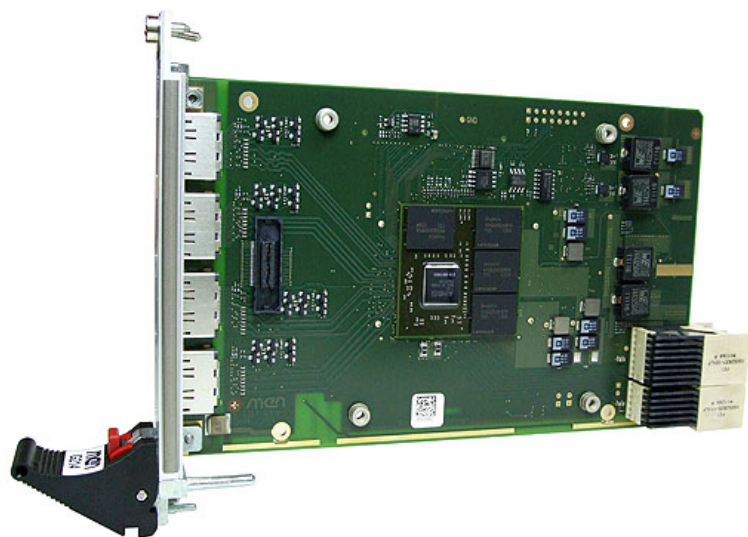


G214 – 3U CompactPCI® Serial Multi-Display Controller

- **AMD Radeon™ E6760 GPU, 600 MHz**
- **6 SIMD engines, 480 shaders**
- **1 GB integrated graphics RAM**
- **AMD EyeSpeed, Eyefinity and HD3D technologies**
- **DirectX® 11, OpenGL® 4.1, OpenCL™ 1.1**
- **Up to 6x DisplayPort® (4x DP 1.2, 2x DP 1.1a)**
- **Max. resolution 4096x2560 at 60Hz, 24 bpp**
- **or 3840x2400 at 60Hz, 30 bpp**
- **1 PCIe® x8 CPU interface**
- **PICMG CPCI-S.0 CompactPCI® Serial peripheral card**



The G214 is a 4HP/3U CompactPCI® Serial peripheral board based on the AMD Radeon™ E6760 GPU. The board is an easy way to provide a CompactPCI® Serial system with high-end graphics features that are not offered by regular CPU chipsets. The supported high resolutions and multi-display output make the board ideal to meet the visual requirements of central control rooms, video surveillance systems or digital signage applications. All board components are carefully selected to offer long-term availability for at least 7 years.

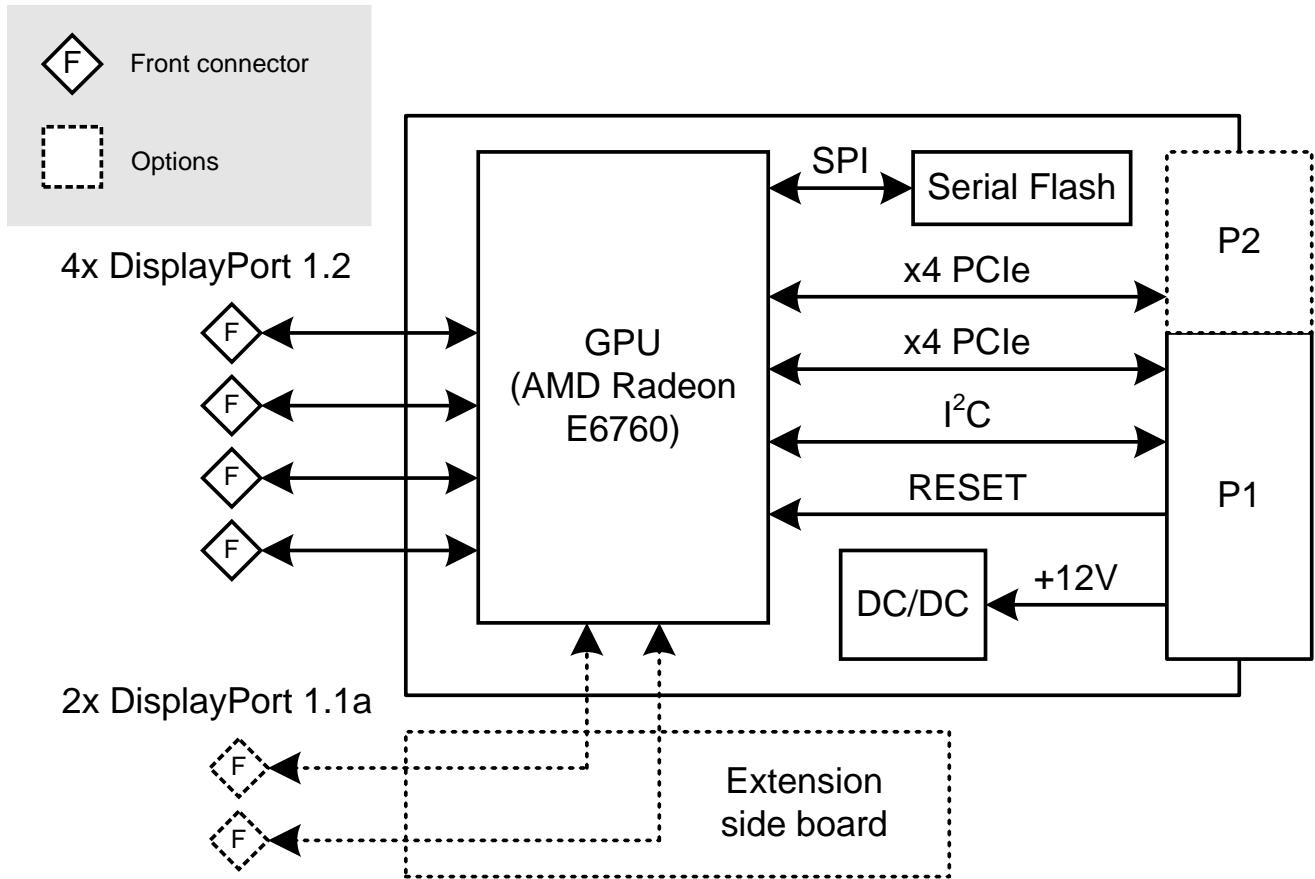
AMD Eyefinity multi-display technology supports up to 6 display outputs: Four DisplayPort® 1.2 interfaces with a maximum resolution of 4096x2560 at 60 Hz and 24 bpp are available at the board's front panel, another two DisplayPort® 1.1a interfaces with a maximum resolution of 2560x1600 are optional (widening the front panel to 8HP). Alternatively, DisplayPort® 1.2 supports daisy chaining of compatible displays. If the connected panels support the same resolutions, they

can be addressed as a "single large surface", effectively functioning as one monitor with a very large resolution.

The advanced, programmable 3D graphics engine of the AMD Radeon™ E6760 supports Microsoft® DirectX® 11 and comes with a third generation unified video decoder, enabling dual HD decode of H.264, VC-1, MPEG4 and MPEG2 compressed video streams. The GPU is also an ideal solution for embedded applications requiring compute intensive general purpose graphics processing unit (GPGPU) capabilities. With 480 processing elements, it delivers up to 576 GFLOPs peak single precision floating point performance for ultrasound, radar and video imaging applications. The GPGPU capabilities are enabled by AMD Accelerated Processing (APP) technology, the industry standard OpenCL™ programming language and the AMD APP Software Development Kit (SDK).

Using passive DisplayPort® adapters, up to two HDMI or DVI-D monitors can be connected. Single-link DVI-D and HDMI 1.4a are supported. With active adapters, all six DisplayPort® interfaces can be used. Active adapters are also available for dual-link DVI-D and VGA.

Diagram



Technical Data

Graphics	<ul style="list-style-type: none"> ■ AMD Radeon™ E6760 graphics processor <ul style="list-style-type: none"> □ 600 MHz max. graphics engine operating frequency ■ 6 SIMD engines x 80 processing elements = 480 shaders ■ Floating Point Performance (single precision, peak): 576 GFLOPS ■ Display Engine: AMD EyeSpeed visual acceleration, AMD Eyefinity, AMD HD3D technologies ■ DirectX® 11 ■ Shader Model 5.0 ■ OpenGL® 4.1 ■ OpenCL™ compliant: AMD APP, OpenCL™ 1.1, DirectCompute 11 ■ Unified Video Decoder 3 for H.264, VC-1, MPEG-2, MPEG-4 part 2 decode
Memory	<ul style="list-style-type: none"> ■ 128-bit wide, 1 GB, GDDR5 ■ Operating frequency: 800 MHz / 3.2 Gbps
Front Connections (Standard)	<ul style="list-style-type: none"> ■ 4 DisplayPort® 1.2 interfaces <ul style="list-style-type: none"> □ Maximum resolution: 4096x2560 pixels at 24 bpp / 60 Hz
Miscellaneous	<ul style="list-style-type: none"> ■ Temperature sensor ■ Reset via CompactPCI® Serial connector
CompactPCI® Serial	<ul style="list-style-type: none"> ■ Compliance with CompactPCI® Serial PICMG CPCI-S.0 Specification ■ Peripheral slot ■ Host interface: 1 or 2 PCI Express® x4 links <ul style="list-style-type: none"> □ PCIe® 2.1 support □ Data rate up to 2 or up to 4 GB/s in each direction (5 Gbit/s per lane)
Electrical Specifications	<ul style="list-style-type: none"> ■ Supply voltage/power consumption: <ul style="list-style-type: none"> □ +12 V (9..16 V), 35 W max.
Mechanical Specifications	<ul style="list-style-type: none"> ■ Dimensions: conforming to CompactPCI® Serial specification for 3U boards ■ Front panel: 4 HP with ejector ■ Weight: approx. 260 g (with heat sink)
Environmental Specifications	<ul style="list-style-type: none"> ■ Temperature range (operation): <ul style="list-style-type: none"> □ 0..+60°C □ Airflow: min. 1.0 m/s ■ Temperature range (storage): -40..+85°C ■ Relative humidity (operation): max. 95% non-condensing ■ Relative humidity (storage): max. 95% non-condensing ■ Altitude: -300 m to +3,000 m ■ Shock: 50 m/s², 30 ms ■ Vibration (function): 1 m/s², 5 Hz - 150 Hz ■ Vibration (lifetime): 7.9 m/s², 5 Hz - 150 Hz ■ Conformal coating on request
MTBF	<ul style="list-style-type: none"> ■ 150,000+ h (tbc.) @ 40°C according to IEC/TR 62380 (RDF 2000)
Safety	<ul style="list-style-type: none"> ■ PCB manufactured with a flammability rating of 94V-0 by UL recognized manufacturers
EMC	<ul style="list-style-type: none"> ■ Conforming to EN 55022 (radio disturbance), IEC 61000-4-2 (ESD), IEC 61000-4-3 (electromagnetic field immunity), IEC 61000-4-4 (burst), IEC 61000-4-5 (surge) and IEC 61000-4-6 (conducted disturbances)
Electrical Safety Standards	<ul style="list-style-type: none"> ■ Conforming to EN 50155 (insulation measurement 10.2.9.1, voltage withstand 10.2.9.2), EN 60950 (information technology equipment), EN 50124-1 (Annex B) (voltage withstand)
Software Support	<ul style="list-style-type: none"> ■ Windows® 7 ■ Windows® Vista™ ■ Windows® XP on request ■ Linux ■ For more information on supported operating system versions and drivers see Software.

Configuration & Options

Standard Configurations

Article No.	Front Panel	Interfaces
02G214-00	4 HP	4x DisplayPort 1.2

Options

Graphics	<ul style="list-style-type: none"> ■ 2 additional DisplayPort® 1.1a interfaces <ul style="list-style-type: none"> □ Maximum resolution 2560x1600 at 24 bpp / 60 Hz □ Available via standard connectors on 8HP front panel
CompactPCI® Serial	<ul style="list-style-type: none"> ■ Only P1 connector assembled <ul style="list-style-type: none"> □ When more than a x4 PCIe® connection is not required / not possible
Cooling Concept	<ul style="list-style-type: none"> ■ Also available with conduction cooling in MEN CCA frame

Please note that some of these options may only be available for large volumes. Please ask our sales staff for more information.

Ordering Information

Standard G214 Models	02G214-00	4HP multi-display controller, 4 DisplayPort® 1.2 graphics outputs, 0..+60°C				
Related Hardware	08AE63-00	DisplayPort® to LVDS converter, temperature sensor, ambient light, touch input, key control, input voltage 12V..24V, -40°..+85°C screened				
Miscellaneous Accessories	<p>A multitude of adapters from DisplayPort® to HDMI, DVI and VGA are available from various manufacturers. For a list of active and passive adapters tested by AMD, please refer to this list: AMD Eyefinity Validated Dongles.</p> <table border="1"> <tbody> <tr> <td>0780-0005</td> <td>DisplayPort® to DVI-D adapter, 20 cm</td> </tr> <tr> <td>0780-0006</td> <td>Active DisplayPort® (DP) to single link DVI-D adapter, 20cm, max. resolution 1920x1200, AMD / ATI Eyefinity technology</td> </tr> </tbody> </table>		0780-0005	DisplayPort® to DVI-D adapter, 20 cm	0780-0006	Active DisplayPort® (DP) to single link DVI-D adapter, 20cm, max. resolution 1920x1200, AMD / ATI Eyefinity technology
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Software: Windows®	<p>This product is designed to work under Windows®. See below for potentially available separate software packages from MEN.</p> <table border="1"> <tbody> <tr> <td>13T026-70</td> <td>Windows® Vista™ / Windows® 7 GPU and chipset driver (AMD) for BC50M, BC50I, BL50W, SC24 and G214</td> </tr> </tbody> </table>		13T026-70	Windows® Vista™ / Windows® 7 GPU and chipset driver (AMD) for BC50M, BC50I, BL50W, SC24 and G214		
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<p>For operating systems not mentioned here contact MEN sales.</p>						
Documentation	<p>Compare Chart 3U CompactPCI® Serial CPU and I/O cards » Download</p> <table border="1"> <tbody> <tr> <td>20G214-00</td> <td>G214 User Manual</td> </tr> </tbody> </table>		20G214-00	G214 User Manual		
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