



# GP3 Gigabit Speed Embedded Computer

## ODM Reference Board for Motorola PowerQUICC III

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**Dual Gigabit Ethernet (both copper and fiber)**  
**8 bit Parallel RIO (Rapid IO) and PC104plus 32bit PCI**  
**Local Bus Expansion (FPGA option card for protocol/ASIC design Q2)**

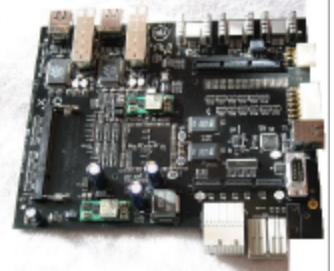
### Motorola PowerQUICC III CPU Chip Features

e500 Book E compatible core available from 800 MHz up to 1.5 GHz  
 32-bit, dual-issue, superscalar, seven-stage pipeline  
 32 KB L1 data and 32 KB L1 instruction cache (MMUs)  
 256 KB on-chip L2 cache with direct mapped capability  
 SIMD extension with single precision floating point  
 High-performance RISC CPM; 1 Gbps aggregate bandwidth  
 Two UTOPIA Level II master/slave ports with multi-PHY support (one can be 16-bit)  
 Eight TDM interfaces (T1/E1), two TDM ports that can be interfaced with T3/E3  
 ATM transmission convergence layer (8 channels) and inverse multiplexing (IMA)  
 MII, Serial, and various other CPM comm. ports offloaded from the e500 core  
 Integrated high-performance security processor function (optional by CPU)



### Software

Integral OS-less monitor self-test diagnostic preloaded in flash  
 2.4.x GPL embedded Linux kernel preloaded in flash



*boot in seconds, start development in minutes!*

### Please check out our software partners!

GPL Linux and Integration Services- [www.embeddededge.com](http://www.embeddededge.com)  
 QNX Neutrino- with true SMP in the Momentics IDE [www.QNX.com](http://www.QNX.com)  
 OSE- the ultra-reliable message passing solution [www.OSE.com](http://www.OSE.com)  
 Abatron BDI2000- on chip debugger- [www.ultsol.com](http://www.ultsol.com)

*Ask us about your military DO-178B certification requirements*

### GP3 Product Description

#### **Board Size**

6.75x8.00 Inches  
 EBX compatible mechanical mounting  
 holes plus 1/2 inch on each side for RIO

#### **Operating Temperature**

Standard version 0 to 40deg C  
 Extended temperature TBD

#### **Weight**

375g

#### **Power Requirement**

60Watt compact wall supply included  
*Optional ATX connector on board*

An exceptionally powerful single board computer/router designed as both a stand-alone product, as well as for reference board and custom integration purposes. The Motorola book "E" core allows for stateful packet inspection and manipulation as well as policy/QoS enforcement. Integrated MACs for the the TSEC (triple speed Ethernet controllers) give customers granular and deterministic control over data flow- a critical feature in the medical, military, network/telecom, test & measurement, and industrial control markets.

## Ordering information Q1 2004

GP3-8560 (for MPC8560)

GP3-8555 (for MPC8555)

GP3-8540 (for MPC8540)

*Additional speed grades or other selections available in Q1 2004*

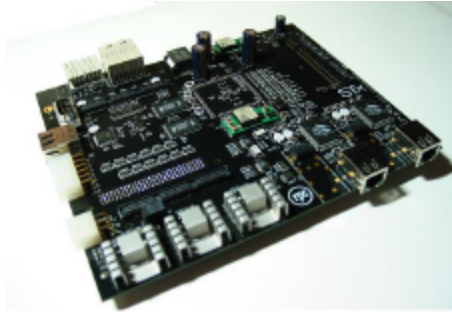
With every board you get: wall power supply, cable kit, warranty card, LULA (limited use license agreement), PDF schematic, and software resource CD.

### Accessories

Base configuration is 1 bank of 256 mbyte DDR memory [GP3DIMM0256](#) memory modules from 256 mbyte to 2048 mbytes (2 gbytes) [GP3DIMM-xxxx](#) each available single or multimode [GP3SFP-xx](#) (specify km for single mode) fiber gigabit Ethernet module  
*The GP3 supports up to 4 gigabytes of DRAM*

### Doing business with us

- 1) buy boards as is, write software, and buy/build expansion cards
- 2) allow us to integrate a custom board for you
- 3) let us become your EMS (electronics manufacturing service)



### Capabilities

- Stateful packet management
- IP and ATM internetworking
- QoS and policy enforcement
- Real-time gigabit data flow

### Applications and Markets

- Security Appliances
- Ultra Highspeed Radio A.P.
- VOIP/Telecom Gateway
- Gigabit Test & Measurement
- Industrial or Network Router

## Contact Us!

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## Coming in Q2 2004, the G3Pio card!

Plugs onto the PowerQUICC III local bus (expansion card)  
Has a large Xilinx Virtex II device for protocol/ASIC development  
Also a scalable flash simm module for extra firmware space



*GP3 is an acronym for the Gigabit Packet Processor Project*

