

Image Quality Tips

Before contacting our Help Desk, please check the following most common items we see affecting image quality.

CHECK – Xray/Radiation Generator (tubehead) settings – most Xray tubeheads have settings for digital capture as well as different density, that if not properly set can cause over or under exposure. For example, grainy or bright images can be often resolved by increasing exposure time. Additionally, positioning of tubehead (angle and distance) can impact image quality as well. As always, ensure all equipment is serviced and maintained per manufacturer's instructions.



CHECK - Device Drivers – device drivers from the manufacturer pass the image from the capture device to XV Capture. Sometimes these drivers have settings that can be adjusted prior to the image getting passed to XV Capture. Please refer to your device manufacturer documentation and ensure the raw image quality XV Capture receives from the device driver is setup to their specifications.

CHECK Capture Devices – capture devices should also be inspected for any wear that may prevent device from performing optimally. In the case of PSP Scanners, the scanners should also be regularly inspected – and the phosphor plates require replacement after a certain number of exposures as their quality degrades with use, light exposure, and time. As with the tubehead, capture device placement (angle and distance) is also a factor.

XV Capture has image adjustments called **Post Capture Filters** under the device extension within advanced user tools menu. These filters can be applied to an image as it is passed from the device driver, but prior to saving into XVWeb. **Gamma**, **Sharpen**, **Blur** are the most common adjustments required (see summary of these on page 2).



We strongly recommend that these adjustments are completed with the assistance of our support team in a scheduled appointment with dedicated time and access to the capture workstation(s). Please ensure that some time is set aside for this appointment as these adjustments can require capturing several images for testing and confirmation.

XVWeb has some image enhancement tools for final image as well as the ability for pre-configured adjustments to be toggled by clinician. This is an ideal option for large practices with multiple reading clinicians as it allows flexibility in viewing preferences. Assistance with this Real Time Filter (RTF) can be provided by scheduling a dedicated appointment with our support team. Additional Information can be found [here](#).

For additional information, please see Zendesk entry:
<https://apteryximaging.zendesk.com/hc/en-us/articles/4407896525211-Image-Quality>

Summary of XVCapture Filters

Gamma - Adjusts the greyscale histogram by bending the median values. This helps to retain data while increasing contrast.



Sharpen - Apteryx Imaging uses an 'unsharpen mask' as the algorithm for sharpening an image. This process works by subtracting away the "blur" from the original to detect the presence of edges (effectively a high-pass filter). Contrast is then selectively increased along these edges using this mask, leaving behind a sharper final image.

Blur - This enhancement has the effect of reducing the image's high-frequency components; so a Gaussian blur is thus a low pass filter. Typically, settings can benefit from both a blur and a sharpen filter. This increases apparent edges, while having reduced grain.



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