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3970x deccy

AMD Ryzen Threadripper 3970X 32-Core testing with a ASUS ROG ZENITH II EXTREME (1603 BIOS) and AMD Radeon RX 5700 8GB on Ubuntu 22.04 via the Phoronix Test Suite.

Automated Executive Summary

a had the most wins, coming in first place for 35% of the tests.

Based on the geometric mean of all complete results, the fastest (b) was 1.043x the speed of the slowest (c). a was 0.998x the speed of b, d was 0.984x the speed of a, c was 0.977x the speed of d.

The results with the greatest spread from best to worst included:

Stargate Digital Audio Workstation (Sample Rate: 96000 - Buffer Size: 1024) at 1.812x
Stargate Digital Audio Workstation (Sample Rate: 192000 - Buffer Size: 1024) at 1.652x
Stargate Digital Audio Workstation (Sample Rate: 480000 - Buffer Size: 1024) at 1.16x
SVT-AV1 (Encoder Mode: Preset 12 - Input: Bosphorus 1080p) at 1.076x
Stargate Digital Audio Workstation (Sample Rate: 44100 - Buffer Size: 1024) at 1.049x
SVT-AV1 (Encoder Mode: Preset 12 - Input: Bosphorus 4K) at 1.032x
SVT-AV1 (Encoder Mode: Preset 8 - Input: Bosphorus 1080p) at 1.03x
rav1e (Speed: 10) at 1.028x
SVT-AV1 (Encoder Mode: Preset 13 - Input: Bosphorus 1080p) at 1.028x

SVT-AV1 (Encoder Mode: Preset 13 - Input: Bosphorus 4K) at 1.027x.

Test Systems:

a

b

c

d

Processor: AMD Ryzen Threadripper 3970X 32-Core @ 3.70GHz (32 Cores / 64 Threads), Motherboard: ASUS ROG ZENITH II EXTREME (1603 BIOS), Chipset: AMD Starship/Matisse, Memory: 64GB, Disk: Samsung SSD 980 PRO 500GB, Graphics: AMD Radeon RX 5700 8GB (1750/875MHz), Audio: AMD Navi 10 HDMI Audio, Monitor: ASUS VP28U, Network: Aquantia AQC107 NBase-T/IEEE + Intel I211 + Intel Wi-Fi 6 AX200

OS: Ubuntu 22.04, Kernel: 5.19.0-051900rc7-generic (x86_64), Desktop: GNOME Shell 42.2, Display Server: X Server + Wayland, OpenGL: 4.6 Mesa 22.0.1 (LLVM 13.0.1 DRM 3.47), Vulkan: 1.2.204, Compiler: GCC 11.2.0, File-System: ext4, Screen Resolution: 3840x2160

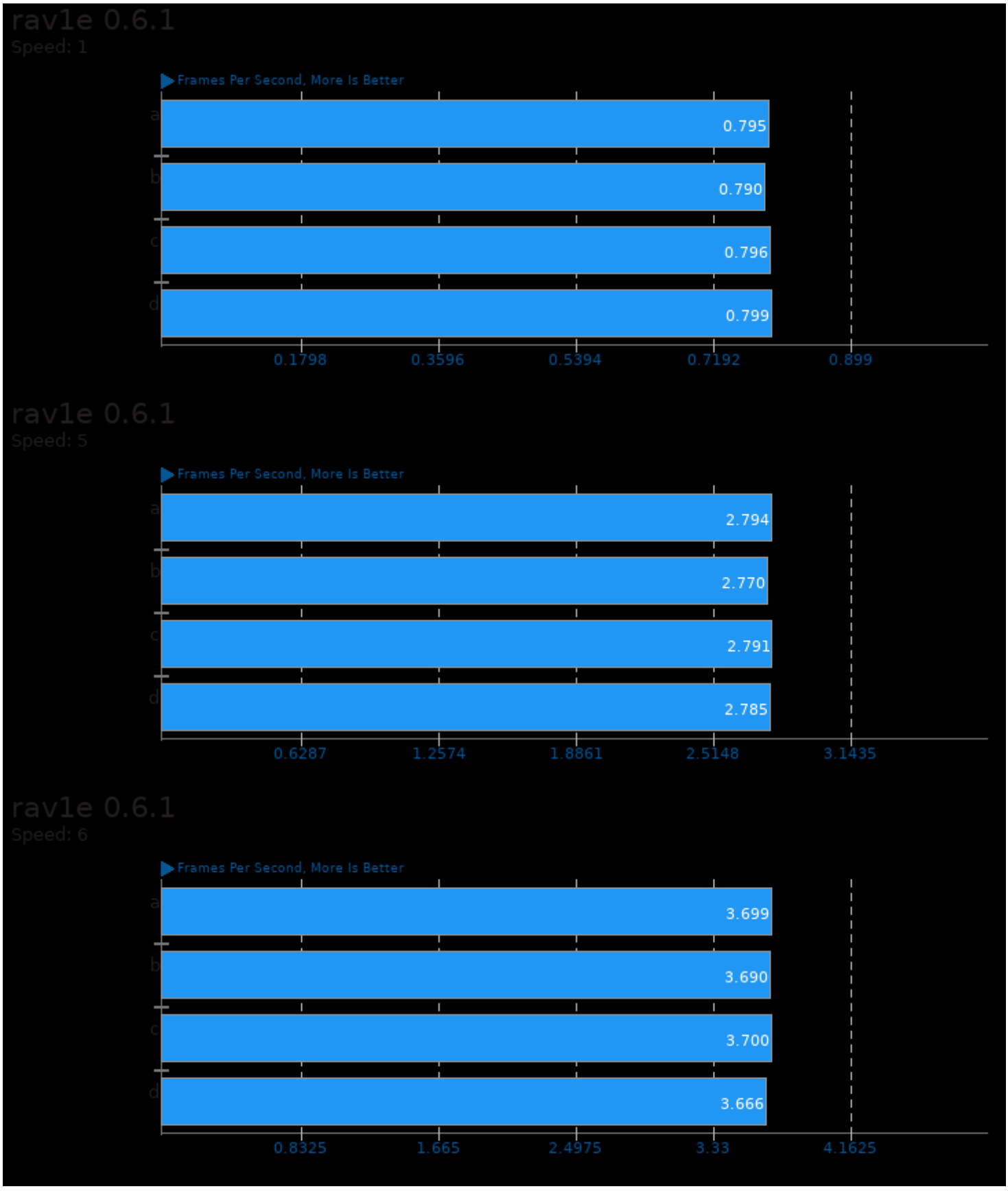
Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-cet --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-serialization=2 --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-11-gBFGDP/gcc-11-11.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-11-gBFGDP/gcc-11-11.2.0/debian/tmp-gcn/usr --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: acpi-cpufreq schedutil (Boost: Enabled) - CPU Microcode: 0x830104d
Python Notes: Python 3.10.4
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio_stale_data: Not affected + retbleed: Mitigation of untrained return thunk; SMT enabled with STIBP protection + spec_store_bypass: Mitigation of SSB disabled via prctl + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Retpolines IBPB: conditional STIBP: always-on RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	a	b	c	d
rav1e - 1 (FPS)	0.795	**0.79**	0.796	**0.799**
Normalized	99.5%	98.87%	99.62%	100%
rav1e - 5 (FPS)	**2.794**	**2.77**	2.791	2.785
Normalized	100%	99.14%	99.89%	99.68%
rav1e - 6 (FPS)	3.699	3.69	**3.7**	**3.666**
Normalized	99.97%	99.73%	100%	99.08%
rav1e - 10 (FPS)	8.188	**8.07**	8.216	**8.295**
Normalized	98.71%	97.29%	99.05%	100%

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SVT-AV1 - Preset 4 - Bosphorus 4K (FPS)	3.791	3.763	3.762	3.773
Normalized	100%	99.26%	99.24%	99.53%
SVT-AV1 - Preset 8 - Bosphorus 4K (FPS)	62.508	63.704	62.777	63.072
Normalized	98.12%	100%	98.54%	99.01%
SVT-AV1 - Preset 12 - Bosphorus 4K (FPS)	185.455	180.178	185.906	180.346
Normalized	99.76%	96.92%	100%	97.01%
SVT-AV1 - Preset 13 - Bosphorus 4K (FPS)	148.303	145.614	144.381	145.252
Normalized	100%	98.19%	97.36%	97.94%
SVT-AV1 - Preset 4 - Bosphorus 1080p (FPS)	8.141	8.082	8.107	8.186
Normalized	99.45%	98.73%	99.03%	100%
SVT-AV1 - Preset 8 - Bosphorus 1080p (FPS)	111.892	111.356	111.532	108.638
Normalized	100%	99.52%	99.68%	97.09%
SVT-AV1 - Preset 12 - Bosphorus 1080p (FPS)	427.042	396.705	411.582	408.074
Normalized	100%	92.9%	96.38%	95.56%
SVT-AV1 - Preset 13 - Bosphorus 1080p (FPS)	376.197	376.817	366.967	377.172
Normalized	99.74%	99.91%	97.29%	100%
Stargate Digital Audio Workstation - 44100 - 512 (Render Ratio)	2.889499	2.909048	2.869382	2.864575
Normalized	99.33%	100%	98.64%	98.47%
Stargate Digital Audio Workstation - 96000 - 512 (Render Ratio)	2.122553	2.11644	2.102815	2.114841
Normalized	100%	99.71%	99.07%	99.64%
Stargate Digital Audio Workstation - 192000 - 512 (Render Ratio)	1.401661	1.404591	1.424888	1.420966
Normalized	98.37%	98.58%	100%	99.72%
Stargate Digital Audio Workstation - 44100 - 1024 (Render Ratio)	5.523473	5.484096	5.264623	5.501396
Normalized	100%	99.29%	95.31%	99.6%
Stargate Digital Audio Workstation - 480000 - 512 (Render Ratio)	2.893474	2.95242	2.902825	2.958162
Normalized	97.81%	99.81%	98.13%	100%
Stargate Digital Audio Workstation - 96000 - 1024 (Render Ratio)	4.089141	4.096848	2.346943	2.260796
Normalized	99.81%	100%	57.29%	55.18%
Stargate Digital Audio Workstation - 192000 - 1024 (Render Ratio)	1.556122	1.848434	1.583738	2.570861
Normalized	60.53%	71.9%	61.6%	100%
Stargate Digital Audio Workstation - 480000 - 1024 (Render Ratio)	5.572023	5.575692	4.953899	4.807218
Normalized	99.93%	100%	88.85%	86.22%

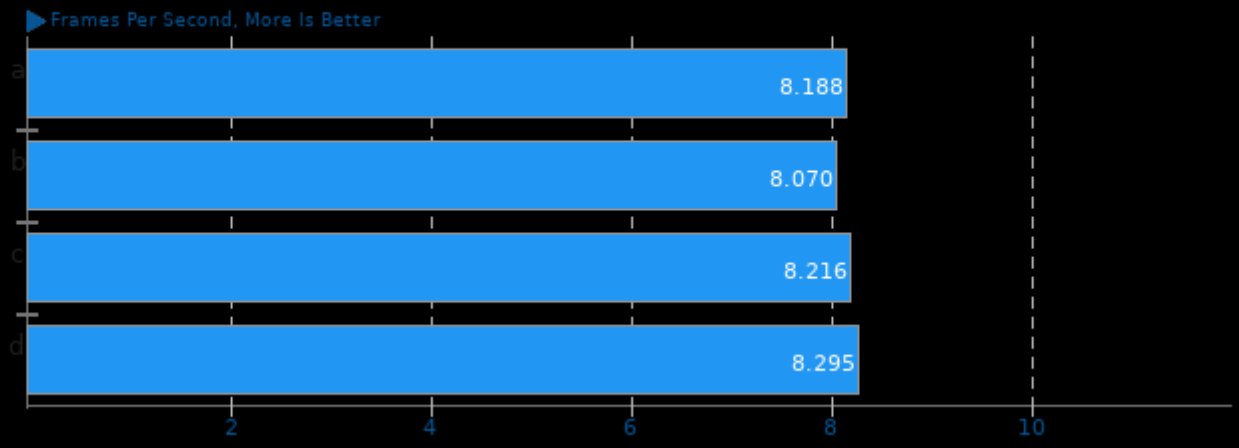
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rav1e 0.6.1
Speed: 1
Frames Per Second, More Is Better
a
b
c
d
0.795
0.790
0.796
0.799
0.1798
0.3596
0.5394
0.7192
0.899
rav1e 0.6.1
Speed: 5
Frames Per Second, More Is Better
a
b
c
d
2.794
2.770
2.791
2.785
0.6287
1.2574
1.8861
2.5148
3.1435
rav1e 0.6.1
Speed: 6
Frames Per Second, More Is Better
a
b
c
d
3.699
3.690
3.700
3.666
0.8325
1.665
2.4975
3.33
4.1625

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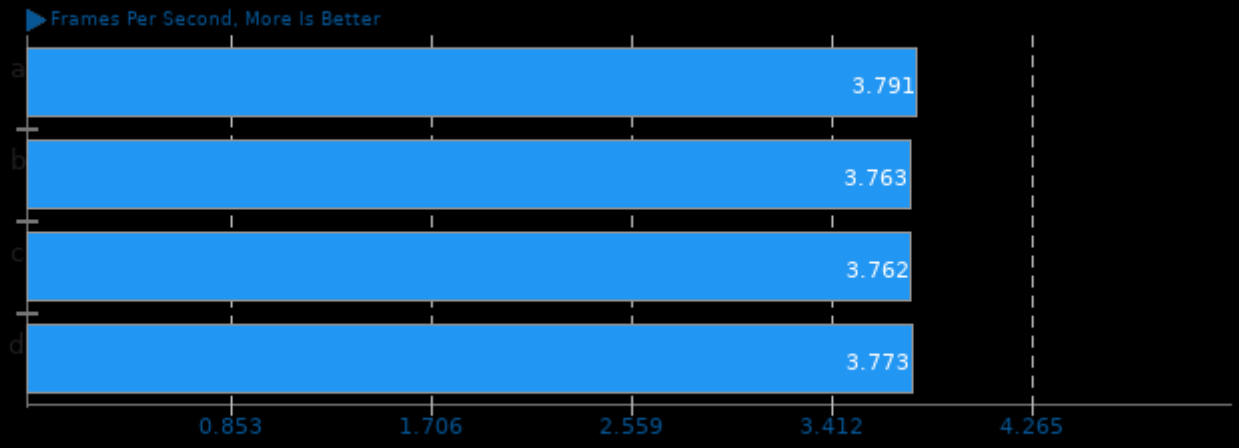
rav1e 0.6.1

Speed: 10



SVT-AV1 1.4

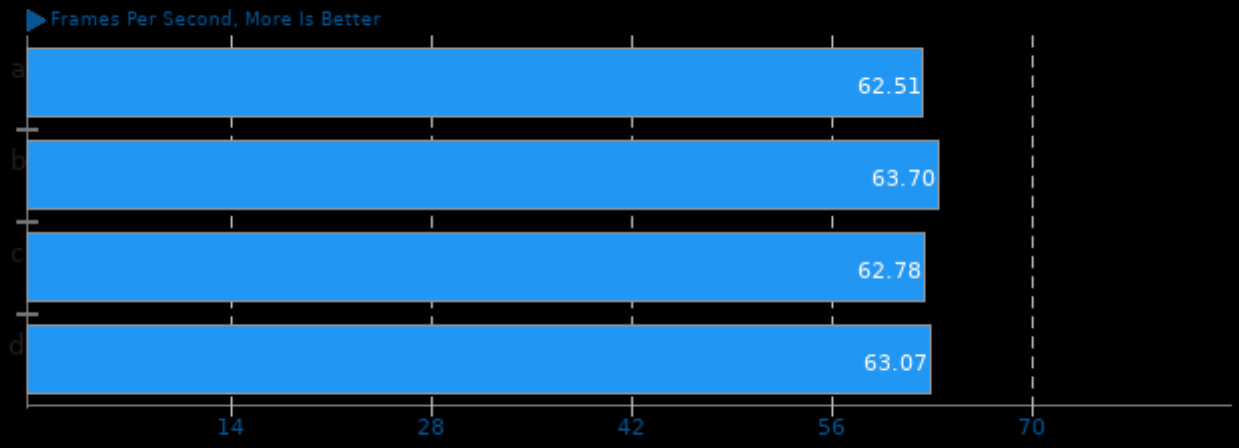
Encoder Mode: Preset 4 - Input: Bosphorus 4K



1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq

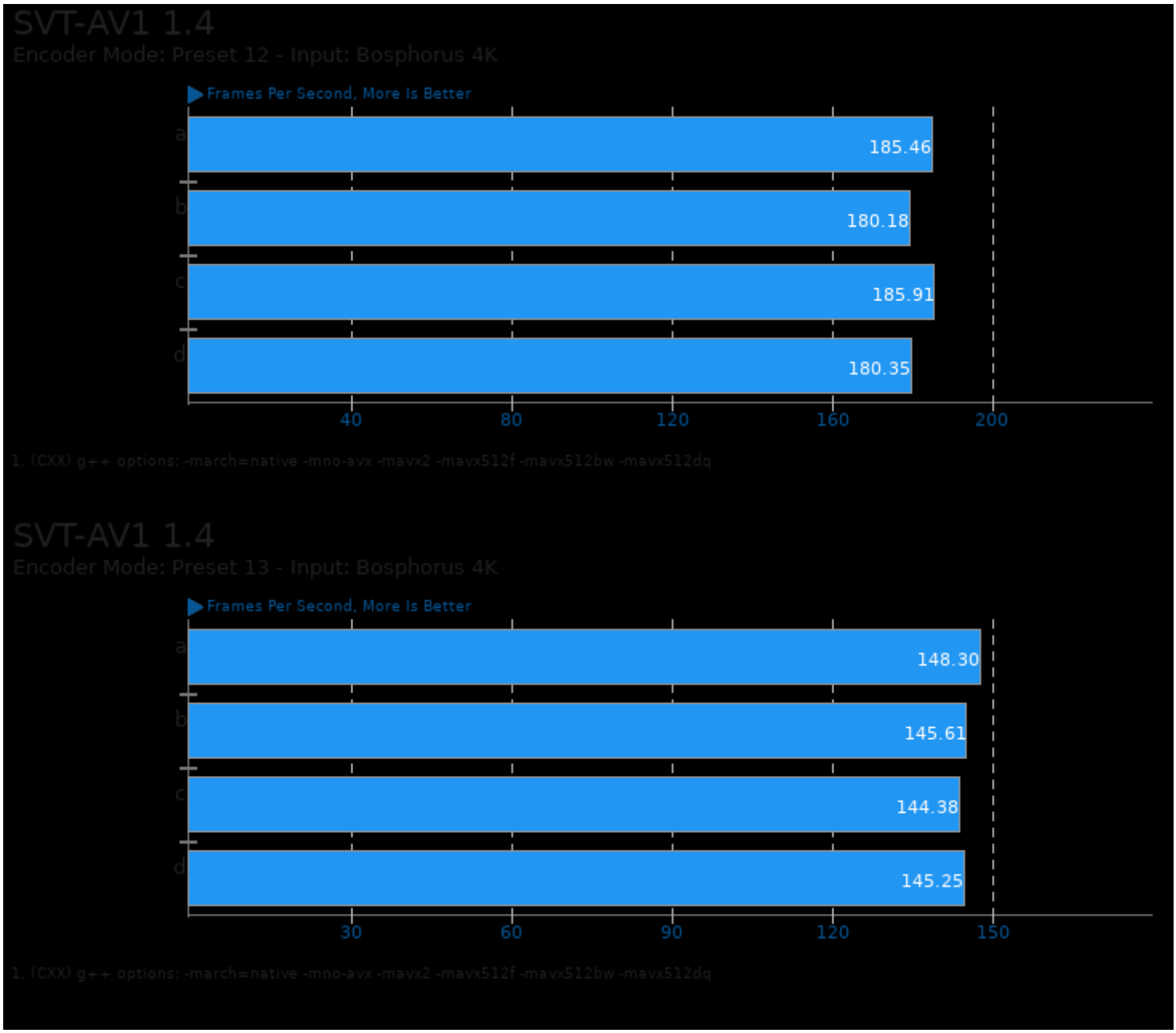
SVT-AV1 1.4

Encoder Mode: Preset 8 - Input: Bosphorus 4K

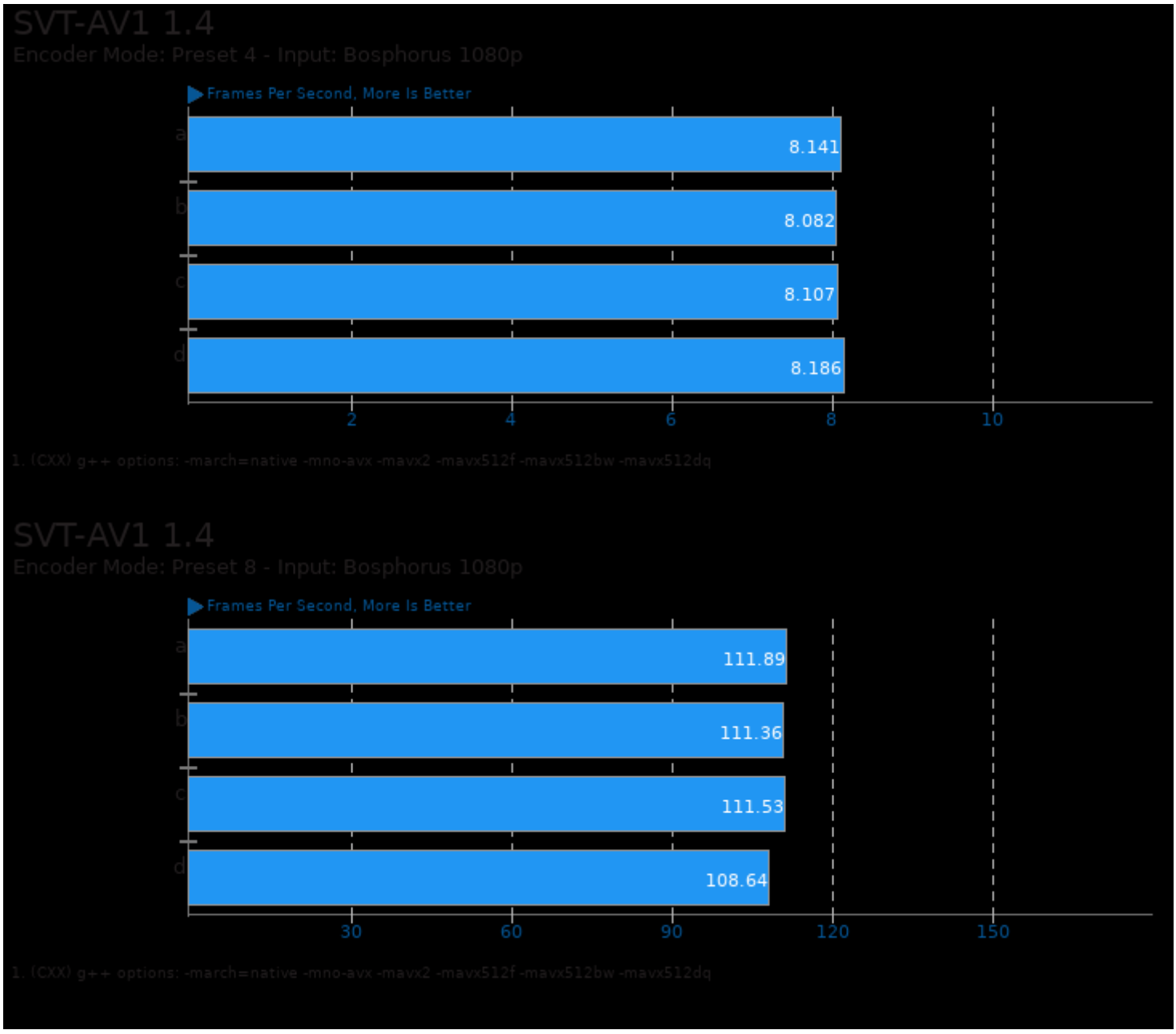


1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq

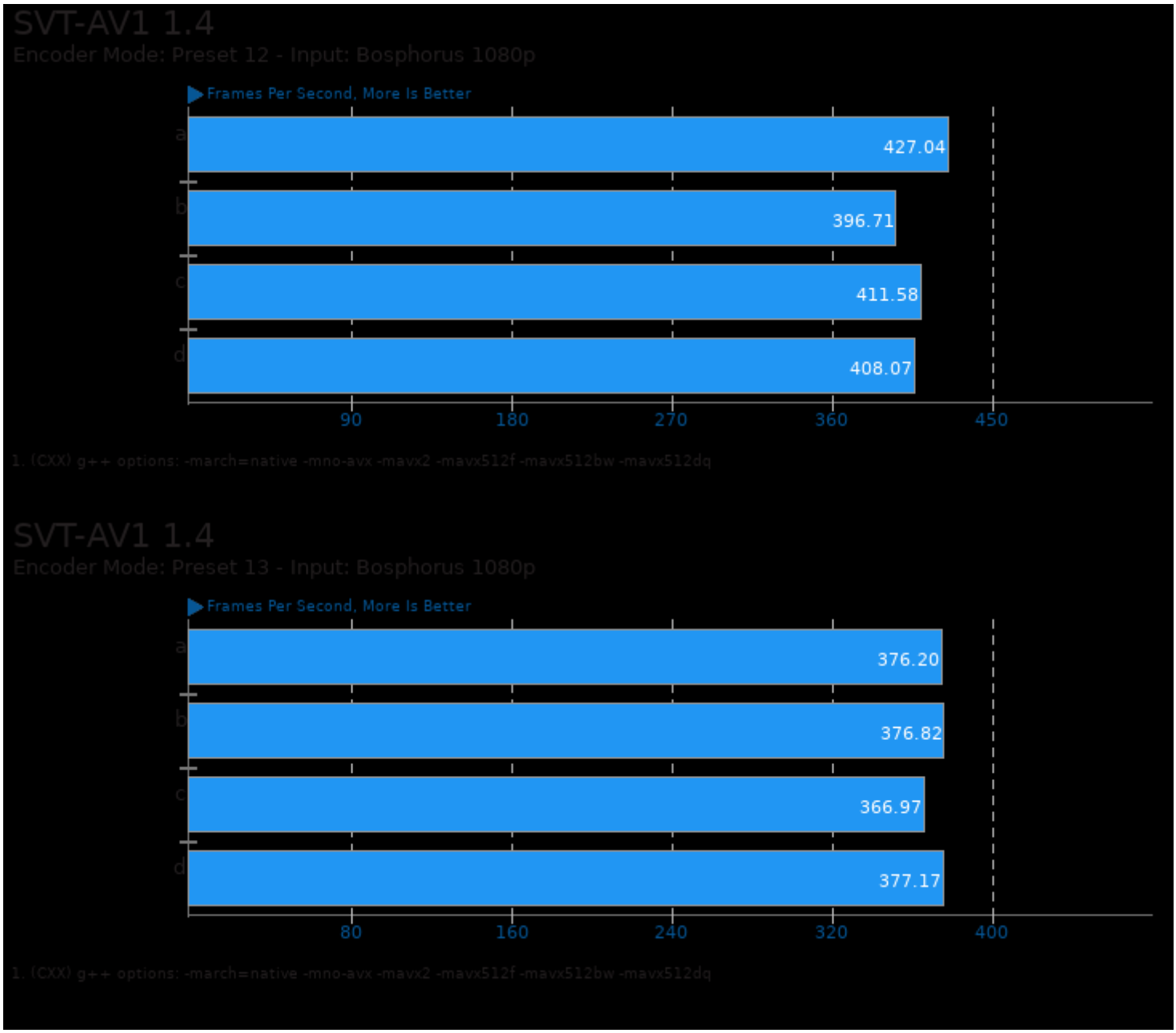
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SVT-AV1 1.4
Encoder Mode: Preset 12 - Input: Bosphorus 4K
Frames Per Second, More Is Better
a
b
c
d
185.46
180.18
185.91
180.35
40
80
120
160
200
1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq
SVT-AV1 1.4
Encoder Mode: Preset 13 - Input: Bosphorus 4K
Frames Per Second, More Is Better
a
b
c
d
148.30
145.61
144.38
145.25
30
60
90
120
150
1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq

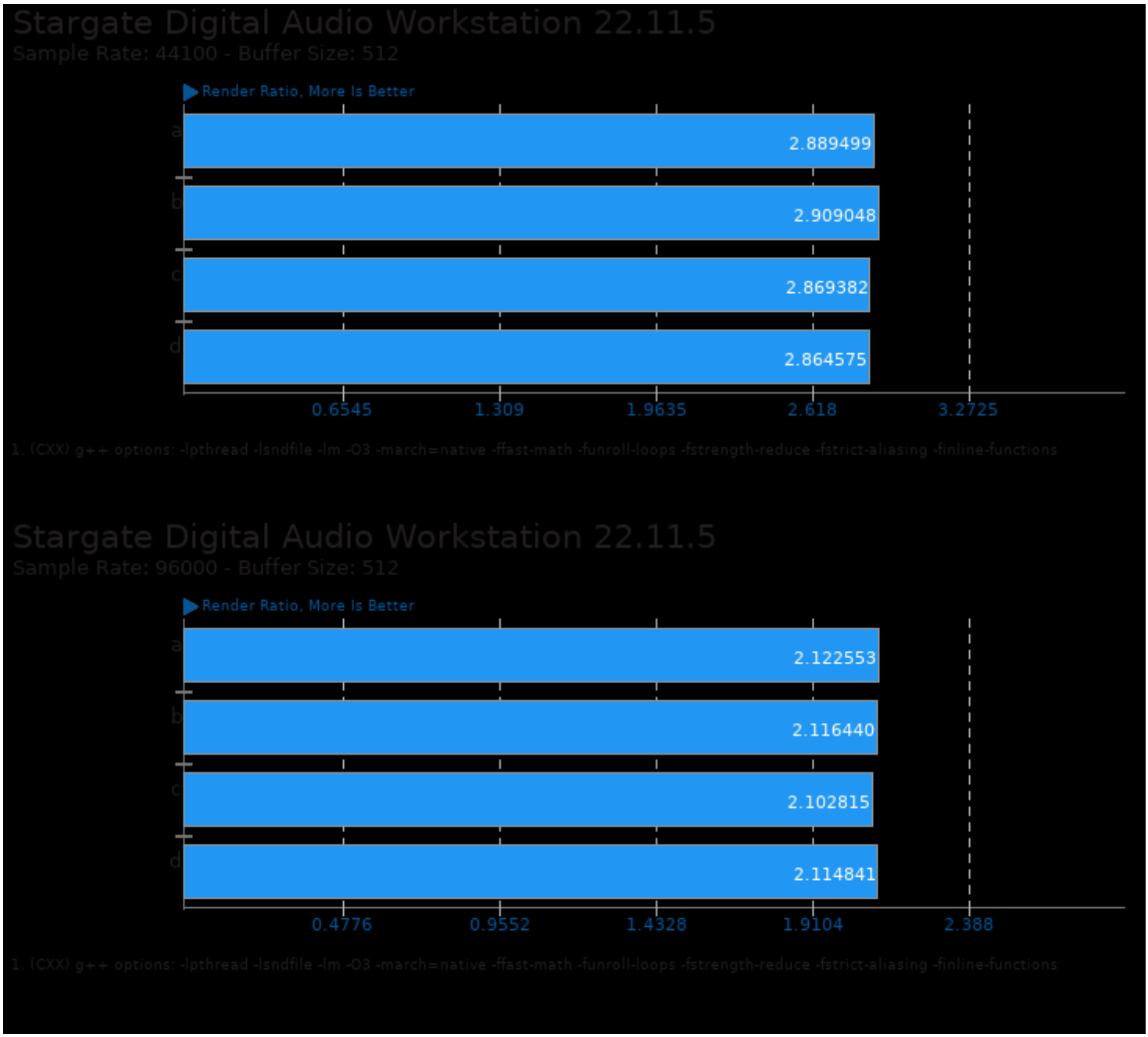
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SVT-AV1 1.4
Encoder Mode: Preset 4 - Input: Bosphorus 1080p
Frames Per Second, More Is Better
a
b
c
d
8.141
8.082
8.107
8.186
2
4
6
8
10
1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq
SVT-AV1 1.4
Encoder Mode: Preset 8 - Input: Bosphorus 1080p
Frames Per Second, More Is Better
a
b
c
d
111.89
111.36
111.53
108.64
30
60
90
120
150
1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq

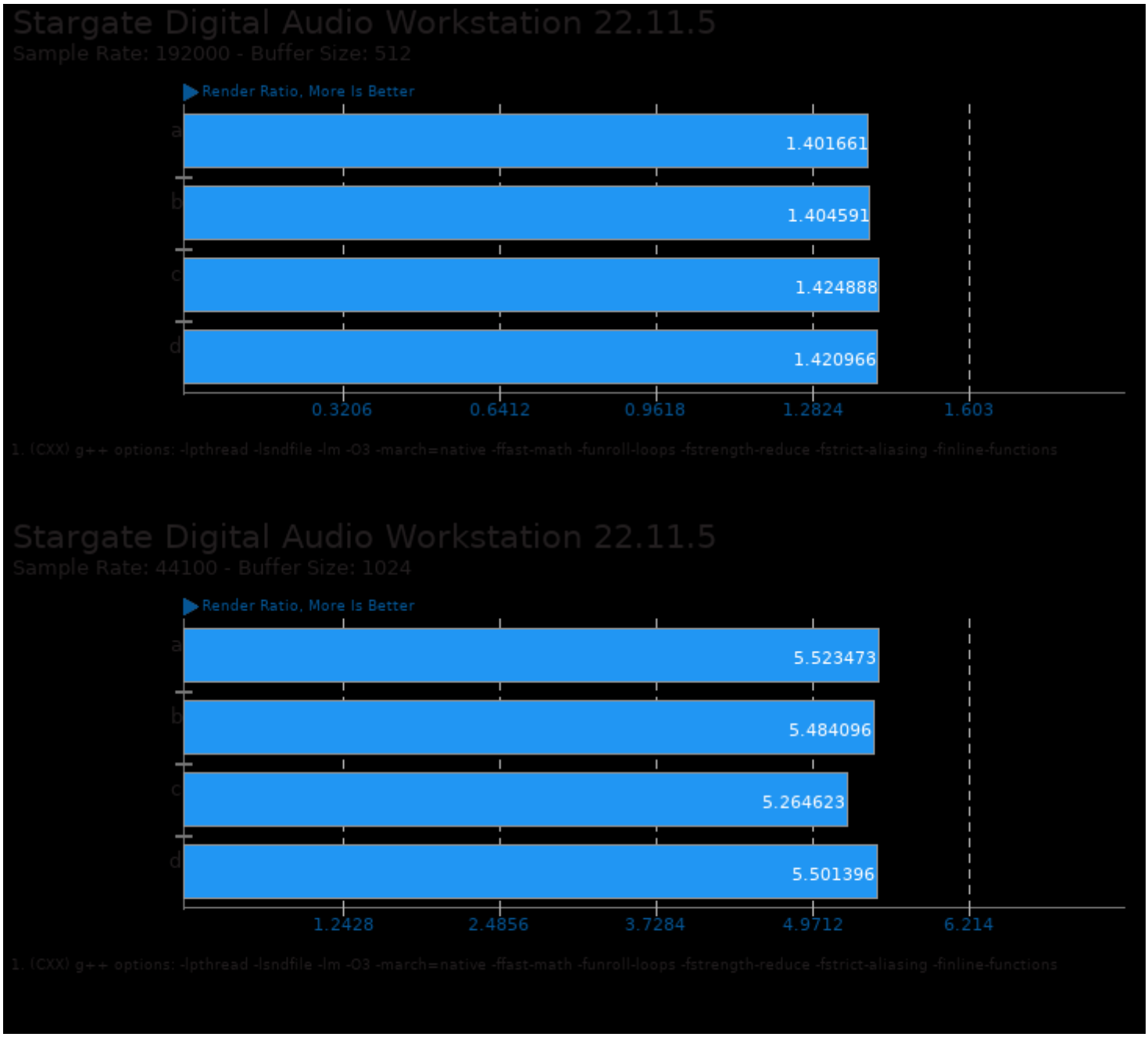
3970x deccy


SVT-AV1 1.4
Encoder Mode: Preset 12 - Input: Bosphorus 1080p
Frames Per Second, More Is Better
a
427.04
b
396.71
c
411.58
d
408.07
90
180
270
360
450
1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq
SVT-AV1 1.4
Encoder Mode: Preset 13 - Input: Bosphorus 1080p
Frames Per Second, More Is Better
a
376.20
b
376.82
c
366.97
d
377.17
80
160
240
320
400
1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq

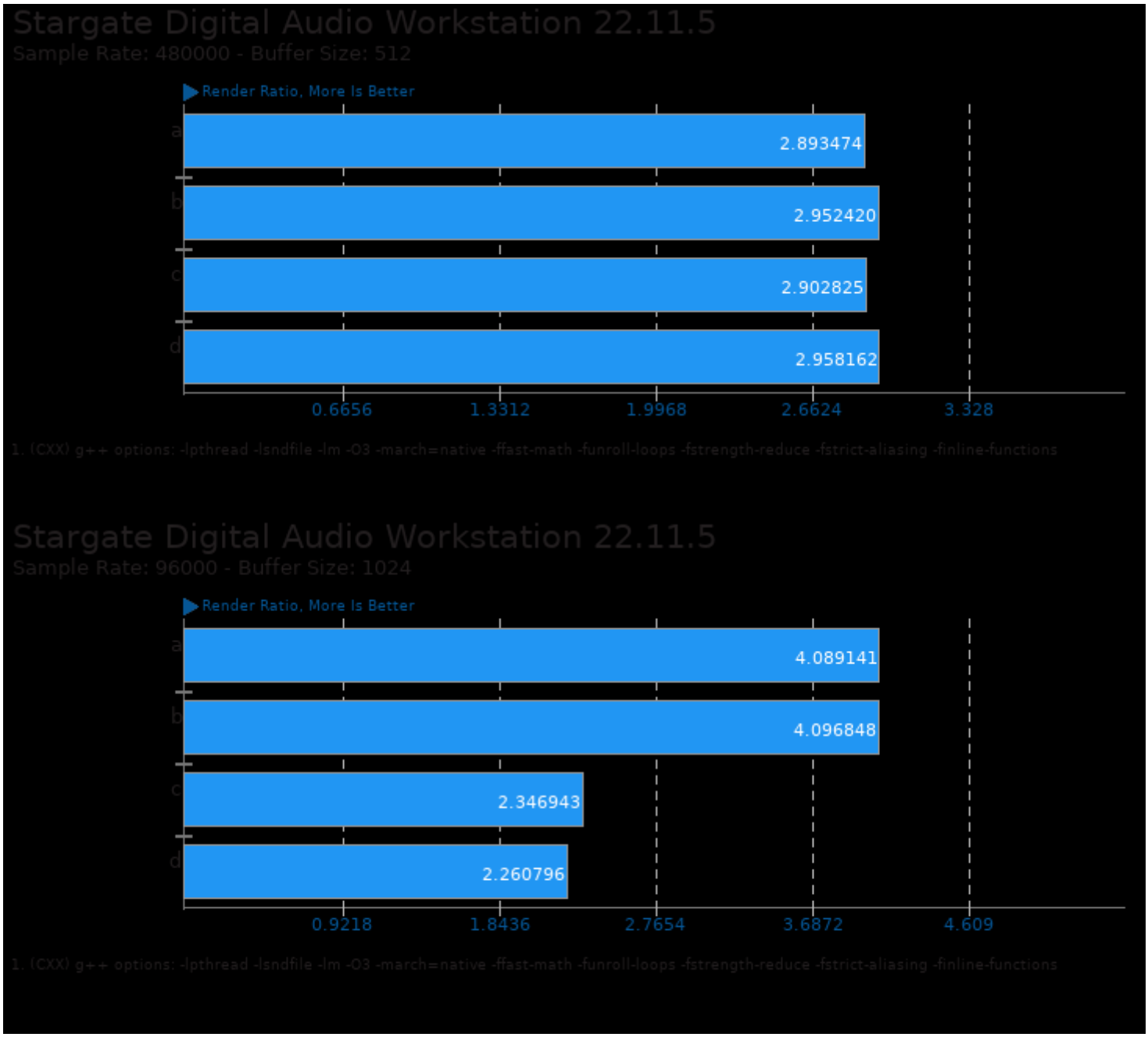
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Stargate Digital Audio Workstation 22.11.5
Sample Rate: 44100 - Buffer Size: 512
Render Ratio, More Is Better
a
b
c
d
2.889499
2.909048
2.869382
2.864575
0.6545
1.309
1.9635
2.618
3.2725
1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions
Stargate Digital Audio Workstation 22.11.5
Sample Rate: 96000 - Buffer Size: 512
Render Ratio, More Is Better
a
b
c
d
2.122553
2.116440
2.102815
2.114841
0.4776
0.9552
1.4328
1.9104
2.388
1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions

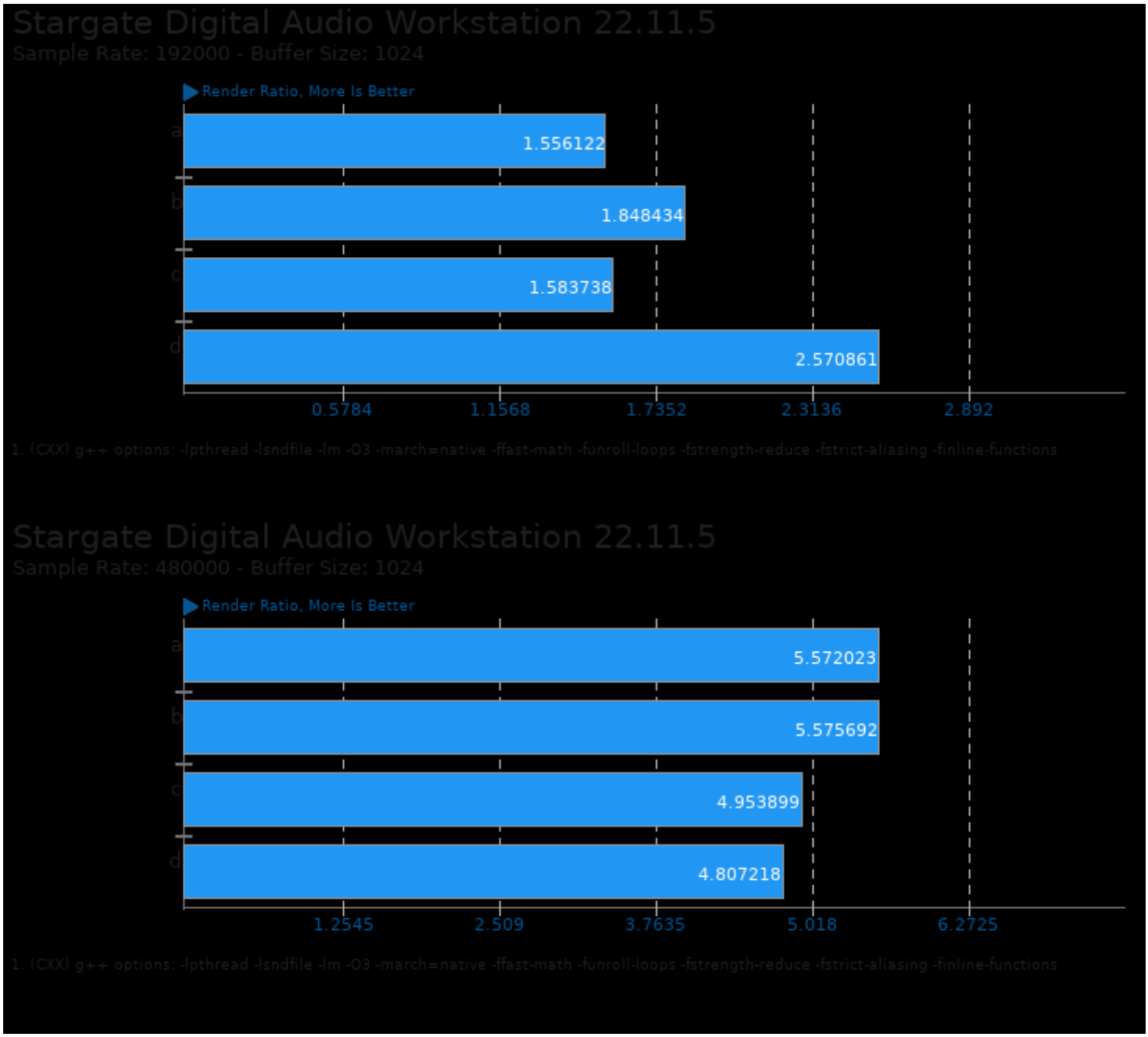
3970x deccy


Stargate Digital Audio Workstation 22.11.5
Sample Rate: 192000 - Buffer Size: 512
Render Ratio, More Is Better
a
b
c
d
1.401661
1.404591
1.424888
1.420966
0.3206
0.6412
0.9618
1.2824
1.603
1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions
Stargate Digital Audio Workstation 22.11.5
Sample Rate: 44100 - Buffer Size: 1024
Render Ratio, More Is Better
a
b
c
d
5.523473
5.484096
5.264623
5.501396
1.2428
2.4856
3.7284
4.9712
6.214
1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions

3970x deccy

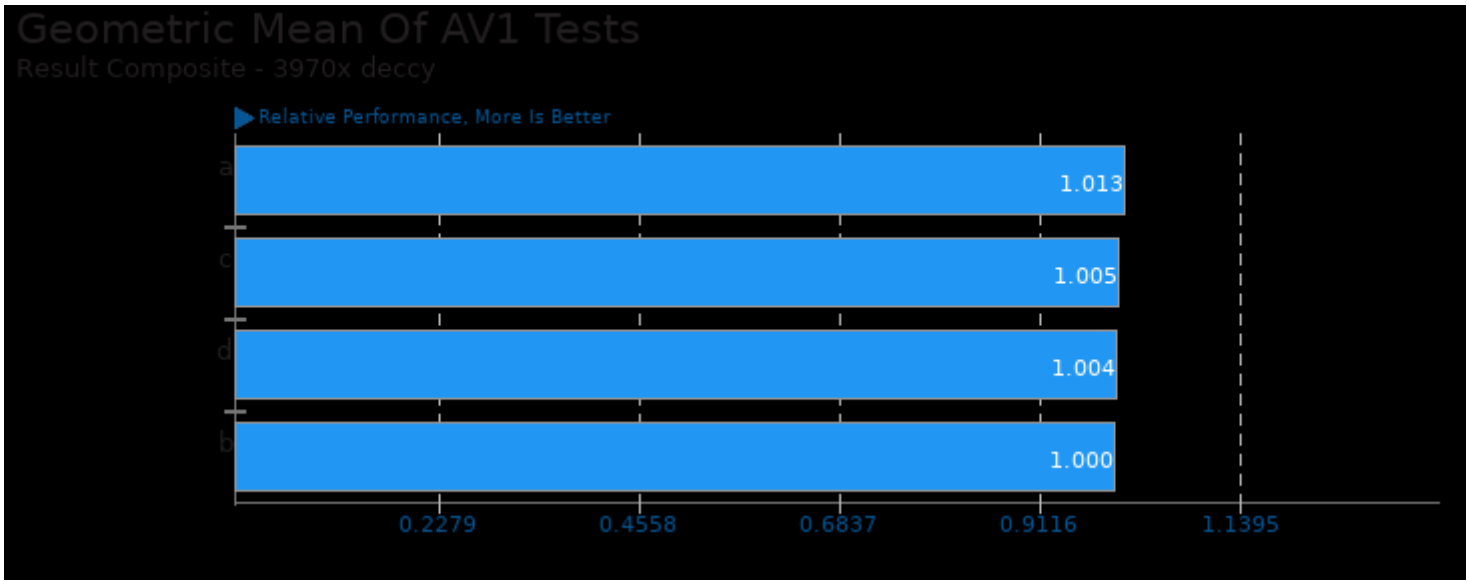

Stargate Digital Audio Workstation 22.11.5
Sample Rate: 480000 - Buffer Size: 512
Render Ratio, More Is Better
a
b
c
d
2.893474
2.952420
2.902825
2.958162
0.6656
1.3312
1.9968
2.6624
3.328
1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions
Stargate Digital Audio Workstation 22.11.5
Sample Rate: 96000 - Buffer Size: 1024
Render Ratio, More Is Better
a
b
c
d
4.089141
4.096848
2.346943
2.260796
0.9218
1.8436
2.7654
3.6872
4.609
1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions

3970x deccy

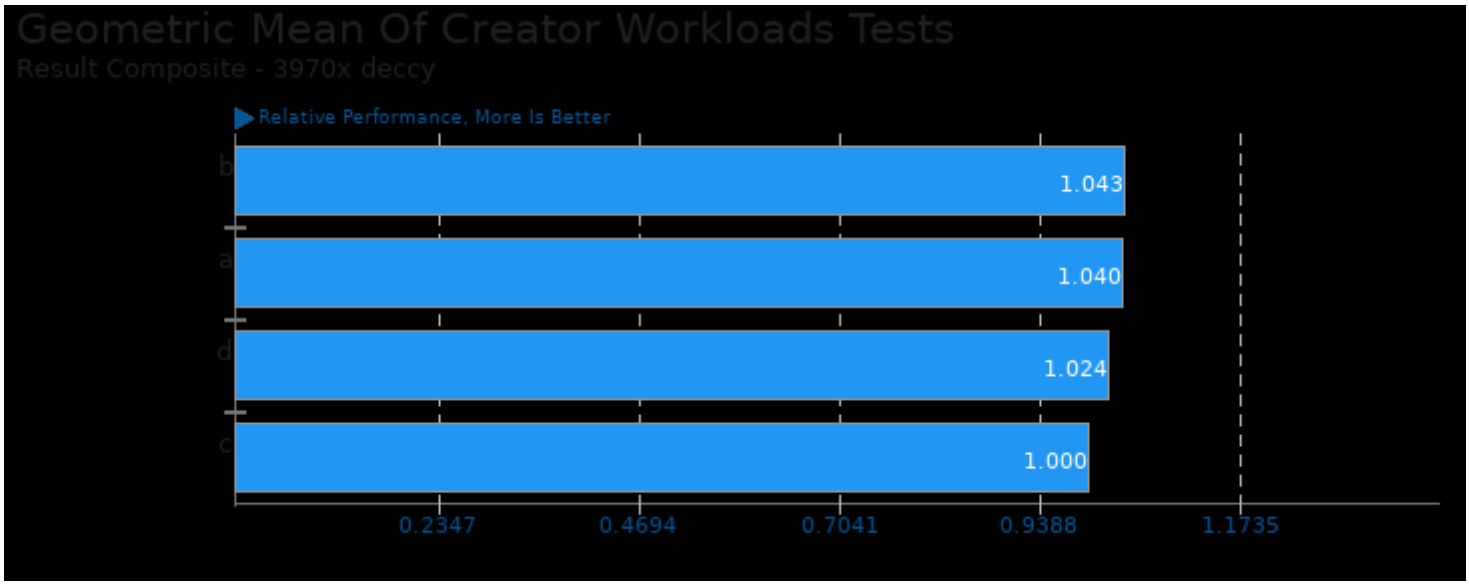

Stargate Digital Audio Workstation 22.11.5
Sample Rate: 192000 - Buffer Size: 1024
Render Ratio, More Is Better
a
b
c
d
1.556122
1.848434
1.583738
2.570861
0.5784
1.1568
1.7352
2.3136
2.892
1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions
Stargate Digital Audio Workstation 22.11.5
Sample Rate: 480000 - Buffer Size: 1024
Render Ratio, More Is Better
a
b
c
d
5.572023
5.575692
4.953899
4.807218
1.2545
2.509
3.7635
5.018
6.2725
1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions

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These geometric means are based upon test groupings / test suites for this result file.

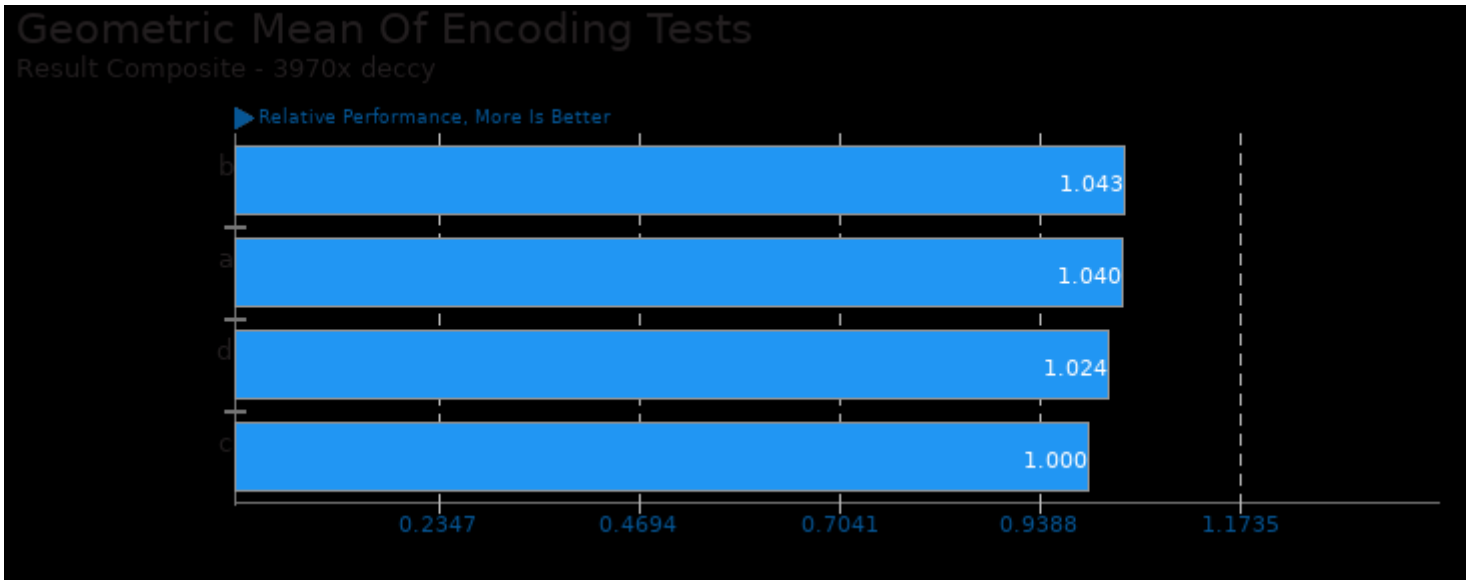


Geometric mean based upon tests: pts/svt-av1 and pts/rav1e

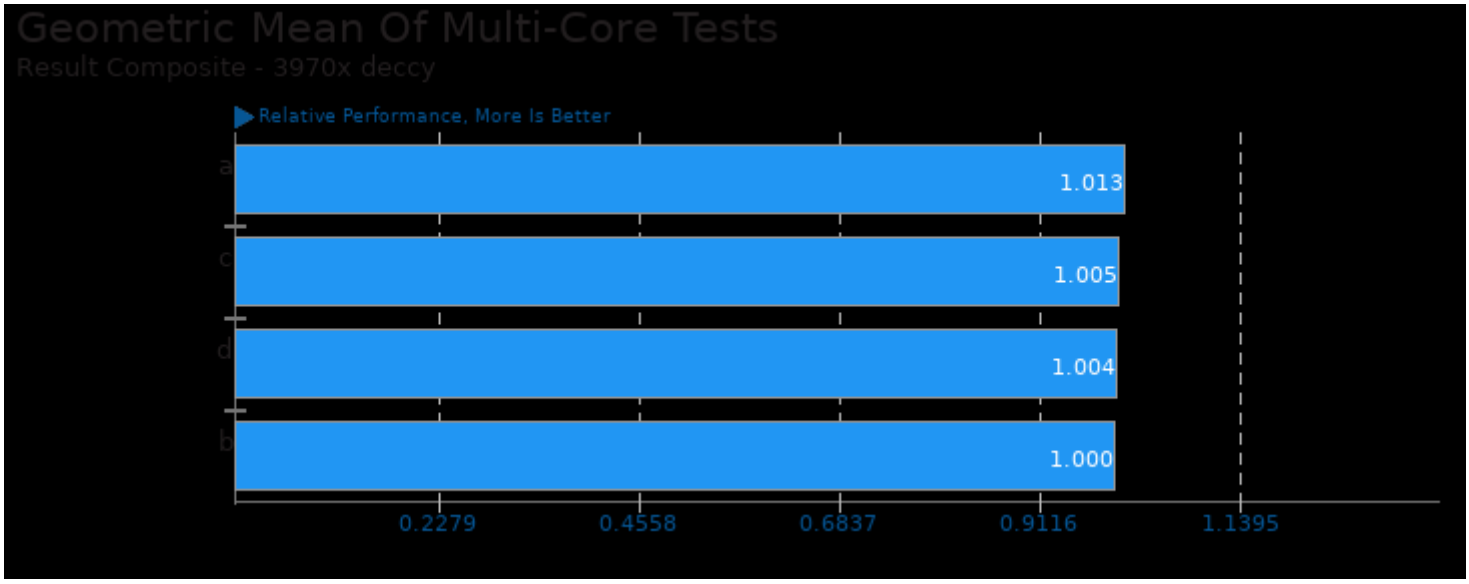


Geometric mean based upon tests: pts/svt-av1, pts/rav1e and pts/stargate

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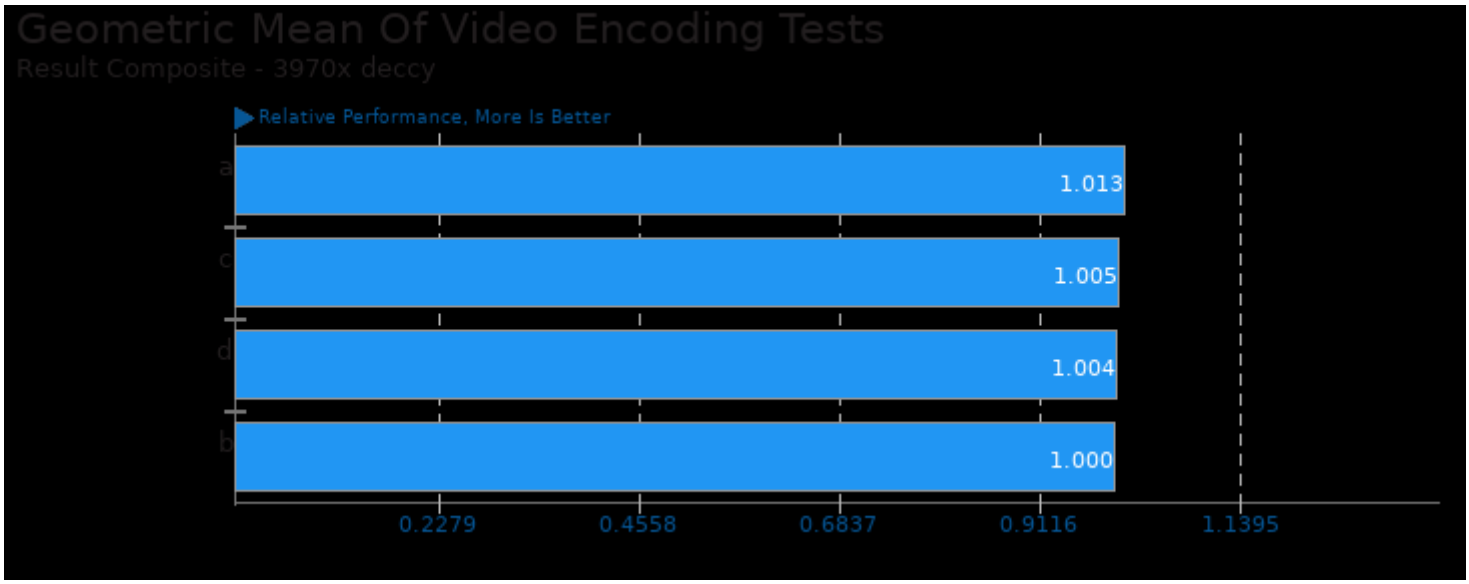


Geometric mean based upon tests: pts/stargate, pts/svt-av1 and pts/rav1e



Geometric mean based upon tests: pts/svt-av1 and pts/rav1e

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Geometric mean based upon tests: pts/svt-av1 and pts/rav1e

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 07:59.