

# DATA SHEET

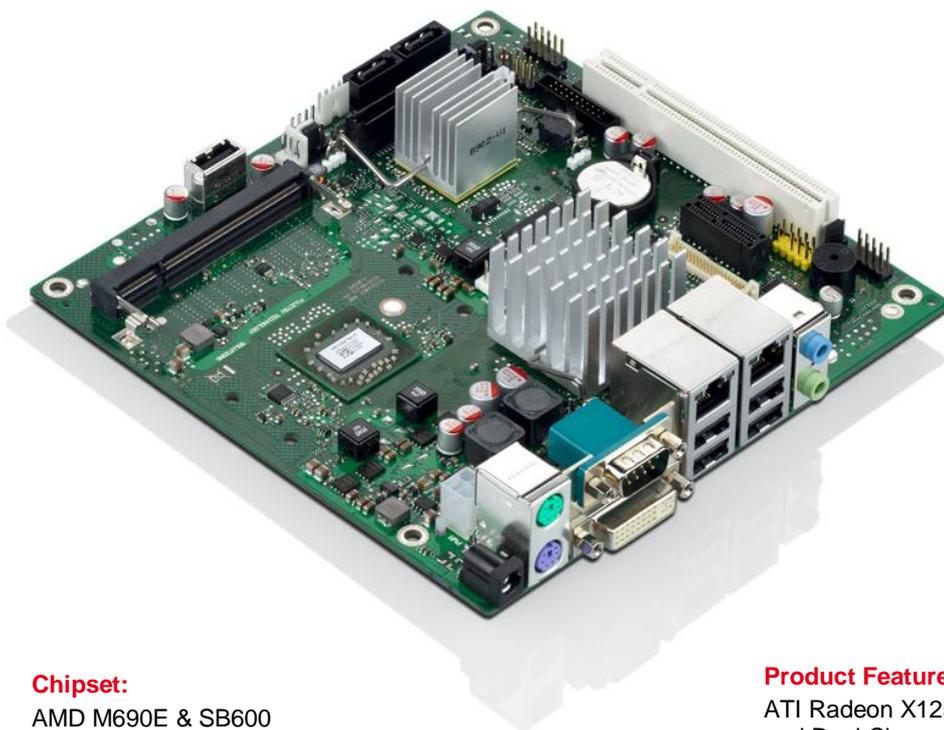
## MAINBOARD D2963-S MINI-ITX Industrial Series

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AMD M690E & SB600 Chipset for DDR2 800/667 SDRAM Memory (SO-DIMM)  
and AMD Sempron™ 200U or AMD Athlon™ Neo X2 L325 Mobile Processor

Enhanced operating temperature range from 0°C to 60°C



**Chipset:**

AMD M690E & SB600

**Processors:**

D2963-S1: AMD Mobile Sempron™ 200U  
D2963-S2: AMD Mobile Athlon™ Neo X2 L325

**Memory:**

DDR2 800/667 SDRAM (SO-DIMM)

**Product Features:**

- ATI Radeon X1250 graphics on board; VGA, DVI and Dual Channel LVDS support
- HD Audio on board
- Dual GbE LAN on board
- Serial ATA II RAID on board
- CF support (for Embedded OS) on board
- Mini PCI Express support (for WLAN) on board
- USB 2.0 on board

Designed for fanless operation



<b>Board Size</b>	Mini-ITX: 6.7" x 6.7" (170 x 170 mm)
<b>Chipset</b>	AMD M690E & SB600
<b>Memory</b>	1 x SO DIMM Socket (1.8V), max. 4GB, Single Channel DDR2-800 (CL6) / DDR2-667 (CL5) SDRAM, unbuffered, no ECC Note: Effective memory speed depends on installed processor!
<b>Processor</b>	AMD Mobile Sempron™ 200U Single Core Processor (1.0GHz; 8W) or AMD Mobile Athlon™ Neo L325 Dual Core Processor (1.5GHz/18W) ASB1 (BGA) soldered onboard; supports HyperTransport™ 1.0

<b>Power Specification</b>
19-24V / 3A via DC-connector (rear I/O connector or onboard connector)
5V and 3.3V Supply Voltage on PCI Slot (PCI Rev. 2.3)
3.3V Auxiliary Supply Voltage on PCI Slot (Wake-Up Support)
Onboard CPU Core Voltage Regulator

<b>Power Supply Requirements</b> for onboard components			
Source	Voltage	Tolerance (max)	Mainboard Current (typ.)
DC-In	+ 19-24 V	+10% / -15 %	1 A

**BIOS**  
Phoenix TrustedCore BIOS Version V6.00  
modified and adapted by Fujitsu Technology Solutions; Recovery BIOS, SM-BIOS (DMI), BIOS Update via USB (stable user settings), Quick Boot, Logo Boot, Quiet Boot, Plug & Play, automatic DRAM and PCI Configuration, BIOS Support for S.M.A.R.T., Advanced Power Management, ACPI S3 (Save-to-RAM), ACPI S4 (Save-to-Disk), Wake on time from S5; configurable LVDS support

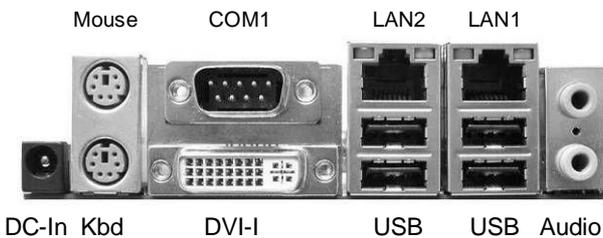
**Security Features**  
Recovery BIOS, System and BIOS Password, Boot Sequence Control for each drive, Serial Port Access Protection, Boot Sector Virus Warning, Write Protection for Flash BIOS, Harddisk Password incl. "Silent Password" option (no keyboard entry required).

<b>Special Features</b>	
Silent Fan	Independent temperature related processor fan and system fan supervision and control
System Guard	View and adjust Silent Fan
Silent Drives	Noise reduction for optical and hard disk drive
Recovery BIOS	Restores a corrupted BIOS
Desk Update	Simple driver update with Driver&Utilities DVD
Multi Boot	Comfortable boot from any boot device

**Designed for Industrial Applications**  
Longlife components for 24 / 7 use in industrial applications  
Revision control & Extended Lifetime (up to 5 years)  
Enhanced operating temperature range (0°C - 60°C) <sup>1)</sup>

**Miscellaneous**  
- Board Support Package (BSP) for Windows XP embedded  
- Board Support Package (BSP) for Windows CE 6.0 (planned)  
- Evaluation BSP for Embedded Linux (emlix)

**External Connectors**



<b>Graphics</b>	Integrated ATI Radeon X1250 graphics; shared memory (up to 256MB); DirectX 9 compliant; DVI, VGA and 24Bit / Dual Channel LVDS support
<b>Audio</b>	Realtek ALC262 (HD Audio); HW 3D Stereo Enhancement; SW Wavetable Synthesis Support
<b>LAN</b>	Dual Realtek RTL8111C 10/100/1000 Ethernet controller; WoL support
<b>Drives</b>	2 Serial ATA II 300 Interfaces (max 3 GBit/s); up to 2 Drives; RAID 0/1 1 CF Interface (Typ I)

Features	D2963-S
Chipset	M690E / SB600
Board Size	Mini-ITX
VGA <sup>2)</sup> / DVI / LVDS / HDMI	ü / ü / ü / -
Stereo Audio / Multichannel Audio	ü / -
Buzzer / int. Speaker Support	ü / -
Dual LAN Gbit / 100 Mbit / 10 Mbit	ü / ü / ü
LAN ASF / AoL / WoL / Boot	- / - / ü / ü
SATA / ATA / RAID	ü / - / ü
FireWire™ / USB 2.0	- / ü
FAN monitored & controlled CPU / AUX1 / AUX2	ü / ü / -
TEMP monitored CPU / ONB1 / ONB2 / OFFB	ü / ü / ü / -
<b>Special Features</b>	
Silent Fan / Silent Fan LT / System Guard / Silent Drives	ü / - / ü / ü
Recovery BIOS / Desk Update / Multi Boot	ü / ü / ü
HDD Password	ü
Boot Logo Option	ü
<b>Internal Connectors</b>	
DIMM Sockets (DDR2 800/667, SO-DIMM)	1
PCI Express x16 Slot for Graphics Card	-
PCI Express x1 Slot	1
PCI Slot (32Bit, 33 MHz, Rev. 2.3)	1
Mini PCI Express Slot (fullsize)	1
SATA (300) / ATA (133) / Floppy / CF Card	2 / - / - / 1
S/PDIF (digital Audio) OUT / IN	- / -
CD Audio Input	-
Frontpanel Audio (9-Pin) AC'97 / Azalia <sup>3)</sup>	- / 1
FireWire™ (9-Pin, Intel standard header)	-
USB (2.0, ~480 MB/s; 2 channels per connector)	2
Specific socket for internal USB stick	1
Serial (FIFO, 16550 compatible)	1
FAN <sup>4)</sup> CPU / System (AUX1) / System (AUX2)	1 / 1 / -
SMBus (Case Temperature) / Intrusion (Case Open)	- / 1
LVDS Dual Channel / Backlight Inverter	1 / 1
Feature Connector (8 Bit General Purpose I/O)	1
Frontpanel (Power Switch, LEDs, Intel 10 pin header)	1
Onboard Power Output (+5V/2A, +12V/2A) for drives	1
Onboard (internal input) DC-In 19-24V / 3A	1
Power 20 pin (ATX) / 4 pin (12V processor supply)	- / -
<b>External Connectors</b>	
VGA Sub D <sup>2)</sup> / DVI-I / HDMI / DisplayPort	- / 1 / - / -
Audio In / Line out (or driver configuration)	1 / 1
S/PDIF (digital Audio) OUT / IN	- / -
LAN (RJ-45)	2
PS/2 Mouse / Keyboard	1 / 1
USB (2.0, ~480MB/s)	4
Serial (RS232, FIFO, 16550 compatible)	1
DC-IN (external input) 19-24V / 3A	1

1) Forced cooling required, see technical documentation for detailed requirements  
 2) Via optional DVI-I / VGA interface connector  
 3) Support for AC'97 audio frontpanel possible via BIOS Setup option  
 4) CPU fan = 4 pin PWM, system fan = 4 pin PWM or 3 pin (selectable via BIOS Setup)

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