

fit-PC3



fit-PC3

Slim - Sleek and Powerful

At first glance fit-PC3 may look like just another compact PC, but it is far from that. In fact, fit-PC3 is CompuLab's most advanced miniature computer to-date. With nearly two years in development, fit-PC3 was designed from the ground up to implement all the lessons learned from the previous five fit-PC generations, plus the valuable feedback from thousands of customers.

So fit-PC3 is well worth taking a closer look at – and this introduction is a good starting point.

KEY FEATURES

- Excellent balance between performance and low power
- Extremely rich I/O combined with innovative expansion possibilities
- Innovative modular design with easy access to internal expansion
- Ruggedized, yet attractive fanless design
- Excellent graphics performance
- Four selectable base models

SOFTWARE

- Mint Linux
- Windows 7 Professional
- Windows 8 ready

APPLICATIONS

- Diskless Workstation
- 24/7 Mini server
- Signage controller
- Library-school computer
- Navigation in boat or car
- Multimedia server
- Industrial controller
- Firewall

www.systemtech.se

System Technology Sweden AB
Linnégatan 14
582 25 LINKÖPING

E-post:
Telefon:
Fax:

sales@systemtech.se
013 - 35 70 30
013 - 14 05 30

SYSTEM

fit-PC3 is designed around the AMD Embedded G-Series Fusion APU providing:

- Dual-core 64 bit x86 CPU @ 1.0–1.65 GHz
- AMD Radeon HD 6xxx GPU

The APU is supplemented by up to 8 GB DDR3-1333 MHz.

GRAPHICS

For a miniature fanless system - fit-PC3 provides extremely powerful graphics features:

- Dual-head DisplayPort (up to 2560x1600) and HDMI (up to 1920x1200) including audio
- HDMI 1.4 and stereo-3D support in fit-PC3 Pro
- DirectX 11, OpenGL 4.0, OpenCL
- 1080p Blu-Ray playback support, UVD 3 engine with native H.264, VC-1, MPEG2, and DivX

LOW POWER

The fit-PC product line is recognized as the most power efficient in its category and fit-PC3 is no exception.

The T40E model consumes just 7W with Windows 7 when idling, or up to 15W under full system load with dual head display. Each model's consumption reflects the performance and efficiency of the corresponding APU.

I/O

Out-of-the-box fit-PC3 provides a set of interfaces unmatched by any computer of a similar size:

- Dual-head display HDMI + DisplayPort
- Digital 7.1 S/PDIF and analog 2.0 audio, both input and output
- Gigabit Ethernet
- WiFi 802.11 b/g/n + BlueTooth 3.0 combo with dual antennas
- 2 USB3-ports + 2 USB2-ports
- 2 eSATA-ports
- Bay for 2.5" SATA HDD
- 2 mini-PCIe sockets / 1 mSATA
- Serial RS232 port
- IR -receiver (not in the first batch)



These interfaces are likely to satisfy the majority of applications, but not all. For example – what about network routing? This is where the uniqueness of fit-PC3 is revealed – in modularity.

Modularity

Compactness and modularity are often contradicting design goals. Perhaps the most striking feature in the design of fit-PC3 is the degree of modularity and hardware serviceability without compromising on neither size nor looks of the device.

FACE Module (Function And Connectivity Extension Module)

The front-facing panel of fit-PC3 can incorporate any custom functionality and I/O. We call it FACE Module (Function And Connectivity Extension Module). Examples:

- A FACE Module with 4 GbE ports and 6 USB ports for networking applications
- Combine GPIO's, ADC's, DAC's and serial ports for instrumentation
- Add multiple frame-grabbers for a surveillance computer

FACE Module is implemented by an internal extension-board and a simple sheet-metal panel. CompuLab is designing multiple FACE Modules and opens the interface with complete documentation and reference designs for other companies to design their own FACE Modules.

The I/O brought to the FACE Module resembles extensibility of a desktop:

- 4 PCIe-lanes
- 6 USB2 + 2 USB 1.1
- 25 GPIO's
- 2 SATA-3-ports
- 4 SMBus + 1 SPI
- LPC



One-screw service door

Installing or replacing hard-disk, RAM and mini-PCIe modules (2 in fit-PC3) has never been easier. All it takes is opening one screw at the bottom of fit-PC3 and sliding-out the service door with the hard-disk attached. Then there is easy access to the 2 SODIMMs and 2 mini-PCI sockets



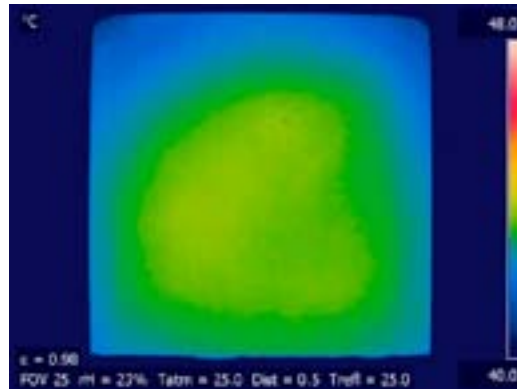
DESIGN AND BUILD

Most commodity small PC's follow identical design rules – a heat-sink on the CPU with a centrifugal fan blowing over it, all encased in a plastic housing. The fit-PC design is radically different – focusing on miniaturization, robustness, reliability and silent operation rather than making the cheapest possible system.

THERMAL DESIGN

All fit-PCs are designed for fanless operation at the smallest possible form-factor using the most reliable cooling mechanism in existence – heat dissipation through the housing itself. fit-PC3 is no different, but it takes the thermal design a step further:

- Internal passive heat-spreader to eliminate hot-spots.



- Power regulation based on both CPU and case temperature monitoring. If case temperature exceeds a threshold the CPU is underclocked until temperature is back within permitted range. The threshold can be configured in BIOS.

INDUSTRIAL DESIGN

Each part of the metal housing of fit-PC3 is 3D modeled and produced by die-casting for perfect fit. The streamlined design under 1" thick may be misleading – but fit-PC3 is one of the toughest computers on the market – easily withstanding industrial, automotive and outdoors installations.



Embedded grade internals

CompuLab has been making embedded computer-on-modules for over 15 years. We know that using quality parts results in returning customers. All electronic components in fit-PC3 are embedded grade with long term availability and are RoHS compliant. The standard warranty on fit-PC3 is 2 years.

fit-PC3 Specifications

System

Feature	fit-PC3 Model				Notes
	Value	Basic	LP	Pro	
CPU	AMD G-T44R 64 bit single core 1 GHz 9W TDP	AMD G-T40N 64 bit dual core 1 GHz 9W TDP	AMD G-T40E 64 bit dual core 1 GHz 6.4W TDP	AMD G-T56N 64 bit dual core 1.65 GHz 18W TDP	
RAM	Up to 8 GB, DDR3, 1333 MHz, 64-bit (two SO-DIMM sockets)				Configurable
Storage	Internal 2.5" hard disk				Configurable
	Two eSATA ports, up to 6 Gbit/s				
	mSATA (multiplexed with full-size mini PCIe socket)				

Graphics

Feature	fit-PC3 Model				Notes
	Value	Basic	LP	Pro	
GPU	Radeon HD 6290		Radeon HD 6250	Radeon HD 6320	
HDMI	HDMI 1.3a Up to 1920 x 1200 @ 60 Hz			HDMI 1.4a Up to 1920 x 1200 @ 60 Hz	
HDMI Stereo 3D	-	-	-	+	
DisplayPort	Up to 2560 x 1600 at 60Hz				

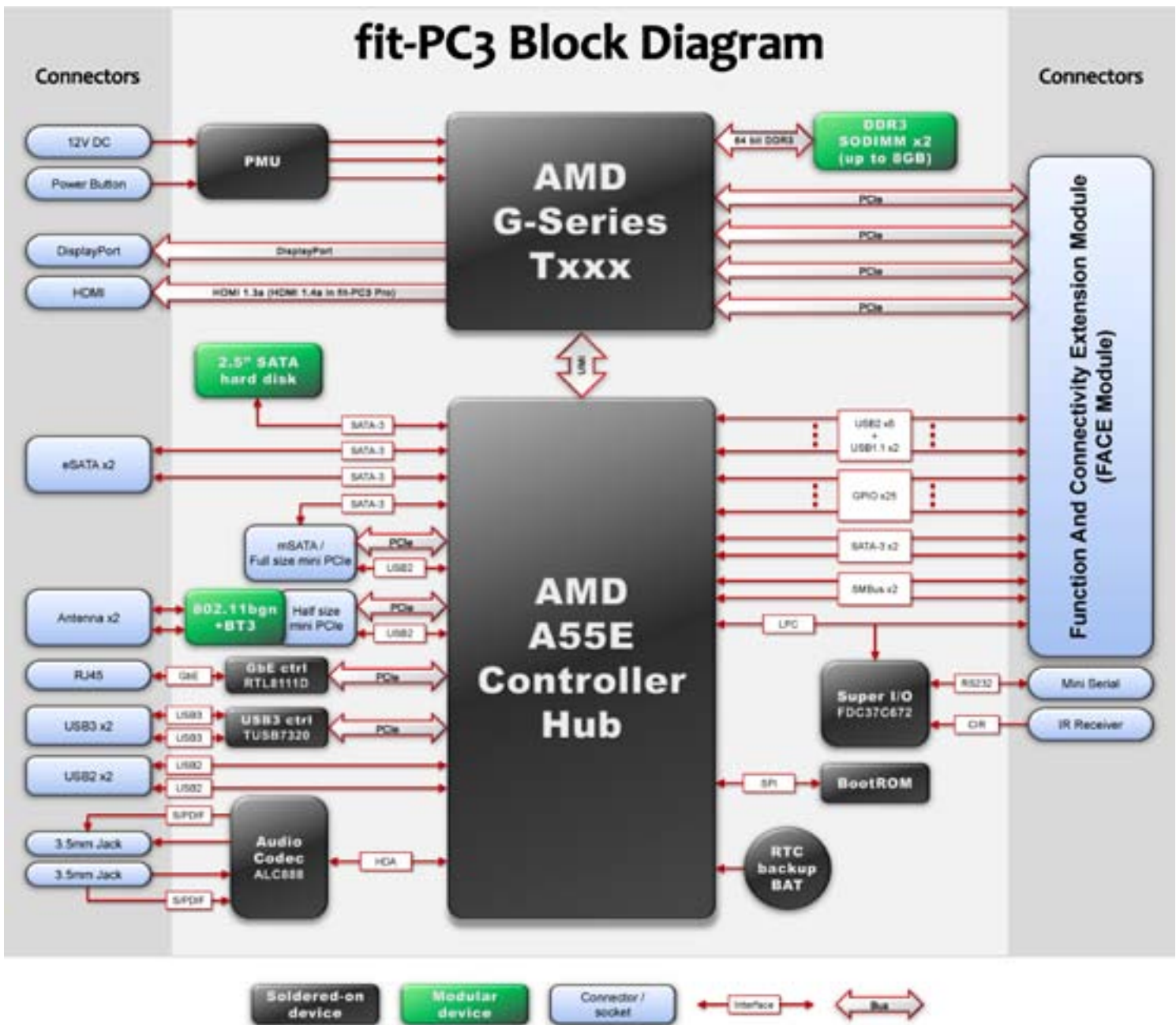
I/O

Feature	fit-PC3 Model				Notes
	Value	Basic	LP	Pro	
Audio	Stereo line-out and stereo line-in				
	7.1 channel S/PDIF, (electrical through 3.5mm jack)				
Network	1000 BaseT Ethernet port, activity LEDs, RJ-45 connector				
	802.11b/g/n Wi-Fi, 2 antennas, 150 Mbit/s				Optional half-size Mini PCIe module
	BT 3.0				
USB	Two USB 3.0 host ports, 5 Gbit/s				
	Two USB 2.0 host ports, 480 Mbit/s				
	Four USB 2.0 host ports, 480 Mbit/s in front				Optional FACE Module
RS232	Partial modem controls, ultra mini serial connector				
IR	Consumer IR receiver				
Expansion	Mini PCIe socket, half-size				Used for wireless module
	Mini PCIe socket, full-size, with mSATA support				
	Proprietary FACE Module (Function And Connectivity Extension Module):				
	4x PCIe lanes 6x USB2 + 2x USB 1.1 2x SATA 25x GPIOs 2x SMBus LPC				

Electrical and Mechanical

Feature	fit-PC3 Model				Notes
	Value	Basic	LP	Pro	
Power supply	Unregulated 8 to 16 volt input				
Power	TBD	7W – 15W	8W – 17W	9W – 24W	Depends on system load
Dimensions	16cm x 16cm x 2.5cm			19cm x 16cm x 4cm	

fit-PC3 Block Diagram



System Technology Sweden AB är ett svenskt agenturföretag som levererar PC-baserad mätteknik inom områden som utveckling, utprovning, produktion, underhåll och processtyrning.

System Technology Sweden AB
 Box 304
 518 02 Linköping
 Tel: 013-35 70 30
 Fax: 013-14 05 30
 E-post: sales@systemtech.se

