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DAT-CON Multi sensor 180/A210



DAT - CON Multi sensor 180/A210 system provides maximum range performance with Un-cooled LWIR Thermal Imager, high resolution colour zooms TV camera with low light capability and Laser rangefinder placed on a gyro stabilized movable platform. High resolution uncooled thermal camera enables clear sight picture in all weather conditions regardless of day or night use. System is also equipped with external video processing unit that is the “brain” of the system and allows you options like video tracking, image stabilization... This makes operators search for the target easier as it enables use of wide field of view when actual targeting takes place.

General features

- Simultaneous preview of day/night camera and thermal
- Continuous zoom on both payloads
- Radar connectivity (Slew to Cue)
- Radar tracking possibility
- Target acquisition and tracking (auto or remote triggering)
- Rigid system design
- Analytics board: video stabilization, multi object tracking
- CE marked
- Control and picture streaming via TCP/IP
- Electronic image stabilization on both payloads
- Temperature range of the whole system: -32 to +55°C
- Maximum humidity of the whole system: 95%
- IP rating of the whole system: IP67

System configuration

- Uncooled Thermal camera
- Day/Night camera
- External video processing unit (VPU-ST)
- Pan-tilt Tracer

Vibration test: IEC 60068-2-64

Shock test: IEC 60068-2-27

Icing test: NEMA 250

Salt fog test: IEC 60068-2-52

Applications:

- Land observation
- Vehicle drive observation
- Naval
- Fixed installation

1. Un-Cooled LWIR Thermal Camera ULRT-180

The ULRT-Series are equipped with a highly reliable, long-wave, un-cooled Vanadium Oxide (VOx) detector which offers good long-range detection in all weather conditions. There is no maintenance required since there is no cooling device. The cameras offer a continuous zoom. This offers excellent situational awareness while also giving the possibility to zoom in at suspect activities, and have a closer look, once they are detected. The ULRT-series can be integrated into existing networks or used portably.



Technical specifications

Detector	Uncooled LWIR VOx microbolometer
Resolution	640 x 512
Frame rate	25/30 Hz
Detector pitch	12 μ m
Spectral range	8 to 14 μ m
NETD	≤ 40 mK
Focal length	30 – 180 mm
Field of View	14.6° - 2.4° (H)
Continuous Optical Zoom	Yes, up to 6x
Focus	Automatic or Manual (remote)
Image stabilization	Yes* (using VPU/ST)
Image processing	Tuneable Digital Detail Enhancement Brightness Contrast Digital Noise Reduction Non uniformity correction White Hot / Black Hot Colour Palette OSD
Video outputs	Analog, RTSP H.264 Ethernet stream
Control interface	Serial, Ethernet
Consumption	15 W typical, < 60 W maximum with heaters / lens defrost
Operating voltage	18 - 32 Vdc
Operating temperature range	-32°C to +55°C
IP rating	IP67, built according to MIL-810
Dimensions	600 x 225 x 220 mm
Weight	14 kg

DRI – Detection, recognition and identification



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Atmosphere Extinction coefficient	$\sigma = 0.2 / \text{km}$	$\sigma = 1.0 / \text{km}$
DRI – NATO (VEHICLE) TARGET (2.3m x 2.3m)		
Detection	11.85 km	4.35 km
Recognition	5.80 km	3.08 km
Identification	3.09 km	2.13 km
DRI - HUMAN TARGET (1.8m x 0.5m)		
Detection	6.84 km	3.37 km
Recognition	2.57 km	1.89 km
Identification	1.30 km	1.19 km
DRI – DJI Phantom (0.4m x 0.3m)		
Detection	2.80 km	2.00 km
Recognition	0.95 km	0.91 km
Identification	0.48 km	0.47 km

Method	STANAG 4347
Probability	50 %
delta T	2 K
Background temperature	288 K

2. HD Day/Night Camera DAT – CON LRCS-A210

The LRCS is an integrated unit, based on a highly sensitive CMOS megapixel camera module. It is ideal for day/night surveillance of military camp, homeland security (border protection), and critical infrastructure protection (CIP) applications. It is designed to deliver high-performance images, even under the harshest conditions, in temperatures ranging from -32°C to +55°C with IP67 protection, built according to MIL-810 standards.



Technical specification

Sensor	1/1.9" CMOS sensor
Pixels	1920 x 1080
Sensitivity	Colour 0.001 Lux @ (F1.5, 25 fps); B&W 0.0001 Lux @ (F1.5, 25 fps);
Field of view	59°- 2.25°
Continuous Optical Zoom	Yes, up to 30x
Continuous Digital Zoom	Yes, up to 8x
Focus	Automatic or Manual (remote)
Image stabilization	Yes* (using VPU/ST)
Optical filters	Colour: IR Cut filter / B&W: Defog Filter – NIR only
Image processing	Auto / Manual White Balance Auto / Manual Gain Control Wide Dynamic Range Digital Fog Removal / Auto Contrast Dynamic Noise Reduction
Video outputs	HD-SDI or analog, optional RTSP H.264 Ethernet stream (using VPU/ST)
Control interface	Serial, Ethernet
Consumption	15 W typical, < 60 W maximum with heaters / lens defrost
Operating voltage	18 - 32 Vdc
Operating temperature range	-32°C to +55°C
IP rating	IP67, built according to MIL-810
Dimensions	488 x 166x 172 mm
Weight	7.5 kg

3. Pan-Tilt TRACER

Simple and efficient is what describes pan-tilt Tracer. In fully marinized body lies a single powerful motion control driver. It is capable of handling payloads up to 35kg in full range of motion. Its compact design and low weight make it perfect for integration where space is limited. Multiple slipping options make it compatible with most payloads from high frequency antenna applications to Gigabit electro-optical head connections.



Load capacity / Torque	35 kg / 60 Nm
Weight	25 kg (with arms)
Dimensions (H x W x L)	323 x 220 x 336 mm (without arms)
Materials	Aluminium
Operating temperature	-32°C to +55°C
Pan axis range / angle	n x 360°
Pan axis speed	0.001°/s - 60 °/s
Tilt axis range / angle	± 90° (limited by application between ± 35° and ± 45°)
Tilt axis speed	0.001°/s - 60 °/s
Accuracy	0.02°
Backlash	None
Brake	Self-Locking
Operating voltage	18 - 32 VDC
Maximum power	160 W
Communication to the unit	Eth 10/100 Base-T, RS-232, RS-485, 422 (optional)
Control protocol	DC-PT protocol
Protection / IP rating	IP67, built according to MIL-810

4. EXTERNAL VIDEO PROCESSING UNIT (VPU-ST)



Video processing unit (VPU-ST) is a hardware processing unit that is the “brains” of the multi sensor system. It combines all the payloads and Pan-Tilt unit into a single unit for the external observer and enable a single Ethernet connection to the whole unit including access to video streams and control of the entire system. VPU-ST enables dedicated advanced protocol that includes video as well as status and control. It has a powerful built in processor, that enables functions like video stabilization, H.264 encoding, video tracking.

- Power control and communication with each device
- Built in test for each device (BIT)
- Integrated Ethernet switch
- Communication interfaces: Ethernet (UDP), Serial
- H.264 Video encoding for all video payloads
- Two separated output video streams
- Control and video interface through Ethernet and serial (control only)
- Wide variety of video processing:
 - Video stabilization with roll correction
 - Advanced hardware scene and object video tracking
 - On Screen Display (OSD)
- Connectivity: four military standard connectors; 3 x input / 1 output
- Power: 18 – 32 Vdc; 30 W max.
- Environmental: IP 67, build with accordance to MIL-810
- Operating temperature range: -32 to 55°C
- Dimensions: 261 x 185 x 73 mm
- Weight: 3000 g

5. Laser rangefinder LDC0/10

LDC0 represents the ultimate long-distance laser rangefinder. It is light weight and features ranging capability up to 32 km. With reduced measurement ranges LDC0 meets high continuous measurement rates up to 40 measurements per second in single mode and up to 200 Hz in burst mode.



Technical specification

Eye safety	Laser Class 1
Measurement range	50m – 32 000m
Measurement range (Standard target):	10 000m – Target size 2.3 x 2.3 m, visibility 15 km, target reflectivity 30%, detection probability >90%
Precision	0.5 – 1.5 m depending on the distance and target reflectivity
Beam divergence	0.35 mrad
Wave length	1.54 μ m
Measurement rates	10 meas. per min (up to 40 meas. per min with reduced power / range)
Control interface	Serial, Ethernet
Operating voltage	18 - 32Vdc
Power consumption	3 W on standby, 7 W max on measurement
IP rating	IP67, built according to MIL-810
Operating temperature	-32°C + 55°C
Dimensions	172 x 151 x 75 mm with connector
Weight	2 kg

IP Desktop

Professional USB desktop controllers •
non-contacting Hall effect technology



DISTINCTIVE FEATURES

Three axis for PTZ control

USB 2.0 HID compliant “game controller”

12 momentary pushbuttons

Easy to install and operate

Available in two color options



ENVIRONMENTAL SPECIFICATIONS

- Operating Temperature: -32 °C to +85 °C (-13 °F to +185 °F)
- Storage Temperature: -32 °C to +85 °C (-13 °F to +185 °F)
- Sealing: None
- EMC Immunity Level: CE compliant, EMC directive 2004/108/EC, FCC Part 15 Subpart B, Class B
- EMC Immunity Level: CE compliant, EMC directive 2004/108/EC, FCC Part 15 Subpart B, Class B



MECHANICAL SPECIFICATIONS

- Operating Force: 2.8 N (0.63 lbf)
- Maximum Vertical Load: 200 N (45 lbf)
- Maximum Horizontal Load: 200 N (45 lbf)
- Mechanical Angle of Movement: 36° X & Y axis, 60° Z axis
- Expected Mechanical Life: 3 million lifecycles
- Mass/weight: 440 g (0.97 oz)
- Lever Action (centering): Spring



MATERIALS

- Body: ABS
- Shaft: Stainless steel
- Boot: Silicone
- Handle: Glass filled nylon

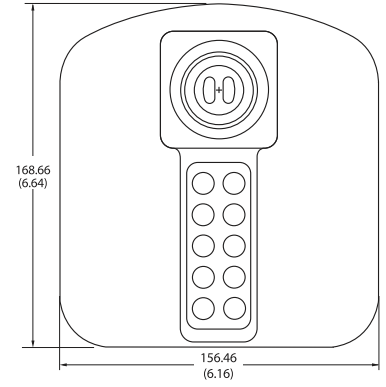
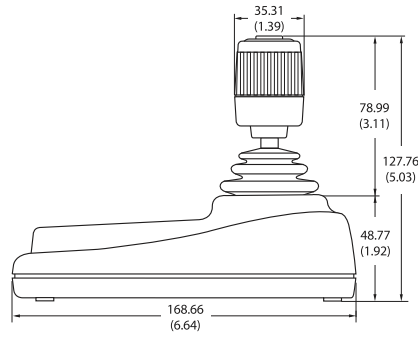
The company reserves the right to change specifications without notice.



IP desktop

Professional USB desktop controllers •
non-contacting Hall effect technology

DIMENSIONS



NOTES:

Dimensions are in mm/(inch).

To order the IP Desktop please refer to the following part numbers:

100550BLKRF (Black)

100550GRYRF (Gray).

HP Z1 G9 Tower Desktop

The most affordable pro-certified Z desktop



Pro-grade performance is now within reach with a desktop built for designing, editing and even gaming. From 2D and 3D CAD to entry VR content creation, gain speed and efficiency across your workflows. Go beyond a commercial PC with a desktop certified for select professional software applications.

Upgrade to workstation performance

Easily multitask with an Intel® Core™ vPro®¹ processor paired with the ideal graphics for your work. Designing in CAD? Accelerate 3D workflows with professional NVIDIA®. Creating in VR? Go for NVIDIA® GeForce®.²

Certified for your workflow

Work confidently knowing your Z1 is tested and certified for select professional apps. We've worked closely with software providers on apps like AutoCAD®, SOLIDWORKS® and Revit® so you get seamless workstation performance across your workflow.³

Industry leading security

HP Wolf for Business security⁴ features come standard on every Z1 Tower, for an always-on, always-acting, resilient defense. From the BIOS to the browser, above and below the OS, these constantly evolving solutions help protect your PC from threats.



HP Z1 G9 Tower Desktop



Operating Systems

Support your unique user needs with a choice of Windows 11 Pro, WSL2 or Linux® operating systems.⁵

Graphics

Create 3D models with optional NVIDIA RTX® T1000 or AMD Radeon™ X graphics.⁶ Creating in VR? Amp up your experience with optional NVIDIA GeForce RTX 4060 graphics.⁷

Memory

Experience fast performance when working on complex design tasks with 4 DIMMs for up to 128GB DDR5 memory at an increased memory speed of up to 4400MHz.⁸

Storage

Make storage simple with up to 8TB⁹ with 2 M.2 storage slots and RAID for added performance and reliability.

Flexible I/O Module

Configure to the needs today and adapt to the future. Options include DP 1.4, VGA, HDMI, Dual USB Type-A, USB Type-C® with Alt-DP or 2nd Serial and more.

VR Ready

Experience a future-proof device that's optimized for VR with NVIDIA GeForce graphics and an Intel® Core™ processor.

Tool-less Access

Evolve your work. Evolve your rig. With tool-less access to the interior, you can customize your Z to fit your needs.

Network Connectivity

Improve connectivity in crowded wireless environments while on Wi-Fi® with HP Extended Range Wireless LAN that allows greater distance from transmission point and fast data throughput at shorter ranges."

Reliability

We know you need performance you can rely on. That's why our products endure rigorous military standard testing¹⁰ and software certifications.

Sustainability

Sustainably built, this product contains recycled plastics, utilizes 92% power supply efficiency, and meets GreenScreen® for Safer Chemicals' methodology standards.¹¹

Power supply

Multiple PSU options, including the 550W PSU, enable increasing need for GPU, even with the highest power CPUs and rich configurations.¹²

Dust Filter

Help keep your system clean while sitting on the factory floor or machining environment with the front-access dust filter.¹³

HP Z1 G9 Tower Desktop

Specifications Table

Available Operating Systems	Windows 11 Pro ¹ Windows 11 Pro Education ¹ Windows 11 Home – HP recommends Windows 11 Pro for business ¹ Windows 11 Pro (preinstalled with Windows 10 Pro Downgrade) ^{1,2} Windows 10 Pro (available through downgrade rights from Windows 11 Pro) ¹ FreeDOS (Device comes with Windows 10 and a free Windows 11 upgrade or may be preloaded with Windows 11. Upgrade timing may vary by device. Features and app availability may vary by region. Certain features require specific hardware (see Windows 11 Specifications).)
Processor family	13th Generation Intel® Core™ i9 processor; 13th Generation Intel® Core™ i7 processor; 13th Generation Intel® Core™ i5 processor; 13th Generation Intel® Core™ i3 processor; 12th Generation Intel® Core™ i7 processor; Intel® Core™ i3 14th generation processor; Intel® Core™ i5 14th generation processor; Intel® Core™ i7 14th generation processor
Available Processors	Intel® Core™ i7-12700 with Intel® UHD Graphics (1.6 GHz E-core base frequency, 2.1 GHz P-core base frequency, up to 3.6 GHz E-core Max Turbo frequency, up to 4.8 GHz P-core Max Turbo frequency, up to 4.9 GHz with Intel® Turbo Boost Technology, 25 MB L3 cache, 8 P-cores and 4 E-cores, 20 threads) Intel® Core™ i3-13100 (3.4 GHz P-core base frequency, up to 4.5 GHz P-core Max Turbo frequency, 12 MB L3 cache, 8 P-cores and 0 E-cores, 8 threads) Intel® Core™ i5-13400 (1.8 GHz E-core base frequency, 2.5 GHz P-core base frequency, up to 3.3 GHz E-core Max Turbo frequency, up to 4.6 GHz P-core Max Turbo frequency, 20 MB L3 cache, 6 P-cores and 4 E-cores, 16 threads) Intel® Core™ i5-13500 (1.8 GHz E-core base frequency, 2.5 GHz P-core base frequency, up to 3.5 GHz E-core Max Turbo frequency, up to 4.8 GHz P-core Max Turbo frequency, 24 MB L3 cache, 6 P-cores and 8 E-cores, 20 threads) Intel® Core™ i5-13600 (2.0 GHz E-core base frequency, 2.7 GHz P-core base frequency, up to 3.7 GHz E-core Max Turbo frequency, up to 5.0 GHz P-core Max Turbo frequency, 24 MB L3 cache, 6 P-cores and 8 E-cores, 20 threads) Intel® Core™ i7-13700 (1.5 GHz E-core base frequency, 2.1 GHz P-core base frequency, up to 4.1 GHz E-core Max Turbo frequency, up to 5.1 GHz P-core Max Turbo frequency, 30 MB L3 cache, 8 P-cores and 8 E-cores, 24 threads) Intel® Core™ i9-13900 (1.5 GHz E-core base frequency, 2.0 GHz P-core base frequency, up to 4.2 GHz E-core Max Turbo frequency, up to 5.2 GHz P-core Max Turbo frequency, 36 MB L3 cache, 8 P-cores and 16 E-cores, 32 threads) Intel® Core™ i3-14100 (3.5 GHz P-core base frequency, up to 4.7 GHz P-core Max Turbo frequency, 12 MB L3 cache, 4 P-cores and 0 E-cores, 8 threads) Intel® Core™ i7-14700 with Intel UHD Graphics (1.5 GHz E-core base frequency, 2.1 GHz P-core base frequency, up to 4.2 GHz E-core Max Turbo frequency, up to 5.3 GHz P-core Max Turbo frequency, 33 MB L3 cache, 8 P-cores and 12 E-cores, 28 threads) Intel® Core™ i5-14600 with Intel UHD Graphics (2.0 GHz E-core base frequency, 2.7 GHz P-core base frequency, up to 3.9 GHz E-core Max Turbo frequency, up to 5.2 GHz P-core Max Turbo frequency, 24 MB L3 cache, 6 P-cores and 8 E-cores, 20 threads) Intel® Core™ i5-14500 with Intel UHD Graphics (1.9 GHz E-core base frequency, 2.6 GHz P-core base frequency, up to 3.7 GHz E-core Max Turbo frequency, up to 5.0 GHz P-core Max Turbo frequency, 24 MB L3 cache, 6 P-cores and 8 E-cores, 20 threads) Intel® Core™ i5-14400 with Intel UHD Graphics (1.8 GHz E-core base frequency, 2.5 GHz P-core base frequency, up to 3.5 GHz E-core Max Turbo frequency, up to 4.7 GHz P-core Max Turbo frequency, 20 MB L3 cache, 6 P-cores and 4 E-cores, 16 threads) Intel® Core™ i9-14900 with Intel UHD Graphics 770 (1.5 GHz E-core base frequency, 2.0 GHz P-core base frequency, up to 4.3 GHz E-core Max Turbo frequency, up to 5.4 GHz P-core Max Turbo frequency, 36 MB L3 cache, 8 P-cores and 16 E-cores, 32 threads)
Form factor	Tower
Maximum memory	128 GB DDR5-4800 non-ECC SDRAM Transfer rates up to 4400 MT/s.
Memory slots	4 DIMM
Internal storage	500 GB up to 2 TB 7200 rpm SATA HDD ⁹ up to 500 GB SATA SED Opal 2 HDD ⁹ 256 GB up to 512 GB PCIe® NVMe™ M.2 SSD ⁹ 256 GB up to 2 TB PCIe® NVMe™ TLC M.2 SSD ⁹ 256 GB up to 512 GB PCIe® NVMe™ SED Opal 2 TLC M.2 SSD ⁹
Optical drive	HP 9.5 mm Slim DVD-Writer; HP 9.5 mm Slim DVD-ROM ¹¹
Available Graphics	Integrated: Intel® UHD Graphics 770 Discrete: NVIDIA® T1000 (8 GB GDDR6 dedicated) NVIDIA® T400 (4 GB GDDR6 dedicated) NVIDIA® GeForce RTX™ 3060 (12 GB GDDR6 dedicated) NVIDIA® GeForce RTX™ 3050 (8 GB GDDR6 dedicated) Intel® Arc™ A380 Graphics (6 GB GDDR6 dedicated) AMD Radeon™ RX 6300 Graphics (2 GB GDDR6 dedicated) NVIDIA® GeForce RTX™ 4060 (8 GB GDDR6 dedicated) ^{16,17,39,40}
Audio	Realtek ALC3205 codec, universal audio jack with CTIA and OMTP headset support
Expansion slots	1 M.2 2230; 2 PCIe 3 x1; 1 PCIe 3 x16 (wired as x4); 2 M.2 2280; 1 PCIe 4 x16 (1 M.2 2230 slot for WLAN and 2 M.2 2280 slots for storage)
Memory card device	5-in-1 SD card reader (optional)
Ports and connectors	Front: 1 SuperSpeed USB Type-C® 20Gbps signaling rate (1 charging); 4 SuperSpeed USB Type-A 10Gbps signaling rate (1 charging); 1 universal audio jack ; Rear: 1 audio-out; 1 HDMI 1.4; 1 power connector; 2 DisplayPort™ 1.4; 3 USB Type-A 480Mbps signaling rate; 3 SuperSpeed USB Type-A 10Gbps signaling rate; 1 RJ-45 ; Optional Ports: Flex IO – choose one of the following options: 1 DisplayPort™ 1.4, 1 HDMI 2.0, 1 VGA, 2 SuperSpeed USB Type-A 5Gbps signaling rate, 1 SuperSpeed USB Type-C®, 10Gbps signaling rate (15W output, DisplayPort™ 1.4), 1 Thunderbolt™ 3 with SuperSpeed USB4 Type-C® 40Gbps signaling rate (cabled to PCIe® AIC), 1 serial and PS/2 ports combination, 1 parallel port ^{37,38}

HP Z1 G9 Tower Desktop

Specifications Table

Keyboard	HP Wireless Business Slim Keyboard and mouse combo; HP Wired Desktop 320K keyboard; HP USB Business Slim SmartCard CCID Keyboard; HP Wired Desktop 320MK Mouse and Keyboard; HP 125 Wired Keyboard; HP 655 Wireless Keyboard and mouse combo; HP 455 Programmable Wireless Keyboard; HP 225 Wired Keyboard and mouse combo; HP 225 Antimicrobial Wired Keyboard and mouse combo ³⁶
Mouse	HP Wireless Premium Mouse; HP wired desktop 128 laser mouse; HP 125 Wired Mouse; HP Wired 320K mouse
Communications	LAN: Intel® Ethernet Network Adapter I225-T1; Intel® I219-LM GbE LOM, vPro® ¹² ; WLAN: Intel® Wi-Fi 6E AX211 (2x2) and Bluetooth® 5.3 wireless card; Intel® Wi-Fi 6E AX211 (2x2) and Bluetooth® 5.3 wireless card, non-vPro®; Realtek Wi-Fi 6 RTL8852BE 802.11a/b/g/n/ax (2x2) and Bluetooth® 5.3 wireless card; Intel® Wi-Fi 7 BE200 (2x2) and Bluetooth® 5.4 wireless card, non-vPro®;
Software	HP Jumpstart HP Noise Cancellation Software HP Support Assistant Buy Office (sold separately) HP Privacy Settings HP Desktop Support Utilities HP Setup Integrated OOBE ²¹
Security management	HP Power On Authentication; Power-on password (via BIOS); SATA port disablement (via BIOS); Setup password (via BIOS); Support for chassis padlocks and cable lock devices; USB enable/disable (via BIOS); Serial enable/disable (via BIOS); HP Sure Click; Windows Defender; HP Sure Sense; HP Client Security Manager Gen7; HP Sure Start Gen7; HP Sure Run Gen4; HP Sure Recover Gen4; HP Tamper Lock; TPM 2.0 Embedded Security Chip (Common Criteria EAL4+ Certified) (FIPS 140-2 Level 2 Certified) ^{25,26,27,28,29,30,31}
Management features	HP Client Catalog (download); HP Cloud Recovery; HP Driver Packs; HP Management Integration Kit for Microsoft System Center Configuration Management Gen4; HP System Software Manager (download); HP BIOS Configuration Utility (download); HP Image Assistant (download); Ivanti Management Suite (download); HP Client Management Script Library (download) ^{18,22,23,24}
Power	260 W 92% efficient, wide-ranging, active PFC; 400 W 92% efficient, wide-ranging, active PFC; 550 W 92% efficient, wide-ranging, active PFC
Dimensions	33.7 x 30.8 x 15.5 cm; 28.7 x 40 x 49.9 cm (Package)
Weight	5.7 kg; 9.24 kg (Package) ; (Exact weight depends on configuration.)
Ecolabels	IT ECO Declaration; TCO Certified configurations available; EPEAT® Gold registered ³⁴
Energy star certified	ENERGY STAR® certified
Certification and compliance	ISV Certification
Sustainable impact specifications	45% post-consumer recycled plastic; 5% ITE-derived closed loop plastic; Bulk packaging available; 80 Plus® Platinum power supplies available; Molded paper pulp cushion inside box is 100% sustainably sourced and recyclable; Ocean-bound plastic in speaker enclosure and system fan; Contains recycled metal
Compatible displays	(Supports 8 displays, driving 8 displays requires the use of integrated and discrete graphics ports. Each source can drive a total of 4 displays. At least one of the integrated graphics ports need to drive two displays in a daisy chain configuration.)

HP Z1 G9 Tower Desktop

Accessories and services (not included)

HP DisplayPort to HDMI True 4K Adapter



Make the most of the available ports on your HP Business Desktop or HP Workstation with the HP DisplayPort to HDMI True 4K Adapter, which converts your DisplayPort™ output to HDMI for quick and easy connection to a range of multimedia devices that can support 4K resolution and 60hz refresh.
Product number: 2JA63AA

1TB PCIe 4x4 NVMe TLC SSD



Maximize your storage capacity with the HP 1TB PCIe 4x4 NVMe TLC SSD that removes mechanical barriers to high performance with no moving parts and helps keep your data safe.
Product number: 406L7AA

HP Keyed Cable Lock 10 mm



Help keep your notebook safe in the office and high-traffic areas by tethering it to a secure surface with the HP Master Keyed Cable Lock 10mm, designed specifically for ultra-thin profile notebooks.
Product number: T1A62AA

HP Z1 G9 Tower Desktop

Messaging Footnotes

¹ For full Intel® vPro® functionality, Windows 10 Pro 64 bit, a vPro supported processor, vPro enabled chipset, vPro enabled wired LAN and/or WLAN card and TPM 2.0 are required. Some functionality requires additional 3rd party software in order to run. See <http://intel.com/vpro>. vPro® is available on Intel® Core™ i5-11500 and above processors.

² NVIDIA® GeForce® graphics are an add-on feature that must be configured at the time of purchase.

³ Third party software sold separately.

⁴ HP Wolf Security for Business requires Windows 10 or higher, includes various HP security features and is available on HP Pro, Elite, RPOS and Workstation products. See product details for included security features and OS requirement.

⁵ Not all features are available in all editions or versions of Windows. Systems may require upgraded and/or separately purchased hardware, drivers, software or BIOS update to take full advantage of Windows functionality. Windows 11 Pro is automatically updated, which is always enabled. ISP fees may apply and additional requirements may apply over time for updates. See <http://www.windows.com>.

⁶ Sold separately or as an optional feature.

⁷ NVIDIA® GeForce® graphics are an add-on feature that must be configured at the time of purchase.

⁸ Memory speed increase is compared gen/gen.

⁹ For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 36GB of system disk (for Windows 11) is reserved for system recovery software.

¹⁰ MIL STD testing is not intended to demonstrate fitness for U.S. Department of Defense contract requirements or for military use. Test results are not a guarantee of future performance under these test conditions. Accidental Damage or damage under these test conditions requires an optional HP Accidental Damage Protection Care Pack.

¹¹ Based on IEEE 1680.1-2018 standards.

¹² Optional feature that must be configured at purchase.

¹³ Sold separately or as an optional feature.

⁸ All memory slots are customer accessible / upgradeable.

⁹ For hard drives and solid state drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 36 GB (for Windows 11) of system disk is reserved for the system recovery software.

¹¹ HP-DVD disks cannot be played on this drive. No support for DVD-RAM. Actual speeds may vary. Don't copy copyright-protected materials. With Blu-Ray, certain disc, digital connection, compatibility and/or performance issues may arise, and do not constitute defects in the product. Flawless playback on all systems is not guaranteed. In order for some Blu-ray titles to play, they may require a DVI or HDMI digital connection and your display may require HDCP support.

¹² Intel® i225-LM 2.5 GbE LOM: Sold separately or as an optional feature.

¹³ Wireless access point and Internet service required and sold separately. Availability of public wireless access points limited. Wi-Fi 6 (802.11ax) is backwards compatible with prior 802.11 specs. Wi-Fi 7 not available with 12th Gen Intel ADL processors; Wi-Fi 7 (802.11BE) functionality requires Windows 11 24H2, select Intel® processor, and a Wi-Fi 7 router, sold separately. Wi-Fi 7 is backwards compatible with prior 802.11 specs. Available in countries where Wi-Fi 7 is supported.

¹⁵ For full Intel® vPro® functionality, Windows, a vPro supported processor, vPro enabled Q570 chipset or higher and vPro enabled WLAN card are required.

¹⁶ The Tower can support a single discrete graphics card up to 300 W with a 550 W power supply.

¹⁷ NVIDIA® GeForce® RTX 4060 Graphics Card require 550 W chassis.

¹⁸ HP Cloud Recovery is available for HP Elite and Pro desktops and laptops PCs with Intel® or AMD processors and requires an open, wired network connection. Note: You must back up important files, data, photos, videos, etc. before use to avoid loss of data. Detail please refer to: <https://support.hp.com/us-en/document/c05115630> .

¹⁹ Antimicrobial USB Mouse, HP USB Hardened Optical Wired Mouse: are not available in all regions.

²¹ HP Support Assistant, requires Windows and Internet access.

²² HP Driver Packs: Not preinstalled, however available for download at <http://www.hp.com/go/clientmanagement> .

²³ HP Manageability Integration Kit can be downloaded from <http://www.hp.com/go/clientmanagement> .

²⁴ Ivanti Management Suite subscription required.

²⁵ HP Client Security Manager Gen6 requires Windows and is available on select HP Pro and Elite PCs.

²⁶ Windows Defender Opt in Windows 11 and internet connection required for updates.

²⁷ HP Sure Start Gen7 is available on select HP PCs and workstations. See product specifications for availability.

²⁸ HP Sure Sense requires Windows 11 Pro or Enterprise and supports Microsoft Internet Explorer, Google Chrome™, and Chromium™. Supported attachments include Microsoft Office (Word, Excel, PowerPoint) and PDF files in read only mode, when Microsoft Office or Adobe Acrobat are installed.

²⁹ HP Sure Run Gen4 is available on select HP PCs and requires Windows 10 and higher.

³⁰ HP Sure Recover Gen4 is available on select HP PCs and requires an open network connection. Not available on platforms with multiple internal storage drives. You must back up important files, data, photos, videos, etc. before using HP Sure Recover to avoid loss of data.

³¹ HP Sure Click requires Windows 10 Pro or higher or Enterprise. See https://bit.ly/2PrLT6A_SureClick for complete details.

³⁴ Based on US EPEAT® registration according to IEEE 1680.1-2018 EPEAT®. EPEAT® status varies by country. Visit www.epeat.net for more information.

³⁶ HP USB Business Slim Antimicrobial Keyboard is not available in all regions.

³⁷ Of the following, only one option can be configured at a time: DisplayPort™ 1.4; HDMI 2.0b; Dual Type A SuperSpeed USB 5Gbps signaling rate port; Serial; Thunderbolt™ 3.0; USB-C® SuperSpeed USB 10Gbps signaling rate port (USB-C® option has alt mode DisplayPort™ 1.4 and 15W output); VGA

³⁸ Thunderbolt™ 3.0 , Serial/PS/2 combo ,Parallel port occupies a PCIe slot.

³⁹ Not all Graphic Cards may be available in all countries.

⁴⁰ A second 3.5" HDD can't be used with the GeForce RTX™ 3060 installed.

Technical Specifications Footnotes

¹ Not all features are available in all editions or versions of Windows. Systems may require upgraded and/or separately purchased hardware, drivers, software or BIOS update to take full advantage of Windows functionality. Windows is automatically updated and enabled. High speed internet and Microsoft account required. ISP fees may apply and additional requirements may apply over time for updates. See <http://www.windows.com>.

² This system is preinstalled with Windows 10 Pro software and also comes with a license for Windows 11 Pro software and provision for recovery software. You may only use one version of the Windows software at a time. Switching between versions will require you to uninstall one version and install the other version. You must back up all data (files, photos, etc.) before uninstalling and installing operating systems to avoid loss of your data.

³ Multi-core is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. Performance and clock frequency will vary depending on application workload and your hardware and software configurations. Intel's numbering, branding and/or naming is not a configuration measurement of higher performance.

⁵ Intel® Turbo Boost technology requires a PC with a processor with Intel Turbo Boost capability. Intel Turbo Boost performance varies depending on hardware, software and overall system configuration. See www.intel.com/technology/turboboost for more information.

⁶ Some functionality of vPro technology, such as Intel Active management technology and Intel Virtualization technology, requires additional 3rd party software in order to run. Availability of future "virtual appliances" applications for Intel vPro technology is dependent on 3rd party software providers. Compatibility with future "virtual appliances" is yet to be determined.

⁷ For systems configured with more than 3 GB of memory and a 32-bit operating system, all memory may not be available due to system resource requirements. Addressing memory above 4 GB requires a 64-bit operating system. Memory modules support data transfer rates up to 2933 MT/s or 3200 MT/s as depending on processor config; with 1 DIMM per channel. Additional DIMM loading on any channel may impact maximum memory speed. Actual data rate is determined by the system's configured ; See processor specifications for supported memory data rate.

³¹ HP Sure Click requires Windows 10 Pro or higher or Enterprise. See https://bit.ly/2PrLT6A_SureClick for complete details.

³⁴ Based on US EPEAT® registration according to IEEE 1680.1-2018 EPEAT®. EPEAT® status varies by country. Visit www.epeat.net for more information.

³⁶ HP USB Business Slim Antimicrobial Keyboard is not available in all regions.

³⁷ Of the following, only one option can be configured at a time: DisplayPort™ 1.4; HDMI 2.0b; Dual Type A SuperSpeed USB 5Gbps signaling rate port; Serial; Thunderbolt™ 3.0; USB-C® SuperSpeed USB 10Gbps signaling rate port (USB-C® option has alt mode DisplayPort™ 1.4 and 15W output); VGA

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Technical Specifications

HP Series 5 Pro 23.8" FHD Monitor - 524pf

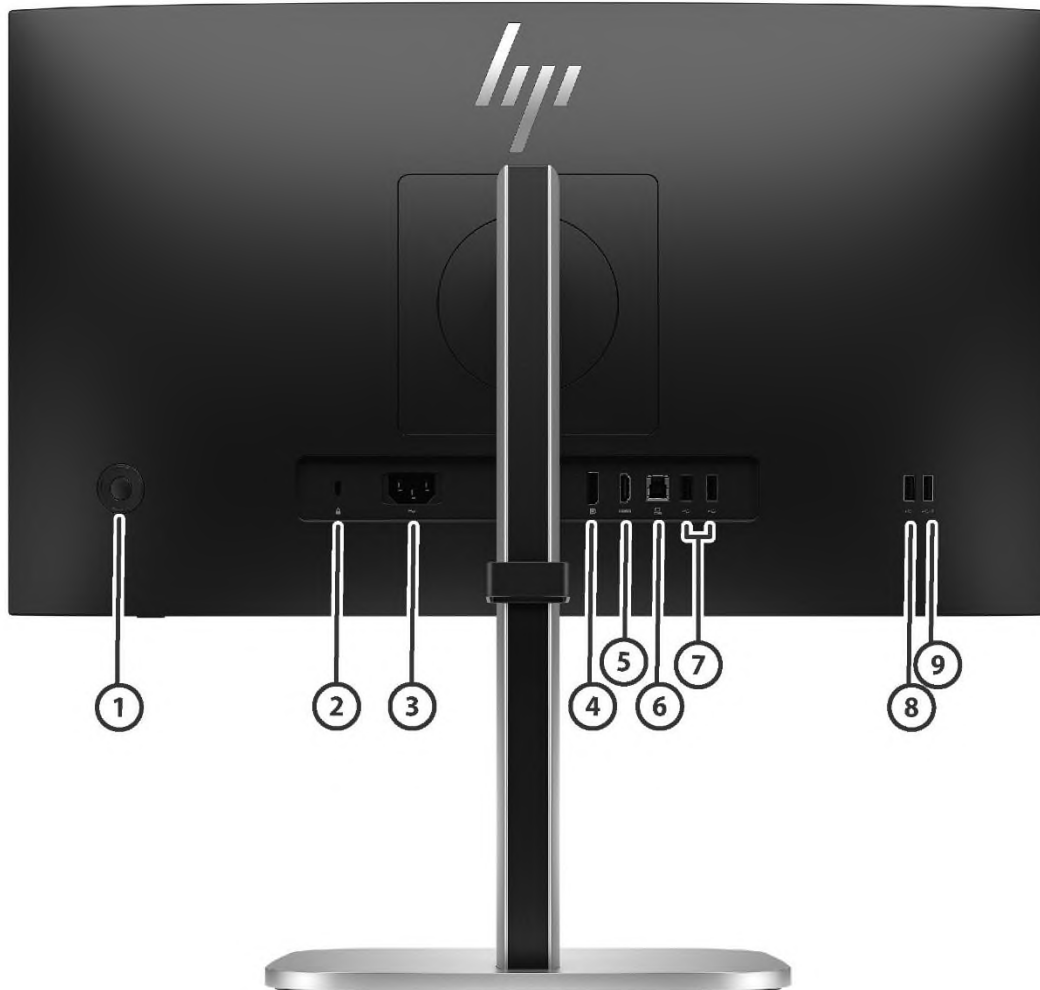


1. Power Button

Front
2. Power LED

Technical Specifications

HP Series 5 Pro 23.8" FHD Monitor - 524pf



Back

- | | | | |
|----|---------------------|----|---|
| 1. | Joypad OSD button | 6. | USB-B port |
| 2. | Security Cable Slot | 7. | 2x SuperSpeed USB Type-A 5Gbps signaling rate |
| 3. | Power Connector | 8. | SuperSpeed USB Type-A 5Gbps signaling rate |
| 4. | DisplayPort™ 1.2 | 9. | SuperSpeed USB Type-A 5Gbps signaling rate (charging) |
| 5. | HDMI 1.4 Port | | |

Technical Specifications

Model: 9D9L6UT

Panel Specifications	Display Size (Diagonal)	60.5 cm (23.8")
	Viewable Diagonal Size	60.47 cm (23.8")
	Panel Technology	IPS
	Curvature	Flat
	Max Refresh Rate	100 Hz
	Native Resolution	FHD (1920 x 1080)
	Panel Bit Depth	8 bit (6 bit + FRC)
	Aspect Ratio	16:9
	Brightness (Typical)	350 nits
	Display Contrast Ratio (Static)	1500:1
	Display Contrast Ratio (Dynamic)	10000000:1 = 10M:1
	Flicker Free	Yes
	Pixel Pitch	0.2745 x 0.2745 mm
	Pixels Per Inch (PPI)	93 PPI
	Display Colors	Up to 16.7 million colors supported *Number of colors through A-FRC technology.
	Backlight Lamp Life Minimum (To Half Brightness - In Hours)	30,000 hours
	Backlight Type	Edge-lit, WLED
	Screen Treatment	Anti-glare
	Hardness	3H
	Haze	25%
Color	Response Time (Typical)	5ms GtG (with overdrive)
	Horizontal Viewing Angle (Typical Cr>10)	178°
Color Management	Vertical Viewing Angle (Typical Cr>10)	178°
	Panel Active Area Metric (W X H)	52.70 x 29.65 cm
Monitor Specifications	Panel Active Area Imperial (W X H)	20.75x11.67 in
	NOTE: Performance specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower.	
Color	sRGB	100%
	Color Space	RGB 4:4:4, YCBCR 4:4:4, YCBCR 4:2:2
	RGB Channel Adjust	Yes, Gain
Color Management	Default Color Temperature	Neutral (6500K)
	Bezel Type	3-sided borderless
	Color Of Stand	Black and Silver
Monitor Specifications	Color Of Head	Black
	Tilt	-5 to +23°
	Swivel	±45°
Monitor Specifications	Pivot	±90
	Height Adjust Range	150 mm
	Vesa Mounting	100mm x 100mm
Monitor Specifications	Security Lock	Security lock-ready

Technical Specifications

	Detachable Stand	Yes
	Warranty	3/3/0 for AMS, EMEA, APJ (3/3/3 in select APJ countries)
	Low Blue Light	Yes, HP Eye Ease (TÜV Low Blue Light Hardware Solution certified)
	Zero Bright Dot Guarantee	No* *The HP Pixel Policy allows no bright sub-pixel defects for this display. For complete details, see http://support.hp.com/us-en/document/c00288895 .
	Management Software	HP Client Management Script Library*, HP Display Center** *The Client Management Script Library must be downloaded to the connected PC to run CMSL commands. Some limitations may apply to legacy displays. Visit support.hp.com to download **Host PC requires Windows 10 and above. HP Display Center is available on the Microsoft store.
On Screen Display (OSD)	On Screen Display	Brightness+, Color, Input, Image, Power, Menu, Management, Information, Exit
	Native Resolution	FHD (1920 x 1080)
	Maximum Resolution	FHD (1920 x 1080 @ 100 Hz)
	Preset Graphic Modes/Supported Resolutions	640 x 480 @ 60Hz 640 x 480 @ 75Hz 720 x 400 @ 70 Hz 720 x 480 @ 60Hz 720 x 576 @ 50Hz 800 x 600 @ 60 Hz 800 x 600 @ 75 Hz 1024 x 768 @ 60 Hz 1024 x 768 @ 75 Hz 1280 x 720 @ 50 Hz 1280 x 720 @ 60 Hz 1280 x 720 @100 Hz 1280 x 800 @ 60 Hz 1280 x 1024 @ 60 Hz 1280 x 1024 @ 75 Hz 1440 x 900 @ 60 Hz 1600 x 900 @ 60 Hz 1680 x 1050 @ 60 Hz 1920 x1080 @ 50Hz 1920 x 1080 @ 60 Hz 1920 x 1080 @ 75 Hz 1920 x 1080@ 100 Hz
	Minimum Vertical Scan Rate	50 Hz
	Maximum Vertical Scan Rate	100 Hz
	Minimum Horizontal Scan Rate	30 kHz
	Maximum Horizontal Scan Rate	120 kHz
	Maximum Pixel Clock	300 MHz
	User Programmable Modes	Yes, 18

Technical Specifications

	User-Assignable Function Buttons	Yes, 4 (6 options)
	Languages	11 (English, Spanish, German, French, Italian, Netherlands, Portuguese, Japanese, T-Chinese, S-Chinese and Russian)
Connector Types	DisplayPort™	1 DisplayPort™ 1.2
	HDMI	1 HDMI 1.4
	HDCP	Yes, DisplayPort™ and HDMI
	USB-Type-A	4 SuperSpeed USB Type-A 5Gbps signaling rate (1 charging)
	USB-B (Hub enablement)	1 USB-B
Special Features	Switch	Monitor Power button Next Active Input / Up button Information / Down button Brightness / Left button Color / Right button Menu / Enter button
	User Presets	18
	User Updateable Firmware	Yes
Power & Operating Specs	Power Supply	Internal
	Power Source	100 – 240 VAC 50/60 Hz
	Power Consumption- Max	58 W
	Energy Saving/Stand By Mode	0.5 W
	Power Consumption - Typical	22 W
Energy Star Data	Operational Mode at 100 VAC	11.6 W
	Operational Mode at 115 VAC	11.5 W
	Operational Mode at 230 VAC	12.7 W
EU Energy Efficiency Class (ErP LOT-5)	On-mode Power Consumption for Standard Dynamic Range (SDR)	12 W
	ErP LOT5 Energy Efficiency Class for Standard Dynamic Range (SDR)	
Operating Conditions	Operating Temperature - Celsius	5~35°C
	Operating Temperature - Fahrenheit	41– 95°F
	Non-Operating Temperature - Celsius	–40 – 65°C
	Non-Operating Temperature - Fahrenheit	–4 – 149°F
	Operating Humidity	20 – 80% Relative Humidity (non-condensing)
	Non-Operating Humidity	5~95%RH
	Operating Altitude Metric	0~5,000m
	Non-operating Altitude Metric	0~12,192m
	Operating Altitude Imperial	0~16,400ft
	Non-operating Altitude Imperial	0~40,000ft
Certifications and	Low Halogen	Yes*

Technical Specifications

Compliances

		* External power supplies, WWAN modules, power cords, cables and peripherals excluded. Service parts obtained after purchase may not be Low Halogen.
	Agency Approvals and Certifications	WW application CB/KC/NOM/TUV-S/ISO 9241-307/EAC/cTUVus/PSB/ISC/CCC/CECP/SEPA/TCO/TCO Certified Edge/GS/TUV HW LBL/UAE/Ukraine/BIS/NRCS/CE/FCC/VCCI/BSMI/EMF/KCC/ICES/RCM/Australian-New Zealand DoC/Energy Star/Korea MEPS/Ukraine EE/CEL/California CEC/WEEE/PSE/TGM Windows 11 (x64 only), Windows 10 (x64 only) Yes EPEAT® Gold in United States* EPEAT® registered with Climate+ *EPEAT® Gold NOTE: Based on US EPEAT® registration according to IEEE 1680.1-2018 EPEAT®. Status varies by country. Visit www.epeat.net for more information.
	Microsoft WHQL Certification ENERGY STAR® Certified EPEAT® Registered Regions need to verify by country	
	China Energy Label TCO Certified Edge TCO Certified SmartWay Transport Partnership - NA only	CEL Grade 2 Yes Yes Yes (NA sku)
Contains Recycled Materials	Recycled Plastics	85% ITE-derived closed loop plastic* Contains Ocean-Bound Plastic** *Recycled plastic content percentage is based on the definition set in the IEEE 1680.1-2018 standard ** All plastic parts contain ocean-bound plastic. Percentage of ocean-bound plastic contained in each component varies by product.
	Recycled Metal	At least 30% recycled metal* * Recycled metal is expressed as a percentage of the total weight of the metal according to ISO 14021 definitions for metal parts over 25 grams.
	Recycled Glass	20% recycled glass* * Percentage of recycled glass in the monitor panel varies by product. Recycled glass is expressed as a percentage of the total weight of the glass.
	Recyclable Packaging (Box, packing materials)	Outside Box and corrugated cushions are 100% sustainably sourced and recyclable* & Molded Paper Pulp Cushion inside box is 100% sustainably sourced and recyclable** *100% outer box packaging and corrugated cushions made from sustainably sourced certified and recycled fibers.

Technical Specifications

**Molded pulp cushions contains 100% recycled wood fiber and organic materials.

		<u>Metric</u>	<u>Imperial</u>
Unit Product/Package Specifications	Product Dimensions (Unpacked with stand) (W x D x H)	53.94 x 18.95 x 50.32 cm	21.24 x 7.46 x 19.81 in
	Product Dimensions (Packed) (W x D x H)	62.1 x 14.0 x 39.3 cm	24.45 x 5.51 x 15.47 in
	Display Head Dimensions (Unpacked without stand) (W x D x H)	53.94 x 4.72 x 31.43 cm	21.24 x 1.86 x 12.37 in
	Base Area Footprint (w x d mm)	242 x 189.50 mm	9.53 x 7.46 in
	Bezel Measurements	Top: NA Sides: NA Bottom: 9.25	Top: NA Sides: NA Bottom: 0.37
	Product Weight (Unpacked with stand)	4.9 kg	10.8 lb
	Product Weight (Packed)	7.2 kg	15.9 lb
	Product Weight (Head Only)	3.4 kg	7.6 lbs
Pallet Information	Pallet Dimensions (L x W x H mm)	Slip Sheet: 1128 x 629 x 1978 mm (20' ft & 40' ft) Slip Sheet: 1128 x 629 x 2372 mm (40' HQ) Pallet: 1128 x 629 x 2106 mm (20' ft & 40' ft) Pallet: 1128 x 629 x 2499 mm (40' HQ)	Slip Sheet: 44.41 x 24.76 x 77.87 inch (20' ft & 40' ft) Slip Sheet: 44.41 x 24.76 x 93.39 inch (40' HQ) Pallet: 44.41 x 24.76 x 82.91 inch (20' ft & 40' ft) Pallet: 44.41 x 24.76 x 98.39 inch (40' HQ)
	Pallet Total Weight	Slip Sheet: 292.5 kg (20' ft & 40' ft) Slip Sheet: 350.6 kg (40 HQ) Pallet: 302.5 kg (20' ft & 40' ft) Pallet: 360.6 kg (40 HQ)	Slip Sheet: 644.8 lbs (20' ft & 40' ft) Slip Sheet: 772.9 lbs (40' HQ) Pallet: 666.9 lbs (20' ft & 40' ft) Pallet: 795.0 lbs (40' HQ)
	Pallet Layers	Slip Sheet: 5 layers (20' ft & 40' ft) Slip Sheet: 6 layers (40' HQ) Pallet: 5 layers (20' ft & 40' ft) Pallet: 6 layers (40' HQ)	
	Pallet Product per Layer	8 per layer (slip sheet) 8 per layer (pallet) Slip Sheet: 40 sets (20' ft & 40' ft) Slip Sheet: 48 sets (40' HQ) Pallet: 40 sets (20' ft & 40' ft) Pallet: 48 sets (40' HQ)	
	Total Products per Pallet	720 sets (slip sheet) 720 sets (pallet)	
	Container Load, 20-Foot	1520 sets (slip sheet)	
	Container Load, 40-Foot	1520 sets (pallet)	



Technical Specifications

	Container Load, 40-Foot HighQ	1824 sets (slip sheet) 1824 sets (pallet)
What's in the box?	AC power cord (1.83m) 5.9ft HDMI 1.4 cable (1.8m) 5.9 ft USB 3.0 B-A cable (1.8m) DisplayPort™ 1.2 cable (1.8m) Warranty Quick Setup Poster	
User Guide and Warranty Languages	User Guide Languages	Arabic, Bahasa Indonesia, Bulgarian, Chinese-S, Chinese-T, Czech, Danish, Dutch, English, Estonian, Finnish, French, German, Greek, Hebrew, Hungarian, Italian, Japanese, Kazakh, Korean, Latvian, Lithuanian, Norwegian, Polish, Portuguese (Brazilian), Portuguese (Iberian), Romanian, Russian, Serbian, Slovak, Slovenian, Spanish, Swedish, Thai, Turkey, Ukrainian
	Warranty Languages	English US (EN), English AP (EN-AP), English LA (EN-LA), English UK (EN-GB), Arabic (AR) -17x, Bahasa Indonesia (ID), Bosnian (BS), Bulgarian (BG), Chinese-S (CN), Chinese-T (TW), Croatian (HR), Czech (CS), Danish (DA), Dutch (NL), Estonian (ET), Finnish (FI), French Canadian (FC), French European (FR), German (DE), Greek (EL), Hebrew (HE), Hungarian (HU), Italian (IT), Japanese (JA), Kazakh (KK), Korean (KO), Latvian (LV), Lithuanian (LT), Norwegian (NO), Polish (PL), Portuguese, Brazilian (BR), Portuguese, Iberian (PT), Romanian (RO), Russian (RU), Serbian (SR), Slovak (SK), Slovenian (SL), Spanish, Castilian (ES-ES), Spanish, Latin America (ES-MX), Swedish (SV), Thai (TH) Turkish (TR), Ukrainian (UK), Vietnamese (VI)

Technical Specifications

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Summary

Change Log			
November 22, 2024	V1 to V2	Updated Added	Management Software Section Certification Section
	V2 to V3		
	V3 to V4		

SOVA

Command and
control software



dat con

SOVA Command and control software

Developed specifically for the border police, coast guards and navy applications.



SOVA is a module based software package developed specifically for the border police, coast guards and navy applications. With its simple and effective design, SOVA is an efficient and easy to use tool.



Features and Modules:

- Realtime video observation
 - Pan/Tilt
 - Zoom/Focus
 - Single picture, picture-in-picture
- Video analysis module
 - Video tracking
 - Image stabilization
 - Motion detection
 - Change detection
 - Template matching
- Video overlay support
- Panorama picture
- Sector scanning
 - Position presets
 - Pan/Tilt
 - Zoom/Focus
 - Auto-patrol support
 - Contour auto-patrol
- Video recording/Snapshots with timestamps
- Multiple sensors support
 - Thermal imagers
 - Day/Night cameras
 - Laser range finders
 - GNSS modules
 - Pan-Tilt units
- Multiple video encoding types support



Features and modules:

- Multilayer support
- Mil-Std-2525 B/C symbology supports
- Viewpoint calculation (based on 3D model)
- Measurement tools
 - (distance, circumference, orientation, direction)
- Supported map formats:
 - Raster/Imagery (GeoTIFF, JPEG, etc.)
 - Vector (S57, VMAP, SHAPE, etc.)
 - Terrain (DTED, SRTM, Lidar, etc.)
 - 3D models
- Presentation layers:
 - Target layers (AIS, radar, UAV)
 - Surveillance platform layer
 - Map layers
 - Zones/Marks layer
 - Range/Bearing layer
 - Resources layer
- Multiple sensors support:
 - Radars,
 - AIS receivers,
 - RF terminals,
 - UAV systems
- Drawing tools (geometric shapes, text)
- Alarm zones
- Exclusion zones
- Alarm management
- Sova Video Surveillance integration:
 - Slew-to-cue mode
 - Target tracking
- Positions presets



Common features

- Friendly, ergonomic and localized Graphical User Interface
- Day/Night mode
- Module based licensing







DAT-CON d.o.o.
Cvetlicna ulica 52
3313 Polzela
Slovenia

T: +386 3 62 00 500
F: +386 3 57 20 408
E: sales@dat-con.com
www.dat-con-defence.com