

P17 - PC-MIP Display Controller



The P17 is based on the PC-MIP ANSI mezzanine standard. It can be used as an I/O extension in any type of bus system, i.e. CPCI, PXI, VME or on any type of stand-alone SBC. Appropriate PC-MIP carrier cards in 3U, 6U and other formats are available from MEN or other manufacturers. Comparable with the larger foot print PMC mezzanine cards, PC-MIP boards also support PCI bus.

The P17 is a double-wide PC-MIP module featuring an SM731 display controller which supports a 235-MHz, 24-bit RAMDAC at a maximum of 1600 x 1200 pixels resolution. It delivers enhanced multi-display capabilities. The onboard graphics controller can drive two independent digital displays (dual digital),

- Graphics controller SM731
- 16 MB integrated graphics RAM
- 4 Mbit video BIOS ROM
- Up to 1600 x 1200 pixels
- Up to 16.7 M colors
- Up to 85Hz refresh rate
- LCD (up to UXGA) and CRT via DVI-I (front)
- PanelLink via DVI-I (front)
- S-Video I/O and Composite Video out via D-Sub (front)
- 2x LVDS via rear I/O adapter and on-board

alternatively with identical or with different screen displays. Simultaneously, it can drive LCD, CRT and TV displays (DualMon). The controller also incorporates two 112-MHz Max pix clock LVDS channels that can drive two separate panels or a single high-resolution panel (UXGA).

The P17 provides a Digital Video Interface (DVI-I) for LCD and CRT via a DVI-I front-panel connector. It also provides an S-Video input and output and Composite Video output via a D-Sub front-panel connector. Both LVDS channels are supported via the J3 rear I/O connector and another onboard plug connector. These connections can be used to control a panel.

Technical Data

Graphics Control

- SM731 controller
- Video
 - Zoom video port
 - Video filtering
 - Multiple independent hardware video windows
- Memory
 - 16MB embedded SGRAM
 - 64-bit memory interface
 - Various on-chip DRAM memory configurations
- DVI via Panellink transmitter
 - Integrated Dual Channel LVDS transmitters
 - Single or dual pixel per clock
 - DualMon support
 - Up to 1600 x 1200 resolution
 - Up to 16.7M colors
- RAMDAC
 - 235MHz
 - 24 bits
 - Up to 1600 x 1200 resolution
 - Up to 16.7M colors
- Video BIOS ROM
 - 4 Megabit (512K x 8 bits)

Interfaces

- DVI-I via front-panel connector
- S-Video Output/Input and Composite Video Output via front-panel connector
- LVDS1 and LVDS2 via onboard connectors

PCI Characteristics

- 32-bit PCI, complying with PCI Local Bus Specification, Rev. 2.2
- 33MHz
- Target

Peripheral Connection

- Via front panel on one DVI-I connector and one standard 9-pin D-Sub receptacle connector
- Via optional onboard 50-pin plug connector
- Via J3 rear I/O

Electrical Specifications

- Isolation voltage: tbd.
- Supply voltage/power consumption:
 - +5V (4.85V..5.25V), 900mA max.
 - +3.3V (3.0V..3.6V), 1.4A typ.
- MTBF: 240,000h @ 50°C

Mechanical Specifications

- Dimensions: double PC-MIP Type II conforming to PC-MIP Standard
- Weight: 70g

Environmental Specifications

- Temperature range (operation):
 - 0..+60°C or -40..+85°C
 - Airflow: min. 10m³/h
- Temperature range (storage): -40..+85°C
- Relative humidity (operation): max. 95% non-condensing
- Relative humidity (storage): max. 95% non-condensing
- Altitude: -300m to + 3,000m
- Shock: 15g/11ms
- Bump: 10g/16ms
- Vibration (sinusoidal): 2g/10..150Hz

Safety

- PCB manufactured with a flammability rating of 94V-0 by UL recognized manufacturers

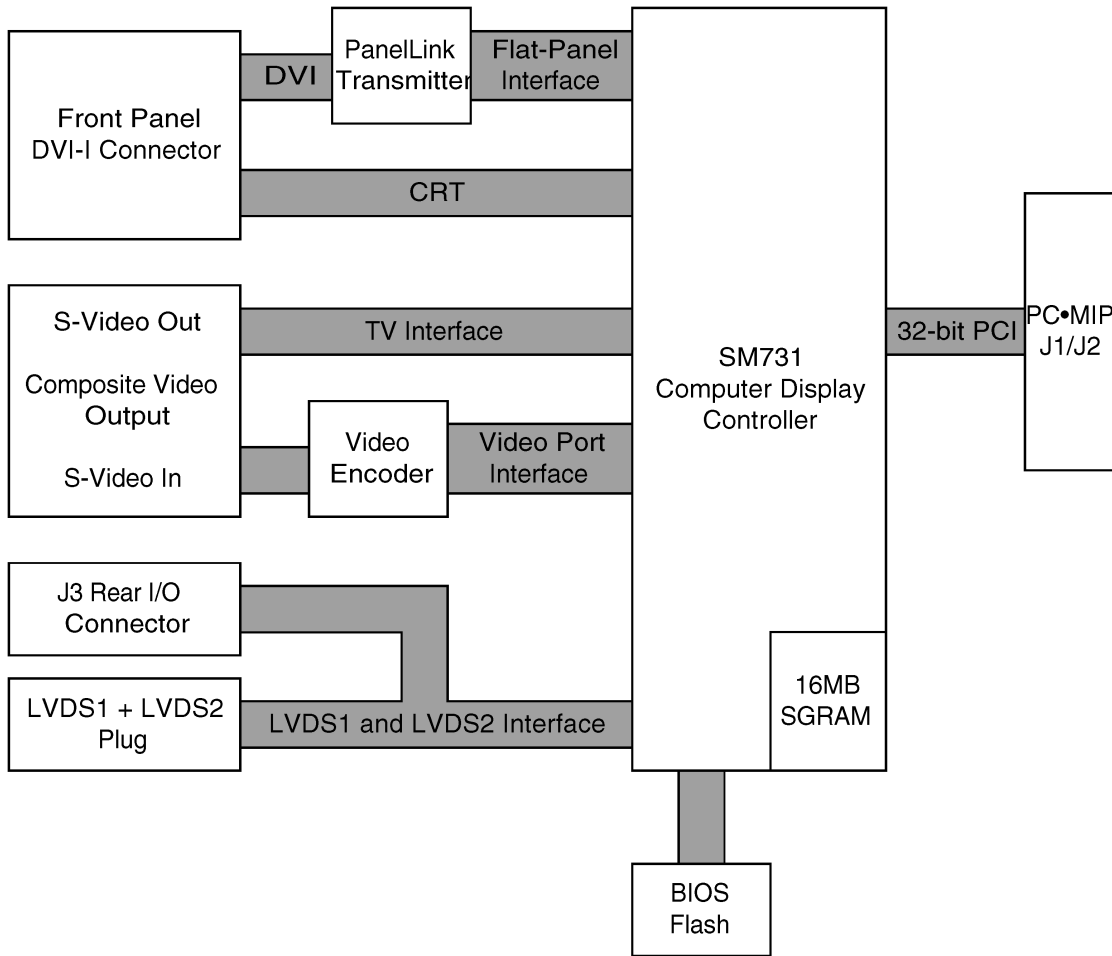
EMC

- Tested according to EN 55022 (radio disturbance), IEC1000-4-2 (ESD) and IEC1000-4-4 (burst) with regard to CE conformity

Software Support

- Driver support for Windows 2000/XP, OS-9 (incl. C library and shared library module for XiBase9)

Diagram



Related Products

Standard Hardware

15P017-00	P17, Double PC-MIP Display Controller with SMI731, 16MB integrated SGRAM, 4 Mbit Flash BIOS, LCD (up to UXGA resolution) and CRT via DVI, LVDS, S-Video In/Out and Composite Video Output; operating temperature 0..+60°C
15P017-01	P17, Double PC-MIP Display Controller with SMI731, 16MB integrated SGRAM, 4 Mbit Flash BIOS, LCD (up to UXGA resolution) and CRT via DVI, LVDS, S-Video In/Out and Composite Video Output, operating temperature -40..+85°C
15P017-02	P17, Double PC-MIP Display Controller with SMI731, 16MB integrated SGRAM, 4 Mbit Flash BIOS, LCD and CRT via DVI, operation temperature 0..+60°C

Please refer to our PC-MIP and PMC compare chart for a selection of mezzanine functions.

Accessories

05F007-02	DVI-to-VGA cable, DVI plug to 15-pin HD-Sub plug, 2m, -40..+85°C
05P017-00	Splitter cable D-Sub S-Video In/Out, Composite Video Output to 2 mini DIN 4-pin/RCA jacks
0501-0001	DVI-I to DVI-D and VGA Y-adapter cable (for example for D4, F7/N, F8, F9, P17)

Software

XiBase9, a graphical user interface for Linux and OS-9 from XiSys, is running on the MEN graphics controller PC-MIP and PMC modules P1, P17 and P517 in combination with the PowerPC-based Single-Board Computers A11, A12, D3, F1N, B11 and SC13 (further SBCs on request). For more information, purchase and support please apply to www.xisys.de.

13P017-01	OS-9: C library for P17 and P517 for simple portations of various graphics packages based on a frame buffer interface
13P017-02	OS-9: Shared library module XiGfx.dll. for P17 and P517 for XiBase9
13P017-71	Windows® 2000: Graphics driver for P17 and P517 (SMI, object code)
13P017-72	Windows® XP2000: Graphics driver for P17 and P517 (SMI, object code)

Further driver software for Windows® 98, Windows® 2000, Windows® XP (SMI) and XiBase9 (MEN) on request.

Documentation

20P000-00	PC-MIP draft specification Rev. 0.92b
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Related Products

20P017-00 P17 user manual

For the most up-to-date ordering information and direct links to other data sheets and downloads, see the P17 online data sheet under www.men.de. --> [Click here!](#)

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