

» Motherboards and SBCs «

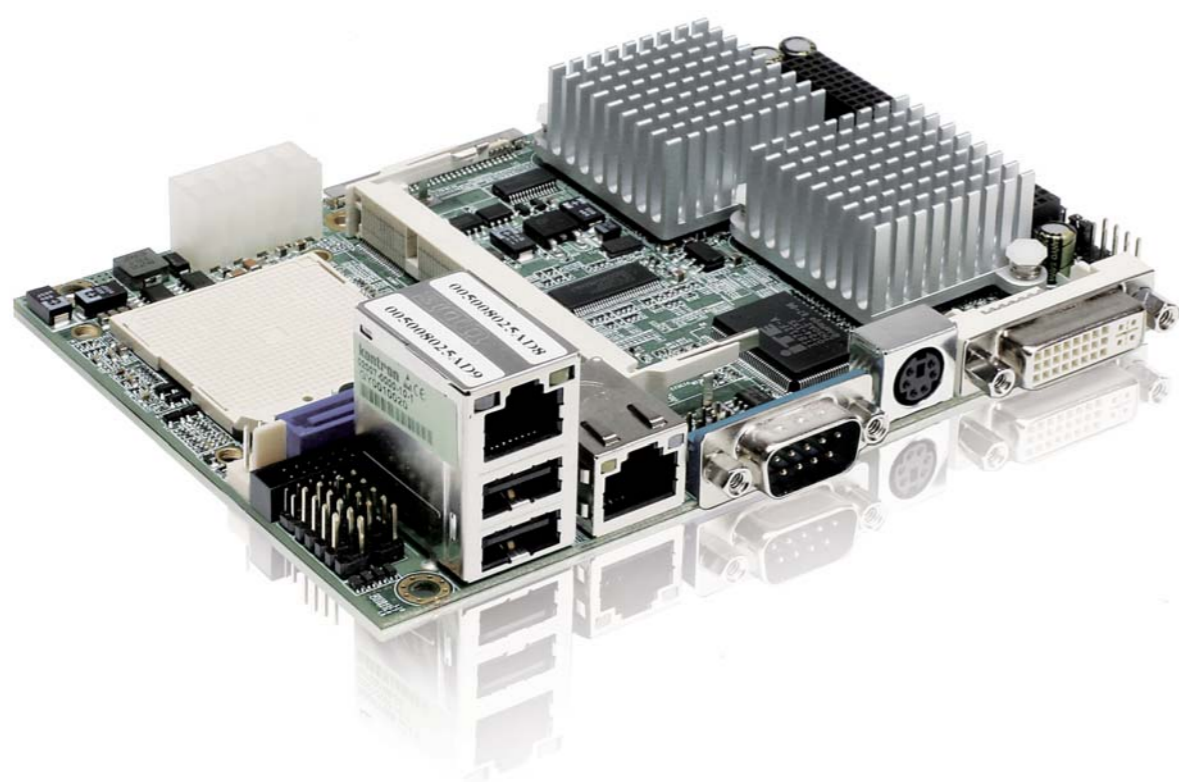
Longevity SBCs & Motherboards

- » Pico-ITX 2.5" and 3.5"
- » Mini-ITX to full size ATX
- » Accessories





» Single Board Computers «



Overview

Single Board Computers (SBCs) are standard, off-the-shelf computer boards that come in various industry conforming form factors. Some can deliver customized features for the total solution when integrated with PCI-104 expansion boards.

Additionally you can find as well now the brand new small form factor Pico-ITX (100 x 72 mm).

Advantages of SBCs

SBCs are designed to work right out-of-the-box, thus optimizing development time so the final application can achieve an extremely quick time to market.

Kontron SBCs are highly integrated with all key system interfaces and functionalities already designed in to the board.

This means that only application-specific I/O needs to be integrated for the complete solution. This is made easy with standard accessories and contributes to the ultimate in fast system set-up – no specialized R&D knowledge and development time required.

Just plug and go!



JRexplus 3.5" SBCs

- » From AMD-LX800 up to Intel® Atom™
- » Chassis re-use
- » Full featured
- » Expansion via PCI-104



Pico-ITX 2.5" SBCs

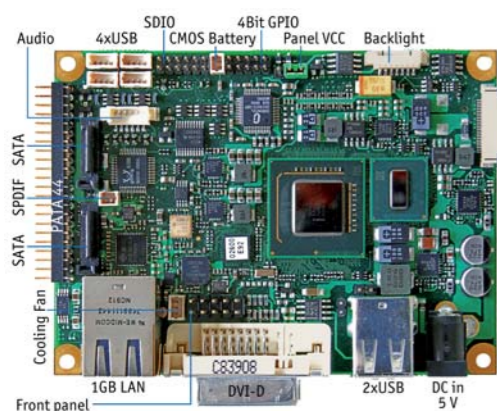
- » With Intel® Atom™ Z5xx processor with up to 1.6 GHz
- » Small Form Factor 10 x 7.2 cm
- » Intel® US15W
- » Low power consumption with latest energy saving 45nm technology

reduced
to the max!

Pico-ITX – the small, powerful and cost effective 2.5" SBC family.

With the Pico-ITX form factor, Kontron now supports a new definition of small (100 x 72 mm), powerful and very cost effective 2.5" SBCs. The pITX-SP, Kontron's first 2.5" SBC

based on this specification, features the Intel® ATOM™ Z510 / Z530 processor and US15W chipset, together with multiple I/O options, microSD-Card boot etc...



ACCESSORY
STARTERKIT
AVAILABLE

KONTRON'S NEW Pico-ITX



Pico™

pITX-SP

- » With Intel® Atom™ Z5xx processor with up to 1.6 GHz
- » Small Form Factor 10 x 7.2 cm
- » Intel® US15W chipset
- » Low power consumption with latest energy saving 45nm technology

Technical Data

pITX-SP

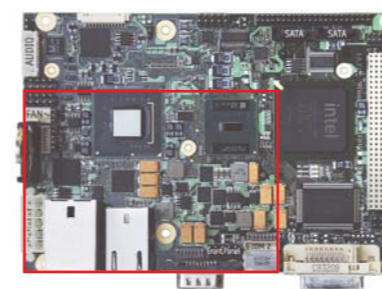


Featureset		Basic	Standard	Plus
Processor	Intel® Atom™ Z510 1.1 GHz	yes	yes	-
	Intel® Atom™ Z530 1.6 GHz	-	yes	yes
Chipset	Intel® US15W	yes	yes	yes
Memory	1x DDR2 SO-DIMM up to 2 GByte	yes	yes	yes
Ethernet	Intel® 82574L Gigabit Ethernet	yes	yes	yes
Graphics Interfaces	DVI	yes	yes	yes
	JIL130 Single Channel, Backlight Support	-	yes	yes
Mass Storage	Dual SATA II	-	yes	yes
	1x microSD socket	-	yes	yes
	1x PATA 44 Master / Slave	yes	-	yes
USB	2x USB 2.0 Socket at front panel	yes	yes	yes
	4x USB 2.0 Header on board	-	yes	yes
	1x USB 2.0 Client (Pin Header)	-	yes	yes
Audio	HD Audio analog	yes	yes	yes
	SPDIF	-	yes	yes
I/O Features	4 Bit GPIO TTL	yes	yes	yes
	SDIO	-	-	yes
Special Features	TPM 1.2	-	-	yes
RTC	Integrated	yes	yes	yes
Temperature	Operating 0°C - 60°C (32°F ~140°F)	yes	yes	yes
Power Consumption (typ.)	5V DC, 5W typical	yes	yes	yes

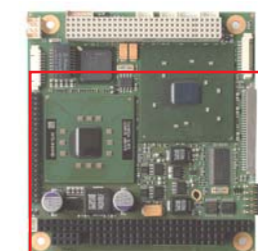


Small Size Embedded SBCs

Shortest Time to Market for Your Application



JReX 3.5"
(147 x 102 mm)



PC/104
(90 x 96 mm)



pico 2.5"
(100 x 72 mm)

JRexplus 3.5-inch SBCs – Reduce System Costs!

The Kontron JRexplus family of 3.5-inch single board computers delivers computing performance suited to fit a wide range of embedded applications from diagnostics tools to box PC control systems. These highly integrated SBCs make designing simple with family consistent features including onboard connectors for up to 6 USB 2.0 devices, single and dual Gigabit Ethernet offerings,

integrated graphics and audio capabilities, system monitoring, and much more. And with all standard accessories available right away there's no need to worry about moving from in-lab platform evaluation to full design production. Try a JRexplus 3.5-inch SBC today and kick start your embedded design.

JRexplus 3.5" SBCs



JRex-PM*



JRexplus-LX



JRexplus-690



JRexplus-DC

Line	PERFORMANCE	plus	plus	plus
CPU	Intel® Pentium® M, Celeron® M and Intel® Processor	AMD® Geode™ LX800	AMD® Turion™ 64 / Sempron™ mobile CPU	Intel® Atom™ N270 processor
CPU Clock	600 MHz up to 1.8 GHz	500 MHz	up to 2.1 GHz Dual Core	1.6 GHz
Front Side Bus	400 MHz	-	Hyper Transport Technology	533 MHz
Cache	L2: up to 2 MByte	L2: 128 KByte	L2: 1x 512 KByte / 2x 512 KB	L2: 1 x 512 KByte
BIOS	Phoenix™	Phoenix™	AMIBIOS®	AMIBIOS®
Chipset	Intel® 855GME / ICH4 (or 852GM @ 600MHz)	AMD CS5536	AMD M690E	Intel® 945GSE, Intel® ICH7M
DRAM	1 GByte DDR	1 GByte DDR SDRAM	2 GByte DDR2 SDRAM	2 GByte DDR2 SDRAM
DRAM socket	DDR-RAM-DIMM	SDRAM-SODIMM	SDRAM-SODIMM	SDRAM-SODIMM
CompactFlash	CompactFlash™ Socket Type 1	yes	yes	yes
Audio	AC'97	AC'97	HD Audio	HD Audio
Hard Disk	EIDE (UDMA-133)	EIDE (UDMA-66)	EIDE (UDMA-133)	EIDE (UDMA-133)
USB	2x USB 2.0	4x USB 2.0 (2 on front panel, two internal)	6x USB 2.0 (4 on front panel, two internal)	6x USB 2.0 (2 on front panel, 4 internal)
Ethernet	1x 10/100	1x 10/100/1000	2x 10/100/1000	1x 10/100, 1x 10/100/1000
Graphics Controller	Intel® Extreme Graphics 2	AMD on chip graphic	Integrated ATI on chip graphic	Integrated with Intel® GMA950 (DirectX® 9, PS 2.0)
Graphics Memory	up to 2x 32 MByte	on-chip shared 8-256 MByte VRAM	shared memory	shared memory
Graphics	CRT/LCD, JILI-interface	CRT/LCD, JILI30 (LVDS)-interface (optional), TTL (FLEX32)	CRT/LCD, JILI30 (LVDS)-interface	CRT/DVI, JILI30
Supply Voltage	5V or ATX	5V single supply	ATX power supply	ATX power supply
IEEE 1394 Firewire	via JFLEX™	-	-	-
Serial Channels	1x DSUB RS232, 1x TTL internal, plus more via JFLEX™	1x DSUB RS232, 1x RS232 internal	1x DSUB RS232, 1x RS232 internal	1x DSUB RS232, 1x RS232 internal
Drives	2x 1.44/2.88	1x 1.44/2.88	-	-
Watchdog	yes	yes	yes	yes
System Monitoring	yes	yes	yes	yes
Expansion	JFLEX™	PCI-104 compliant (PCI)	PCI-104 compliant (PCI)	PCI-104 compliant (PCI), MiniPCIe
Special Features	DUAL Independent panel & Enhanced SpeedStep	2x SATA, 1x PATA, CF-Socket	2x GBit-LAN, 2x SATA, 1x PATA, CF-Socket, 4bit Digital I/O	2x SATA, 1x PATA, CF-Socket, TPM 1.2, 4bit Digital I/O, Dual Independent Display
Power Management	APM 1.2 / ACPI 2.0	APM 1.2 / ACPI 2.0	APM 1.2 / ACPI 2.0	APM 1.2 / ACPI 2.0
Cooling	up to 1 GHz just passive cooling	fanless	active	passive / active depending on application
Dimensions H x W x D	102 x 147 mm	102 x 147 mm	102 x 147 mm	102 x 147 mm
I/O Expansion Type	JFLEX™	PCI-104 compliant (PCI)	PCI-104 compliant (PCI)	PCI-104 compliant (PCI)
Operating Temperature	0°C to 60°C	0°C to 60°C	0°C to 60°C	0°C to 60°C
RoHS compliant	yes	yes	yes	yes

* Please note: extended lifetime, not for new design, for this product last time shipment is August 2012

PC/104

The ultimate low power machine on PC/104-Plus™ - 500MHz CPU @ 0.9 W!!!

The MOPSLcdLX (Minimized Open PC System) with its 500 MHz AMD™ LX800 processor offers high reliability and performance at low power consumption - only passive cooling if at all - no moving parts. The PC/104-Plus™ (ISA & PCI signals) enables applications with wide choice ISA I/O or high PCI I/O performance requirements.

The MOPSLcdLX is a high integrated CPU board which includes in addition to the standard interfaces a PCI graphic, a 10/100 Mbit Ethernet and 2x USB interfaces. A watchdog timer and a realtime clock are standard. The SO-DIMM socket enables this board to be equipped with up to 1 GByte of DDR-RAM.

The lower socket is used as JILI (LVDS) interface for connecting LCD flatpanels. The on chip Graphics+ Controller supports CRT & TFT. A Kontron chipDISK (IDE compatible flash disk) with capacity up to 1GB can be plugged directly onto the 2.5" harddisk interface. All MOPS PC/104 provide the same pinout for keyboard, COM1 and COM2, 44pin IDE, 2xUSB, LPT as well as LAN. This is the common MOPS-family feature, which eases the upgradeability enormously within the Kontron MOPS PC/104-products.

Advantages

- » Short development time
- » Reduction of manufacturing costs
- » Best price-performance ratio
- » Maximum system reliability
- » Space-saving



PC/104 Plus CPUs



MOPSLcdLX

Processor/Performance	AMD Geode™ LX800 / 0.5GHz
Chipset	CS5536 AD
Bus	PC/104-Plus: Option
Memory	128-1024 MByte
Video Controller	int. graphic Controller
Video Memory	16 MByte (UMA)
LCD Interface	24bit, 240 x 320 to 1600 x 1200
CRT Interface	yes
IDE Interface P-ATA	1x EIDE (UDMA-33)
IDE Interface S-ATA (Sil 3132)	-
COM1 / COM2	RS232C / RS232C
COM3 / COM4	-
USB	2x 2.0
Ethernet	10/100 BASE-T
Sound	-
RTC Battery onboard	-
Standard Temperature	0°C to +60°C
Extended Temperature	-
Dimensions (W x L in mm)	90 x 96 Lan Boot, Watchdog, JIDA-Support, JRC-Support, Dark Boot, 32 MB - 1GB
Special Features	chipDISK

Find more PC/104 boards in the Kontron Brochure » MICROSPACE® Single Board Computers and Box PCs «

Kontron's COST EFFICIENT FLAT PANEL CABLES FOR SBCs

KAB-FLEX32

Low cost TTL flat panel cable type for JRexplus-LX

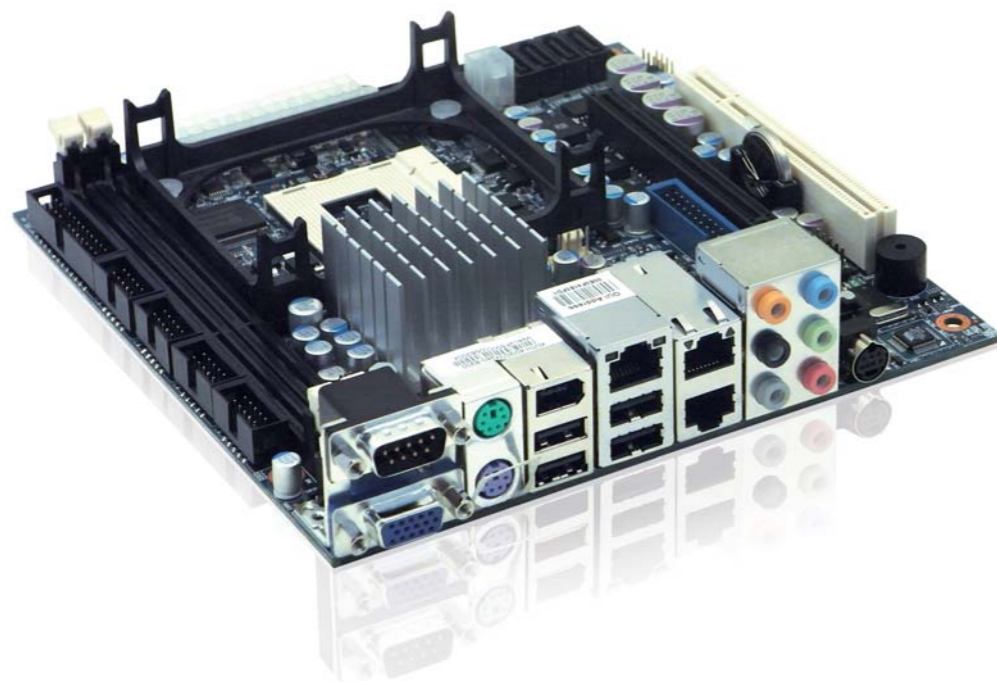


JILI30

Low cost LVDS flat panel cable type for all JRexplus and pITX boards (for TTL Displays please use KAB-ADAPT-LVDS to TTL P/N 61029 + KAB-FLEX32-xxx)



» Longevity Motherboards «



Embedded Motherboards

Full Mechanical Compatibility from Mini-ITX to Full Size ATX



Mini-ITX



FLEX-ATX



Micro-ATX



ATX

Motherboards

Kontron offers a broad range of high-quality embedded motherboards from Mini-ITX to full size ATX. This variety of motherboards serves the different needs of our customers in the industrial and medical fields, point of sales technology, lottery systems, gaming and many other applications. These products are based on state-of-the-art processors and chipset platforms, and utilize advanced technology components.

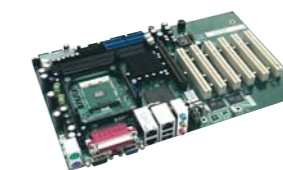
These embedded and industrial motherboards follow international industry size standards with well-defined mounting holes and standard I/O bracket areas. In addition, Kontron offers many value-added services like product longevity, detailed documentation, display support and complete life cycle management. The embedded motherboards offer up to 7 years product availability from the release date, based on embedded key components.

- » Up to 7 year lifecycle and long term service & support
- » Extensive validation, verification & optimization testing
- » Life cycle management & revision control
- » Extended technical support and documentation
- » Flat panel display support expertise including LVDS, DVI, CRT, HDMI and ADD2/PCIe Cards
- » Scalability from Mini-ITX to full-size ATX
- » Quick time-to-market with standard form factors
- » Remote hardware and hard disk monitoring/control by original API software
- » Advanced technologies such as solid capacitors and up to 12 multilayer PCBs

Embedded Motherboards



886LCD-M/FLEX*



886LCD-M/ATX*



886LCD/ATX (GV)*

	886LCD-M/FLEX*	886LCD-M/ATX*	886LCD/ATX (GV)*
CPU	Intel® Pentium® M and Celeron® M	Intel® Pentium® M and Celeron® M	Intel® Pentium® 4 Celeron® and Celeron® D
CPU Clock	Up to 2.1 GHz	Up to 2.1 GHz	Up to 3.2 GHz
Front Side Bus	400 MHz	400 MHz	400/533 MHz
Chipset	Intel® 855GME + 6300ESB	Intel® 855GME + 6300ESB	Intel® 845GV + ICH4
DRAM	Up to 2 GByte DDR333 SDRAM (PC2700), 1x DIMM-240	Up to 2 GByte DDR333 SDRAM (PC2700), 1x DIMM-240	Up to 2 GByte DDR-SDRAM
Video Memory	Up to 96 MByte shared video memory	Up to 96 MByte shared video memory	Up to 64 MByte shared memory
IDE Interface	2x SATA 150 w. RAID 0,1, 2x ATA100	2x SATA 150 w. RAID 0,1, 2x ATA100	2x SATA 150, 2x ATA100
USB	4x USB 2.0	4x USB 2.0	6x USB 2.0 (2x internal)
Ethernet	Up to 3x GbE LAN	Up to 3x GbE LAN	10/100 Base-T
Form Factor	Flex-ATX 228,6mm x 190,5mm (9" x 7,5")	ATX 300,5mm x 190,5mm (12" x 7,5")	ATX 300,5mm x 243,8mm (12" x 9,6")
Available I/Os	3x PCI, 4x COM	6x PCI, 4x COM	6x PCI, 2x COM
Graphic Interface	CRT / LVDS / AGP x4 / DVO	CRT / LVDS / AGP x4 / DVO	CRT / DVO
Rear I/O	COM1, LPT, CRT, line-in, line-out, speaker, PS/2 mouse/keyboard	COM1, LPT, CRT, line-in, line-out, speaker, PS/2 mouse/keyboard	COM1, LPT, CRT, line-in, line-out, speaker, PS/2 mouse/keyboard
Special Feature	HDD SOFT-RAID 0/1 support On board audio amplifier	HDD SOFT-RAID 0/1 support On board audio amplifier, GPIO	Drive digital LCD display by Add-Cards: ADD-LVDS (LVDS) & ADD-DVI (DVI)
Additional	Available Add-Cards for DVO Interface for 2nd LCD: ADD-LVDS (LVDS), ADD-DVI (DVI)	Available Add-Cards for DVO Interface for 2nd LCD: ADD-LVDS (LVDS), ADD-DVI (DVI)	Available Add-Cards for DVO Interface for LCD: ADD-LVDS (LVDS), ADD-DVI (DVI)

* Please note: extended lifetime, not for new design, for this product last time shipment is August 2012

Embedded Motherboards

Embedded Motherboards

Available
Q2-2010

986LCD-M/FLEX

986LCD-M/ATXE

986LCD-M/ATXP

KTGM45/FLEX

KTGM45/ATXE

KT965/FLEX

KT965/ATXE

KT965/ATXP

KTQ45/FLEX

KTQ45/ATXE

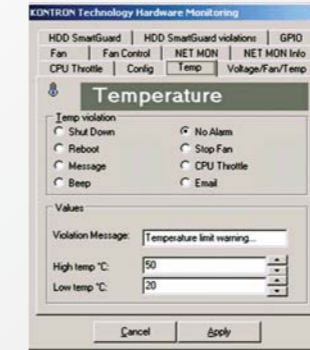
CPU	Intel® Core™ 2 Duo, Intel® Core™ Duo and Intel® Core™ Solo (mPGA478, mBGA479 prepared)	Intel® Core™ 2 Duo, Intel® Core™ Duo and Intel® Core™ Solo (mPGA478, mBGA479 prepared)	Intel® Core™ 2 Duo, Intel® Core™ Duo and Intel® Core™ Solo (mPGA478, mBGA479 prepared)	Intel® Core™ 2 Quad & Intel® Core™ 2 Duo	Intel® Core™ 2 Quad & Intel® Core™ 2 Duo	Intel® Core™ 2 Quad, Intel® Core™ 2 Duo Desktop, Pentium® 4 / D	Intel® Core™ 2 Quad, Intel® Core™ 2 Duo Desktop, Pentium® 4 / D	Intel® Core™ 2 Quad, Intel® Core™ 2 Duo Desktop, Pentium® 4 / D	Intel® Core™ 2 Duo E8400 and Intel® Core™ 2 Quad Q9400	Intel® Core™ 2 Duo E8400 and Intel® Core™ 2 Quad Q9400
CPU Clock	Up to 2.16 GHz	Up to 2.16 GHz	Up to 2.16 GHz	Up to 3.06 GHz	Up to 3.06 GHz	Up to 3.8 GHz	Up to 3.8 GHz	Up to 3.8 GHz	Up to 3.0 GHz	Up to 3.0 GHz
Front Side Bus	533 / 667 MHz	533 / 667 MHz	533 / 667 MHz	667 / 800 / 1066 MHz	667 / 800 / 1066 MHz	533 / 800 / 1066 MHz	533 / 800 / 1066 MHz	533 / 800 / 1066 MHz	800/1066/1333 MHz	800/1066/1333 MHz
Chipset	Intel® 945GM + ICH7R	Intel® 945GM + ICH7R	Intel® 945GM + ICH7R	Intel® GM45 + ICH9M-E	Intel® GM45 + ICH9M-E	Intel® Q965 + Intel® ICH8D0	Intel® Q965 + Intel® ICH8D0	Intel® Q965 + Intel® ICH8D0	Intel® Q45 Express	Intel® Q45 Express
DRAM	Up to 3 GByte DDR2 533/667, 2x DIMM-240	Up to 3 GByte DDR2 533/667, 2x DIMM-240	Up to 3 GByte DDR2 533/667, 2x DIMM-240	Up to 8 GB DDR3, 2 pcs. DIMM 240 pin	Up to 8 GB DDR3, 2 pcs. DIMM 240 pin	Up to 8 GByte, DDR2 800, 4x DIMM-240	Up to 8 GByte, DDR2 800, 4x DIMM-240	Up to 8 GByte, DDR2 800, 4x DIMM-240	Up to 8 GB DDR3, 4x DIMM-240	Up to 8 GB DDR3, 4x DIMM-240
Video Memory	Up to 192 MByte shared video memory	Up to 192 MByte shared video memory	Up to 192 MByte shared video memory	Up to 256 MByte shared video memory	Up to 256 MByte shared video memory	Up to 256 MByte Dynamic shared memory	Up to 256 MByte Dynamic shared memory	Up to 256 MByte Dynamic shared memory	Up to 256 MByte Dynamic shared memory	Up to 256 MByte Dynamic shared memory
IDE Interface	4x SATA 150/300 w. RAID 0,1,5,10, 1x ATA100	4x SATA 150/300 w. RAID 0,1,5,10, 1x ATA100	4x SATA 150/300 w. RAID 0,1,5,10, 1x ATA100	4x SATA 150/300 w. RAID 0,1, 1x ATA133	4x SATA 150/300 w. RAID 0,1, 1x ATA133	6x SATA150/300 w. RAID 0/1/5/10	6x SATA150/300 w. RAID 0/1/5/10	6x SATA150/300 w. RAID 0/1/5/10	5x SATA150/SATA300 w. RAID 0/1/5/10, 1x eSATA	5x SATA150/SATA300 w. RAID 0/1/5/10, 1x eSATA
USB	8 x USB 2.0	8 x USB 2.0	8 x USB 2.0	12x USB 2.0	12x USB 2.0	10x USB 2.0 (2x internal)	10x USB 2.0 (2x internal)	10x USB 2.0 (2x internal)	12x port USB 2.0 (4x internal)	12x port USB 2.0 (4x internal)
Ethernet	2x GbE LAN	2x GbE LAN	3x GbE LAN	Up to 3x GbE LAN	Up to 3x GbE LAN	2x GbE LAN	2x GbE LAN	2x GbE LAN	2x GbE LAN	2x GbE LAN
Form Factor	Flex-ATX 228.6mm x 190.5mm (9" x 7.5")	ATX 300.5mm x 190.5mm (12" x 7.5")	ATX 300.5mm x 190.5mm (12" x 7.5")	Flex-ATX 228.6mm x 190.5mm (9" x 7.5")	ATX 300.5mm x 190.5mm (12" x 7.5")	Flex-ATX 228.6mm x 190.5mm (9" x 7.5")	ATX 300.5mm x 190.5mm (12" x 7.5")	ATX 300.5mm x 190.5mm (12" x 7.5")	Flex-ATX 228.6mm x 190.5mm (9" x 7.5")	ATX 300.5mm x 190.5mm (12" x 7.5")
Available I/Os	1x PCI Express x4, 2x PCI, 4x COM	1x PCI Express x4, 5x PCI, 4x COM	1x mini PCI Express, 6x PCI, 4x COM	1x PCI Express x4, 2x PCI, 4x COM	1x PCI Express x4, 5x PCI, 4x COM	1x PCI Express x4, 2x PCI, 2x COM	1x PCI Express x4, 5x PCI, 2x COM	1x mini PCI Express, 6x PCI, 2x COM	1x PCI Express x4, 2x PCI, 2x COM	1x PCI Express x4, 4x PCI, 2x COM
Graphic Interface	CRT / LVDS / PCI-Express x16 / SDVO	CRT / LVDS / PCI-Express x16 / SDVO	CRT / LVDS / PCI-Express x16 / SDVO	CRT / LVDS / PCI-Express x16 / SDVO	CRT / LVDS / PCI-Express x16 / SDVO	CRT / PCI-Express x16 / SDVO	CRT / PCI-Express x16 / SDVO	CRT / PCI-Express x16 / SDVO	CRT / PCI-Express x16 / SDVO	CRT / PCI-Express x16 / SDVO
Rear I/O	COM1, CRT, Ethernet, USB, S-video (Optional), line-in, line-out, speaker, PS/2 mouse/keyboard	COM1, CRT, Ethernet, USB, line-in, line-out, speaker, PS/2 mouse/keyboard	COM1, CRT, Ethernet, USB, line-in, line-out, speaker, PS/2 mouse/keyboard	COM1, CRT, Ethernet, USB, S-video (Optional), line-in, line-out, speaker, PS/2 mouse/keyboard	COM1, CRT, Ethernet, USB, S-video (Optional), line-in, line-out, speaker, PS/2 mouse/keyboard	COM1, CRT, Ethernet, USB, line-in, line-out, speaker, PS/2 mouse/keyboard	COM1, CRT, Ethernet, USB, line-in, line-out, speaker, PS/2 mouse/keyboard	COM1, CRT, Ethernet, USB, line-in, line-out, speaker, PS/2 mouse/keyboard	COM1, CRT, Ethernet, USB, line-in, line-out, speaker, PS/2 mouse/keyboard	COM1, CRT, Ethernet, USB, line-in, line-out, speaker, PS/2 mouse/keyboard
Special Feature	IEEE1394, GPIO, HDD RAID 0/1/5/10 support, HD Audio, SPDIF, TV-out (optional)	IEEE1394, GPIO, HDD RAID 0/1/5/10 support, HD Audio, SPDIF, TV-out (optional)	IEEE1394, GPIO, HDD RAID 0/1/5/10 support, HD Audio, SPDIF, TV-out (optional)	GPIO, HDD RAID 0/1 support, AMT 4.0, TPM 1.2	GPIO, HDD RAID 0/1 support, AMT 4.0, TPM 1.2	HDD RAID, GPIO, LPT, HD Audio	HDD RAID, GPIO, LPT, HD Audio	HDD RAID, GPIO, LPT, HD Audio	HDD RAID, GPIO, LPT, HD Audio, AMT 5.0	HDD RAID, GPIO, LPT, HD Audio, AMT 5.0
Additional	Up to 7 years availability, ADD2-Cards for SDVO Interface for 2nd LCD	Up to 7 years availability, ADD2-Cards for SDVO Interface for 2nd LCD	Up to 7 years availability, ADD2-Cards for SDVO Interface for 2nd LCD	Up to 7 years availability, ADD2-Cards for SDVO Interface for 2nd LCD	Up to 7 years availability, ADD2-Cards for SDVO Interface for 2nd LCD	Up to 7 years availability, ADD2-Cards for SDVO Interface for 2nd LCD	Up to 7 years availability, ADD2-Cards for SDVO Interface for 2nd LCD	Up to 7 years availability, ADD2-Cards for SDVO Interface for 2nd LCD	Up to 7 years availability, ADD2-Cards for SDVO Interface for 2nd LCD	Up to 7 years availability, ADD2-Cards for SDVO Interface for 2nd LCD

Embedded Mini-ITX Motherboards

Mini-ITX has become a very successful embedded motherboard form factor. Key features including multi LAN and a wide range of I/O possibilities make these products ideal for a wide range of applications. The very compact and space-saving footprint (17 cm x 17 cm, (6.7" x 6.7")) meets the growing need for a small form factor board-level solutions and allows the customer to design a very compact system without sacrificing the requirement of standard ATX mounting holes and the I/O bracket area.

The Mini-ITX form factor fills the gap between small single board computers (i.e. 3.5" Single Board Computers) and full-size Flex and ATX motherboards.

Temperature monitoring example



Email hardware status reporting by email



Embedded Mini-ITX Motherboards



786LCD/mITX*



886LCD-M/mITX (BGA)*



886LCD-M/mITX*



986LCD-M/mITX (BGA)



986LCD-M/mITX



KT690/mITX (BGA)



KT690/mITX



KTUS15/mITX - 1.1



KTUS15/mITX - 1.6



KTGM45/mITX

	786LCD/mITX*	886LCD-M/mITX (BGA)*	886LCD-M/mITX*	986LCD-M/mITX (BGA)	986LCD-M/mITX	KT690/mITX (BGA)	KT690/mITX	KTUS15/mITX - 1.1	KTUS15/mITX - 1.6	KTGM45/mITX
CPU	Intel® ULV/LV Celeron®	Intel® Mobile Celeron® on board	Intel® Pentium® M and Celeron® M	Intel® ULV Celeron® M / LV Core Duo	Intel® Core™ 2 Duo, Intel® Core™ Duo and Intel® Core™ Solo (mPGA478, mBGA479 prepared)	Mobile AMD Sempron™ single core U210 / AMD Turion™ dual core L325	Mobile AMD Sempron™ single core and AMD Turion™ dual core	Intel® Atom™ Z510 CPU BGA	Intel® Atom™ Z530 CPU BGA	Intel® Core™2 Quad & Intel® Core™2 Duo
CPU Clock	Intel® Celeron® 400 MHz ULV / 733 MHz LV	800 MHz (BGA) / Other BGA CPUs available on request	Up to 2.1 GHz	1.06 GHz / 1.66 GHz Other BGA CPU's available on request	Up to 2.16 GHz	Up to 2.0 GHz	Up to 2.0 GHz	1,1 GHz Basic / 1,1 GHz Std	1.6 GHz Std / 1.6 GHz Plus	Up to 3.06 GHz
Front Side Bus	100 / 133 MHz	400 MHz	400 MHz	533 / 667 MHz	533 / 667 MHz	16 Lane Hyper Transport	16 Lane Hyper Transport	400 MHz	533 MHz	667 / 800 / 1066 MHz
Chipset	Intel® 815 + ICH4	Intel® 855GME + 6300ESB	Intel® 855GME + 6300ESB	Intel® 945GM + ICH7R	Intel® 945GM + ICH7R	AMD M690T + SB600	AMD M690T + SB600	Intel® US15 Embedded	Intel® US15 Embedded	Intel® GM45 + ICH9M-E
DRAM	Up to 256 MByte on board. 1x168pin DIMM socket for extra memory (up to 512 MByte total)	Up to 1 GByte DDR333 SDRAM (PC2700), 1x DIMM	Up to 1 GByte DDR333 SDRAM (PC2700), 1x DIMM	Up to 3 GByte DDR2 533/667	Up to 3 GByte DDR2 533/667, 2x DIMM-240	Up to 8 GByte DDR2 533/667 - 200 Pin, 2x SODIMM	Up to 8 GByte DDR2 533/667 - 200 Pin, 2x SODIMM	Up to 2 GB, SO-DIMM 200-Pin, 1x SODIMM	Up to 2 GB, SO-DIMM 200-Pin, 1x SODIMM	Up to 8 GB DDR3, 2 pcs. DIMM 240 pin
Video Memory	Up to 12 MByte shared video memory	Up to 96 MByte shared video memory	Up to 96 MByte shared video memory	Up to 192 MByte shared video memory	Up to 192 MByte shared video memory	Up to 256 MByte shared video memory	Up to 256 MByte shared video memory	Up to 256 MByte shared video memory	Up to 256 MByte shared video memory	Up to 256 MByte shared video memory
IDE Interface	2x ATA100, 2x SATA 150 (optional)	2x SATA 150 w. RAID 0,1, 2x ATA100	2x SATA 150 w. RAID 0,1, 2x ATA100	4x SATA 150/300 w. RAID 0,1,5,10, 1x ATA100	4x SATA 150/300, 1x ATA100	4x SATA 150/300 w. RAID 0,1,10, 1x ATA133	4x SATA 150/300 w. RAID 0,1,10, 1x ATA133	1x ATA100, 1x ATA133, 2x SATA 150/300	1x ATA100, 2x SATA 150/300	4x SATA 150/300 w. RAID 0,1, 1x ATA133
USB	6x USB 2.0	4x USB 2.0	4x USB 2.0	8x USB 2.0	8x USB 2.0	10x USB 2.0	10x USB 2.0	8x USB 2.0	8x USB 2.0	12x USB 2.0
Ethernet	Up to 3x 10/100 BaseT LAN	Up to 3x GbE LAN	Up to 3x GbE LAN	Up to 3x GbE LAN	Up to 3x GbE LAN	Up to 2x GbE Intel® LAN	Up to 2x GbE Realtek LAN	1x GbE Intel® LAN	1x GbE Intel® LAN	Up to 3x GbE LAN
Form Factor	Mini-ITX 170 x 170 mm (6.7" x 6.7")	Mini-ITX 170 x 170 mm (6.7" x 6.7")	Mini-ITX 170 x 170 mm (6.7" x 6.7")	Mini-ITX 170 x 170 mm (6.7" x 6.7")	Mini-ITX 170 x 170 mm (6.7" x 6.7")	Mini-ITX 170 x 170 mm (6.7" x 6.7")	Mini-ITX 170 x 170 mm (6.7" x 6.7")	Mini-ITX 170 x 170 mm (6.7" x 6.7")	Mini-ITX, 170 x 170 mm (6.7" x 6.7")	Mini-ITX 170 x 170 mm (6.7" x 6.7")
Available I/Os	1x PCI, 4x COM	1x PCI, 4x COM	1x PCI, 4x COM	1x PCI, 4x COM, 1x mini PCI-Express	1x PCI, 4x COM, 1x mini PCI-Express	1x PCI, 2x COM, 1x mini PCI-Express	1x PCI, 2x COM, 1x mini PCI-Express	2x COM / 1x PCI, 4x COM	2x/4x COM / 1x PCI	1x PCI, 4x COM, 1x mini PCI-Express
Graphics Controller	Integrated Intel® Graphics engine, LVDS on board	Intel® Extreme Graphics 2, LVDS on board	Intel® Extreme Graphics 2, LVDS on board	Intel® GMA950, LVDS on board	Intel® GMA950, LVDS on board	Radeon X1250, LVDS on board	Radeon X1250, LVDS on board	Intel® GMA 500, LVDS on board	Intel® GMA 500, LVDS on board	Intel® GMA4500 MHD, LVDS on board
Graphic Interface	CRT / LVDS / AGP x4 / DVI (optional)	CRT / LVDS / AGP x4 / DVO	CRT / LVDS / AGP x4 / DVO	CRT / LVDS / PCI-Express x16 / SDVO	CRT / LVDS / PCI-Express x16 / SDVO	DVI / CRT / LVDS / TV-Out (optional) / PCI-Express x8	DVI / CRT / LVDS / TV-Out (optional) / PCI-Express x8	DVI / CRT / LVDS / 2x PCI-Express x1	CRT / DVI / LVDS / 2x PCI-Express x1	CRT / LVDS / PCI-Express x16 / SDVO
Rear I/O	COM1, LPT, CRT, line-in, line-out, speaker, PS/2 mouse/keyboard	COM1, LPT, CRT, line-in, line-out, speaker, PS/2 mouse/keyboard	COM1, LPT, CRT, line-in, line-out, speaker, PS/2 mouse/keyboard	COM1, CRT,IEEE1394, Ethernet, USB, line-in, line-out, speaker, PS/2 mouse/keyboard	COM1, CRT,IEEE1394, Ethernet, USB, line-in, line-out, speaker, PS/2 mouse/keyboard	COM1, CRT, DVI, TV-Out (optional), Ethernet, USB, line-in, line-out, speaker, PS/2 mouse/keyboard	COM1, CRT, DVI, TV-Out (optional), Ethernet, USB, line-in, line-out, speaker, PS/2 mouse/keyboard	DVI or CRT, Ethernet, USB, line-in, line-out, speaker, PS/2 keyboard	DVI or CRT, Ethernet, USB, line-in, line-out, speaker, PS/2 keyboard	COM1, CRT,IEEE1394, Ethernet, USB, line-in, line-out, speaker, PS/2 mouse/keyboard
Special Feature	HDD SOFT-RAID 0/1 support, IEEE 1394 optional	GPIO, HDD SOFT-RAID 0/1 support	GPIO, HDD SOFT-RAID 0/1 support	GPIO, IEEE1394, HDD RAID 0/1/5/10 support	GPIO, IEEE1394, HDD RAID 0/1/10 support	GPIO, HDD RAID 0/1/5/10 support, TPM Onboard	GPIO, HDD RAID 0/1/5/10 support, TPM Onboard	GPIO, 2x SDIO	GPIO, 2x SDIO, TPM Onboard (Plus)	GPIO, IEEE1394, HDD RAID 0/1 support, AMT 4.0, TPM 1.2
Additional	Up to 7 years availability, DVI, Firewire, onboard memory, GPIO	Up to 7 years availability, Available Add-Cards for DVO Interface for 2nd LCD: ADD-LVDS (LVDS), ADD-DVI (DVI), on board audio amplifier	Up to 7 years availability, Available Add-Cards for DVO Interface for 2nd LCD: ADD-LVDS (LVDS), ADD-DVI (DVI), on board audio amplifier	Up to 7 years availability, ADD2-Cards for SDVO Interface for 2nd LCD, S-Video TV-out (optional), HD Audio, SPDIF	Up to 7 years availability, ADD2-Cards for SDVO Interface for 2nd LCD, S-Video TV-out (optional), HD Audio, SPDIF	Up to 7 years availability, S-Video TV-out (optional), HD Audio, SPDIF	Up to 7 years availability, S-Video TV-out (optional), HD Audio, SPDIF	Up to 7 years availability	Up to 7 years availability	Up to 7 years availability, ADD2-Cards for SDVO Interface for 2nd LCD, S-Video TV-out (optional), HD Audio, SPDIF

* Please note: extended lifetime, not for new design, for this product last time shipment is August 2012

Basic Motherboards

The Kontron basic motherboard is a product line with a focus on performance and price. This line offers product longevity of up to 3 years, less complex/more basic features, and earlier product availability at the release of newer chipsets. You get all this in addition to the Kontron quality and support you've come to rely on.

After the successful launch of the basic motherboard KT780/ATX, Kontron has now extended its family of basic motherboards to include a high-performance variant based on the 45nm Intel® Core™ 2 Quad processor: The Kontron KTG41/ATXU basic motherboard. Compared to standard Micro-ATX motherboards, the new Kontron Micro-ATX basic motherboard with Intel® G41 Express chipset and LGA 775 socket for Intel® processors up to the 45nm Intel® Core™ 2 Quad processor Q9650 offer advanced design fea-

tures that are well-suited for rugged environments plus up to 3 years product availability.

Compared to embedded motherboards that offer up to 7 years availability and support, basic motherboards focus on applications with faster innovation cycles and high demands on computing and graphics performance. Equipped with only the latest and most demanded interfaces, Kontron basic motherboards are extremely cost-effective, making them a good match for high-volume applications with fast innovation cycles such as those in the fields of Gaming/Entertainment, Digital Signage, POS/POI, Hospitality (check-in terminals, ticketing machines, hotel multimedia terminals) or even industrial shop floor applications managing quality control.

Basic Motherboards



KTG41/ATXU



KT780/ATX

CPU	Intel® Core™ 2 Duo E8000 series and Intel® Core™ 2 Quad Q9000 series	AMD Athlon™ 64 & AMD Phenom™ Single to Quad Core
Chipset	Intel® G41 + ICH7R	AMD RS780 + SB700
DRAM	Up to 8 GByte, DDR3 1066, 2x DIMM-240	Up to 32 GByte, DDR2 800, 4x DIMM-240 - ECC Support
Video Memory	Up to 256 MByte shared video memory	Up to 256 MByte shared video memory
Form Factor	Micro-ATX 243.8mm x 243.8mm (9.6" x 9.6")	ATX 300.5 mm x 243.8mm (12" x 9.6")
Graphics Controller	Intel® GMA X4500	ATI Radeon HD 3200
Graphic Interface	CRT / PCI-Express x16	DVI / CRT / PCI-Express x16 2.0
Special Feature	HDD RAID 0/1/10 support, HD Audio, TPM support (optional)	HDD RAID 0/1/10 support, HD Audio, HDMI (optional), TPM support

Embedded Server Class Motherboard

Kontron has added an embedded server-class category to its already extensive portfolio of embedded and basic motherboard products. These motherboards feature long-life embedded server processors from Intel. These server boards are ideal for medical

imaging, simulation, storage and multimedia telecom and data center markets. They also offer leading-edge remote management tools with support for KVM and VM over IP for real time access.

Embedded Server Motherboards



KTC5520/EATX

CPU	Dual socket Intel® Xeon® 5500 series; New for Q2;10 – Dual socket support for the Next Generation Intel® Xeon® processor
Chipset	Intel® 5520 I/O Hub (36D) and I/O Controller Hub (ICH10R)
DRAM	96 GB DDR3 Registered ECC SDRAM; 12 (twelve) DIMM sockets
IDE Interface	Interface 6 SATA ports (3Gb/s)
USB	4x USB 2.0
Form Factor	Server System Infrastructure (SSI) EBB Form factor
Available I/Os	Two 10/100/1000 Mbps Ethernet (Intel® 82576EB); 1x 10/100/1000 Mbps Mangement; Integrated VGA XGI Volari Z9
Rear I/O	VGA; PS/2 Mouse and PS/2 Keyboard; Serial (DB-9); Audio In, Out Speaker Out; 2 X Gbe RJ-45
Available Extensions	4 PCIe2 x8, 1 PCIe x4, 1 PCI 32/33 5V
Special Features	On board remote management: Extensive sensors monitoring and event generation on thresholds; Serial over LAN (IPMI v2.0); Trust Platform Management 1.2; UL, CE, NEBS Level 3 (designed for), FCC B; IPMI v2.0

ADD2/PCIe-cards

ADD2-Cards add extra digital flat panel display support by using onboard graphics interface connectors such as PCI-Express/SDVO. The solution is flexible and cost effective. By using an ADD2-Card, you can build a low-cost, single LCD-supported system. By

adding an ADD2-Card to motherboards that have onboard LVDS support, you can drive two LCDs from a single motherboard. Kontron offers both LVDS, CRT, HDMI and DVI interface ADD2-Cards.

ADD2-cards



ADD2-CRT-Internal



ADD2-DVI-DUAL-Internal



ADD2-DVI-DUAL-Internal-External



ADD2-LVDS-Internal

Series	ADD2-Card	ADD2-Card	ADD2-Card	ADD2-Card
Video Output	CRT	Single or Dual DVI	Single or Dual DVI	Single output LVDS
Resolution	Up to 1600x1200	1600x1200 / 1920x1080	1600x1200 / 1920x1080	1600x1200 / 1920x1080
Applicable Motherboards	986LCD-M, KT965, KTQ45, KTG41 and KTGM45 families	986LCD-M, KT965, KTQ45, KTG41 and KTGM45 families	986LCD-M, KT965, KTQ45, KTG41 and KTGM45 families	986LCD-M, KT965, KTQ45, KTG41 and KTGM45 families
Height	Low Profile	Low Profile	Low Profile	Low Profile
Interface	PCI-Express/SDVO	PCI-Express/SDVO	PCI-Express/SDVO	PCI-Express/SDVO
Partnumber	820954	820951	820952	820953

ADD2-cards



ADD2-LVDS-DUAL-Internal



KT-PCIe-DVI-HDMI



KT-PCIe-DVI-HDMI-I

Series	ADD2-Card	AMD PCIe Card	Intel® PCIe Card
Video Output	Single or dual output LVDS	DVI & HDMI	DVI & HDMI
Resolution	1600x1200 / 1920x1080	Up to 1920x1200	Up to 1920x1200
Applicable Motherboards	986LCD-M, KT965, KTQ45, KTG41 and KTGM45 families	KT690/mITX & KT780/ATX	KTQ45 and KTGM45 families
Height	Low profile	Low Profile	Low Profile
Interface	PCI-Express/SDVO	PCI-Express	PCI-Express
Partnumber	820950	820957	820977

About Kontron

Kontron, the global leader of embedded computing technology, designs and manufactures standards-based and custom embedded and communications solutions for OEMs, systems integrators, and application providers in a variety of markets. Kontron engineering and manufacturing facilities, located throughout Europe, Americas, and Asia-Pacific, work together with streamlined global sales and support services to help customers reduce their time-to-market and gain a competitive advantage. Kontron's diverse product portfolio includes: boards and mezzanines, Computer-on-Modules, HMIs and displays, systems, and custom capabilities.

Kontron is a Premier member of the Intel® Embedded Alliance.

For half-a-decade now, Kontron has been named a VDC *Platinum Embedded Board Vendor*. Based entirely on user feedback, industry professionals evaluate vendors on over 45 non-product related criteria. Kontron is only one of two companies to receive the Platinum award 5-years running.

Kontron is listed on the German TecDAX stock exchange under the symbol "KBC".

For more information, please visit: www.kontron.com

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