PQA600A and PQASW
Picture Quality Analyzer

Release Notes

Tektronix

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Release notes

This document supports software versions 4.0 (64-bit) and 3.8 (32-bit) of the PQA software, which can be installed on the following products:

■ PQA600A Picture Quality Analyzer

■ PQA600 Picture Quality Analyzer

■ PQA500 Picture Quality Analyzer

■ PQASW Picture Quality Analyzer

About installing the 64-bit and 32-bit versions of the PQA application software

There are two versions of the PQA application software available in this release:

■ **64-bit (v4.0).** If you have a PQA600A or PQA600 analyzer, use the 64-bit installation files to install version 4.0 of the PQA software on your instrument.

■ **32-bit (v3.8).** If you have a PQA500 analyzer, use the 32-bit installation files to install version 3.8 of the PQA software on your instrument.

If you have a PQASW analyzer, which version of the PQA installation files you will use depends on which version of the Window OS is installed on your PC (64-bit or 32-bit). It is recommended that you install the PQASW software on a 64-bit PC since the 64-bit version of the PQA software includes more features and has better performance.

About invoking the PQA application on a PQA600A or PC with Windows 7

When you invoke the PQA application on a PQA600A or PC running Windows 7, if UAC is enabled, Windows displays a User Account Control dialog box that asks "Do you want to allow the following program from an unknown publisher to make changes to this computer?" The Program name is displayed as PQUI.exe. Answer Yes to the dialog box. This dialog box is a feature of Windows 7 and is a normal response by the operating system.

Clicking No to this dialog may result in the application being unable to save results/custom measures on the machine.

To change UAC prompt settings, go to Control Panel > System and Security > Action Center > Change User Account Control Settings. After changing the UAC setting, restart the system for the updated setting to take effect.

Known issues and behaviors

- Before you install version 4.0 or 3.8 of the PQA application, be sure to uninstall any previous version of the PQA application before you install the new version. If you install the PQA application on top of the previous version, you may encounter the following problems:

  - The wrong version number of the PQA application may appear in the Help About dialog.

  - Improper measurement results caused by the previous measurement settings not being deleted.

  The V4.0/V3.8 installer may ask you to accept to install the WinPcap driver and DESkey driver. You should always accept both installations even if they already exist on the PC.

- Port specific IP capture does not work for multicast streams. You can use the following workarounds:

  - Use the "Inspect All" option and select a stream.

  - Use the "IGMP On" option to show only the filtered streams from a specified multicast address.

- By default, the Available Disk Space readout in the Simultaneous Generate and Capture window shows the available space on drive E, which is the optical drive. Unless you have a writable disc in the optical drive, the Available Disk Space readout will be blank. Drive D is optimized for performance with a RAID configuration. It is recommended that drive D or RAM memory be used for video captures.

  To view the available space on Drive D, click the Browse Disk button, navigate to drive D, enter a file name in the entry box, and then click the Save button. The Available Disk Space readout will now show the available space on drive D.

- The maximum file size that can be captured using IP capture mode is 200 MB. If the PQA is left in recording mode for an input stream that exceeds this data limit, only the last 200 MB will be saved to a file when the user presses the Stop button.

- The Contrast and Brightness settings in the Display Settings dialog box (Configure > Display Settings) might not operate correctly in the Overlay View.

- When reviewing the results of display measures calculated using different frame rates, original images are displayed rather than up-sampled interpolations. This can cause the results map to appear temporally advanced, or delayed by up to half a frame when compared to the lower frame rate sequence.

- In the Overlay View, video sequences with different resolutions are not spatially aligned.

■ The Standalone Attention Model uses the Reference sequence for dual-ended measurements and the Test sequence for single-ended measurements.

■ If the reference and test sequences have different resolutions and the measurement contains the Artifact Detection node but does not contain the View Model node, the system might become unstable. To avoid this situation, Tektronix suggests that when a measurement includes the Artifact Detection node, you ensure that the measurement also includes the View Model node whenever the reference and test sequences have different resolutions.

■ The vertical and horizontal resolution for .rgb and .yuv files must be multiples of 4.

■ If the reference or test file has a "," (comma) character in its file name, the system might become unstable when the measurement result is recalled in review mode. To avoid this, do not use commas in file names.

■ To prevent measurement errors, use the Standard Decoder for SD interlaced video formats.

■ PQA600 and PQA600A: When two channels are selected for signal generation, sometimes the output frames might be misaligned by one frame between the two channels due to a system architectural limitation. If this occurs, restart the generation to realign the two channels.

■ PQA600A: Always use Channel 1 to capture or generate Level B 3G-SDI signals. To capture or generate Level B 3G-SDI signals, first set Channel 2 to "Generate to Output SDI" without entering a file name, and then select Channel 1 for SDI capture/generate. Do not use any capture setting in Channel 2 while you are generating or capturing Level B 3G-SDI signals.

■ PQA600A: Even though the combinations listed below are possible using the UI, these groupings do not fit into the simultaneous capture and generate functionality, since each interface type (SDI or HDMI) has only one input port and only one output port.

  ‐ Capture from the SDI input on Channel 1 and capture from the SDI input on Channel 2.

  ‐ Generate to the SDI output on Channel 1 and generate to the SDI output on Channel 2.

  ‐ Capture from the HDMI input on Channel 1 and capture from the HDMI input on Channel 2.

  ‐ Generate to the HDMI output on Channel 1 and generate to the HDMI output on Channel 2.

■ PQA600A: When the generation and capture functions are enabled simultaneously, the first and the last frames may be repeated in the captured file. In this case, before you start a measurement, you need to make sure that the captured file is temporally aligned to the other file being used in the measurement.

■ PQA600A: The HDMI input will accept HDCP encrypted video signals from a HDMI capable transmitter. However, the HDMI input may not work with a source device using a DVI transmitter.

About spatial and temporal alignment

Automatic spatial and temporal alignment work by calculating the correlation between the reference video sequence and the test video sequence. Video that is still, contains little movement, or consists of simple contents (such as a color bar test pattern signal), can be difficult to align automatically.

If you receive a warning when you attempt an automatic temporal or spatial alignment, try the automatic alignment again starting with another frame that contains more complex contents and movement. You can change the starting frame by changing the From frame setting on the Temporal Sync tab.

Auto temporal alignment only finds one offset for a pair of sequences. If the test sequence contains frozen or skipped frames, the automatic temporal alignment algorithm will not be able to realign the sequences.

Auto alignment can not be selected for Luma Gain and Offset Brightness on the Spatial Alignment tab. However, you can manually set the Luma Gain and Offset Brightness on the Spatial Alignment tab and those settings will be used by the selected measurement. If you want the PQA to align the video sequences for luma automatically, you must select Auto for Luma Gain and Offset Brightness in the View Model configuration node.

About simultaneous generation and capture operation on a PQA600 or PQA600A

The HD-SDI simultaneous generation and capture capability consumes substantial CPU resources and requires sustained high-speed hard disk activity. To avoid missing frames while capturing video or frozen frames while generating video, avoid running other applications when using the simultaneous generation and capture capability.

About viewing HDCP content on a PC monitor connected to the DVI or Display port on a PQA600A

When the PQA application is running, if the PC monitor is disconnected and reconnected, or if the monitor goes into Sleep mode and back, the PQA application may no longer recognize the monitor as being HDCP capable even if it is compliant with HDCP. In this case, click the "Enable HDCP" button to bring back the preview of the HDCP content.

About how to enable HDCP encrypted content reception on a PQA600A

Use the following steps to enable HDCP authentication on a PQA600A:

1. Connect the HDMI cable from the source unit to HDMI input on the PQA600A.

2. Launch the PQA application and click the Generate/Capture button.

3. Configure Channel 1 to "Capture from Input HDMI" and then click the "Autoset" button.

4. Click and hold the "Enable HDCP" button until the HDCP content is shown in the preview pane, and then release the mouse button. The preview will show the video only when the content is detected as "HDCP Content".

About the logical hard disk drive setting on a PQA600A

The PQA600A has two virtual drives (C and D) and one optical drive (E). Drive C is used for the OS. Drive D is optimized for performance and can be used for data storage. Drive D is configured as RAID 0, which provides no data redundancy. Therefore, for recovery purposes, the user should back up all data residing on the PQA600A.

About the logical hard disk drive setting on a PQA600

The PQA600 has three virtual drives: C, E, and F. Drives E and F are optimized for performance. Data can be stored on any of the drives. All drives are configured as RAID 0 (including the C drive). None of the drives provide data redundancy, therefore, for recovery purposes, the user should back up all data residing on the PQA600.

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