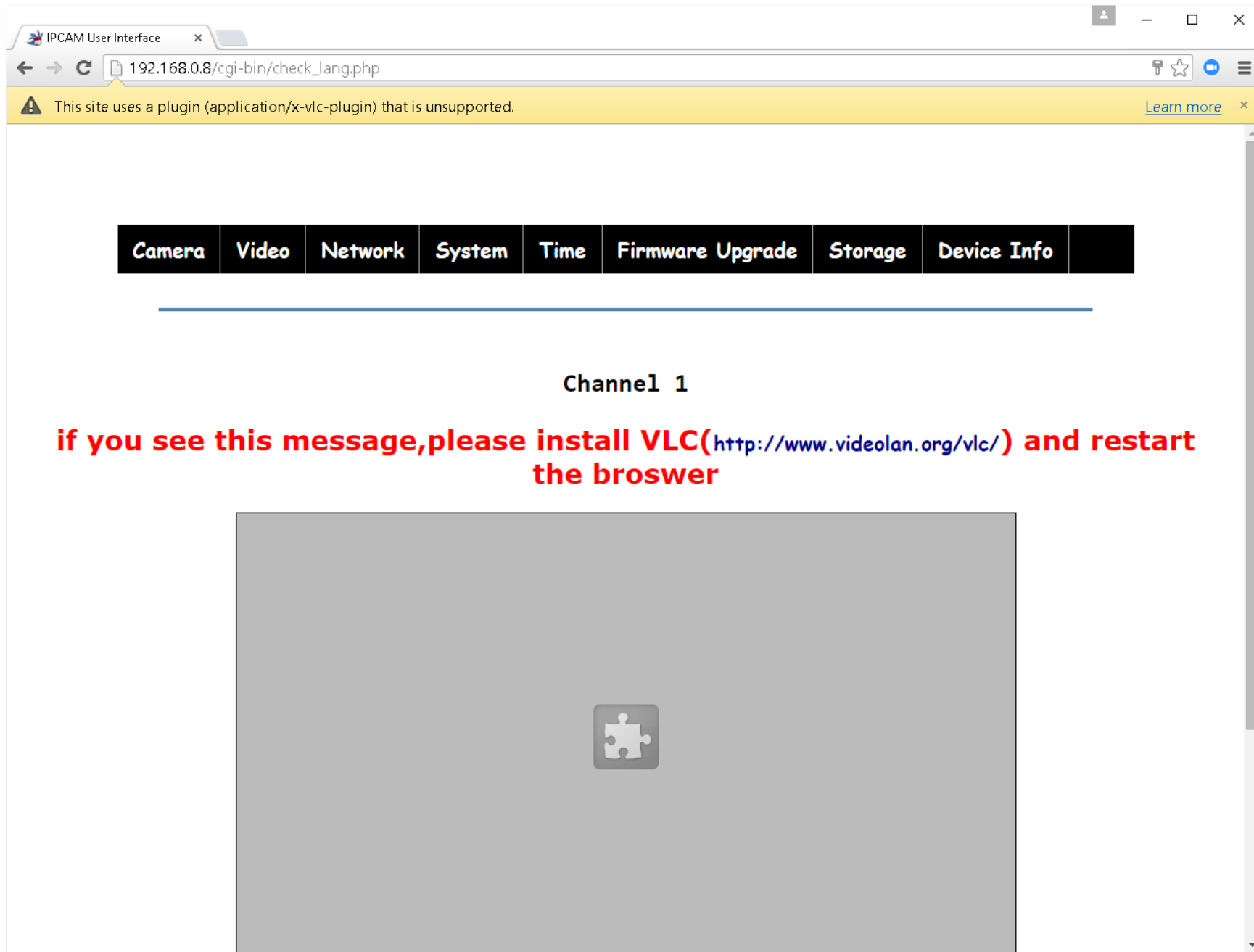




WI-FI WEBCAMS (continued)

RF-Link model VMI-1201 notes (continued):

- When we used the Chrome browser in a Windows 8.1 or a Windows 10 computer, we got this:





IPCAM User Interface



← → ↻ 192.168.0.8/cgi-bin/check_lang.php



This site uses a plugin (application/x-vlc-plugin) that is unsupported.

Channel 1

if you see this message, please install VLC(<http://www.videolan.org/vlc/>) and restart the browser

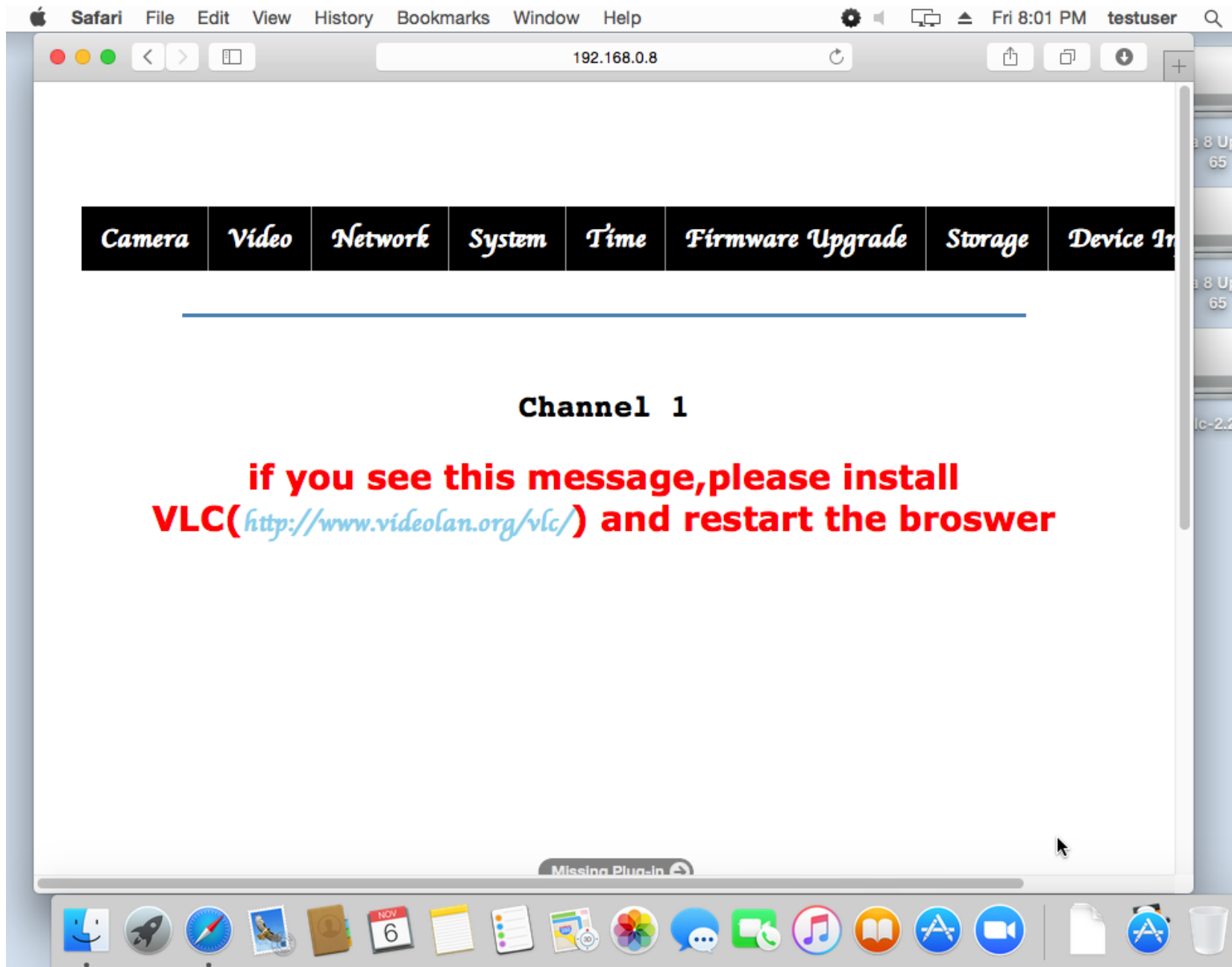


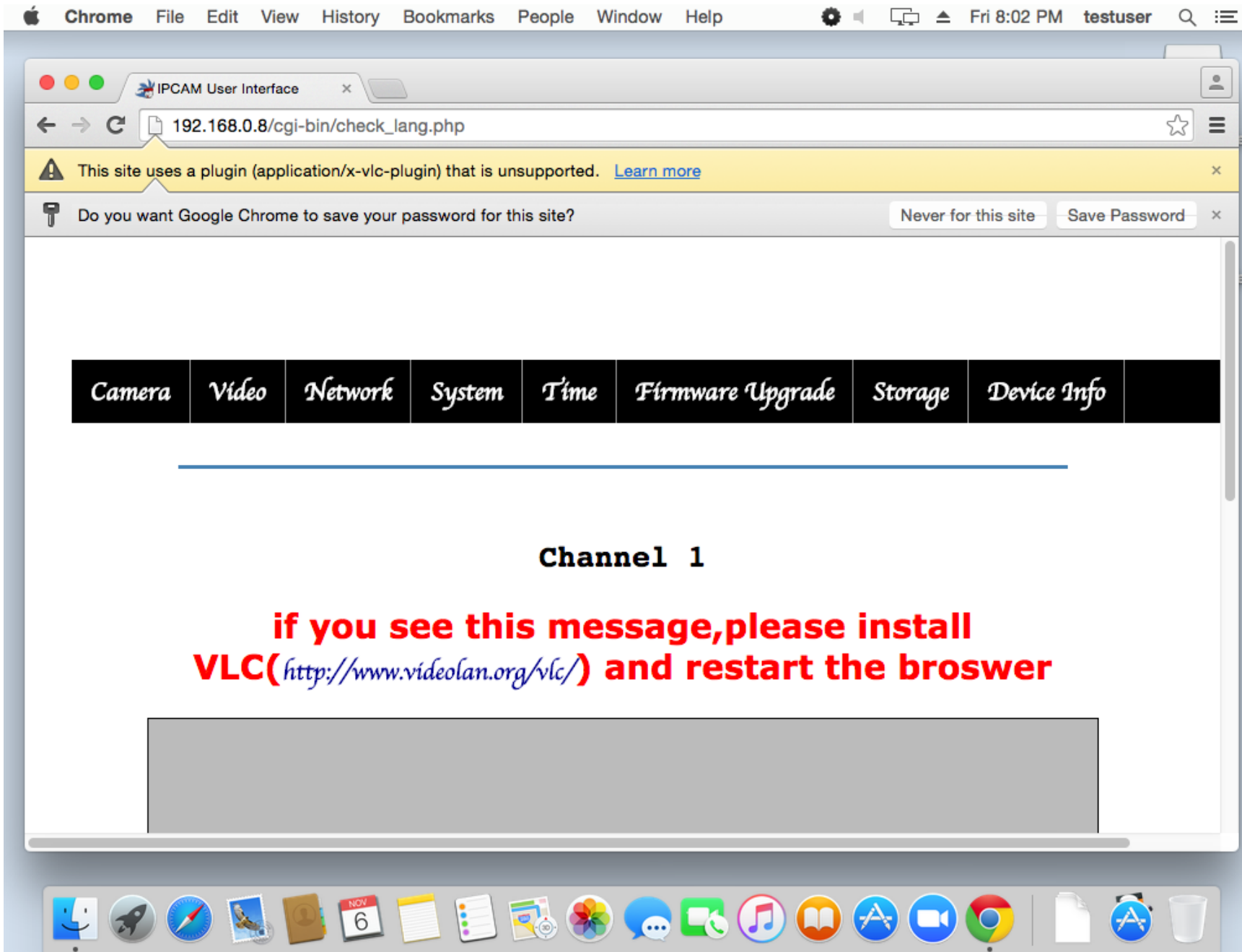
WI-FI WEBCAMS (continued)

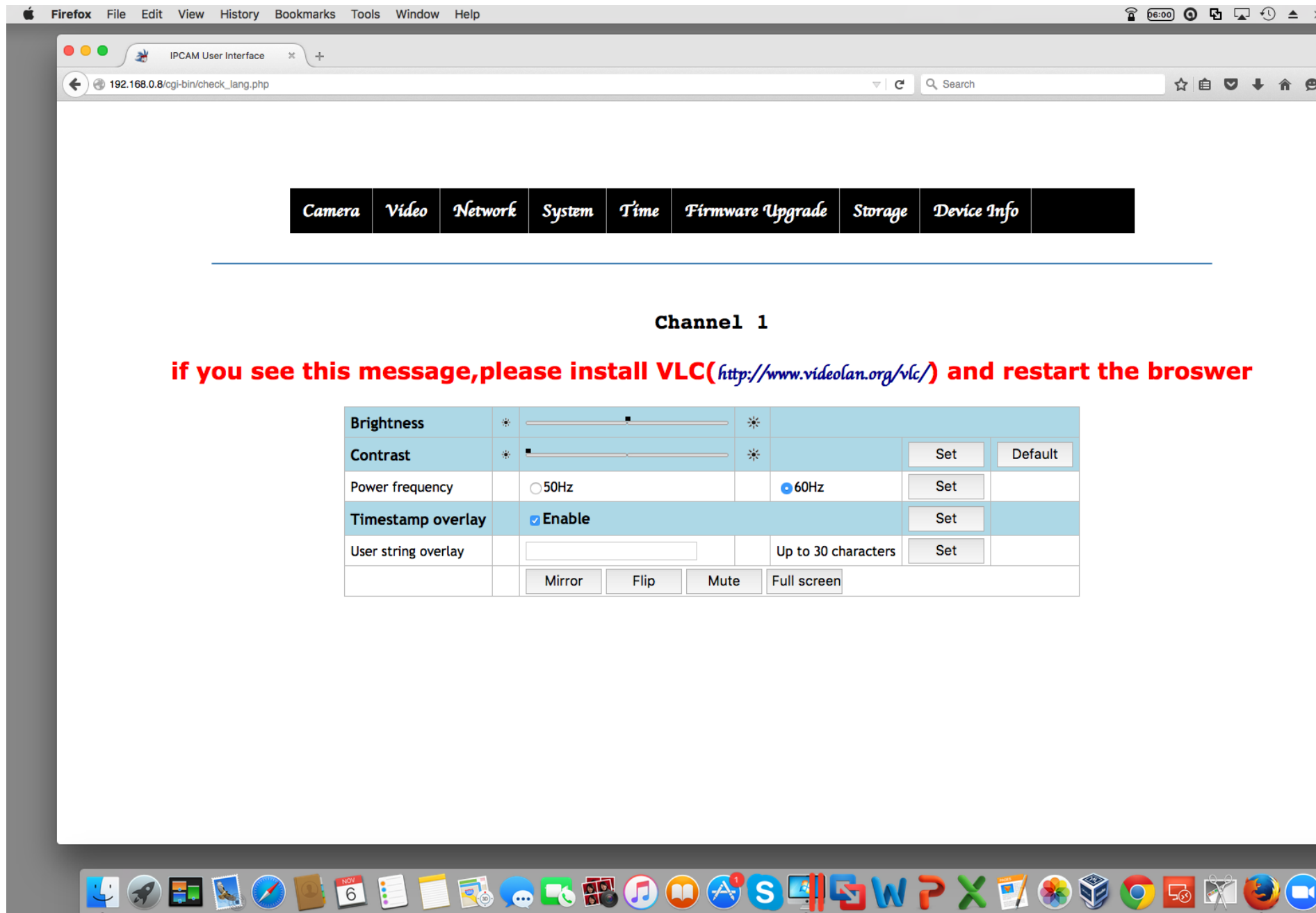
RF-Link model VMI-1201 notes (continued):

- In a Mac running OS X 10.10 or OS X 10.11, we were unable to access the video stream in the Web page that is generated by this Webcam.

We failed with the all three of the Web browsers that we tried: the Safari browser, the Chrome browser, and the Firefox browser:







WI-FI WEBCAMS (continued)

RF-Link model VMI-1201 notes (continued):

- In a PC running Windows 8.1 or Windows 10, go to "<http://videolan.org>" and install the 32-bit version of "VLC Media Player."
- After you do so, "Internet Explorer.." will be able to access the video stream of this Webcam. For an unknown reason, the Chrome browser will still be unable to access the video stream of this Webcam

WI-FI WEBCAMS (continued)

RF-Link model VMI-1201 notes (continued):

- In a PC running Windows 8.1 or Windows 10, if you install or have already installed the default 64-bit version of the free "VLC Media Player" program, then both the "Internet Explorer.." and Chrome browsers will be unable to access the video stream of this Webcam.
- If you find the 64-bit "VLC Media Player" program inside the PC, remove it.

WI-FI WEBCAMS (continued)

D-Link model DCS-932L:

- At \$40, this Webcam was the cheapest one that we attempted to install and it was a total failure in our Windows 8.1, Windows 10, Mac OS X 10.10, and Mac OS X 10.11 computers:



D-Link Wireless Day/Night Network Surveillance Camera with mydlink-Enabled (DCS-932L)

by [D-Link](#)

★★★★☆ ▾ [2,443 customer reviews](#) | [585 answered questions](#)

#1 Best Seller in [Surveillance Video Recorders](#)

List Price: ~~\$139.99~~

Price: **\$39.99** & FREE Shipping. [Details](#)

You Save: **\$100.00 (71%)**

In Stock.

Ships from and sold by Amazon.com. Gift-wrap available.

Want it Wednesday, Nov. 4? Order within **7 hrs 3 mins** and choose **Two-Day Shipping** at checkout. [Details](#)

Style: **Day/Night**

D-Link Wireless Day/Night Network Surveillance Camera with mydlink-Enabled (DCS-932L)

by [D-Link](#)

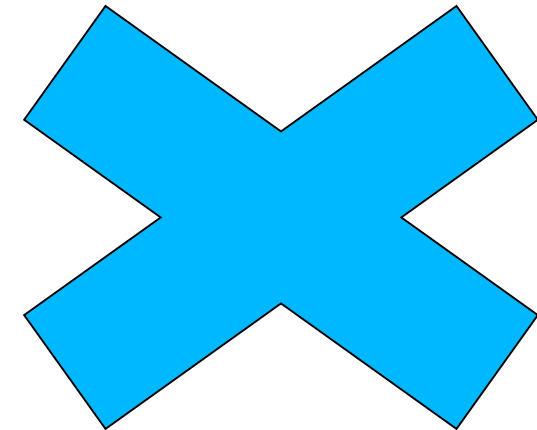


2,443 customer reviews | 585 answered questions

#1 Best Seller in [Surveillance Video Recorders](#)

List Price: ~~\$139.99~~

Price: **\$39.99** & FREE Shipping. [Details](#)



WI-FI WEBCAMS (continued)

D-Link model DCS-932L notes:

- This Webcam firmware update (that we downloaded from the D-Link Web site) before we were able to perform the initial configuration setup.

WI-FI WEBCAMS (continued)

D-Link model DCS-932L notes (continued):

- However, after the initial configuration of this Webcam in a "Windows.." computer, this Webcam failed to display video in both of "Windows.." PCs and it also failed to work in our Macs running OS X 10.10 and OS X 10.11

WI-FI WEBCAMS (continued)

D-Link model DCS-932L notes (continued):

- No Mac OS X support:
- For OS X, configuration software link at the D-Link Web sites fails to download a configuration utility (= dead hyperlink)
- After we used a "Windows.." PC to configure this Webcam, the Safari and Chrome Web browsers in our Mac OS X 10.10 computer failed to display the video of this Webcam (but so did our "Windows" computers).

WI-FI WEBCAMS (continued)

D-Link model DCS-932L notes (continued):

- For Windows 7 or 8.1 or 10, configuration software works but the resultant web page does not show live video.
- When you use IE10 or Chrome browsers in a Windows 7 or 8.1 or 10 computer to view the video stream since it locks up after the first frame.

WI-FI WEBCAMS (continued)

D-Link model DCS-1130 notes:

- We had better success with this \$119 Webcam which is also from the D-Link company:



Roll over image to zoom in

D-Link DCS-1130 mydlink enabled Wireless N Fixed IP Network Camera with Built-In Microphone

by [D-Link](#)

★★★★☆ ▾ [24 customer reviews](#)

List Price: ~~\$179.99~~

Price: **\$118.95** + \$5.49 shipping

You Save: **\$61.04 (34%)**

Only 1 left in stock.

Ships from and sold by [transbiz](#).

Estimated Delivery Date: Nov. 9 - 25 when you choose Standard Shipping at checkout.

- Easily view and manage your camera from mydlink.com
- Can capture video in low-light conditions
- Comes with a built-in microphone, you can hear that everything is well at home
- Comes with a feature to record directly from the camera to a local hard drive
- Trigger motion detection, set recording schedules, set e-mail alert



List Price: ~~\$179.99~~

Price: **\$118.95** + \$5.49 shipping

WI-FI WEBCAMS (continued)

D-Link model DCS-1130 notes:

- Required a firmware update (that we downloaded from the D-Link Web site) before we were able to perform the initial configuration setup.
- All had bundled users manuals and documentation of these three Webcams that showed screen shots of "Windows 7" screens.

WI-FI WEBCAMS (continued)

D-Link model DCS-1130 notes (continued):

- After it's firmware was updated, the dcs-1130 worked well in the Chrome browser in "Windows 8.1" and "Windows 10".

It never worked in "Internet Explorer 11" in "Windows 8.1" or "Windows 10".

WI-FI WEBCAMS (continued)

D-Link model DCS-1130 notes (continued):

- After it's firmware was updated, DCS-932L worked in and the "Chrome browser" in "Windows 8.1" and "Windows 10":

D-LINK CORPORATION

192.168.0.11/eng/index.cgi

This site uses a plugin (Java(TM)) that is unsupported.

Learn more

Product: DCS-1130Firmware version: 1.06_US

D-Link

DCS-1130

LIVE VIDEO

SETUP

MAINTENANCE

STATUS

HELP

Camera

Logout

Please select a language

English


CAMERA

This section shows your camera's live video. You can control your settings using the buttons below.

Current resolution is 640 x 480

LIVE VIDEO

2011/01/02 04:13:13 DCS-1130



3

⚠ This site uses a plugin (Java(TM)) that is unsupported.

[Learn more](#) x

2011/01/02 04:14:04 DCS-1130



WI-FI WEBCAMS (continued)

D-Link model DCS-1130 notes (continued):

- However, we never got it to work in the "Internet Explorer 11" browser in "Windows 8.1" and "Windows 10":

Java Application Blocked

Application Blocked by Java Security



For security, applications must now meet the requirements for the High or Very High security settings, or be part of the Exception Site List, to be allowed to run.

[More Information](#)

Name: Audio

Location: http://192.168.0.11

Reason: Your security settings have blocked an untrusted application from running

OK

Application Blocked by Java Security



For security, applications must now meet the requirements for the High or Very High security settings, or be part of the Exception Site List, to be allowed to run.

[More Information](#)

Name: Audio

Location: http://192.168.0.11

Reason: Your security settings have blocked an untrusted application from running

OK

WI-FI WEBCAMS (continued)

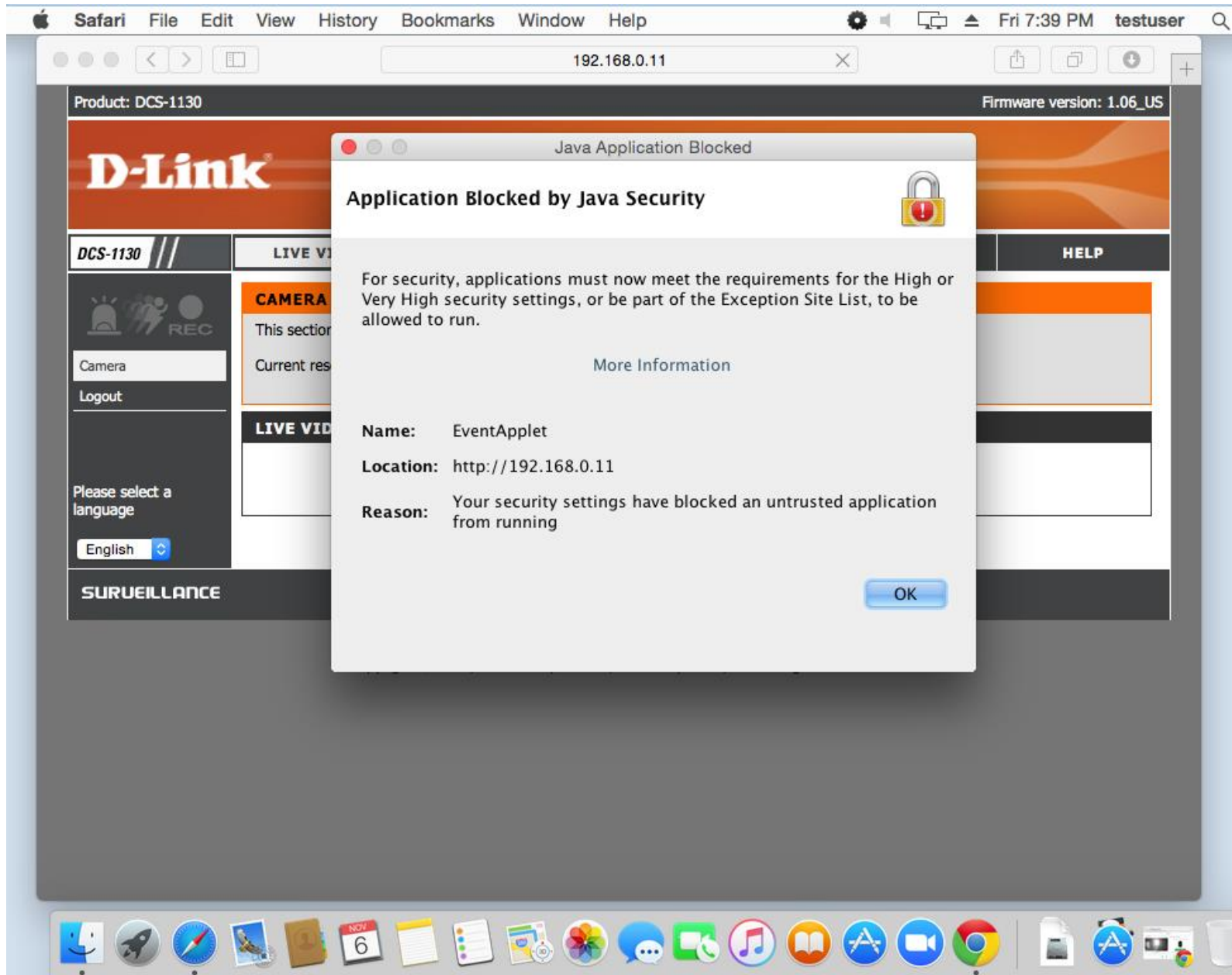
D-Link model DCS-1130 notes (continued):

- in a Mac running OS X 10.10 Yosemite or OS X 10.11 El Capitan, we were unable to access this Webcam with either the Safari, Chrome, or Firefox browsers:

WI-FI WEBCAMS (continued)

D-Link model DCS-1130 notes (continued):

- Error message in the Safari browser in Mac OS X 10.10:

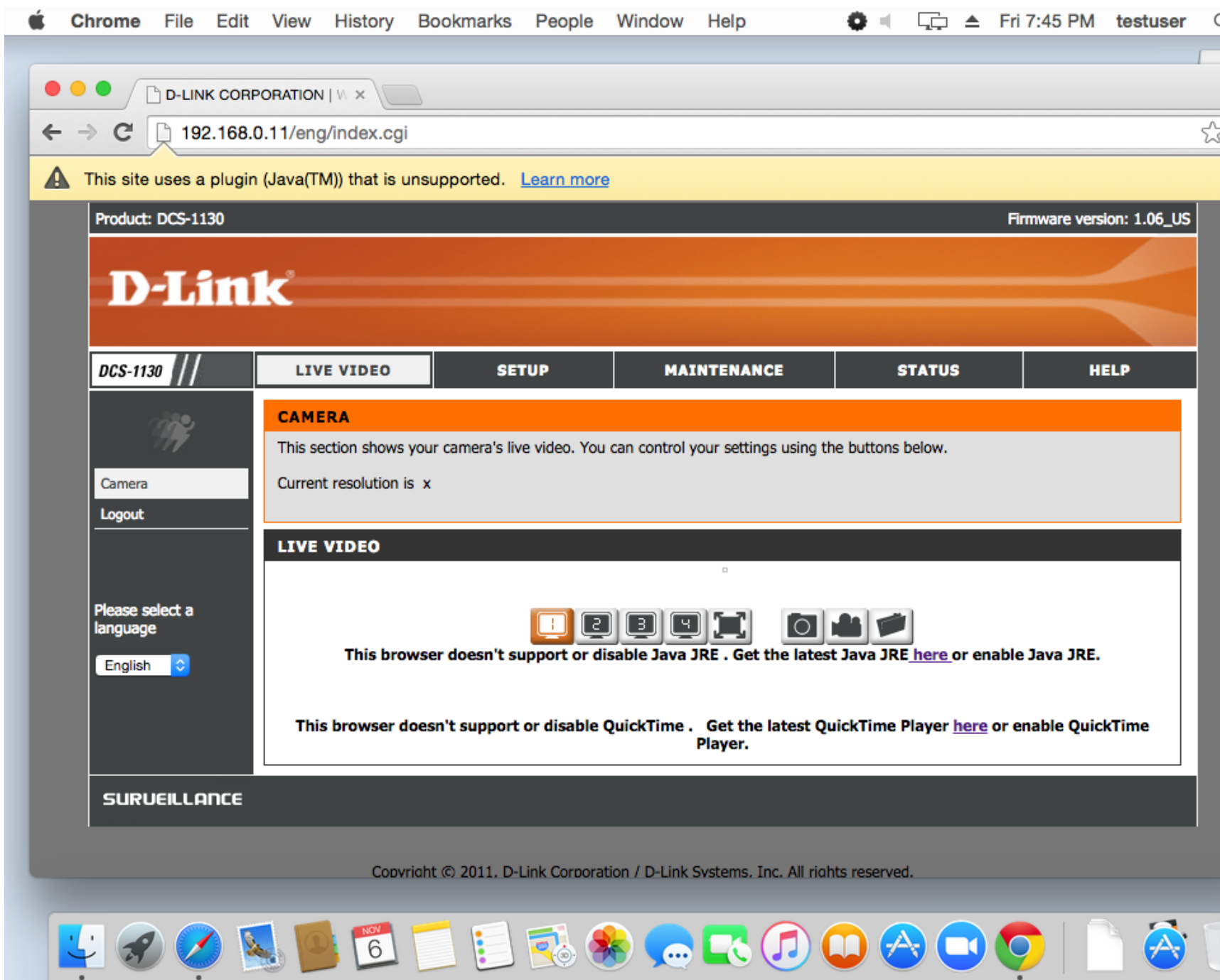


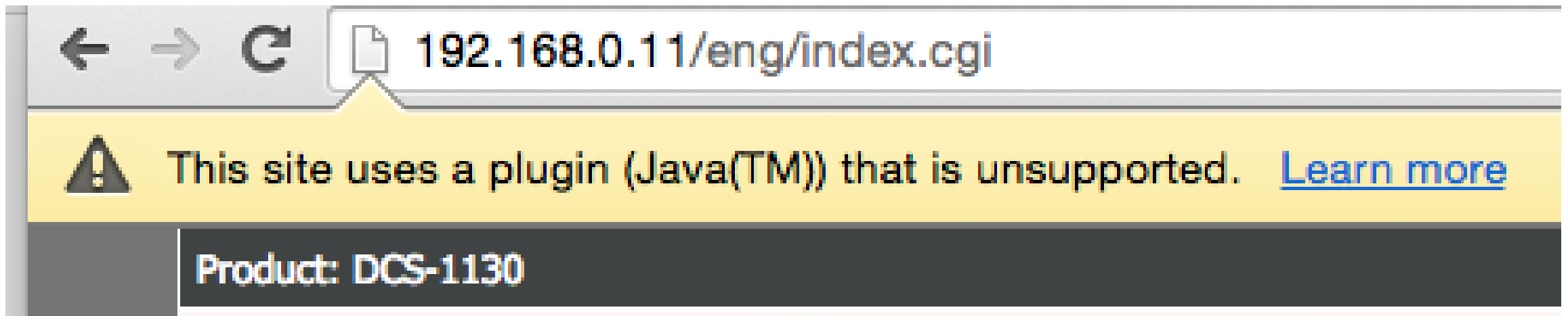


WI-FI WEBCAMS (continued)

D-Link model DCS-1130 notes (continued):

- Error message in the Chrome browser in Mac OS X 10.10:





WI-FI WEBCAMS (continued)

D-Link model DCS-1130 notes (continued):

- Error message in the Firefox browser in Mac OS X 10.10:

Product: DCS-1130

Firmware version: 1.06_US

D-Link

DCS-1130

LIVE VIDEO

SETUP

MAINTENANCE

STATUS

HELP

Camera

Logout

Please select a language

English

CAMERA

This section shows your camera's live video. You can control your settings using the buttons below.
Current resolution is x

LIVE VIDEO

Processing...



This browser doesn't support or disable Java JRE . Get the latest Java JRE [here](#) or enable Java JRE.

This browser doesn't support or disable QuickTime . Get the latest QuickTime Player [here](#) or enable QuickTime Player.

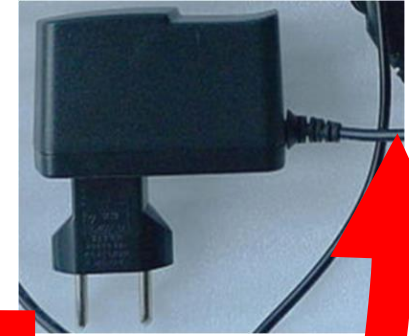
SURUEILLANCE

CLOUD-BASED WEBCAMS

- Cloud-based Webcams are totally-dependent on your Internet connection service.
- They cannot stream, record, or snapshot videos unless your Internet connection AND the Webcam manufacturer's Web site are both functional.

Internet Cloud

**Web server farm of the
manufacturer of your Webcam**



**Your computer, tablet, or cell
phone**

**Web Browser or your
Webcam 's app**

**Your cloud-based
Webcam**

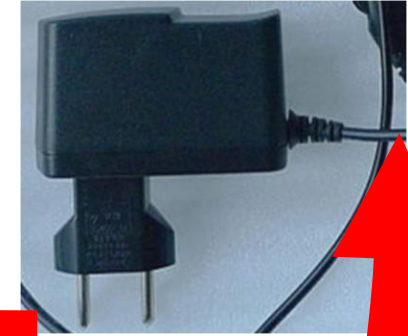


CLOUD-BASED WEBCAMS (continued)

- When you are at your home or business both your computer, tablet, or cell phone and your cloud-based Webcam will communicate through your router and broadband modem but they will not communicate directly to each other:

Internet Cloud

**Web server farm of the
manufacturer of your Webcam**



Existing LAN and Broadband

**Your computer, tablet, or cell
phone**

**Web Browser or your
Webcam 's app**

**Your cloud-based
Webcam**



CLOUD-BASED WEBCAMS

(continued)

- The first cloud-based Webcam was the "Dropcam"
- The original "Dropcam" company was first acquired by the "Nest" company and they used it to develop the "Nest Cam"
- Then the "Nest" company was acquired by Google
- The Apple Store (both physical and online) was selling the "Dropcam" until "Dropcam" became "Nest cam"



Roll over image to zoom in

Nest Cam

by [Nest](#)

★★★★☆ - 905 customer reviews

| 63 answered questions

#1 Best Seller in [Remote Home Monitoring Systems](#)

Price: **\$194.95** & **FREE Shipping**. [Details](#)

In Stock.

Want it tomorrow, Nov. 3? Order within **17 hrs 4 mins** and choose **Same-Day Delivery** at checkout. [Details](#)

Ships from and sold by Amazon.com. Gift-wrap available.

- [Easy 60-second setup](#) - Just [plug in the power cord](#) and [download the Nest app](#).
- [Stream securely in full 1080p HD](#) - See the whole room. Or zoom in for a closer look.
- [Get alerts on your phone](#) - So you know if something happens when you're away.
- [See in the dark](#) - Night Vision helps you keep an eye on things around the clock.
- [Talk and listen](#) - Hear the baby. Or tell your dog to get off the couch.



Nest Cam

by Nest

★★★★☆ = 905 customer reviews
| 63 answered questions

#1 Best Seller in Remote Home Monitoring

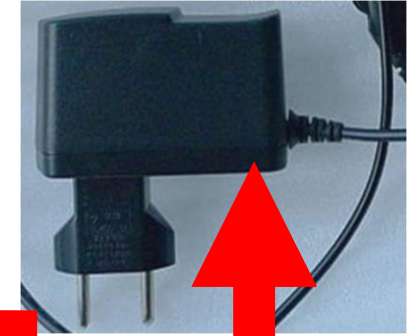
Price: **\$194.95 & FREE Shipping.** [Details](#)

Do I need to keep my Nest Cam plugged in to a power outlet?

Yes, your Nest Cam needs to be plugged into a power outlet using the provided micro-USB cable and AC adapter to work. You will also need to make sure your camera can connect to an available Wi-Fi network with a broadband Internet connection.

Internet Cloud

**Web server farm of the
"Nest" company**



Existing LAN and Broadband

Wireless Wi-Fi

**Your computer, tablet, or cell
phone**

**Web Browser or your
Webcam 's app**

**Your "Nest Cam"
Webcam**



CLOUD-BASED WEBCAMS (continued)

- There are lots of complaints about the Nest Cam at http://www.amazon.com/NestNC1102ESCam/dp/B00WBJGUA2/ref=sr_1_1?s=electronics&ie=UTF8&qid=1442934092&sr=11&keywords=nest+cam
Apparently they lost a lot of Mac and iPad-friendly features when they morphed the "Dropcam" into the current model of "Nest Cam"

CLOUD-BASED WEBCAMS

(continued)

- The second cloud-based Webcam is the "Withings Home HD Video Camera", a quality product that is from France.
- This Webcam is currently the only one that is sold at the physical and online "Apple Store".
- The "Withings.." can be connected to a local network by means of either wireless Wi-Fi or a wired Ethernet cable

Apple Safari File Edit View History Bookmarks Window Help

amazon.com

amazon Try Prime

All withings home

ELECTRONICS Gift Guide

Shop by Department - Your Amazon.com Today's Deals Gift Cards Sell Help

Hello, Sign in Your Account

Health & Personal Care Best Sellers New Arrivals Baby & Child Care Vitamins & Diet Supplements Sports & Outdoors

ELECTRONICS Gift Guide Sponsored by Windows 10 Latest tech from \$100

Back to search results for "withings home"

Withings Home, Wi-Fi Security Camera with Air Quality Sensors from Withings

★★★★☆ • 105 customer reviews | 23 answered questions



Price: **\$189.95** \$
In Stock. Ships from

Subscribe & Save
● **\$189.95**
Save 15% when you subscribe

One-time Purchase
○ **\$199.95**

2

3+



Price: **\$199.95** & **FREE Shipping**. [Details](#)
In Stock. Ships from and sold by [Amazon.com](#). Gift-wrap
available.

Basic Security

Keeps tabs on your family, pets and belongings

Free

- ✓ 2-days history
- ✓ Animated sequences and timelapses

Improved Security

See and store everything for a week. Perfect for a busy work life, short business trips or vacations.

US\$ 7.95 /MONTH

- ✓ 7-days of cloud video storage
- ✓ Continuous footage and timelapses


RECOMMENDED

Premium Security

Do you spend longer periods away? Have a need to be in the loop 24/7? This is your plan.

US\$ 19.95 /MONTH

- ✓ 30-days of cloud video storage
- ✓ Continuous footage and timelapses

 We are currently experiencing an issue with our Web services that may cause your alert settings to be ignored. We're working on fixing this issue as soon as possible. We apologize for the inconvenience.

Secure HD video, enhanced 2-way audio, 135-degree wide angle, clear night vision, zoom ePTZ x4, and a nightlight

30-second setup for a complete home-monitoring solution via Wi-Fi, Ethernet, or Bluetooth

Motion-, noise-, and people-detection alerts on your iOS device

Smart protection with cloud video recording and painless home automation

Advanced environmental sensing of air quality

Internet Cloud

**Web server farm of the
"Withings" company**

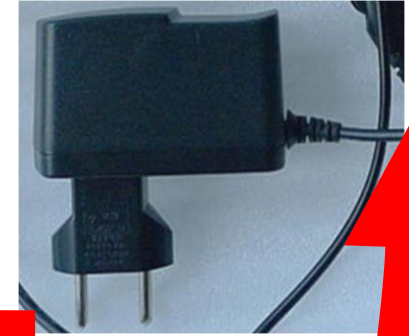
Existing LAN and Broadband

**Your computer, tablet, or cell
phone**

**Web Browser or your
Webcam 's app**

**Wireless Wi-Fi or
wired Ethernet**

**Your "Withings"
Webcam**



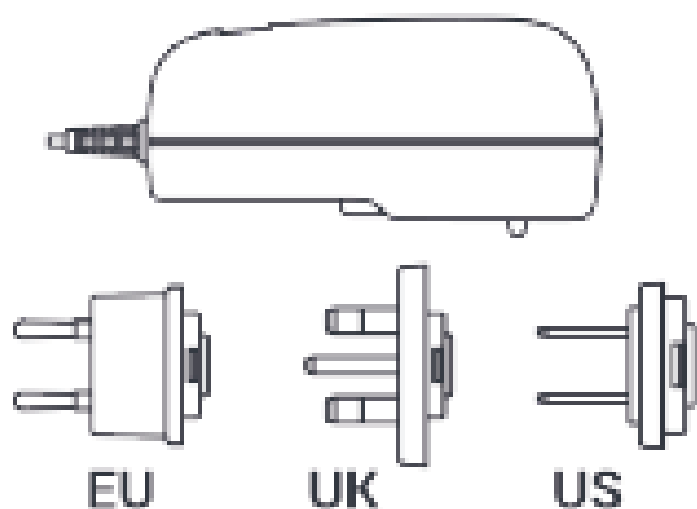
CLOUD-BASED WEBCAMS (continued)

- The "**Withings Home HD Video Camera**" only can be set up with an iPad or an iPhone or an iPod Touch. If you purchase a "Withings..", you will have a perfectly good excuse to buy an iPhone or an iPad also!
- Once it is set up, you can then use an app or a browser to access your Withings.com account from any computer in order to viewer, record, an snapshot your "Withings.." Webcam.

CLOUD-BASED WEBCAMS (continued)

About the Product:

- Secure HD video, enhanced 2-way audio, 135 Degree wide-angle, clear night vision, zoom ePTZ x4, and nightlight
- 30 second set-up for a complete home monitoring solution
- Motion and noise detection alerts in your interactive diary
- Advanced environmental sensing of air quality



Micro-USB power cord 5V 2A and local adaptors

FR Câble d'alimentation 5V 2A et adaptateurs locaux

DE Stromkabel 5V 2A und 3 lokale Adapter

ES Cable de alimentación 5V 2A y 3 adaptadores locales

IT Cavo di alimentazione 5V 2A e 3 adattatori locali

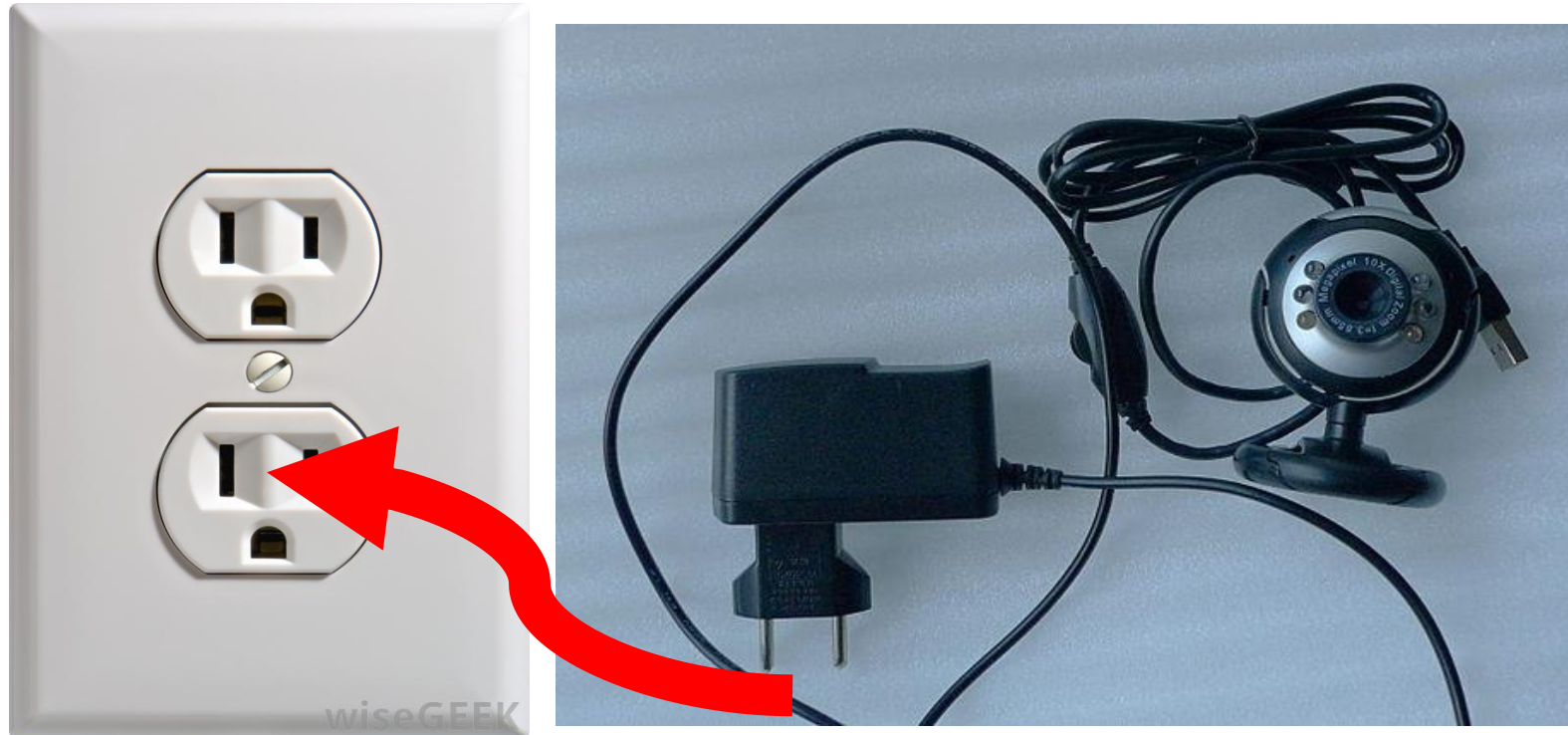
PT Cabo de alimentação 5V 2A e 3 adaptadores locais

CN 微型 USB 电源线 5V 2A 和本地适配器

JP Micro-USB電源ケーブル 5V 2A とアダプタ

CLOUD-BASED WEBCAMS (continued)

- All cloud-based Webcams have a wire that goes to a power adapter that has to be plugged into an AC power outlet.



TOTALLY-WIRELESS “ARLO” WEBCAM

- Netgear's "Arlo" Webcam is a totally-wireless Webcam. It uses 4 Lithium batteries for power.
- It communicates with a dedicated Netgear "Base Station" that you buy as part of a "kit" that contains one or more Webcams and the "Base Station".



TOTALLY-WIRELESS “ARLO” WEBCAM (continued)

- In a Windows 8.1 computer or a Windows 10 computer, we were able to access the video stream of the "Arlo" Webcam at <https://arlo.netgear.com> with both the "Internet Explorer 11" browser and the Chrome browser.

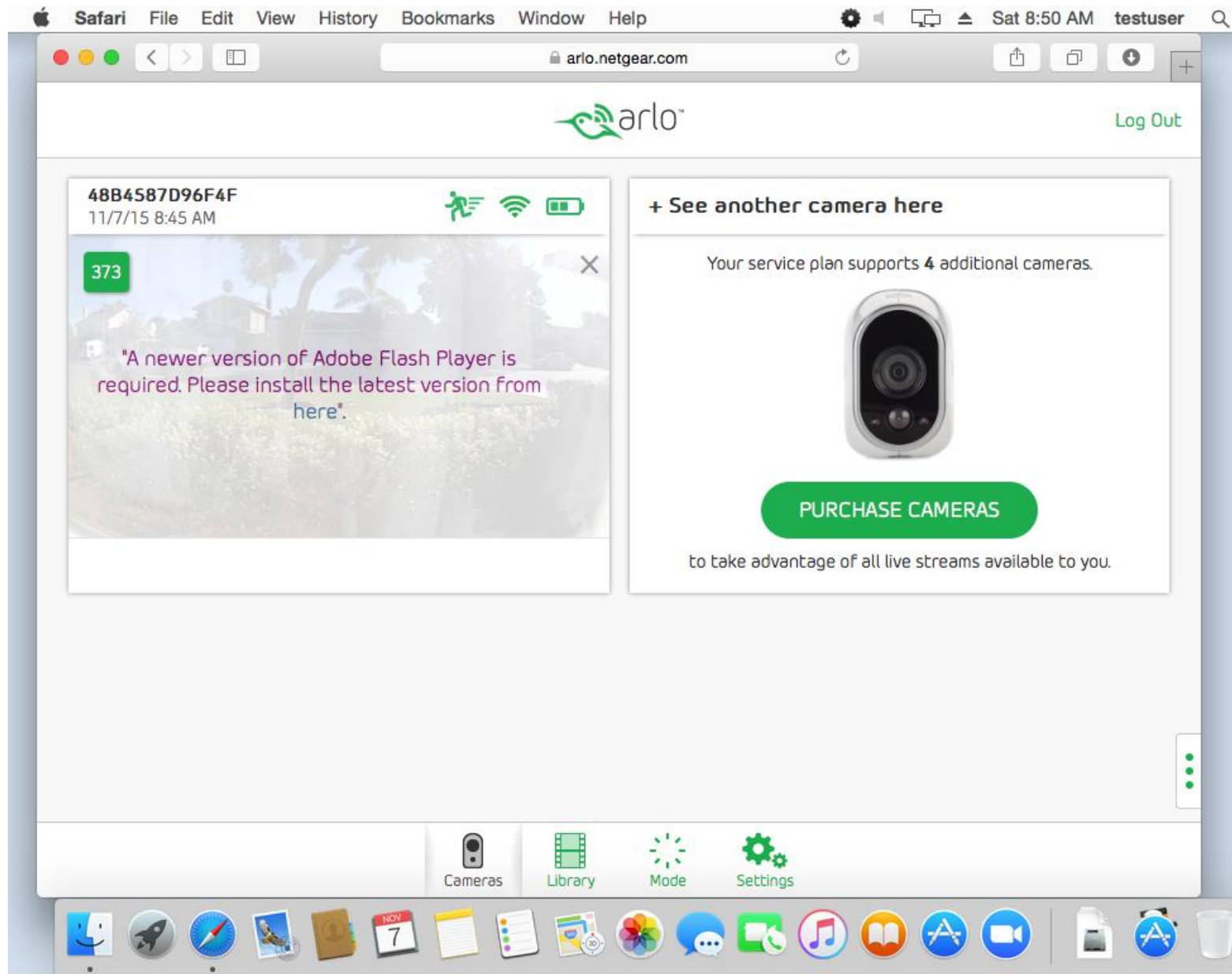


TOTALLY-WIRELESS “ARLO” WEBCAM (continued)

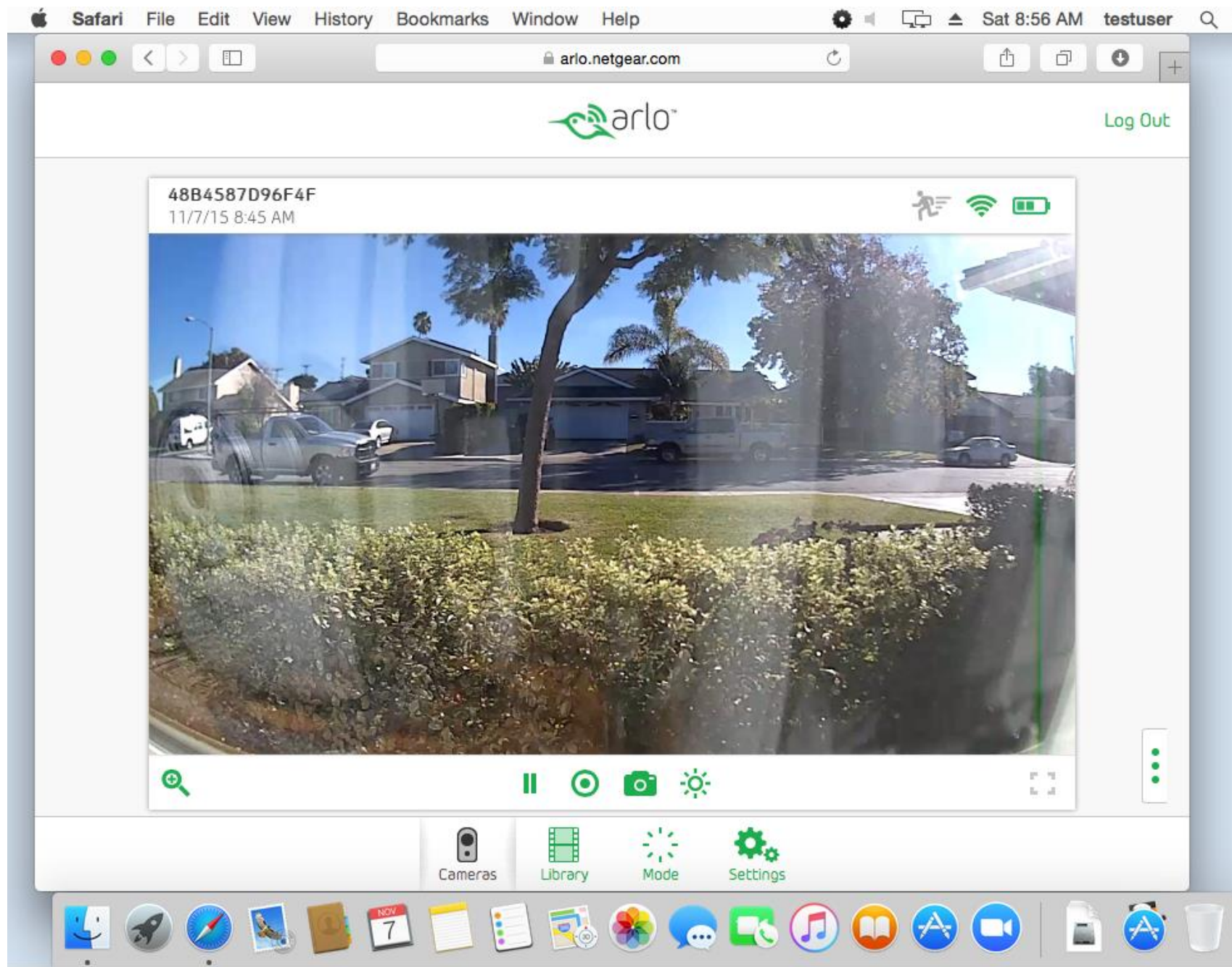
- In a Mac OS X 10.11 computer, we were able to access the video stream of the "Arlo" Webcam at <https://arlo.netgear.com> with the Safari, Chrome, and Firefox browsers

TOTALLY-WIRELESS “ARLO” WEBCAM (continued)

- In a Mac OS X 10.11 computer, we were able to access the video stream of the "Arlo" Webcam at <https://arlo.netgear.com> with the Safari browser:

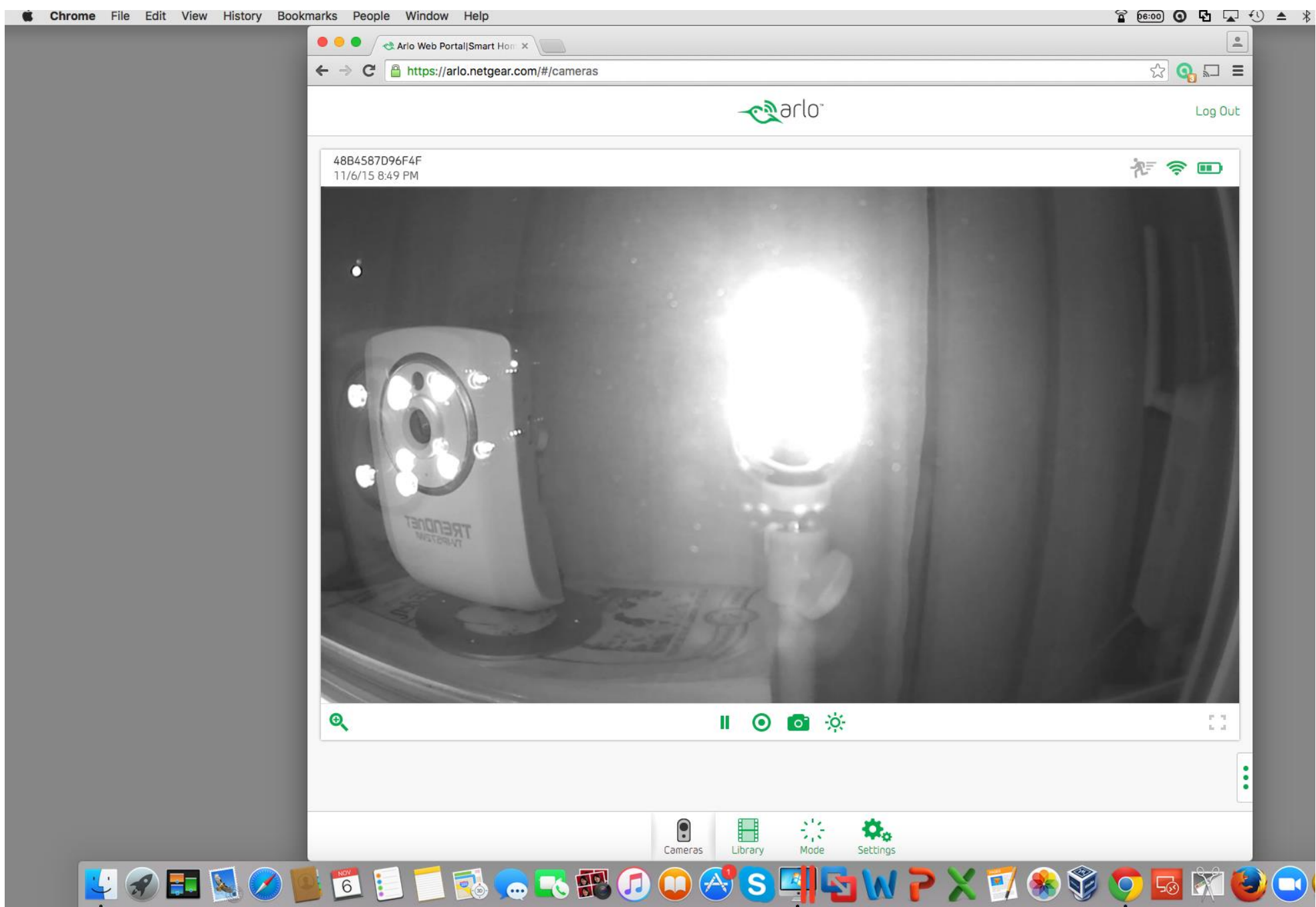


"A newer version of Adobe Flash Player is required. Please install the latest version from [here](#)".



TOTALLY-WIRELESS “ARLO” WEBCAM (continued)

- In a Mac OS X 10.11 computer, we were able to access the video stream of the "Arlo" Webcam at <https://arlo.netgear.com> with the Chrome browser:



TOTALLY-WIRELESS “ARLO” WEBCAM (continued)

- In a Mac OS X 10.11 computer, we were able to access the video stream of the "Arlo" Webcam at <https://arlo.netgear.com> with the Firefox browser:



TOTALLY-WIRELESS “ARLO” WEBCAM (continued)

- The "Base Station" is connected by means of a wired Ethernet cable to your existing local network
- When you purchase an "Arlo" Webcam, you are buying a totally-wireless Webcam AND a "Base Station" so you are actually buying a dedicated network segment that contains a dedicated router and a Webcam that communicates through it:

Hi Francis,

Arlo has detected motion on one of your cameras. Here are the details:

48B4587D96F4F at 11:35:08 AM PST on Nov 6 2015

[Click here](#) to see what's happening.

Video



Hi Francis,

Arlo has detected motion on one of your cameras. Here are the details:

48B4587D96F4F at 11:35:08 AM PST on Nov 6 2015

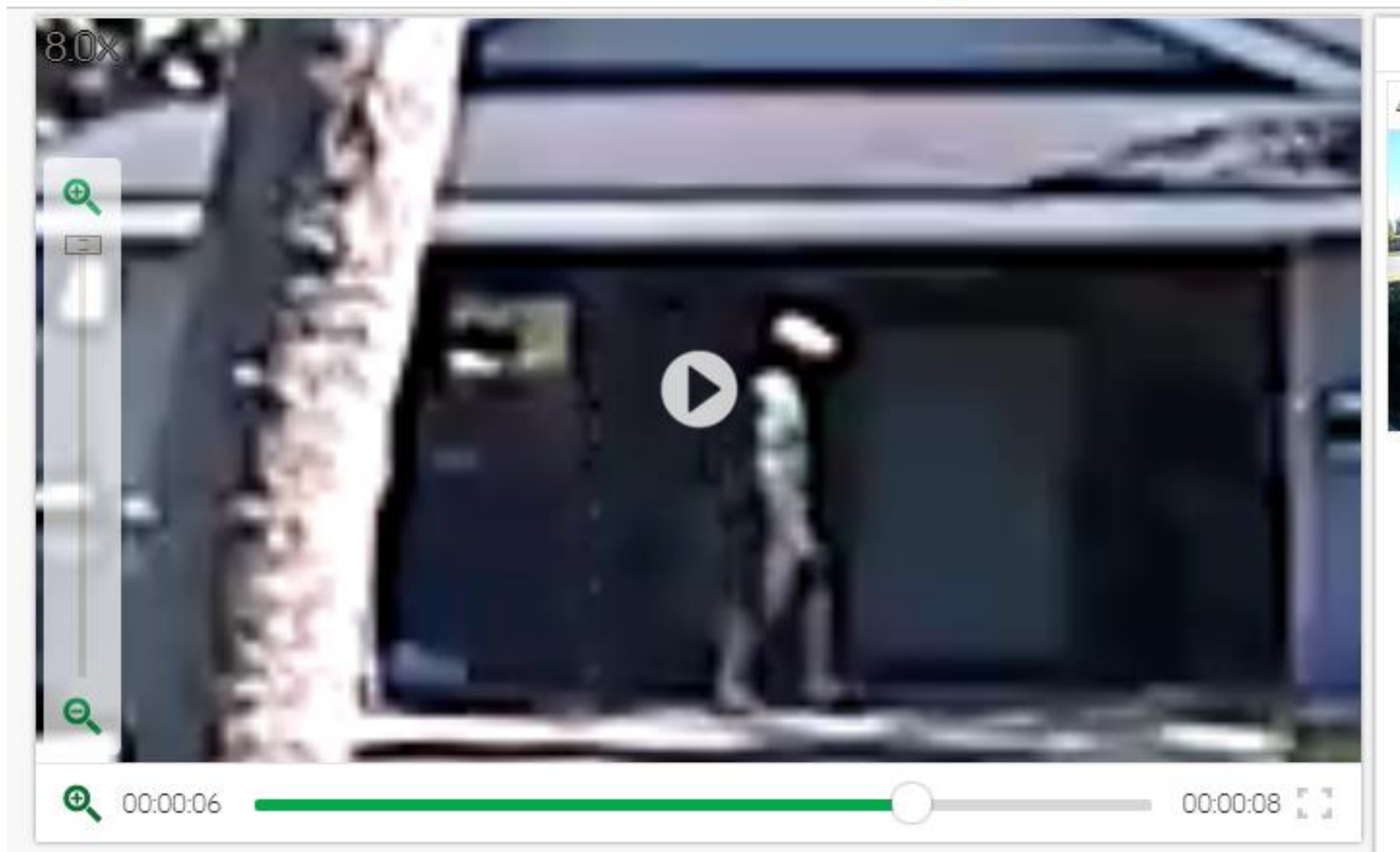


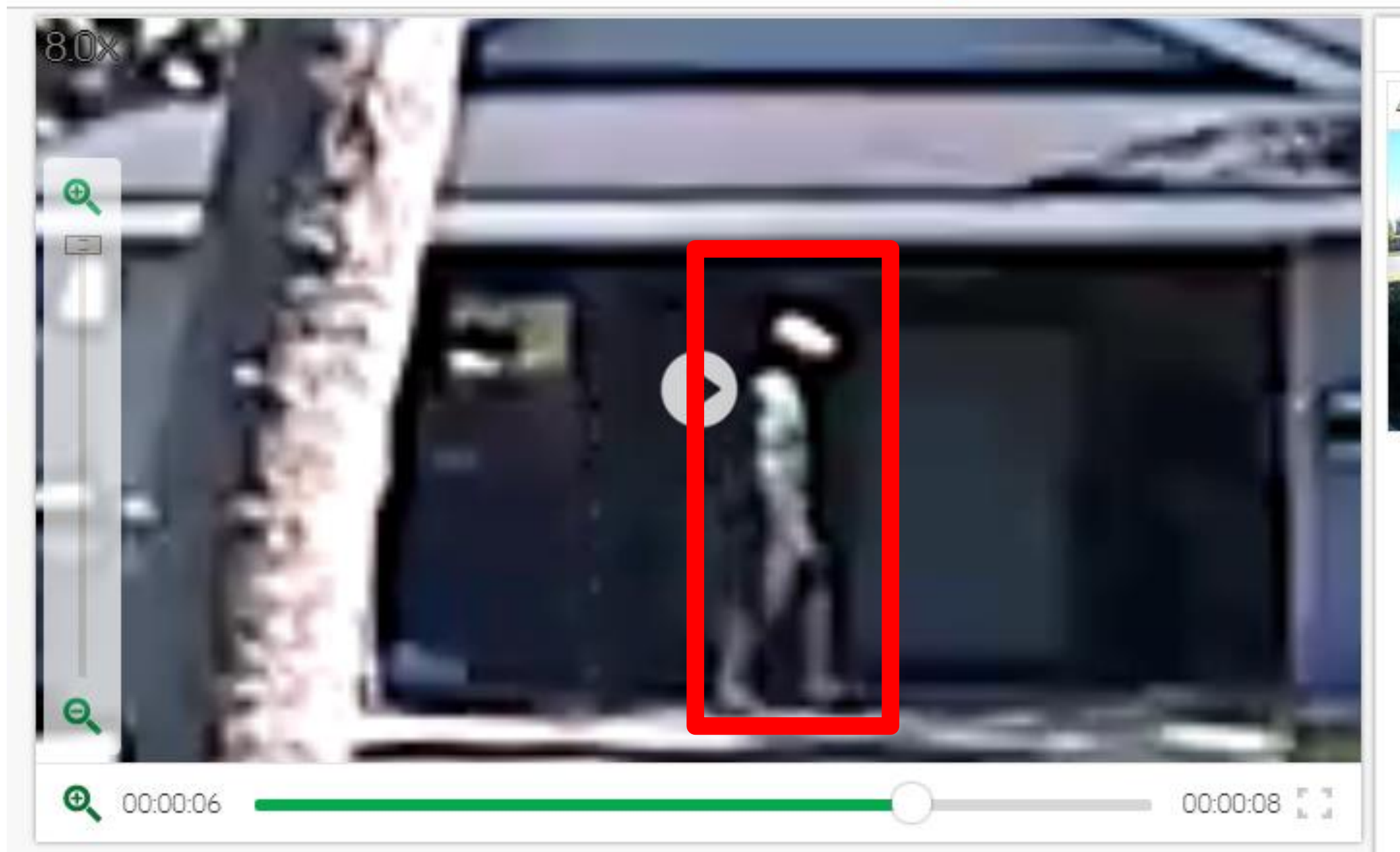
00:00:08



00:00:08







Arlo Smart Home - 1 HD Camera Security System, 100% Wire-Free, Indoor/Outdoor with Night Vision (VMS3130-100NAS)

by [Netgear](#)

★★★★★ ▾ [1,042 customer reviews](#) | [95 answered questions](#)

List Price: ~~\$199.99~~

Price: **\$179.99** & **FREE Shipping**. [Details](#)

Save 10% with coupon code **ARLO10** (400%)

TOTALLY-WIRELESS “ARLO” WEBCAM (continued)

- You purchase the mandatory Netgear "Base Station" as part of a "kit" that contains one or more Webcams and the "Base Station".
- The "Base Station" is connected by means of a wired Ethernet cable to your existing local network.
- The "Base Station" provides a Wi-Fi wireless access point that only communication with your Arlo Webcam(s).

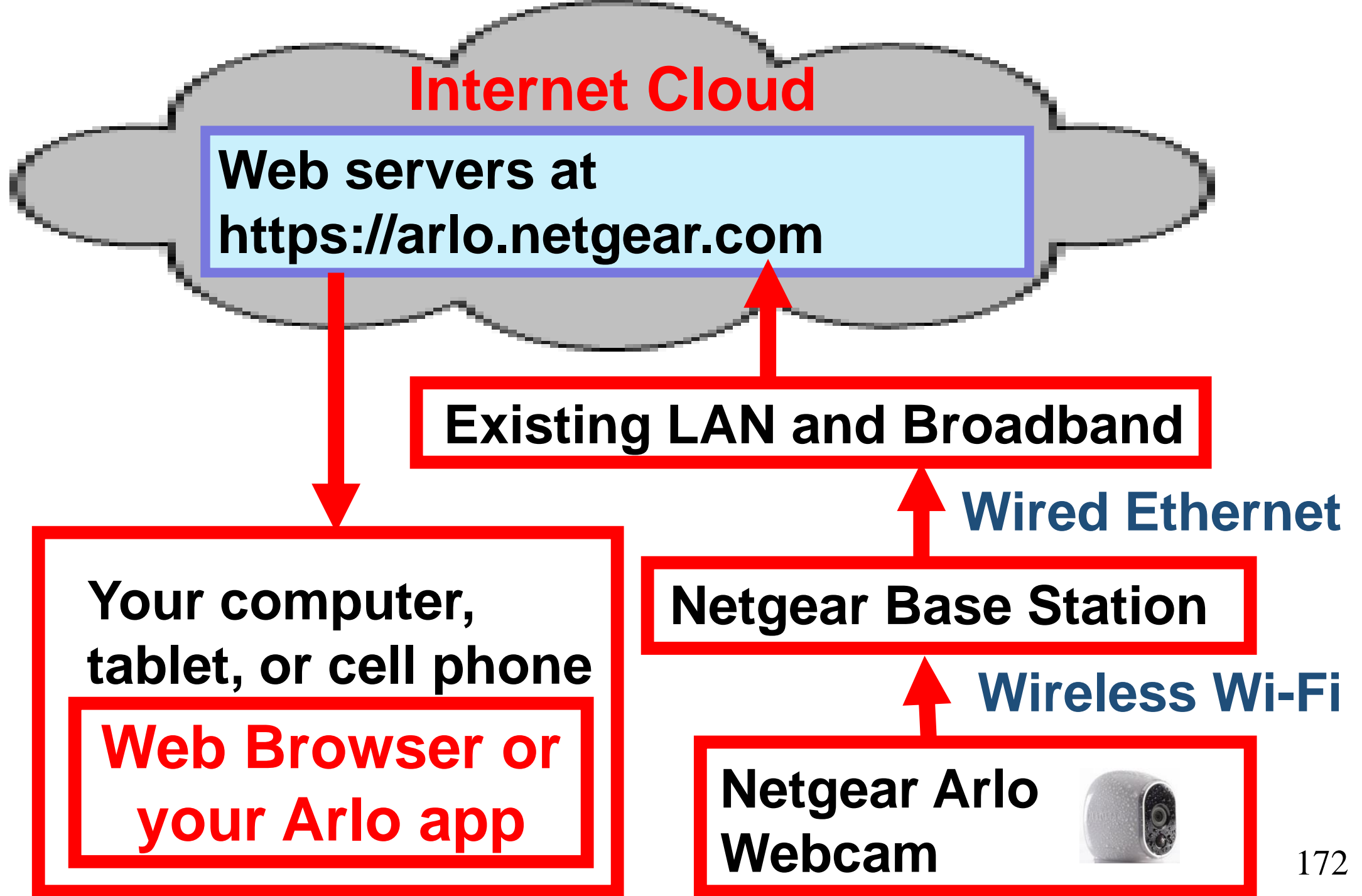
TOTALLY-WIRELESS “ARLO” WEBCAM (continued)

- You cannot connect or communicate any other devices (except for more Arlo Webcams) to the "Base Station"
- The "Base Station" does not communicate with any other (non-Arlo) devices on your Local Area Network.
- The "Base Station" does not show up in the "Network and Sharing Center" or the "File Explorer" in "Windows..".



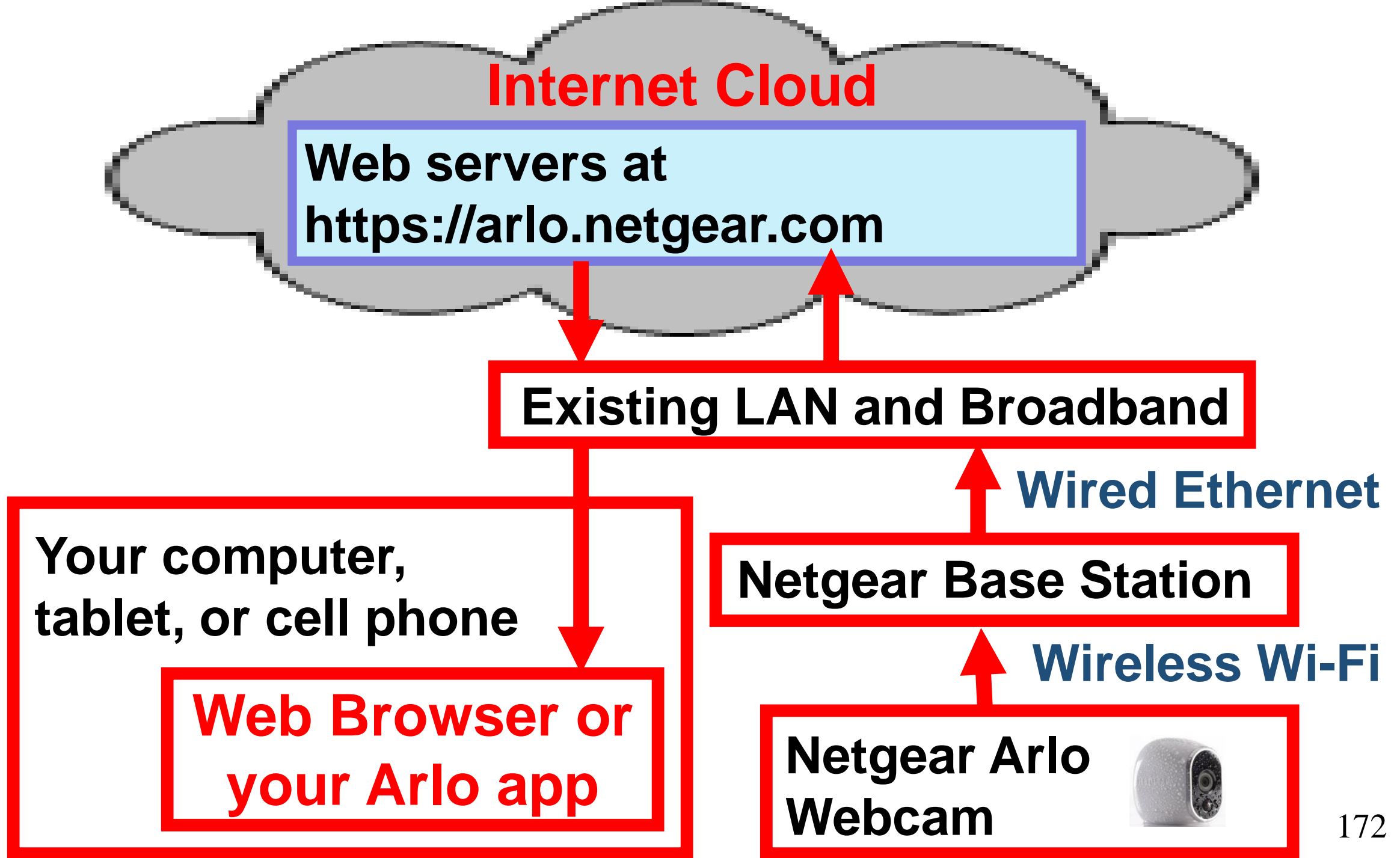
1 Wire-free HD Camera Security System





TOTALLY-WIRELESS “ARLO” WEBCAM (continued)

- When you are at your home or business both your computer, tablet, or cell phone and your "Arlo" Webcam will communicate through your router and broadband modem but they will not communicate directly to each other:



TOTALLY-WIRELESS “ARLO” WEBCAM (continued)

- A free level of account at <https://arlo.netgear.com> means that they will store 7 days of the most recent recordings and snapshots for up to 5 cameras.
- While using a Web browser or an Arlo app to view / record / snapshot, the motion detection feature is not active.

TOTALLY-WIRELESS “ARLO” WEBCAM (continued)

- Various colored wraps for camouflaging your Arlo webcams will be available soon.
See <https://www.arlo.com/en-us/products/add-on/VMA1200.aspx>

TOTALLY-WIRELESS “ARLO” WEBCAM (continued)

- The "Arlo" Webcam has a threaded hole on it's bottom side for connecting to a standard camera tripod-type mount. Many tripod-type mounts are available for Webcams.
- Various colored wraps for camouflaging your Arlo webcams will be available soon.
See <https://www.arlo.com/en-us/products/add-on/VMA1200.aspx>

Arlo Replaceable Multi-colored Silicon Skins (VMA1200)

STARTING AT \$24.99



TOTALLY-WIRELESS “ARLO” WEBCAM (continued)

- The wireless Wi-Fi communications between your Arlo camera(s) and your Network base station are subject to the limitations of all Wi-Fi communications
- Building structures, furniture, and various objects can attenuate the 2.45 and 5 Gigahertz radio waves that emanate between the Arlo camera(s) and the Netgear base station.

TOTALLY-WIRELESS “ARLO” WEBCAM (continued)

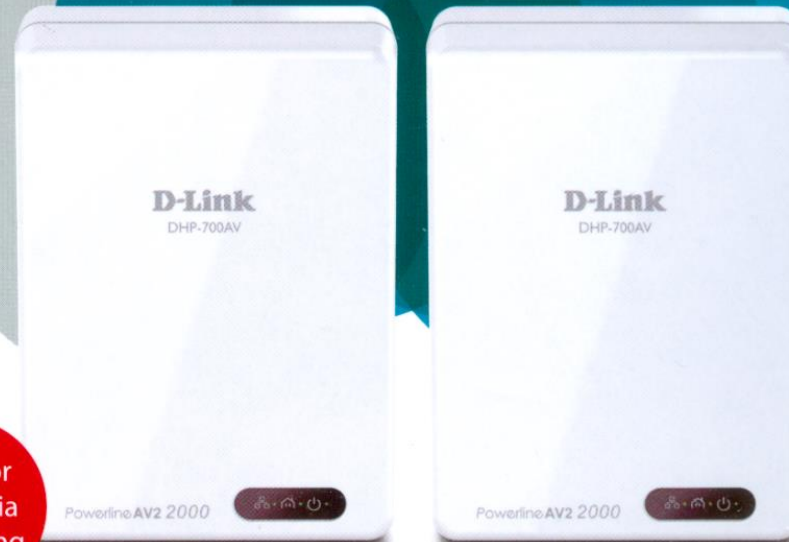
- You can use various wired, wireless, and powerline network technologies to move your Netgear base station closer to your Arlo Webcam(s).

D-Link®

PowerLine AV2 2000 Gigabit Starter Kit

Create a PowerLine network with Gigabit speeds

Ideal for
4K Media
Streaming



Plug-and-Play feature means creating a PowerLine network is simple and easy

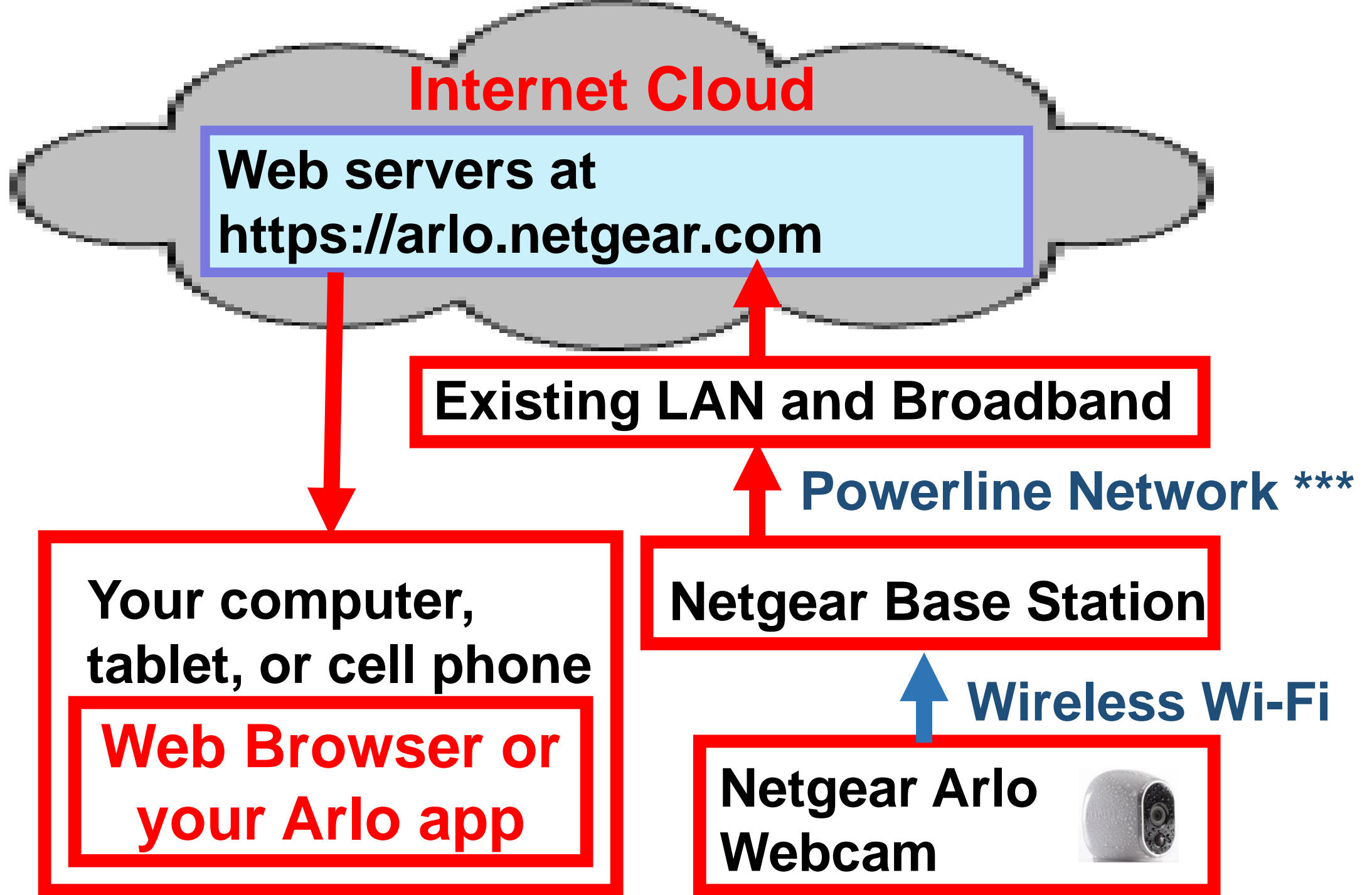


Speeds up to 2000 Mbps¹ using HomePlug AV2 MIMO technology make it ideal for activities like 4K video streaming



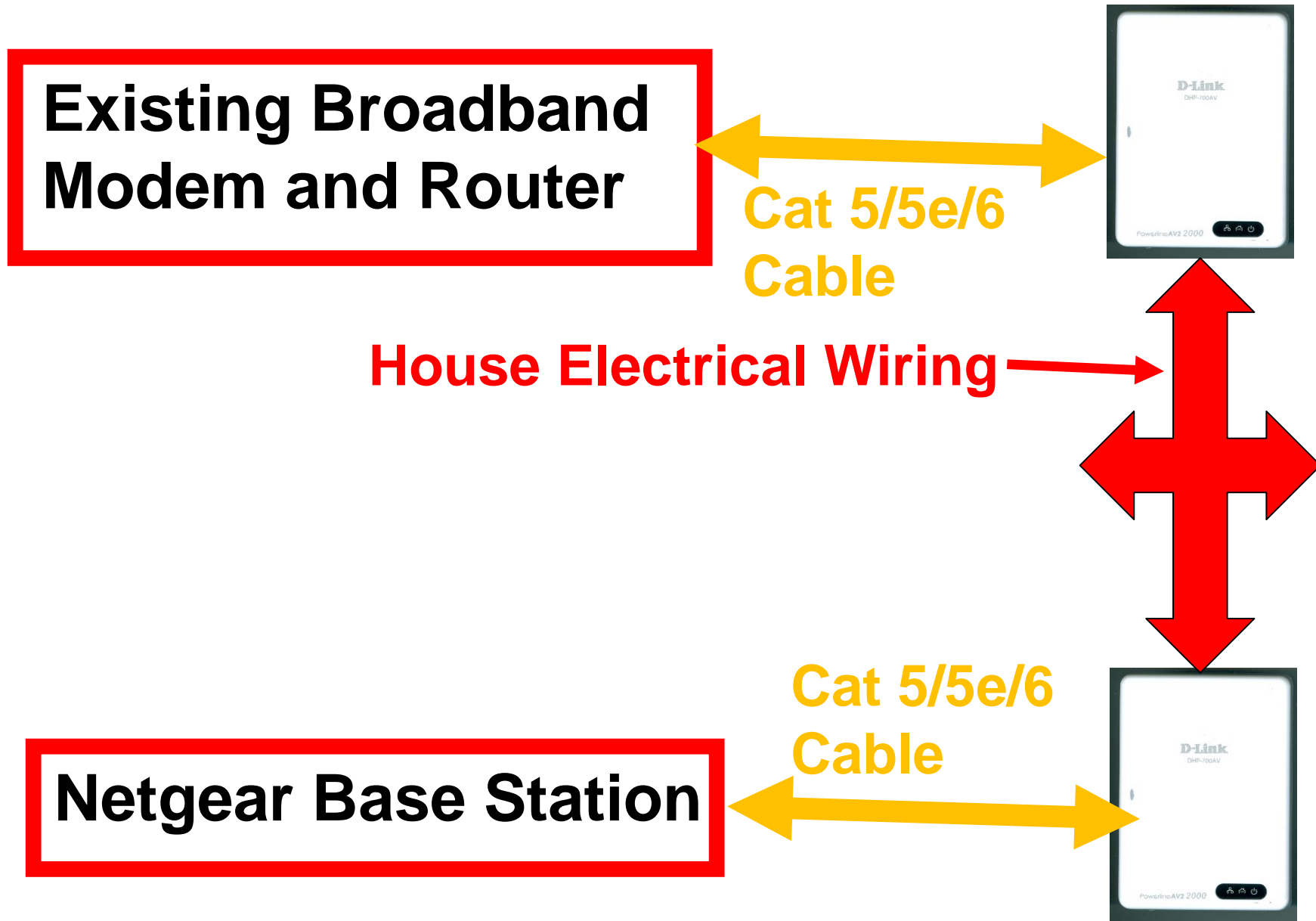
MIMO Technology provides better coverage and more stable network

DHP-701AV



TOTALLY-WIRELESS “ARLO” WEBCAM (continued)

- The use of powerline networking extensions for wired Ethernet that conforms to the "Homeplug AV" "AV2000" standard lets you use existing "live" power cabling (such as existing "Romex") to extend the wired network "reach" of an existing router or cable modem. For a how-to document, see http://aztcs.org/meeting_notes/winhardsig/networks/powerline/powerline.pdf



Questions

Francis Chao

fchao2@yahoo.com

