

mc NEWS *special*

Rugged Box and Panel PCs

Flexible, fanless and maintenance-free for
mobile and mission-critical applications



Rugged Box & Panel PCs



Box and panel PCs from MEN are based on a flexible, modular concept in terms of processor performance, interface and PSU types as well as display type and size.

The design is always accomplished without fans, using conductive cooling to spread the dissipated heat to the outside of the housing. Standard versions comply with the EN 50155, class Tx railway standard and are prepared for e1 certification.

Based on an innovative concept our box PCs offer the highest flexibility by separating the external interfaces from the main PCB. This way the interfaces can be configured individually and can quickly be adapted to all requirements without additional overhead.

MEN panel PCs are currently deployed, e.g., as infotainment or digital signage platforms, as ticketing machines, in driver desk applications or to supervise the passenger area of the vehicle or the platform.

Rugged box PCs are used in all kinds of mobile machines to assist or replace the driver (automated move), e.g. in agricultural, mining or construction machines. Other application examples include SCADA systems for traffic and fleet management, automotive data loggers for driver assistance, connectivity, diagnosis and electromobility or board computers for passenger information systems and video surveillance in buses, trains and light-rail vehicles.

Box PCs

BC50M – Box PC for Mobile Applications

- AMD T48N, 1.4 GHz with 2 GB DDR3 SDRAM
- Two DisplayPort channels with a resolution up to 2560x1600
- -40°C to +70 (+85)°C operating temperature
- Up to IP65 rating optional
- EN 50155 compliant
- e1 certification ready



The BC50M has been designed for independent use or as panel PC electronics for use in mobile applications, e.g. in trains, commercial vehicles, mobile machines or airplanes.

The BC50M box PC is powered by an AMD Embedded G-Series APU, running at 1.4 GHz. It supports up to two DisplayPort® interfaces with a maximum resolution of 2560x1600 or 1920x1200. The DisplayPort® interfaces and all other I/O are available at the unit's front panel on standard connectors like USB, 9-pin D-Sub (serial I/O and HD audio, both optional), 8-pin M12 (Gigabit Ethernet) and DisplayPort®. On the inside, the system offers two PCI Express® Mini Card slots with two SIM card slots. As an option the first PCI Express® Mini Card can also switch between the two SIM cards.

The combination of the various CPU/GPU options with the available selection of external interfaces makes for an extremely flexible system design that can quickly be tailored to a vast number of applications.

Read more: www.men.de/000431

BC50I – Box PC for Industrial Applications

- AMD Embedded G-Series Dual-Core APU
- 2 Gigabit Ethernet, 2 USB 2.0, 2 DisplayPorts
- WLAN, UMTS, GPS, GSM, HSDPA, EDGE, LTE via 1 PCI Express® Mini Card slot
- 2 slots for IBIS, GPS, RS232, RS485, RS422
- -40°C to +70°C operating temperature



The BC50I has been designed for independent use or as panel PC electronics for use in industrial applications, e.g. for machine control, surveillance or commercial vehicles or robotics.

It is powered by an AMD Embedded G-Series APU (Accelerated Processing Unit), the T48N, running at 1.4 GHz. The BC50I is equipped with 2 GB of DDR3 SDRAM and offers SD card and mSATA slots. The two DisplayPort® interfaces and all other I/O are available at the unit's front panel on standard connectors like USB, 9-pin D-Sub (serial I/O optional), RJ45 (Gigabit Ethernet) and DisplayPort®. The system offers one PCI Express® Mini Card slot with a SIM card slot. The necessary antenna connectors can be made available at the front panel.

The BC50I comes with its own integrated 24 VDC nom. (16 to 36 V) power supply. The power can be switched on and off using an ignition signal on the power connector, and a run-down time after switching off the power can be adjusted by software.

Read more: www.men.de/000441

Panel PCs



DC1 – Rugged Panel PC

- 15" 4:3 TFT LCD panel
- Intel® Atom™ processor 1.6 GHz
- 1 GB RAM, 4 GB Flash Disk
- 2 Fast Ethernet, 2 USB
- Rugged aluminum enclosure, fanless and maintenance-free design
- -40°C to +70(+85)°C operating temperature
- EN 50155, IP54 compliant (front)

The DC1 panel PC comes with a robust stainless enclosure that is protected against violent impacts and designed for a safeguarded use in direct contact with humans, e.g., for passenger information in trains, public buses or airplanes.

The DC1 is controlled by the Intel® Atom™ Z530 running at 1.6 GHz. It is equipped with 1 GB of DDR2 SDRAM and 4 GB of USB-driven Flash disk. The standard interfaces comprise two Fast Ethernet and two USB ports as well as four binary inputs.

A PCI Express® Mini Card slot in combination with an external antenna can be used to incorporate wireless functions like WIFI, WIMAX, GSM/GPRS, UMTS etc. With a typical power consumption of only 20 W for the total system the design is always realized without fans, using conduction cooling between the electronics and the display to spread the dissipated heat to the outside of the housing.

The standard version of the DC1 complies with the EN 50155, class Tx railway standard (prepared for coating).

Read more: www.men.de/000432



DC2 – Rugged Touch Panel PC

- 10.4" 4:3 TFT LCD with capacitive touch panel
- Intel® Atom™ processor, 1.3 GHz
- 1 GB RAM, 2 GB microSD™ card
- 2 Fast Ethernet, 2 USB, PCI Express® Mini Card
- -40 to +70(+85)°C operating temperature (-20 to +70°C for display and touch)
- e1 certified, EN 50155 (with special PSU), IP65 (front), IP20 (rear)

The panel PC DC2 is designed for panel mounting and equipped with a 10.4" 4:3 LCD TFT display with a capacitive touch panel. It is controlled by the Intel® Atom™ XL Z520PT running at 1.33 GHz and comes with 1 GB of DDR2 SDRAM and a built-in 2 GB microSD™ card. The standard interfaces comprise two Fast Ethernet (via RJ45 connectors), two USB ports and four binary inputs. The two Ethernet interfaces have switch functionality to provide Ethernet connection to subsequent intelligent displays.

The unit's control electronics are directly attached to the back of the display, hence bigger screen sizes or other aspect ratios can be realized easily.

A PCI Express® Mini Card slot (with a SIM card slot) in combination with an external antenna can be used to incorporate wireless functions like WIFI, WIMAX, GSM/GPRS, UMTS etc.

Read more: www.men.de/000433

DC12 – Rugged Touch Panel PC

- 7" stand-alone panel PC with projective capacitive touch
- LVDS up to 1280 x 768
- Intel® Atom™ E600, up to 1.6 GHz
- Ethernet, USB and UART interfaces
- GPS, further wireless functions via PCI Express® Mini Card
- Boot: local via mSATA or remote with PXE-Boot
- -30°C to +70(+85)°C operating temperature
- EN 50155 compliance (rail), prepared for e1 certification (road)
- Protection class up to IP65



The DC12 is a rugged, fanless and maintenance-free panel PC, e.g., for in-seat infotainment purposes in trains, public buses or airplanes. Standard interfaces comprise one Fast Ethernet (via M12 connector), two USB ports as well as a GPS and RS232 or RS422/485 interface. A temperature sensor and a light sensor are provided to monitor and control the display. A PCI Express® Mini Card slot in combination with an external antenna can be used to incorporate wireless functions like WIFI, WIMAX, GSM/GPRS, UMTS, HSDPA and LTE. The microSD™ card slot and also the microSD™ card slot can be accessed externally. The DC12 is equipped with an internal 10 to 50.4 V (24 VDC nom. or 36 VDC nom.) wide-range class S2 power supply. Rear side VESA 75 mounting allows use of standard fasteners. Screen sizes of up to 15" can be customized.

DC13 – Rugged Panel PC with Power Over Ethernet

- 8.4" stand-alone panel PC
- Power Over Ethernet device
- LVDS up to 1280 x 768
- Intel® Atom™ E600, up to 1.6 GHz
- Ethernet interface
- GPS, further wireless functions via PCI Express® Mini Card
- Boot: local via mSATA or remote with PXE-Boot
- -30°C to +70(+85)°C operating temperature
- EN 50155 compliance (rail), prepared for e1 certification (road)
- Protection class up to IP65



The DC13 is a rugged, fanless and maintenance-free panel PC with a power consumption of less than 13 W. It is powered over an Ethernet source with a power range of 37 V to 57 V (48 VDC nom.). The DC13 is equipped with one Fast Ethernet interface, which can either be used for power supply or as an Ethernet port. A PCI Express® Mini Card slot (supported by a microSD™ card slot) in combination with an external antenna can be used to incorporate wireless functions like WIFI, WIMAX, GSM/GPRS, UMTS, HSDPA and LTE. The DC13 features 20 backlit buttons with tactile feedback. The button layout can be easily customized.



SC21 – Intel® Atom™ SBC for Intelligent Displays

- For LCD TFT panels sized from 10.4" up to 21"
- LVDS up to 1366 x 768
- Intel® Atom™ Z520PT, 1.33 GHz
- 1 GB RAM, microSD™ card slot
- PCI Express® Mini Card and SIM card slot
- 2 Fast Ethernet, 2 USB 2.0
- -40°C to +85°C operating temperature (screened)
- EN 50155 compliant (with special PSU), prepared for e1 certification

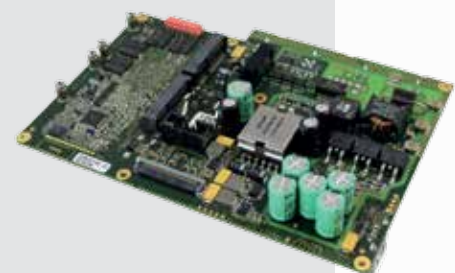
Read more: www.men.de/000436



SC24 – AMD G-Series SBC for Multi-Display Control

- For LCD TFT panels sized from 12" to 60"
- AMD T48N, 1.4 GHz
- 2x2 DisplayPorts
(2x 2560x1600 and 2x 1920x1200 or 4x 1920x1200)
- Up to 4 GB DDR3 RAM
- SD card (2 GB pre-installed) and mSATA slots
- -40°C to +85°C operating temperature (screened)
- EN 50155 compliant, prepared for e1 certification
- To be used together with graphics and I/O interface board (e.g. AE51)

Read more: www.men.de/000434



SC27 – Compact Intel® Atom™ SBC for Intelligent Displays

- For LCD TFT panels sized from 7" up to 15"
- LVDS up to 1280 x 768
- Intel® Atom™ E6xx series, up to 1.6 GHz
- Up to 2 GB DDR2 SDRAM, mSATA and microSD™ slot
- 1 Fast Ethernet, 2 USB 2.0, 1 GPS interface
- PCIe® MiniCard and microSIM card slot
- 1 SA-Adapter™ slot for 2 UART or CAN
- -40°C to +85°C operating temperature
- EN 50155 compliant, prepared for e1 certification

Read more: www.men.de/000442

AE51 – Graphics and I/O Interface Board for SBC SC24

- 2 DisplayPorts
- 2 Gb Ethernet on M12 connectors
- 1 USB 2.0
- 2 PCI Express® Mini Card and SIM card slots
- 2 SA-Adapter™ slots for 2 UARTs (alternative: 1 IBIS or GPS and 1 CAN bus)
- HD audio (optional)
- -40°C to +85°C operating temperature (screened)
- EN 50155 compliant, prepared for e1 certification

Read more: www.men.de/000432



AE63 – Display Control Board

- DisplayPort® to LVDS adapter
- Temperature monitoring
- Backlight control
- Touch interface
- Key interface
- 12 to 24 V power supply
- -40°C to +85°C operating temperature (screened)

Read more: www.men.de/000432





Learn more about
box and panel PCs!
www.men.de/000503

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