

# Technical Reference



## **PQA500 Picture Quality Analyzer Specifications and Performance Verification**

**077-2264-00**

This document applies to firmware version 1.0 and above.

### **Warning**

The servicing instructions are for use by qualified personnel only. To avoid personal injury, do not perform any servicing unless you are qualified to do so. Refer to all safety summaries prior to performing service.

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# General Safety Summary

Review the following safety precautions to avoid injury and prevent damage to this product or any products connected to it.

To avoid potential hazards, use this product only as specified.

*Only qualified personnel should perform service procedures.*

While using this product, you may need to access other parts of a larger system. Read the safety sections of the other component manuals for warnings and cautions related to operating the system.

## To Avoid Fire or Personal Injury

**Use Proper Power Cord.** Use only the power cord specified for this product and certified for the country of use.

**Ground the Product.** This product is grounded through the grounding conductor of the power cord. To avoid electric shock, the grounding conductor must be connected to earth ground. Before making connections to the input or output terminals of the product, ensure that the product is properly grounded.

**Observe All Terminal Ratings.** To avoid fire or shock hazard, observe all ratings and markings on the product. Consult the product manual for further ratings information before making connections to the product.

**Power Disconnect.** The power cord disconnects the product from the power source. Do not block the power cord; it must remain accessible to the user at all times.

**Do Not Operate Without Covers.** Do not operate this product with covers or panels removed.

**Do Not Operate With Suspected Failures.** If you suspect there is damage to this product, have it inspected by qualified service personnel.

**Avoid Exposed Circuitry.** Do not touch exposed connections and components when power is present.

**Replace Batteries Properly.** Replace batteries only with the specified type and rating.

**Use Proper Fuse.** Use only the fuse type and rating specified for this product.

**Wear Eye Protection.** Wear eye protection if exposure to high-intensity rays or laser radiation exists.

**Do Not Operate in Wet/Damp Conditions.**

**Do Not Operate in an Explosive Atmosphere.**

**Keep Product Surfaces Clean and Dry.**

**Provide Proper Ventilation.** Refer to the manual's installation instructions for details on installing the product so it has proper ventilation.

**Terms in this Manual**

These terms may appear in this manual:



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**WARNING.** *Warning statements identify conditions or practices that could result in injury or loss of life.*

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**CAUTION.** *Caution statements identify conditions or practices that could result in damage to this product or other property.*

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**Symbols and Terms on the Product**

These terms may appear on the product:

- DANGER indicates an injury hazard immediately accessible as you read the marking.
- WARNING indicates an injury hazard not immediately accessible as you read the marking.
- CAUTION indicates a hazard to property including the product.

The following symbol(s) may appear on the product:



# Service Safety Summary

Only qualified personnel should perform service procedures. Read this *Service Safety Summary* and the *General Safety Summary* before performing any service procedures.

**Do Not Service Alone.** Do not perform internal service or adjustments of this product unless another person capable of rendering first aid and resuscitation is present.

**Disconnect Power.** To avoid electric shock, switch off the instrument power, then disconnect the power cord from the mains power.

**Use Care When Servicing With Power On.** Dangerous voltages or currents may exist in this product. Disconnect power, remove battery (if applicable), and disconnect test leads before removing protective panels, soldering, or replacing components.

To avoid electric shock, do not touch exposed connections.





# Preface

This document provides the specifications and performance verification procedure for the PQA500 Picture Quality Analyzer.

## Related Documentation

- *PQA500 Picture Quality Analysis System Quick Start User Manual* (English), Tektronix part number 071-2256-XX
- *PQA500 Picture Quality Analysis System Release Notes*, Tektronix part number 071-2259-XX
- *PQA500 Picture Quality Analysis System User Technical Reference*, Tektronix part number 071-2263-XX
- *PQA500 Picture Quality Analysis System Measurement Technical Reference*, Tektronix part number 071-2260-XX
- *PQA500 Picture Quality Analysis System Specification and Performance Verification Manual*, Tektronix part number 071-2264-XX
- *PQA500 Picture Quality Analysis System Measurement Declassification and Security Instructions*, Tektronix part number 071-2266-XX



# Specifications

## Performance Conditions

The Performance Requirements are valid if the instrument has been adjusted at approximately 25 °C, is being operated within environmental limits (see Table 2), and has had a minimum warm-up of 20 minutes.

## General Characteristics

**Table 1: Power supply**

Characteristic	Performance requirements	Supplemental information
Line Voltage Range	90 V - 264 V, single phase	
Power Consumption, Nominal	450 Watts	

**Table 2: Environmental characteristics**

Characteristic	Information	Supplemental information
Temperature, Operating	+10 °C to +35 °C (+50 °F to +95 °F)	Rate of temperature change not to exceed 10 °C per hr
Temperature, Non-operating	-40 °C to +70 °C (-40 °F to +158 °F)	
Humidity Operating Non-operating	Not specified Up to 90% RH, non-condensing, at +28 °C	
Shock Operating Non-operating	2 g peak, half-sine, 11 ms 25 g, trapezoidal, velocity change 136 in/sec	
Shock, Transit Package	Non-palletized free fall from 24 in	
Vibration	2.20 g RMS, 5 Hz to 500 Hz, random	
System Cooling Requirement	1826 BTU/hr	



# Performance Verification

Use the Platform Confidence Test, supplied by Intel, to determine if your PQA500 is correctly assembled and functioning correctly. Three test suites are supplied: a quick test, a comprehensive test and a continuous loop of the comprehensive test. You do not need to intervene in the test process.

At the start of each test, the Platform Confidence Test package interrogates the hardware present and reports the identified components. The test will indirectly identify many assembly and cabling errors, such as broken or improperly seated cables, because the associated hardware component will not be found.

Upon completion of the test, the results are saved to the file result.log. You can open and view the results log file with a text viewer.

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**NOTE.** Before performing any of the procedures and tests in this manual, the instrument must have been operating for a warm-up period of at least 20 minutes and must be operating at an ambient temperature as listed in Table 2 on page 1.

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**Table 3: Required test equipment**

Test equipment	Requirements	Example
PC	Network connected, with CD-ROM burner	Standard equipment
CD-ROM Burning software	Capable of burning ISO file to a CD-ROM	Nero, EasyCD Creator, ISO Recorder Power Toy, or other
Blank CD-ROM	Writable CD-ROM	Standard equipment

## Performance Verification Process

The performance verification process includes the downloading of the test suite from the Intel Web site to your PC. The downloaded zip file contains an ISO format file. The ISO file contains the test files in a directory structure.

You must extract the ISO file and, using your CD-ROM creation utility, create a CD-ROM. You then use the CD-ROM to reboot and test the PQA500 unit.

### Download the Platform Confidence Test

1. Use a network browser to go to the Intel Web site, [www.intel.com](http://www.intel.com). With the cursor hovering over the Support & Downloads menu item, select **Download Center**.
2. In the Download Center, search for S5000\_PCT. This is a Platform Confidence Test utility for DOS.
3. Download the Platform Confidence Test by clicking on one of the **Platform Confidence Test (PCT) Utility for DOS** links as shown in Figure 1, and then click the **Download** link in the following dialog window. Save the file to a convenient directory.

You may need to turn off any pop-up blockers and, if you are using Internet Explorer as your browser, you may need to defeat its download blocker before the download will start. Follow your browser instruction messages to enable file downloading.

4. Unzip the file to access the ISO image.

### Create the Platform Confidence Test CD-ROM

5. Use the ISO image file, and your preferred CD-ROM creation software, to create a bootable CD-ROM that contains the PCT. Simply copying the file to the CD-ROM will not work.
6. Connect a keyboard and monitor to your PQA500.
7. If the front panel is installed, remove it to access the CD-ROM drive.
8. Insert the PCT CD-ROM, created in step 5, into the CD-ROM drive.
9. Reboot the unit from the CD-ROM by powering it off followed by powering it on.
10. Follow the on-screen instructions.

On completion of the tests, remove the CD-ROM and replace the front panel.

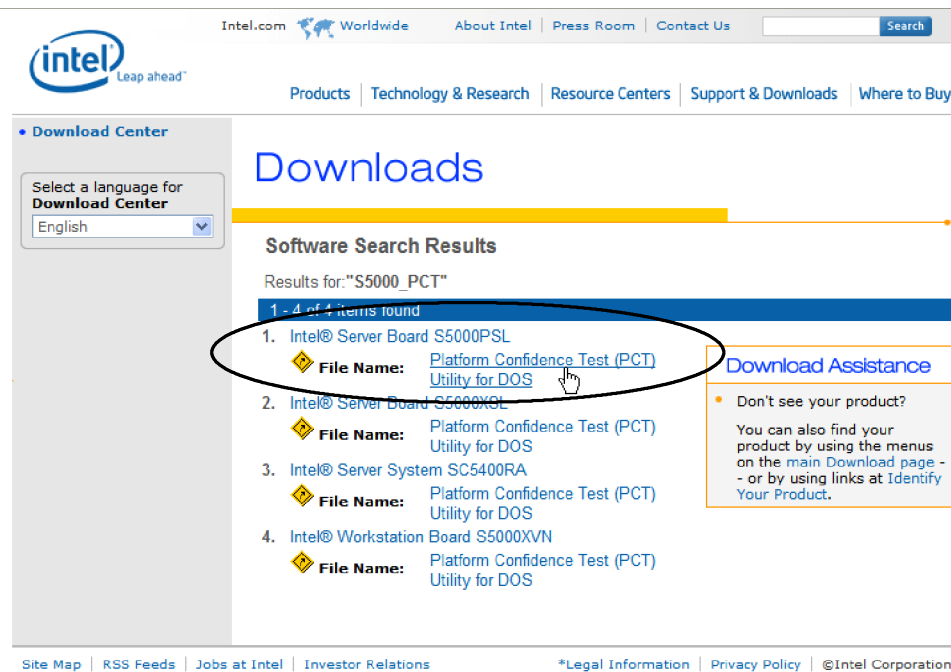


Figure 1: Download the Platform Confidence Test Utility for DOS

