

TUFF PANEL PC

8.0", 10.4" & 15.6" Tablet PC



Capacitive Touch



Upgradability



Customisable



Interoperability



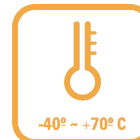
IP65



Transient Protection



Sunlight Readable



-40° ~ +70° C



Vibration & Shock

TUFF Panel PC by Motium is a range of fanless, fixed mount tablet PCs and boasts features including water and dust resistance (IP65), high-performance processing and optional quad-core processing power.

Motium's TUFF Panel PC is designed for long-term, reliable operation in the harshest environments.

Key Features

Sunlight Readable Capacitive Touch Display

Motium's sunlight readable display uses ultra-efficient, high-brightness LED backlighting combined with capacitive touch technology.

Extensive I/O Connector Options

Including four switchable analogue or digital I/O connector options, choose from USB, RS-232, RS-485, CAN, Ethernet, AI and more.

Designed for Rugged Environments

A wide voltage input range with transient and surge protection to ISO7637. UPS battery backup ensures power in harsh environments.

Diverse Wireless Connectivity

Including Wi-Fi, GNSS, Bluetooth, Cellular 3G/4G/5G and LAN, with other Mini PCIe-compliant cards available on request.

Customisable Connectors

Choose from standard QuickConnect Interface connectors or customise your pin-out to consolidate wired interfaces.

Multiple Sizes

Available in 8-inch, 10.4-inch and 15.6-inch screen sizes.



Customised Solutions

Designing and manufacturing our own technology means we can tailor our products to your specific needs. From white label customisation through to custom hardware and beyond, contact us for a truly bespoke TUFF solution.

Ongoing Support

We create strong, long-lasting partnerships with our customers. We offer comprehensive and ongoing support and guidance for effective installation and efficient use of all products.

Contact Us

For product enquiries or further information about the entire TUFF product range, contact us at sales@motium.com.

Key Markets



Mining



Waste Management



Emergency Services



Transportation



Industrial Automation



Defence



Marine



Construction

MOTIUM

YOUR RUGGED TECHNOLOGY PARTNER

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TUFF Panel PC

8.0" Panel PC (MPP-820), 10.4" Panel PC (MPP-1020), 15.6" Panel PC (MPP-1520)

MOTIUM

SPECIFICATIONS

DISPLAY	
Viewable Area	8.0-inch: 4:3 (20.32cm) diagonal. 10.4-inch: 4:3 (26.416cm) diagonal. 15.6-inch: 16:9 (39.624cm) diagonal.
Native Resolution	8.0-inch: 800 x 600. 10.4-inch: 1024 x 768. 15.6-inch: 1920 x 1080.
Contrast Ratio	8-inch: 500:1 typical. 10.4-inch: 1200:1 typical. 15.6-inch: 700:1 typical.
Brightness	8-inch: 1,400 nits typical. 10.4-inch: 1,200 nits typical. 15.6-inch: 700 nits typical. (1 nit = 1 Cd/m2.) Supports a configurable automatic backlight using an inbuilt light sensor.
Viewing Angle	8.0-inch H: 140° typ, V: 120° typ. 10.4-inch H: 176° typ, V: 176° typ. 15.6-inch H: 160° typ, V: 160° typ.
Touch	10-point projected capacitive on 1.8mm glass with anti-glare, anti-reflection and anti-fingerprint surface coating. *Not available on MPP-1520 or certain MPP-820 configurations. 5-wire resistive on 1.8mm glass available in place. Supplied with a surface protection film fitted.
PC	
Processor	Intel Atom x7-E3950 Quad-Core 1.6GHz/2.0GHz. Intel Atom x5-E3940 Quad-Core 1.60GHz/1.80GHz. Intel Atom x5-E3930 Dual-Core 1.30GHz/1.80GHz.
Instruction Set	64-bit.
Memory	8GB DDR3L RAM with E3950 CPU. 4GB DDR3L RAM with E3940 CPU. 2GB DDR3L RAM with E3930 CPU.
System Chipset	Intel® Apollo Lake E3900 Series with TPM 2.0
BIOS	AMI Aptio UEFI. Multi Stage Watchdog.
Operating System	Windows 10, Windows 10 IoT Enterprise, Windows 7 Embedded Standard. Linux and Android Available.
MASS STORAGE AND MEDIA	
SSD	32GB to 1TB.
eMMC	16GB eMMC available with E3930 CPU.
External Device	USB Optical Drive: CD-ROM, DVD, Blu-Ray, USB Floppy Drive, USB Flash Drive.
Boot Source	Internal SSD, eMMC if available, Internal microSD. External USB flash drive, LAN.
VIDEO AND AUDIO	
Video	Intel® HD Graphics Gen. 9. 3D hardware acceleration: DirectX 12.0, OpenGL 4.3, OpenCL 2.0. Support for high-performance decoding: MPEG-2, H.264 (L5.2), VC-1, WMV9, VP8, JPEG/MJPEG, H.265 (HEVC), VP9, MVC.
Sound	High-Definition audio interface with dual integrated stereo speakers.
WIRELESS CONNECTIVITY	
GNSS	Optional 92-channel u-blox M9 engine GPS L1 C/A, QZSS L1 C/A/S, GLONASS L10F BeiDou B1I, Galileo E1B/C SBAS L1 C/A: WAAS, EGNOS, MSAS, GAGAN. External SMA connector with Active Antenna support for enhanced GPS reception.
Bluetooth	Optional Class 2 Bluetooth V4.0 with BLE available on a Wi-Fi combo card with external SMA antenna support. Optional Class 1 Bluetooth V5.0 with BLE with optional SMA antenna support.
Cellular	Optional 3G/4G/LTE/5G Cellular Data Module with Nano SIM and external dual SMA antenna support for MIMO.

Wireless LAN	Optional single or dual IEEE 802.11 AC/a/b/g/n Module with external dual SMA antenna support for MIMO.
AI	Optional Neural Accelerator with 4Gb LPDDR4 supporting Caffe and TensorFlow frameworks.
Other	Other Mini PCIe compliant cards can be fitted at time of manufacture. Contact Motium to check suitability.
INTERFACES	
COM	Three RS-232 ports available with QC2 cable. Optional RS-485 port available.
USB	Three full-function USB 2.0 ports. One USB 2.0 port available with QC4 cable. Two USB 2.0 ports available on enclosure body.
LAN	One 10/100 LAN port available with QC4 cable. Optional 100/1000 LAN port available.
I/O	Four independent configurable analogue or digital inputs/outputs available with QC1 cable.
CAN	Two CAN Bus2.0b with J1939 protocol support with QC3 cable. Two optional 24v DC internally fused inputs to power CAN sensors (12W shared). Other CAN Bus protocols available.
Composite Video Input	One optional Composite Video Capture with PAL/NTSC support with QC1 cable. One optional 8-way Composite Video Capture with PAL/NTSC support with QC3 cable.
Function Keys	Power on/off, backlight brightness up/down, volume up/down. Function keys can be disabled or reassigned in software. Custom labelling of buttons available. Minimum order quantities may apply.
PHYSICAL CHARACTERISTICS	
Mounting	75mm VESA mount. 100mm VESA mount (15.6-inch only).
Dimensions	8.0-inch: 220mm x 193mm x 55mm. 10.4-inch: 262mm x 229mm x 55mm. 15.6-inch: 405mm x 252mm x 60mm.
Weight	8.0-inch: Up to 1.6kg. 10.4-inch: Up to 1.9kg. 15.6-inch: Up to 3.9kg.
Shipping	8.0-inch: Up to 2.16kg. 10.4-inch: Up to 2.65kg. 15.6-inch: Up to 4.5kg.
Environmental	Operating: -40°C to +75°C. Storage: -40°C to +85°C. 10% to 90% RH, non-condensing.
Certification	RCM, CE, FCC, WEEE, ISO-7637, UN-3480 Other certifications available upon request.
Sealing	IP65.
POWER	
Power Supply	Input voltage range 8 VDC to 39 VDC.
Power Consumption	70W max. 20W nominal.
Power Management	Custom power management available through system utility, supporting Vin and Acc power controls. BIOS Supported Wake-on: RTC, USB keyboard and LAN.
Accessory Control	Accessory input for power on/off control through QC1 breakout cable.
UPS	Internal 9.6Wh Uninterruptible Power Supply (UPS) with 7.2Wh usable capacity.
Transient Protection	Load dump and other transients specified in ISO-7637 for 12v and 24v vehicles.
SUPPORT	
Warranty	24-month warranty from date of dispatch from Motium. Additional 12, 24 and 36-month warranties are also available. Please also see the Motium Terms and Conditions of Sales document.

ORDERING OPTIONS

The TUFF Panel PC is available in standard models and can also be customised with a variety of options. White label branding options are also available. Minimum order quantities may apply.

QuickConnect (QC) cable assemblies must be ordered separately. Standard and custom options are available.

Contact Motium for order codes. Specifications subject to change without notice.