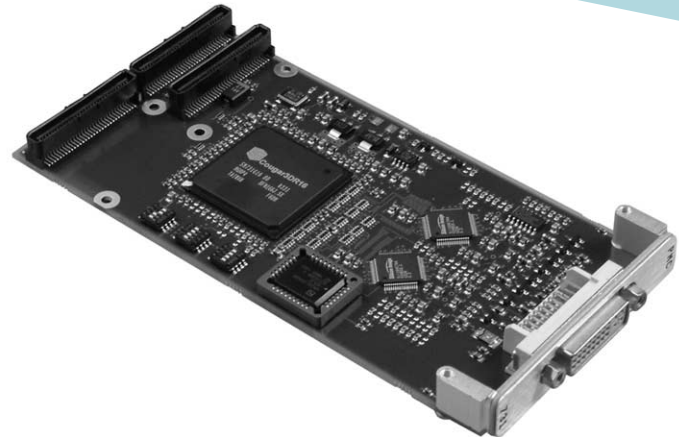# PMC Graphics Adaptor

APPLICATIONS

The IO PMC/731 is a high performance graphics adaptor suitable for any PMC compliant host board (CompactPCI®, VME, Multibus II etc). The on-board Silicon Motion SM731 3D/2D dual display controller manages the graphics processing. The adaptor supports digital flat panel (DFP) displays with a PanelLink® interface, up to 1280 x 1024, and CRTs with an RGB interface, up to 1600 x 1200, via a single front panel DVI-I connector. The PanelLink interface is also available via the rear connector. Both CRT and DFP displays can be driven simultaneously with the same or different images. Market applications are within industrial, defense and medical sectors. Examples include high resolution color graphics, CAE/CAD/CAM, image processing as well as mapping systems.

HIGHLIGHTS

- High performance 3D/2D dual display controller:
  - 16 Mbytes of embedded SGRAM
  - maximum resolution 1600 x 1200
  - maximum color depth up to 16.7M colors per interface
  - maximum refresh rate up to 85Hz
- Supporting CRT and DFP interfaces:
  - with simultaneous CRT and DFP capability
  - DFP PanelLink via DVI-I and rear panel connectors
  - CRT RGB via DVI-I connector
- 64 Kbyte EPROM for video BIOS

- PMC (PCI Mezzanine Card) format:
  - single size CMC (Common Mezzanine Card)
  - PCI clock rates up to 33MHz
  - 32-bit interface
  - 3.3V PCI signaling
- Supported by Windows® 2000, Windows® XP, Windows® XP Embedded, Linux® and QNX®
- For use with VME bus, CompactPCI and Multibus II PMC host boards

Graphics Processor
- utilizes Silicon Motion SM731 3D/2D dual display controller, which provides:-
    - ➜ dual display capability
    - ➜ picture rotation of 90°, 180° or 270°
    - ➜ resolutions up to 1600 x 1200 CRT
    - ➜ resolutions up to 1280 x 1024 DFP
    - ➜ 24-bit true color
    - ➜ on-chip embedded 16 Mbytes 150MHz SGRAM
    - ➜ integrated 235MHz RAMDAC
    - ➜ 128-bit graphics engine
    - ➜ PCI interface

Resolutions
- supports the following resolutions:-
    - ➜ 640 x 480 pixels,
      256, 64K or 16.7M colors
    - ➜ 800 x 600 pixels,
      256, 64K or 16.7M colors
    - ➜ 1024 x 768 pixels,
      256, 64K or 16.7M colors
    - ➜ 1280 x 1024 pixels,
      256, 64K or 16.7M colors
    - ➜ 1600 x 1200 pixels (CRT),
      256, 64K or 16.7M colors

CRT Interface
- up to 1600 x 1200 pixels, 16.7M colors @ 85Hz refresh rate
- supports all RGB compliant displays via DVI-I connector

Flat Panel Interface
- PanelLink interface provided by Silicon Image™ SIL164 utilizing TMDS (Transition Minimized Differential Signaling):-
    - ➜ supports all PanelLink compliant displays via DVI-I connector
    - ➜ supports active matrix (TFT) and passive (DSTN) panels
    - ➜ up to 1280 x 1024 pixels, 16.7M colors @ 60Hz refresh rate
    - ➜ supports twisted-pair cable, up to 5 meters in length
    - ➜ PanelLink connection via rear I/O PMC connector P4
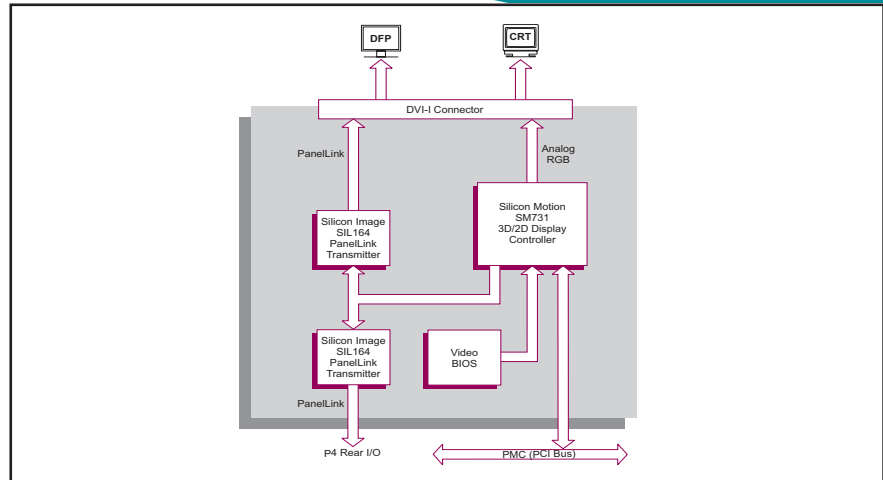
Dual Displays
- DFP and CRT displays can be driven simultaneously with:-
    - ➜ the same or different image
    - ➜ same or different resolution
- dependent on operating system software
- maximum recommended resolution 1280 x 1024 pixels, 16.7M colors for both displays, with CRT @ 85Hz and DFP @ 60Hz refresh rate

PMC Interface
- complies with PCI protocol and electrical specification
- supports PCI clock rates up to 33MHz
- supports 5V and 3.3V signaling levels
- 32-bit interface

BIOS EPROM
- 8-bit wide 64 Kbyte EPROM
- 32-pin PLCC JEDEC socket

Electrical Specification
- requires 3.3V and 5V supplies
- +5V @ 0.45A; +/-5%
- +3.3V @ 0.6A; +/-5%
- +12V and -12V supplies not utilized

Environmental Specification
- 0°C to +55°C (operating)
- 10% to 90% Relative Humidity non condensing (operating)
- -40°C to +70°C (storage)

Mechanical Specification
- single size CMC (Common Mezzanine Card) 74mm x 149mm
- 10mm height stack module

Software Support
- support for Windows 2000, Windows XP, Windows XP Embedded, Linux and QNX

ORDERING INFORMATION

Order Number	Product Description (Hardware)
IO PMC/731-00	PMC Graphics Adaptor with DFP and CRT interfaces via DVI-I connector, plus rear PMC PanelLink interface