



Solo 8 Frequently Asked Questions for Resellers

1. What's the main difference between Solo 8 and older HoverCam products?

Solo 8 is a new generation HoverCam fundamentally more advanced than previous models. A key difference is a new UVC processor chipset and electronic imaging components that deliver ultra-high definition video over SuperSpeed USB3.0 and the older USB2.0 standard at 30 frames-per-second (fps). Solo 8's exciting new features and cutting edge controls have never been seen before in a USB document camera. It's the best document camera we have designed and possibly the world's best document camera. The Solo 8 is the only camera that can truly deliver the sensor's full 8MP resolution at 30fps. No compromises. No misleading specs.

2. What makes Solo 8 better than other document cameras?

The Solo 8 is our first document camera built on the HoverCam Photon 1.0 Imaging Engine. A powerful ARM processor serves as the

Solo 8's brain and makes it a highly intelligent small computer; as opposed to a simple imaging device of the past. When coupled with the Flex 10 software, Solo 8 achieves exceptionally high performance. Real time commands, responses and computations take place between the host computer and the Solo 8 to formulate the best video delivery strategy for optimal bandwidth utilization, screen size adaptation, exposure control, focus control, color balancing and other advanced camera control functions. The advanced architecture of the Photon 1.0 Imaging Engine makes the Solo 8 stand out in control, flexibility and maximum performance. It is unlike any document camera.

In addition,

- Solo 8 is the world's first SuperSpeed USB 3.0 document camera.
- Solo 8 is the only document camera below \$3,000 with the amazing clarity of an 8-megapixel (8MP) sensor that delivers uncompressed video images with 4K resolution at 30fps full-motion video.
- Solo 8 takes up significantly less desk space than other document cameras. It is more compact and portable making it more versatile and convenient to use.
- Solo 8 is powered solely by a USB cable, making it easy to hook up and always available to use.
- Solo 8 is twice the performance, twice the capability and about half the price of other document cameras.

3. Why is USB 3.0 better?

USB 3.0 – also known as SuperSpeed USB – increases throughput by a magnitude of 10 times over USB 2.0. USB 3.0 interfaces on most computers reach a maximum throughput of 5.2Gbps, which permits transmission of uncompressed, high quality HD video up to 4K resolution at 30fps. This is an impressive improvement over the theoretical throughput of 480mbps on USB 2.0. The high bandwidth is important because in most cases the USB interface is the bottleneck of video performance. For example, USB cameras can only send a small number of frames (as low as 2 or 3 frames) of uncompressed HD video over USB 2.0. With the USB 3.0 SuperSpeed interface, video performance is significantly enhanced.

Remember, you don't have to have a USB 3.0 computer to benefit from Solo 8. Over USB 2.0 you can expect full-motion video with 8.0 MegaPixel resolution with slight MJPEG compression.

4. Why do I need Solo 8 if I only have USB2.0 ports on my computer?

Solo 8 is designed to deliver high performance over USB 2.0. It delivers compressed MJPEG video at 30fps on most computers with USB 2.0 ports.

5. My computer still runs Windows XP. Can I benefit from using a Solo 8?

Yes, Solo 8 works with older models of PCs as well. On some older PCs the CPU is less powerful so you might experience a slightly lower frame rate.

6. You claim Solo 8 offers 8MP 4K resolution video at 30fps speed. How is that possible?

Every video frame of Solo 8 has 8MP resolution, which is equivalent to 4K resolution. The image is resized in real-time to adapt to the screen's display resolution. True 8MP clarity resolution is being delivered at a 30fps speed. Over USB 3.0, we deliver uncompressed YUV video at 30fps. Over USB2.0, the video is lightly compressed MJPEG at 30fps.

7. What is ASR?

ASR stands for Adaptive Sensor Resolution. It is HoverCam's proprietary patent-pending technology for dynamic scaling and cropping. This technology allows the camera to deliver 8MP images dynamically adapted to the resolution of the user's monitor or output display. Some other manufacturers state their document cameras use a 5MP sensor, yet they only seem to output 720P or 1080i video, which is only 1 megapixel per frame. With the Solo 8, the end-user receives a true 8MP image.

Digital cameras are designed to use a sensor's full resolution for capturing still images, but during video recording the video is scaled or cropped to a lower resolution. For example, high-end SLR cameras report resolutions as high as 20MP or 40MP. However, you can only get the 20MP or 40MP resolution in a still image, not in video. When recording video, you only get 720P or 1080P resolution, which is equivalent to 1MP and 2MP respectively. Other manufacturers' document cameras may have a 5MP sensor, but in reality the video is scaled down to show 720P which is 1MP resolution. The reasons for delivering low resolution video were based on the consideration that display screen sizes are normally much smaller than the maximum sensor resolution, or, the storage devices have limited capacity, or, bandwidth limitation. For document camera consumers, however, the higher sensor reading is meant as window dressing to enhance product specifications, with little or no gain in performance.

HoverCam Solo 8 achieves delivery of true, full 8MP resolution at full-motion speed with no permanent compromise in clarity/resolution. Every frame is captured with 8 million pixels, followed by a frame by frame scaling and cropping process to fit the viewing area of interest to the maximum size of the display area. The Solo 8's 8MP sensor is fully utilized to deliver full resolution for video viewing or recording at any given time.

8. Can I see the difference between the Solo 8 and lower resolution cameras?

We have taken photos using the Solo 8 and other camera brands. In side by side comparisons, we see a noticeable difference. The Solo 8's 8MP image is so clear you can see the details in skin and even the states on a U.S. \$5 bill. Your customers will definitely see the difference.

9. I googled and found a 10MP USB document camera. How does the Solo 8 compare?

The performance of Solo 8 is unequaled by any other USB camera. For other manufacturers, using a sensor with a higher pixel count is straightforward and there are CMOS sensors with 20MP resolution available. However, a camera incorporating a 10MP sensor must have supporting processors and software to deliver high resolution to a host computer. Short of doing so, these manufacturers are either sending less than 1 frame per second, which is unacceptably slow, or, they are reducing clarity to 1MP, which is unacceptable clarity. Only the Solo 8 delivers at the sensor's full 8MP resolution at 30fps. There are no compromises. No short-changing the customer.

10. What's the longest USB 3.0 cable I can use?

We offer an optional 15' USB 3.0 cable. A lot of data must be transmitted over the cable at very high speed, so at this time it's hard to make a SuperSpeed USB 3.0 cable longer than 15'.

11. What if I need a USB cable longer than 15'?

If you need to have a USB cable longer than 15', such as 30', we recommend you purchase our tested 30' extended USB 2.0 cable. The Solo 8 still delivers 30fps video over USB 2.0 with light MJPEG compression.

12. Does the Solo 8 require any external power adapter?

No. The Solo 8 uses less than 5 volts (500mA) of power, which is within the maximum power supply capability of a USB 2.0 port. You only need a USB cable, included free with the product, to power it. No external power adapter is needed.

13. What's mechanical zoom?

The Solo 8's camera head can be raised 50cm above its base to capture a large area. It can also be lowered to 5cm for close up shots. This mechanical movement raising and lowering the camera head is what we meant by mechanical zoom. It is equivalent to 10x optical zoom.

14. What's the different between HoverCam's ASR zoom and digital zoom?

When the term digital zoom is used it usually means pixels are enlarged to give users a bigger but coarser picture. Normally digital zoom is not visually desirable. With some interpolation or smoothing algorithms, digital zoom can be made to appear less pixelated; yet, this is just an attempt to fool your eyes and doesn't replace optical zoom.

HoverCam's ASR zoom is achieved by displaying sections or a full frame of a high-resolution image onto a smaller display screen. There is necessary cropping or scaling; however, there is no pixilation. It stops at the final and original size of each pixel. ASR zoom is an effective replacement for optical zoom because ASR zooms clearly without distortion. This is a significant technological feat and benefit for users.

15. What are the improvements with Flex 10, Solo 8's new software?

Flex 3.0 was based on Adobe Flash technology. While it is a cross platform software – gives users a consistent UI on both Mac and PC computers – it comes with performance loss on newer hardware.

Flex 10, HoverCam's new software, is designed from the ground up as a native application for Windows and Mac. You will notice immediately that the software launches and operates much faster. Flex 10 supports Windows Vista, Windows 7 and Windows 8 and Windows XP. On the Mac, Flex 10 is compatible with OS X 10.7 and later. At this stage (April, 2014), the software is often updated, so be sure to check for updates.

There are numerous improvements and new features in Flex 10, in addition to speed. The main navigation screen has been eliminated so we no longer have tabs representing different modes, "Scan", "Video", "Connect" and "Archive". For the first time ever, USB cameras can take a high-resolution snapshot with a single click while a smaller area runs a live view video. (E.g., taking an 8MP still image while live preview is in a 720P screen area.) You won't need to switch modes to scan anymore.

In Flex 3.0, recording was implemented as a sequence of screen captures which could only capture 7fps. In Flex 10, users can record live video with real time annotation at 30fps. You can also record with reasonable storage efficiency at about 15MB per minute at 720P window size or 25MB per minute at 1080P window size.

We have preserved the important features of Flex 3.0 but redesigned the entire layout to maximize the video display area. We have implemented dynamic, animated UI features to make buttons and settings less intrusive while still easily accessible. Most actions are achieved in one click, including recording.

There are many other new features. We encourage you to try the new Flex 10 and "kick the tires" yourself and send us suggestions.

16. With Flex 10, can you select a focus area?

Yes. This is part of the advanced camera functionality available with the Solo 8. You can click on any area on the screen (or in the viewing frame), and the camera will focus in on that area. This is useful when there are multiple objects with different heights under the camera. You can just click on the object of interest to make it clear.

17. What is "select exposure"?

When there are high contrasts in a scene, the camera by default measures the exposure level by taking the average of the light intensity. Select Exposure lets you select the area you feel is the most important to measure, so you get the right color and brightness for it.

18. Do you have a MSI installer for network deployment?

Yes, the installer for Flex 10 is an MSI installer. You can deploy it over a local network easily.

19. Why are there two USB 3.0 ports on my Solo 8?

One USB 3.0 port is called “*Install*” which is connected to the built-in thumb drive, which contains Flex 10 and other software applications. You plug into this port first to install the software. The second port is the “*Camera*” port. This is the USB connection to use after the software is installed. Technically, we could have designed the product with one USB port on the back, but this would have added significant cost. Since many customers of ours are schools, we felt this was an area where we could keep the cost down.

20. Where can I find the serial number of a Solo 8?

Serial numbers are on stickers on the back of the Solo 8 unit. You can also display the serial number electronically via our Flex 10 software. In the future, you’ll be able to submit a support ticket through Flex 10 software.

21. What’s the Solo 8 warranty?

Solo 8 includes a standard 2-year limited manufacturer’s warranty. When a user registers their warranty, it is extended to 3 years. In the United States, volume purchasers qualify for a free 5-year limited manufacturer’s warranty when you register your opportunities through our Deal Registration Program.

22. How can the VersoBoard help reduce glare?

Glare from glossy surfaces can sometimes interfere with the HoverCam image. This is where the VersoBoard can help. The VersoBoard is a pivoting stage designed especially for HoverCam Solo and our new generation models. The main pivot at the base of the VersoBoard allows rotation for tilting of the stage so that overhead lighting does not directly reflect into the camera lens. Since the Solo 8 can pivot in virtually any direction, the VersoBoard can be paired with it to achieve glare-free images.

23. How long can I record a video with Flex 10 and Solo 8? How much disk space is required?

200GB for 200 hours of 720P video or 400GB for 200 hours of 1080P video at all at 30fps full-motion video. (Note: 1080P at 30fps recording is only possible on newer computers, such as those with Intel Core i5 processors.)

24. Do you have a split-screen feature?

Yes, this feature will be available soon in Flex 10 as an update. Drag a thumbnail image into the video preview main screen and split screen will appear. Or, go to the “Split Screen” button located in the “View” submenu and the split screen will appear with the last captured image automatically.

25. Can I record live video with annotations?

Yes, you can record video while annotating. The intelligent Solo 8 assesses the power of your computer and the resolution of the screen to determine the optimum recording resolution for recording at 30fps. For newer computers, video is recorded at 1080p resolution at 30fps; for average computers, video is recorded at 720p resolution at 30fps; and for older computers video is recorded at lower resolution such as 800 x 600 resolution at 30fps.

26. Can you scan multiple pages of a book or pages of a document into a single PDF?

Yes.

27. Do you support OCR?

Yes. There is a basic version of the Tesseract OCR built into Flex 10. We recommend TopOCR as a low cost but high quality OCR software tool but there are multiple OCR software products on the market, such as ABBYY FineReader. Solo 8 scans more clearly than the Solo 5 with fewer artifacts and works well with OCR programs. A key selling point about Solo 8 for schools is its multifunctional capability including scanning.

28. Can I create a time-lapse video with Solo 8?

Yes. Time-lapsed video and Slow Motion video will be included in future Flex 10 updates. Solo 8 will support these functions. Please stay tuned.

29. Does Solo 8 work with Chromebooks?

We will release a firmware update to make Solo 8 compatible with Chromebooks using our Flex web-based software application. In the meantime, the T3 is compatible with Chromebooks using our web-based software. To try it, please visit www.hovercamflex.com.

30. Does Flex 10 work with older HoverCam models?

We are working on it. Stay tuned.

31. Does Solo 8 work with AirStation?

Using Solo 8 with AirStation is like driving a Ferrari over a gravel road filled with pot-holes. We don't recommend it. Our Ultra model, shipping in August, will have a wireless option. For users of Solo 8 who want the camera image to appear on their iPad, we recommend they hook up Solo 8 to their computer and use the SplashTop app with their iPad or tablet.

32. I like Solo 8, but I need HDMI or VGA. What does HoverCam offer?

Today, we offer the Neo 3, which has VGA and USB outputs. In August, we begin shipping Ultra 12, which includes HDMI, VGA and USB3.0 output. Ultra 12 also includes a 12 megapixel sensor, a preview monitor, on-board storage, and more. Its price is expected to be about 599 USD. Stay tuned for an announcement in July.

33. Why do I need 30fps video? Is it really necessary?

When video is shown at 24fps, motions appear to be smooth. At 30fps, virtually all high action video scenes appear smooth and this is often called Full Motion. Whenever 30fps is achieved, there will be no visible lags in video. 30fps video speed is a highly desirable performance indicator. Your eyes will notice lags when the frame rate is less than 30fps. If you want natural video images, you should demand a document camera with high resolution and 30 fps video.

34. Can I use Solo 8 as an HD webcam?

Yes. Solo 8 is an effective SuperSpeed USB3.0 HD webcam with 4K resolution.