

**PQA600B and PQASW
Picture Quality Analyzer
Release Notes**

This document supports software versions 4.1.6 and 3.9.6.

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Release notes

This document supports software versions 4.1.6 (64-bit) and 3.9.6 (32-bit) of the PQA software, which can be installed on the following products:

- PQA600B Picture Quality Analyzer
- 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 (v4.1.X).** If you have a PQA600B, PQA600A, or PQA600 analyzer, use the 64-bit installation files to install version 4.1.X of the PQA software on your instrument.
- **32-bit (v3.9.X).** If you have a PQA500 analyzer, use the 32-bit installation files to install version 3.9.X 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 PQA600B, PQA600A, or PC with Windows 7

When you invoke the PQA application on a PQA600B, 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.

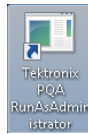
New video format support

Software versions 4.1.6 (64-bit) and 3.9.6 (32-bit) of the PQA software add support for YCbCr 4:2:0 10-bit planar video formats. The YCbCr 4:2:0 10-bit format is supported only for .yuv files created by MTS4EA which are encoded with one of the “two byte LSB/MSB first” options.

New Run As Administrator icon and scripts

When PQA version 4.1.X/3.9.X is installed, the following new “Run As Administrator” icon and scripts are available:

- **PQA RunAsAdministrator icon:** The shortcut icon shown below launches the PQA software and appears on the desktop.



- **PQxmlRunAsAdmin.vbs script:** This script launches the PQxml utility and is installed in the PQA installation folder.
- **TekConverterRunAsAdmin.vbs script:** This script launches the TekConverter utility and is installed in the PQA installation folder.

The new Run As Administrator functionality allows you to run the PQA software or scripts using the standard user login (with no administrator privileges) without being prompted to enter the Administrator’s password each time the PQA software or utilities are run from a standard user account.

Using the Run As Administrator icon and scripts. To use the Run As Administrator icon and scripts, you need to perform the following steps:

1. Make sure that the Secondary Logon service is running.
2. Log into the Administrator account one time by double-clicking the icon and entering the password.
3. Double-click the desired Run As Administrator icon or script.

After the initial Administrator login, the Run As Administrator icon and scripts can be used from any user account without being prompted to enter the Administrator password. After the initial time you run each of these items, you will need to reenter the password only if the Administrator password is changed.

Known issues and behaviors

- The PQA software V4.1.X/V3.9.X installer may ask you to accept the installation of the DESkey driver. You should always accept the installation even if the driver is already installed 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.
- 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.

- PQA600B, PQA600A, and PQA600: 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.
- PQA600B and 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.
- PQA600B and 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.
- PQA600B and 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.
- PQA600B and 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.

Reviewing PQA V3.X measurement result (.csv) files using PQA V4.X

If you want to use PQA software V4.X to view a measurement result (.csv) file created by PQA software V3.X, you need to first manually edit the Output Temporal ROI start and end frame values in the V3.X results file as follows:

- If the “Start Frame” in “Output Temporal ROI” is greater than zero, increase the value of the “Start Frame” by 1.
- If you adjust the “Start Frame” by 1, then also increase the value of the “End Frame” in “Output Temporal ROI” by 1.

If you do not manually adjust the start and end frame values when viewing measurement results using software 4.X that were created by software V3.X, the Output ROI will be wrong by 1 frame.

SWAP action restriction

When you press the SWAP button in the SGAC window with one generate channel using RGB file format and the other generate channel using YUV file format, a couple of black frames may be seen each time you press the SWAP button.

Decoding .3gp streams

Decoding .3gp stream files may result in the created YUV file having the wrong frame rate. If you know the frame rate of the .3gp file, you can work around this problem by selecting the correct frame rate using the Format button.

Simultaneous Generation and Capture

- 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.
- When you simultaneously play an uncompressed video file and capture a video stream using the SDI or HDMI input, the video stream input to the PQA600B or PQA600A must be locked to the video signal output from the PQA600B or PQA600A. Otherwise, the captured file may contain freeze or skip frames.
- In the Simultaneous Generation and Capture window, you may need to manually set the "Clock Selection" setting to "SDI input" to see a proper image of SDI signals in the preview area.
- In the Simultaneous Generation and Capture window of the PQA600B, PQA600A, and PQA600 with Option VID, the "External Reference" setting in the "Clock Selection" drop-down list has no effect and is ignored by the PQA software.

On PQA600 instruments with Option SDI, the "External Reference" setting is fully functional.

About full reference measurements with interlaced video content

Interlaced video content can be measured accurately only when the Reference and Test video both have interlaced video content and spatial alignment is not needed to be set differently from the default scale and shift.

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 viewing HDCP content on a PC monitor connected to the DVI or Display port on a PQA600B or 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 PQA600B or PQA600A

Use the following steps to enable HDCP authentication on a PQA600B or PQA600A:

1. Connect the HDMI cable from the source unit to HDMI input on the PQA600B or 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 PQA600B or PQA600A

The PQA600B and PQA600A have 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 PQA600B or 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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