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alder lake svt-av1

Intel Core i9-12900K testing with a ASUS ROG STRIX Z690-E GAMING WIFI (0811 BIOS) and Gigabyte AMD Radeon RX 6800 16GB on Ubuntu 22.04 via the Phoronix Test Suite.

Automated Executive Summary

C had the most wins, coming in first place for 37% of the tests.

Based on the geometric mean of all complete results, the fastest (D) was 1.003x the speed of the slowest (C). A was 0.999x the speed of D, B was 0.999x the speed of A, C was 1x the speed of B.

Test Systems:

A

B

C

D

Processor: Intel Core i9-12900K @ 6.50GHz (16 Cores / 24 Threads), Motherboard: ASUS ROG STRIX Z690-E GAMING WIFI (0811 BIOS), Chipset: Intel Device 7aa7, Memory: 64GB, Disk: 1000GB Western Digital WDS100T1X0E-00AFY0, Graphics: Gigabyte AMD Radeon RX 6800 16GB (2475/1000MHz), Audio: Intel Device 7ad0, Monitor: ASUS VP28U, Network: Intel I225-V + Intel Wi-Fi 6 AX210/AX211/AX411

OS: Ubuntu 22.04, Kernel: 5.16.0-051600-generic (x86_64), Desktop: GNOME Shell 40.5, Display Server: X Server 1.20.13 + Wayland, OpenGL: 4.6 Mesa 22.0.0-devel (git-074bde9 2022-01-11 jammy-oibaf-ppa) (LLVM 13.0.0 DRM 3.44), Vulkan: 1.2.199, Compiler: GCC 11.2.0, File-System: ext4, Screen Resolution: 3840x2160

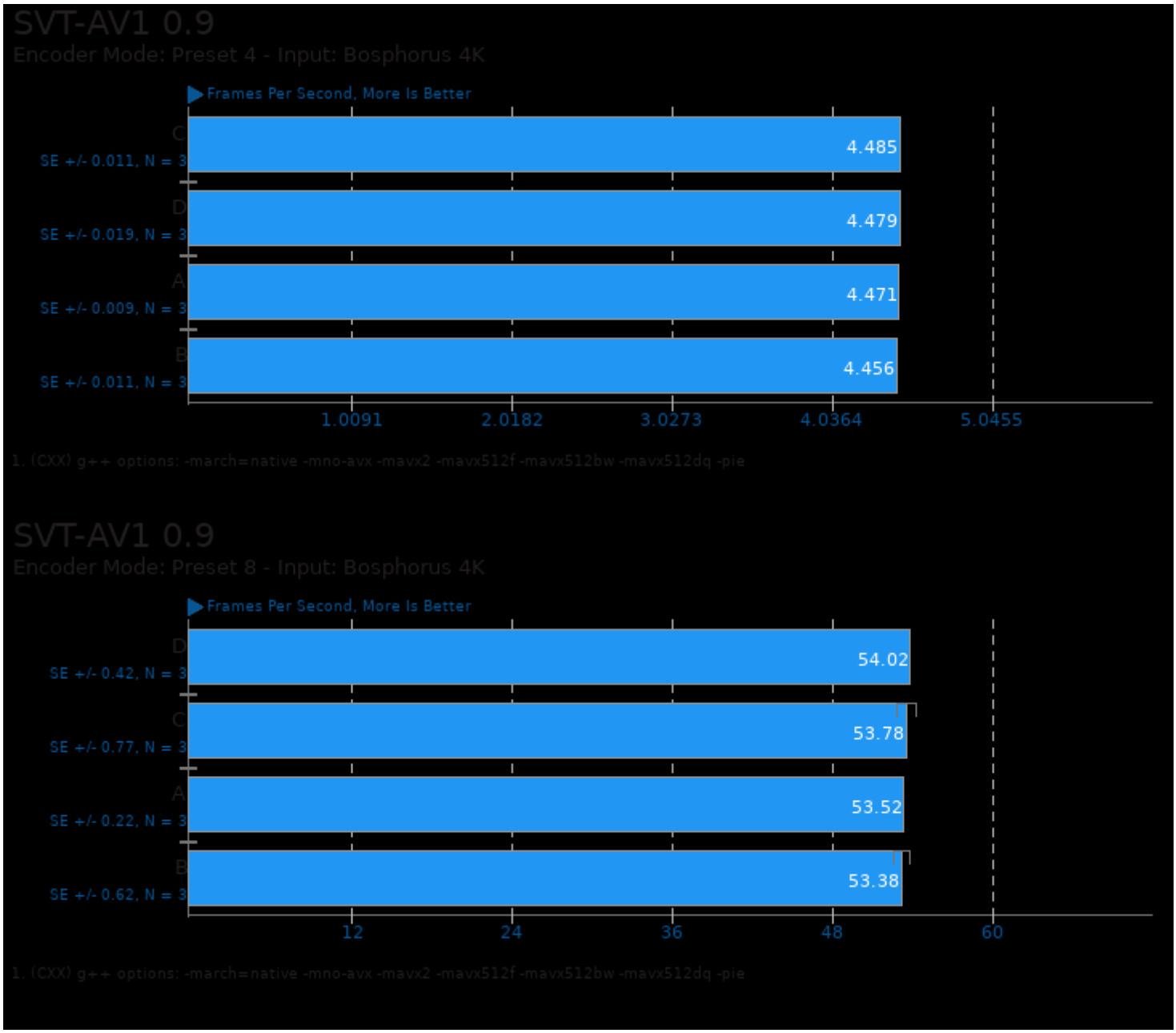
Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-cet --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --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-pWTZs6/gcc-11-11.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-11-pWTZs6/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: intel_pstate performance (EPP: performance) - CPU Microcode: 0x15 - Thermald 2.4.6
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	A	B	C	D
SVT-AV1 - Preset 4 - Bosphorus 4K (FPS)	4.471	**4.456**	**4.485**	4.479
Normalized	99.69%	99.35%	100%	99.87%
Standard Deviation	0.3%	0.4%	0.4%	0.7%
SVT-AV1 - Preset 8 - Bosphorus 4K (FPS)	53.523	**53.384**	53.783	**54.019**
Normalized	99.08%	98.82%	99.56%	100%
Standard Deviation	0.7%	2%	2.5%	1.4%
SVT-AV1 - Preset 10 - Bosphorus 4K (FPS)	111.083	110.860	**109.898**	**111.147**
Normalized	99.94%	99.74%	98.88%	100%
Standard Deviation	0.6%	0.3%	1.5%	0.2%
SVT-AV1 - Preset 12 - Bosphorus 4K (FPS)	**168.468**	167.303	**167.121**	168.206
Normalized	100%	99.31%	99.2%	99.84%
Standard Deviation	1.4%	1%	0.5%	2.1%
SVT-AV1 - Preset 4 - Bosphorus 1080p (FPS)	12.586	**12.715**	**12.520**	12.663
Normalized	98.99%	100%	98.47%	99.59%
Standard Deviation	2.3%	0.7%	0.8%	0.7%
SVT-AV1 - Preset 8 - Bosphorus 1080p (FPS)	**189.083**	188.107	**186.100**	187.624
Normalized	100%	99.48%	98.42%	99.23%
Standard Deviation	0.6%	0.3%	1.1%	0.1%

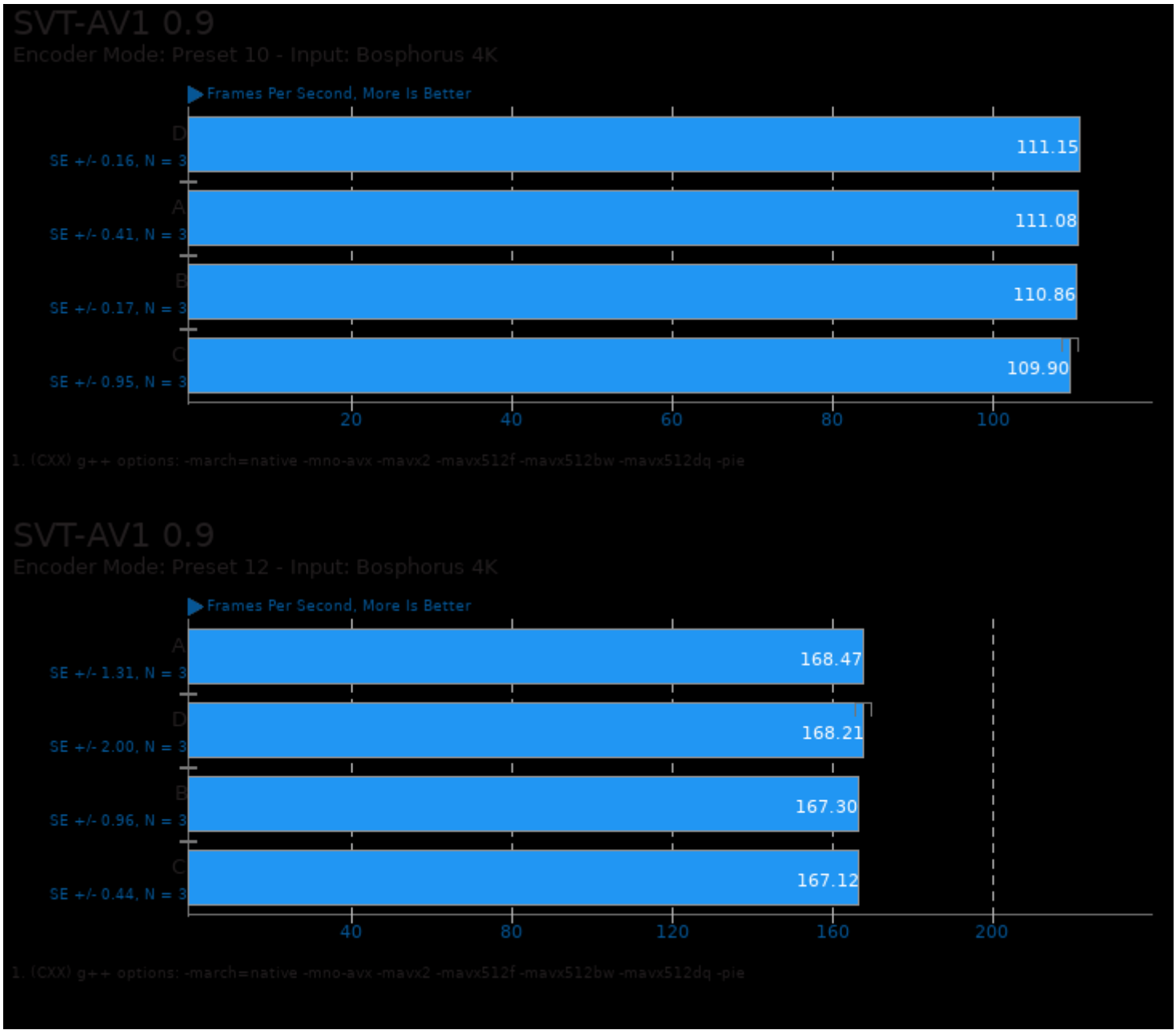
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SVT-AV1 - Preset 10 - Bosphorus 1080p (FPS)	400.663	**400.288**	**405.903**	401.325
Normalized	98.71%	98.62%	100%	98.87%
Standard Deviation	0.4%	1.1%	0.9%	0.7%
SVT-AV1 - Preset 12 - Bosphorus 1080p (FPS)	**694.027**	696.690	**701.122**	695.446
Normalized	98.99%	99.37%	100%	99.19%
Standard Deviation	1.2%	0.5%	1.4%	1.2%

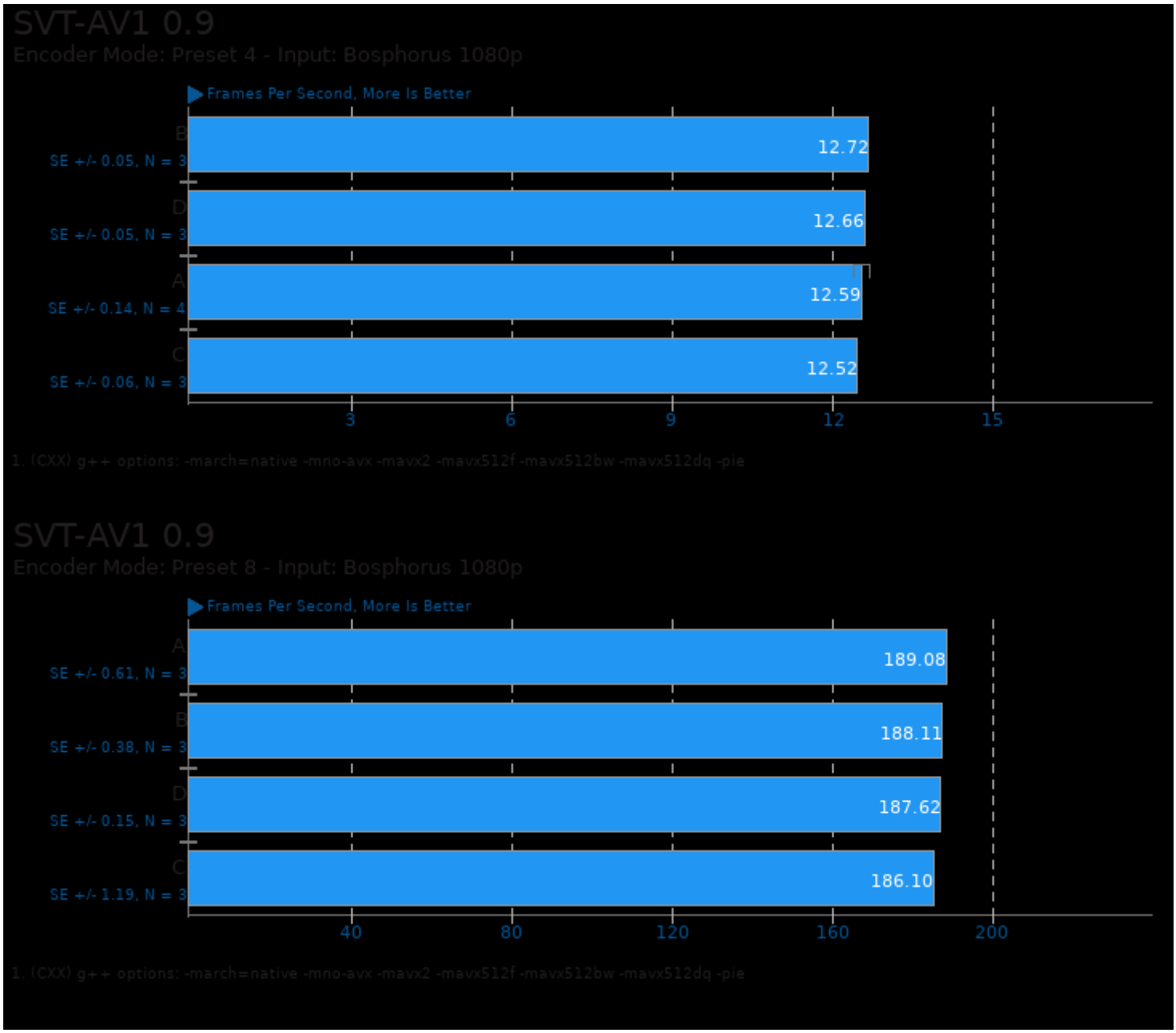
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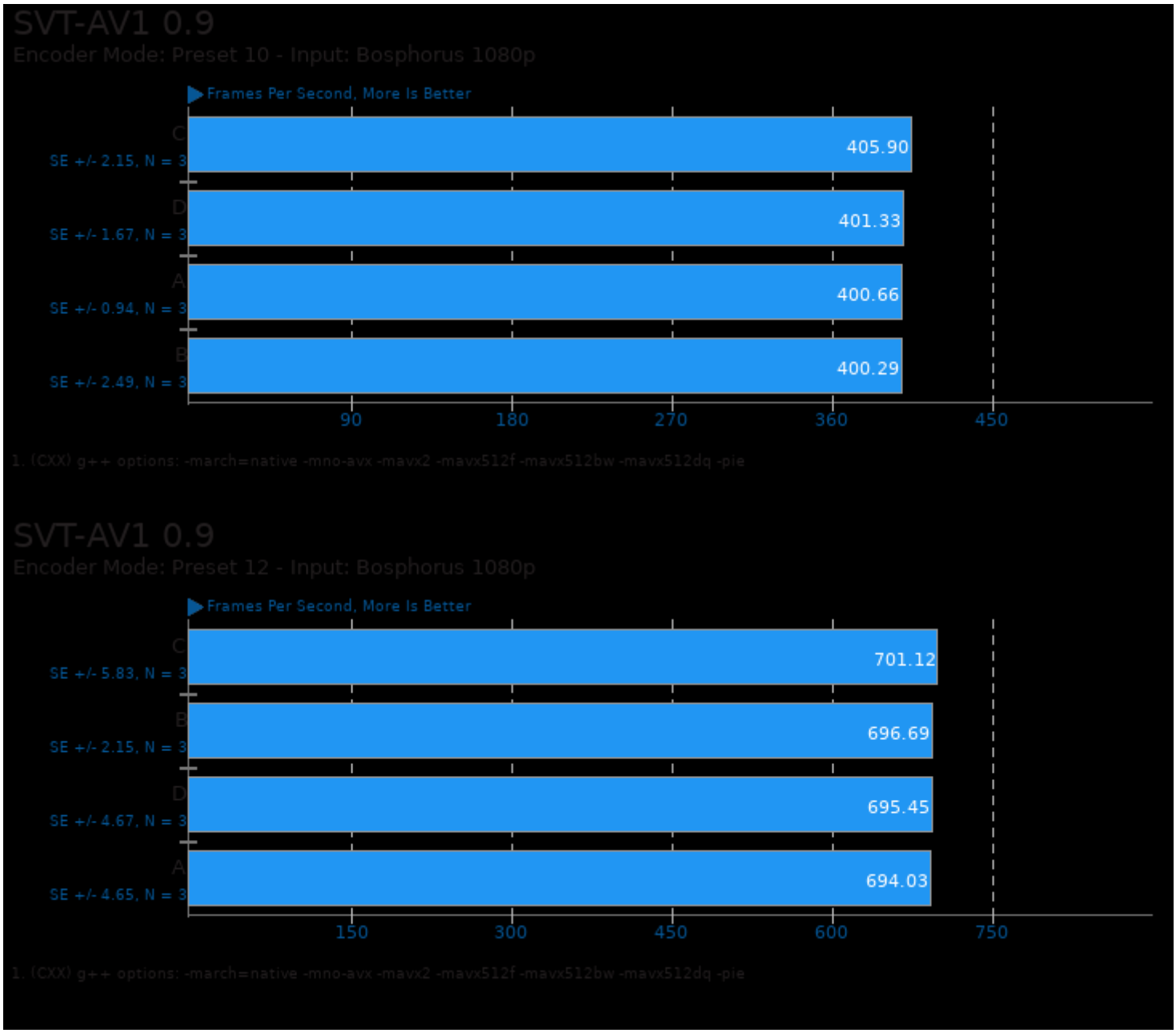
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