ComX Computers
Product Specification Sheet

CP-iA12700

Intel Alder lake Core i7-12700 2.1Ghz 8 Core LGA 1700 Processor

Product Overview

Intel Alder lake Core i7-12700 LGA 1700 - 8x Performance-cores with Hyper-Threading + 4x Energy-efficient-cores, 20(16+4) threads, P-Core: 2.1Ghz / 4.8Ghz boost, E-Core: 1.6Ghz / 3.6Ghz boost, 10nm, SSE4, AVX2, BMi, FMA3, SBA, vPro, TSX, VT-x + VT-d



Specifications

Specifications:

Essentials	
Product Collection	12th Generation Intel Core i7 Processors
Code Name	Products formerly Alder Lake
Vertical Segment	Desktop
Processor Number	i7-12700
Lithography	Intel 7
Use Conditions	PC/Client/Tablet
CPU Specifications	
Total Cores	12
# of Performance-cores	8
# of Efficient-cores	4
Total Threads	20
Max Turbo Frequency	4.90 GHz
Intel Turbo Boost Max Technology 3.0 Frequency	4.90 GHz
Performance-core Max Turbo Frequency	4.80 GHz
Efficient-core Max Turbo Frequency	3.60 GHz

Performance-core Base Frequency	2.10 GHz
Efficient-core Base Frequency	1.60 GHz
Cache	25 MB Intel Smart Cache
Total L2 Cache	12 MB
Processor Base Power	65 W
Maximum Turbo Power	180 W
Supplemental Information	
Embedded Options Available	Yes
Memory Specifications	
Max Memory Size (dependent on memory type)	128 GB
Memory Types	Up to DDR5 4800 MT/s
	Up to DDR4 3200 MT/s
Max # of Memory Channels	2
Max Memory Bandwidth	76.8 GB/s
Processor Graphics	
Processor Graphics	Intel UHD Graphics 770
Graphics Base Frequency	300 MHz
Graphics Max Dynamic Frequency	1.50 GHz
Graphics Output	eDP 1.4b, DP 1.4a, HDMI 2.1
Execution Units	32
Max Resolution (HDMI)	4096 x 2160 @ 60Hz
Max Resolution (DP)	7680 x 4320 @ 60Hz
Max Resolution (eDP - Integrated Flat Panel)	5120 x 3200 @ 120Hz
DirectX* Support	12
OpenGL* Support	4.5
Multi-Format Codec Engines	2
Intel Quick Sync Video	Yes
Intel Clear Video HD Technology	Yes
# of Displays Supported	4
Device ID	0x4680
OpenCL* Support	2.1
Expansion Options	
Direct Media Interface (DMI) Revision	4
Max # of DMI Lanes	8
Scalability	1S Only

PCI Express Revision	5.0 and 4.0
PCI Express Configurations	Up to 1x16+4, 2x8+4
Max # of PCI Express Lanes	20
Package Specifications	
Sockets Supported	FCLGA1700
Max CPU Configuration	1
Thermal Solution Specification	PCG 2020C
TJUNCTION	100 degreesC
Package Size	45.0 mm x 37.5 mm
Advanced Technologies	
Intel Gaussian & Neural Accelerator	3
Intel Thread Director	Yes
Intel Deep Learning Boost (Intel DL Boost)	Yes
Intel Optane Memory Supported	Yes
Intel Speed Shift Technology	Yes
Intel Turbo Boost Max Technology 3.0	Yes
Intel Turbo Boost Technology	2
Intel Hyper-Threading Technology	Yes
Intel Virtualization Technology (VT-x)	Yes
Intel Virtualization Technology for Directed I/O (VT-d)	Yes
Intel VT-x with Extended Page Tables (EPT)	Yes
Intel 64	Yes
Instruction Set	64-bit
Instruction Set Extensions	Intel SSE4.1, Intel SSE4.2, Intel AVX2
Idle States	Yes
Enhanced Intel SpeedStep Technology	Yes
Thermal Monitoring Technologies	Yes
Intel Volume Management Device (VMD)	Yes
Security & Reliability	
Intel AES New Instructions	Yes
Secure Key	Yes
Intel OS Guard	Yes

Execute Disable Bit	Yes
Intel Boot Guard	Yes
Mode-based Execute Control (MBEC)	Yes
Intel Control-Flow Enforcement Technology	Yes

Product Information Online

For the latest product information, availability and purchasing details, please visit the product page:

Product page:
https://www.comx-computers.co.za/CP-iA12700-Intel-Alder-lake-Core-i7-12700-2-1Ghz-8-Core-LGA-1700-Processor-p-263435.php

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