

48GB  
GDDR6

AMD  
RDNA 3

AMD



# AMD RADEON™ PRO W7900

FOR EXTREME WORKLOADS

CREATE. VISUALIZE. INSPIRE.



1.5x

More Memory<sup>1</sup>  
than Radeon™ PRO W6800



3x

Max Total Data Rate<sup>2</sup>  
of DisplayPort™ 2.1



SPECviewperf® Geomean (up to)

1.5x

More Performance<sup>3</sup>  
than Radeon™ PRO W6800

**Larger** 3D models  
**Efficient** multitasking  
**Heavier** RAW media

**Industry-leading**  
**Radiant** colors  
**Huge** displays

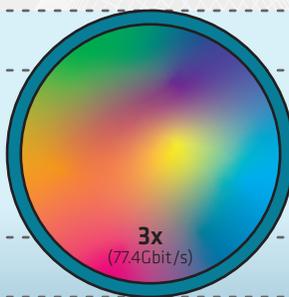
**Dense** geometry  
**Fluid** viewports  
**Complex** datasets

## AMD RADIANCE DISPLAY™ ENGINE

First Workstation Graphics with DisplayPort™ 2.1



1x  
(25.9Gbit/s)



3x  
(77.4Gbit/s)

DisplayPort™ 1.4a

DisplayPort™ 2.1

High Frame Rate

8K60 w/ DSC

8K120 w/ DSC

Accurate Color

8K60 Compressed

8K60 Uncompressed

Larger Resolutions

8K60 w/ DSC

12K120 w/ DSC

## Key Features

- 48GB GDDR6 Memory with ECC Support
- **NEW** Efficient Chiplet Design
- 2x AI Accelerators per Compute Unit
- 2nd Generation Ray Tracing
- 2x Simultaneous Encode/Decode Streams
- AV1 Encode (**NEW**) & Decode<sup>4</sup>
- **NEW** AI Enhanced Video Encode
- **NEW** AMD Radiance Display™ Engine
- DisplayPort™ 2.1 with up to 77.4 Gbit/s
- Up to 12K120 display support
- Support for next-gen displays

AMD  
RADEON  
PRO W7900

# TECHNICAL SPECIFICATIONS

GPU Architecture	AMD RDNA™ 3
Graphics Memory	48 GB GDDR6
Memory Interface	384-bit
Memory Bandwidth	864 GB/s
Error Correcting Code (ECC)	Yes
Peak Single-Precision Performance	61.32 Tflops
Ray Accelerators	96
PCI Express® Support	4.0 Ready (x16) with 3.0 Backward Compatibility
Total Board Power	295 W
Cooling	Active
Board Form Factor	11" (280 mm), Triple Slot, Full Height
Display Connectors	DisplayPort™: 3x DP 2.1 & 1x Enhanced Mini DP 2.1
Display Configuration	<ul style="list-style-type: none"> <li>- 4x 4096 x 2160 (4K DCI) @ 120Hz with DSC</li> <li>- 2x 6144 x 3456 (6K) 12-bit HDR @ 60Hz Uncompressed</li> <li>- 1x 7680 x 4320 (8K) 12-bit HDR @ 60Hz Uncompressed</li> <li>- 1x 12288 x 6912 (12K) @ 120Hz with DSC</li> </ul>
Power Connectors	2x8-Pin Power Connectors
Supported Rendering Formats <sup>4</sup>	<ul style="list-style-type: none"> <li>- 2x Encode (H265/HEVC, 4K H264)</li> <li>- 2x Decode (H265/HEVC, 4K H264)</li> <li>- 1x Encode &amp; Decode (AV1)</li> </ul>
VR and Realtime Ready	Yes
Supported Technologies	<ul style="list-style-type: none"> <li>- AMD Remote<sup>5</sup> Workstation</li> <li>- AMD Radeon™ Media Engine</li> <li>- AMD Software: PRO Edition</li> <li>- AMD Radeon™ VR Ready Creator</li> <li>- AMD EyefinityTechnology<sup>6</sup> (Professionals)</li> </ul>
Supported APIs	<ul style="list-style-type: none"> <li>- DirectX®: 12.0 Ultimate</li> <li>- OpenCL™: 2.0</li> <li>- OpenGL®: 4.6</li> <li>- Vulkan®: 1.3.2xx</li> </ul>
Supported Operating Systems	<ul style="list-style-type: none"> <li>- Windows 11 - 64-Bit Edition</li> <li>- Windows 10 - 64-Bit Edition</li> <li>- Linux x86_64</li> </ul>

<sup>1</sup> The AMD Radeon™ PRO W7900 graphics powered by the RDNA™ 3 architecture offers memory size of 48 GB GDDR6, AMD Radeon™ PRO W6800 graphics offers memory size of 32 GB GDDR6. RPW-411

<sup>2</sup> The AMD Radeon™ PRO W7900 and the AMD Radeon™ PRO W7800 graphics card have DisplayPort™ 2.1 with up to 77.4Gbit/s is a 3x higher maximum total data rate vs. DisplayPort 1.4a with up to 25.9Gbit/s on the Nvidia® RTX® 6000 Ada and Nvidia® RTX® A6000. RPW-412a

<sup>3</sup> Testing as of February 16, 2023 by AMD Performance Labs on a test system comprised of an AMD Ryzen Threadripper PRO 5975WX, 64GB DDR4-2133MHz RAM, Windows® 11 Pro build 22621, 64-bit, AMD Radeon™ PRO Software 31.0.14001.45012 with AMD Radeon™ PRO W7900, W7800 vs. similarly configured system with Nvidia Driver 531.18 with Nvidia RTX 6000 (Ada), RTX A6000 at 1920x1080 display resolution. Benchmark Application: SPECviewperf 2020 V3.1 - 4K Geomean. Results may vary. RPW-425

<sup>4</sup> GD-176: Video codec acceleration (including at least the HEVC (H.265), H.264, VP9, and AV1 codecs) is subject to and not operable without inclusion/installation of compatible media players. GD-176

<sup>5</sup> Learn more at [www.amd.com/en/technologies/remote-workstation](http://www.amd.com/en/technologies/remote-workstation)

<sup>6</sup> Learn more at [www.amd.com/en/technologies/eyefinity-professionals](http://www.amd.com/en/technologies/eyefinity-professionals)

The information contained herein is for informational purposes only and is subject to change without notice. While every precaution has been taken in the preparation of this document, it may contain technical inaccuracies, omissions and typographical errors, and AMD is under no obligation to update or otherwise correct this information. Advanced Micro Devices, Inc. makes no representations or warranties with respect to the accuracy or completeness of the contents of this document, and assumes no liability of any kind, including the implied warranties of noninfringement, merchantability or fitness for particular purposes, with respect to the operation or use of AMD hardware, software or other products described herein. No license, including implied or arising by estoppel, to any intellectual property rights is granted by this document. Terms and limitations applicable to the purchase or use of AMD's products are as set forth in a signed agreement between the parties or in AMD's Standard Terms and Conditions of Sale. GD-18

© 2023 Advanced Micro Devices, Inc. All rights reserved. AMD, the AMD Arrow logo, AMD RDNA, Radeon, Ryzen, Threadripper, and combinations thereof are trademarks of Advanced Micro Devices, Inc. SPEC®, SPECviewperf®, and

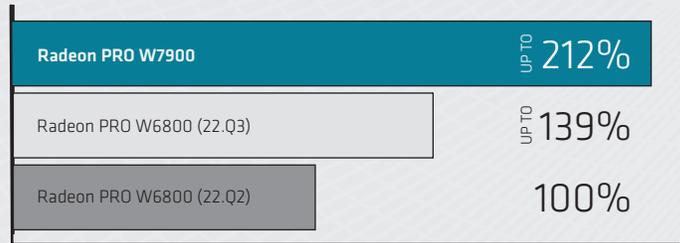
SPECapc® are trademarks or registered trademarks of Standard Performance Evaluation Corporation (SPEC). Learn more at [www.spec.org](http://www.spec.org). only and may be trademarks of their respective owners.

# PERFORMANCE



## Generational Performance

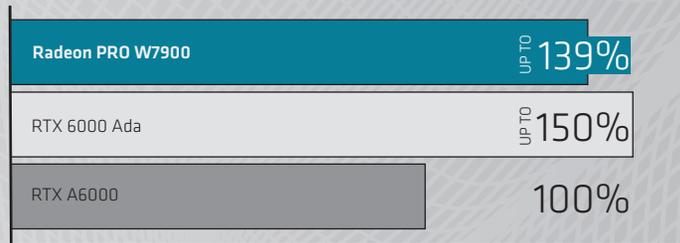
(SPECviewperf® 2020, Relative to Radeon PRO W6800, Higher is Better)



Testing as of February 16, 2023 by AMD Performance Labs on a test system comprised of an AMD Ryzen Threadripper PRO 5975WX, 64GB DDR4-2133MHz RAM, Windows® 11 Pro build 22621, 64-bit, AMD Radeon™ PRO Software 31.0.14001.45012 with AMD Radeon™ PRO W7900, vs. a system comprised of an AMD Ryzen Threadripper PRO 5945WX, 64GB DDR4-3200MHz RAM, Windows® 10 Pro build 19044, 64-bit, AMD Radeon™ PRO Drivers 22.Q2 and 22.Q3 with AMD Radeon™ PRO W6800 at 1920x1080 display resolution. Benchmark Application: SPECviewperf 2020 V3.1 (Geomean across 3dsmax-07, catia-6, creo-03, energy-03, maya-06, medical-03, snx-04, solidworks-07). Results may vary. RPW-427

## SPECviewperf® 2020 Geomean

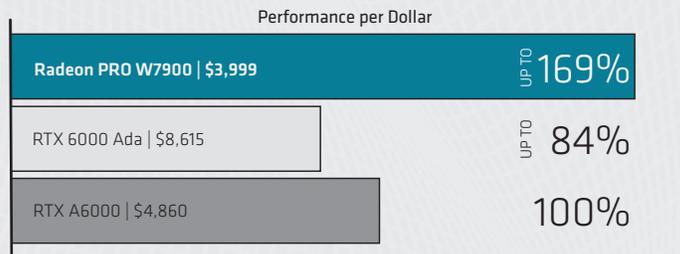
(Relative to RTX A6000, Higher is Better)



Testing as of February 16, 2023 by AMD Performance Labs on a test system comprised of an AMD Ryzen Threadripper PRO 5975WX, 64GB DDR4-2133MHz RAM, Windows® 11 Pro build 22621, 64-bit, AMD Radeon™ PRO Software 31.0.14001.45012 with AMD Radeon™ PRO W7900, W7800 vs. similarly configured system with Nvidia Driver 531.18 with Nvidia RTX 6000 (Ada), RTX A6000 at 1920x1080 display resolution. Benchmark Application: SPECviewperf 2020 V3.1 (Geomean across 3dsmax-07, catia-6, creo-03, energy-03, maya-06, medical-03, snx-04, solidworks-07). Results may vary. RPW-414

## Price Performance Leadership

(SPECviewperf®. Relative to RTX A6000, Higher is Better)



Testing as of February 16, 2023 by AMD Performance Labs on a test system comprised of an AMD Ryzen Threadripper PRO 5975WX, 64GB DDR4-2133MHz RAM, Windows® 11 Pro build 22621, 64-bit, AMD Radeon™ PRO Software 31.0.14001.45012 with AMD Radeon™ PRO W7900, W7800 vs. similarly configured system with Nvidia Driver 531.18 with Nvidia RTX 6000 (Ada), RTX A6000 at 1920x1080 display resolution. Benchmark Application: SPECviewperf 2020 V3.1 (Geomean across 3dsmax-07, catia-6, creo-03, energy-03, maya-06, medical-03, snx-04, solidworks-07). Results may vary. RPW-415. CDW USD e-tail pricing for individual NVIDIA GPUs as of March 27, 2023. AMD USD is suggested e-tail pricing (SEP) as of April 13, 2023. RPW-409c