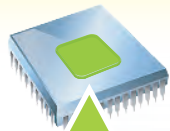


# PICA<sup>®</sup> 200 for FPGA 3D Graphics IP

## Full 3D graphics HMI

FPGA-based industrial equipment for low-volume manufacturing and/or long-term supply



Xilinx<sup>®</sup> Virtex<sup>®</sup>-5 FPGA, etc.

**PICA200 for FPGA**

PICA200 for FPGA, based on the proven PICA200 graphics IP core compliant with the Khronos Group OpenGL ES, is the industry's first real-time full 3D graphics IP core optimized for FPGA-based low-volume manufacturing.

## Industry's first IP solution for FPGA with full 3D graphics of up to XGA resolution

PICA200 for FPGA has been developed for applications using FPGA for the purpose of securing low-volume manufacturing and/or long-term supply of industrial, medical, and aerospace-related equipments etc. With DMP's IP solution for FPGA, it is now possible to realize sophisticated HMIs (Human Machine Interfaces) with real-time 3D graphics on these type of equipment. Furthermore, PICA200 for FPGA supports XGA resolution (1024x768 pixels) and as such, it is capable of rendering 3 million or more polygons per second (when running at 50MHz) or 1 pixel per clock realizing high-resolution 3D graphics on FPGA which previously, were only possible with general-purpose GPUs or ASICs.

As for the software development environment, it allows for efficient and low-cost content production when used together with authoring support tools that realize seamless workflow from major CG tools.

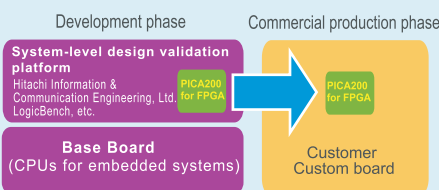
## Main features / Specifications

PICA200 for FPGA adds functions compliant with OpenGL ES 1.1, including the following:

- Frame buffer: Maximum 4095x4095 pixels
- Pixel format: RGBA4444, RGB565, RGBA5551, RGBA8888
- Vertex program (ARB\_vertex\_program)
- Render to texture
- mipmap
- Bilinear texture filtering
- Alpha blending
- Full-scene antialiasing (2x2)
- Line antialiasing
- Polygon offset
- 8-bit stencil buffer
- 24-bit depth buffer
- Single/Double/Triple buffer
- Vertex performance: Maximum 3.8M polygons/sec (for 50MHz)
- Pixel performance: Maximum 50M pixels/sec (for 50MHz)
- Supported FPGA: Xilinx<sup>®</sup> Virtex<sup>®</sup>-5 (Support for Altera Stratix<sup>®</sup> III and others planned)

## FPGA system development partnership

DMP is strengthening its cooperation with system-level design validation platform vendors for FPGA-based systems to support efficient development of systems using PICA200 for FPGA.



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