

# CPC150 MicroPC CPU Module



## Features

- AMD GEODE LX 800, 500 MHz
- 256 MB DDR SDRAM
- CF I/II socket, 1 GB with IDE
- VGA, LCD (TFT or DSTN) up to 1920×1440
- Two Fast Ethernet ports
- Two RS-232, two RS-422/485 isolated
- Four USB 2.0
- Discrete input/output: 24 channels
- Operating temperature range: -40°C...+85°C

## Overview

CPC150 is a fully x86-compatible SBC designed for operation in rugged environment.

It features wide selection of standard PC interfaces, such as two Fast Ethernet ports, USB ports, audio interface, graphics controller with support of CRT displays and flat-panel TFT or DSTN displays.

Besides, it is equipped with four analog video input channels supporting connection of PAL/SECAM/NTSC video cameras with resolution up to 720×576/720×504 at 25/30 frames per second; 24 discrete input/output channels; and FPGA with open programming interface.

Soldered CPU, system memory, and solid state disk enable excellent shock and vibration stability.

## Technical Specifications

### System

- CPU: AMD GEODE LX 800 (500 MHz: 32-bit x86 kernel, 64-bit coprocessor; 64-bit memory bus; 64 KB level I cache memory; 128 KB level II cache memory; MMX, 3DNow!™ support)
- 256 MB DDR SDRAM
- CMOS+SFRAM for configuration parameters storage
- Real time clock
- Two watchdog timers:
- Programmable watchdog timer; Hardware timer with fixed timeout period. MTBF: 100000 hours at 30°C, Telcordia Issue 1 method (Method I Case 3)

### Flash BIOS

- Reserved BIOS, 2x512 KB
- In-system modification

### Graphics

- Graphics controller:
- 2D-accelerator;
  - Up to 60 MB graphics memory shared with system;
  - LCD (TFT or DSTN) panels support with resolutions up to 1024×768 @60 Hz, 18-bit color when connected directly to TFT interface or to LVDS interface \*;
  - CRT displays support with resolutions up to 1600×1200 @85 Hz and 1920×1440 @75 Hz, 32-bit;
  - Four video input channels \*;
  - Analog PAL/SECAM/NTSC video cameras support with resolutions up to 720×576/720×504, 25/30 fps.

### Storage

- Flash disk: 1 GB with IDE interface
- HDD port:
- Primary channel (Parallel ATA);
- Up to two devices connection (when NAND Flash and CompactFlash are disabled in BIOS Setup);
- Ultra DMA/100 support
- CompactFlash (Type I or II) socket

### Software support

- FDOS 6.22;
- QNX 6.3x, QNX 4.25;
- Windows XPe, Windows CE6;
- Linux 2.6

### Interfaces

- LAN: Two Ethernet 10/100 Mbit controllers
- USB: USB 2.0 support; Up to 4 devices connection
- FPGA with open programming interface and 256 KB SRAM \*
- AC97-compatible audio controller:
  - Stereo line in/out;
  - Microphone input.
- Serial ports:
  - COM1, COM2: RS232, complete, up to 115.2 Kb/s;
  - COM3: RS422/485, isolated, up to 921 Kb/s;
  - COM4: RS422/485, isolated, up to 921 Kb/s \*Console input/output via COM1 and COM2 serial ports
- PS/2: keyboard and mouse port
- Port for connection of Fastwel I/O modules
- Discrete input/output: 24 channels
- Optoisolated Reset/interrupt input

### Mechanical

- Dimensions: 65×40×10 mm (2.56"×1.57"×0.39")
- Weight: 0.05 kg

### Power

- +5V±5%

### Environmental conditions

- Operating temperature range: -40°C to +85°C
- Storage temperature range: -55°C to +90°C
- Humidity: 0% to 80%, non-condensing
- Single/multiple shock stability: up to 100G/50G
- Vibration: up to 5G

### List of deliverables

- CPC150 module;
- Cable for connection of 2.5" HDD to 44-contact connector;
- IDC10-DB9 adapter cable for console operation (ACS00023);
- Removable parts for WAGO terminal blocks (2 items);
- CD software and documentation;
- Package

### Warranty

- 3 years for parts and labor

\* For CPC150-01 version  
Some interfaces are available through connectors of MIC101 mezzanine module ordered separately.



Fastwel

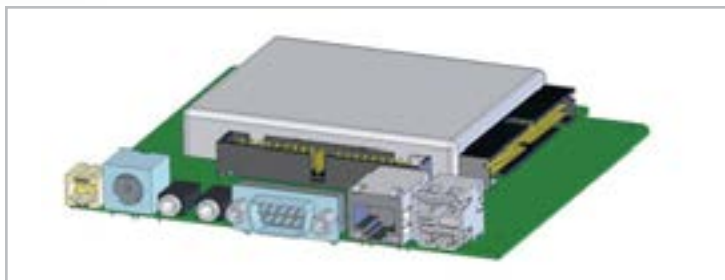


Fastwel



Fastwel

# MIC101 Mezzanine Module



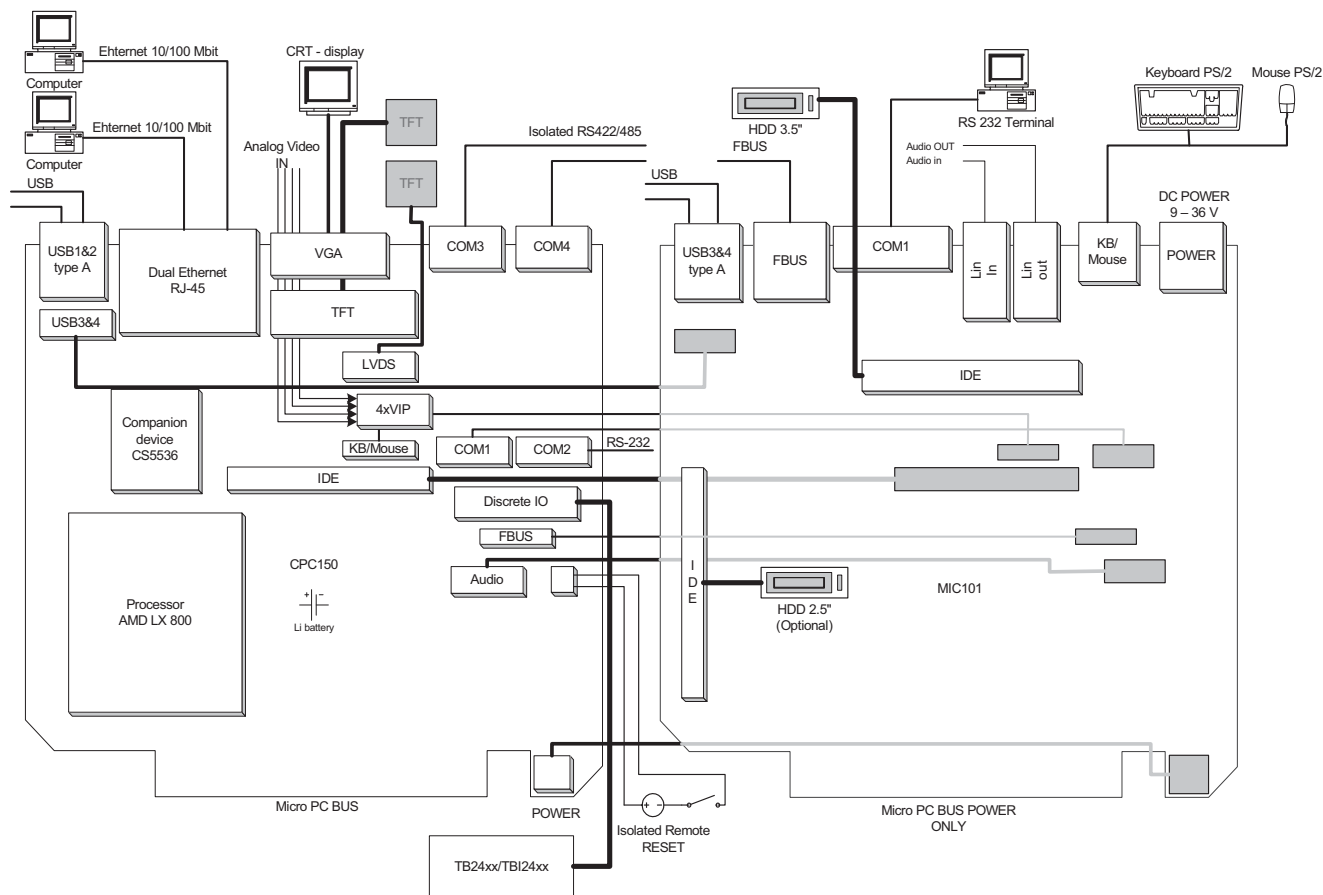
MIC101 is an interface expansion module for CPC150 CPU module with the following standard connectors:

- USB: Two Type A connectors (USB3, USB4);
- Audio: Two mini Jack 3.5 mm connectors (Line In, Line Out);
- FBUS (Fastwel I/O): RJ-45 connector;
- Serial RS 232 port: DSUB-9 connector (COM1);
- PS/2: MiniDIN connector for PS/2 keyboard and mouse;
- HDD: For connection of an external 3.5" HDD or CD-ROM drive (IDC40, 2.54 mm pitch)
- Connector for IDE HDD 2.5" (MIC101-01) or On-board power supply module (MIC101-02)

## List of deliverables

- MIC101 module;
- Removable parts for WAGO terminal block;
- Mounting hardware (stud spacers, screws, washers);
- Package

## External Connections Using MIC101 Module

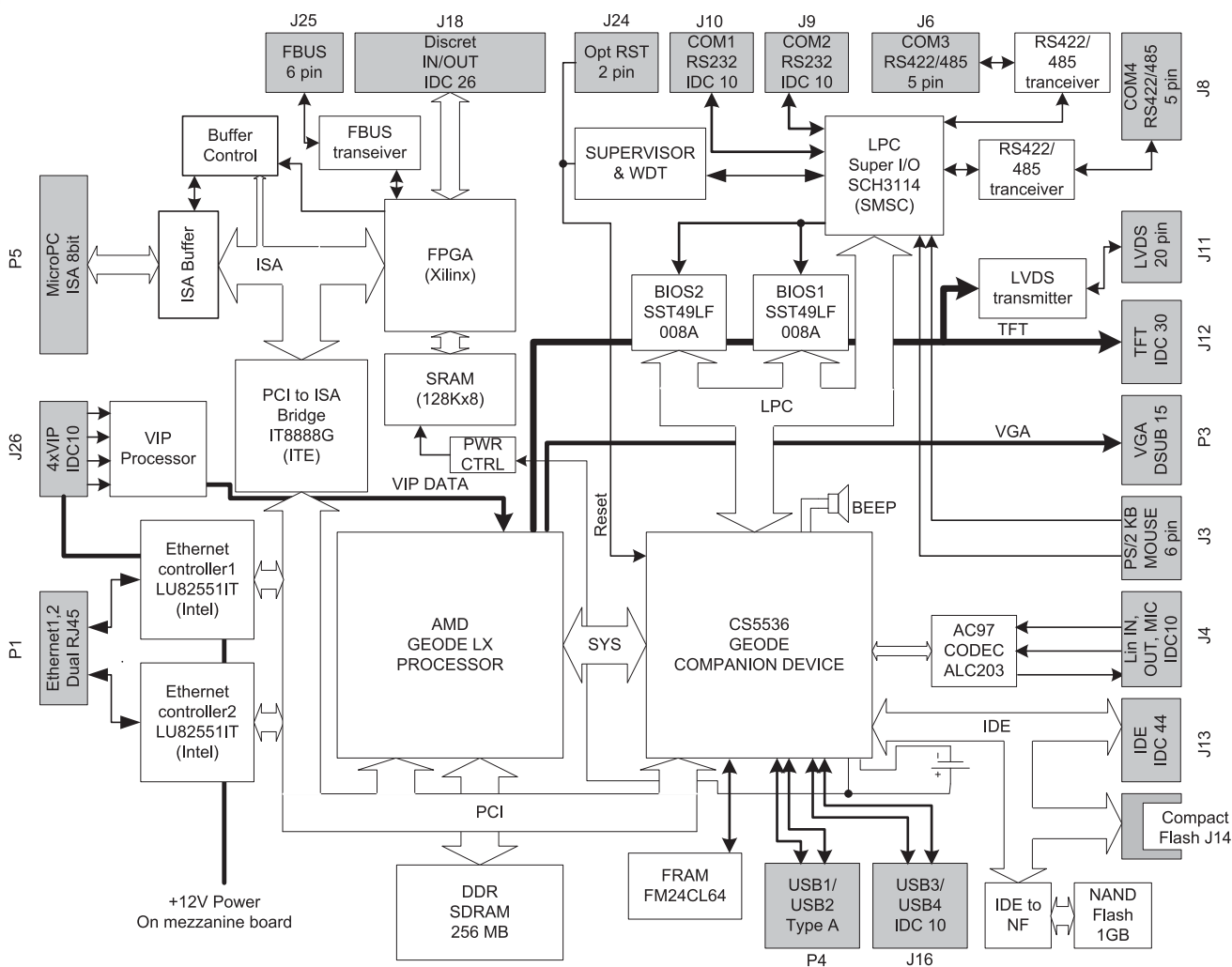


## Ordering Information

- MIC101-01: Mounting hardware for 2.5" HDD installation; 2.5" HDD is ordered separately.
- MIC101-02: On-board power supply modules providing power voltages for CPC150 CPU module (+5V, 5A), for a MicroPC crate and video cameras connected to CPC150 (+12V, 1.3A); input voltage: 9...36V (WAGO terminal block)

# CPC150 MicroPC CPU Module

## Board Layout



## Ordering Information

### CPC150 Configuration

#### CPC150 - 01 \Options

##### Device Type

CPC150 AMD GEODE LX 800, 500 MHz, 256 MB DDR SDRAM, 2xEthernet 10/100 Mb/s, 1xCF, VGA, LCD, 1 GB IDE, 4xUSB 2.0, 2xRS-232, 2xRS-422/485, 24 discrete I/O channels, -40...+85°C

##### Configurations

- 01 4 video I/O channels, FPGA, SRAM, COM4, LVDS
- 02 no video I/O channels, no FPGA, no SRAM, no COM4, no LVDS

##### Options

\xxx Choose available options from the table

### CPC150 Available Options

Coating	
\COATED	Protective Coating
Operating System Presetting	
\FDOS	Fastwel DOS 6.22
\WCE	Windows CE 6
\XPE	Windows XP Embedded
\LNX	Linux 2.6
\QNX	QNX 6.3x, 4.25

Other configurations and options are available upon request.

#### Example

##### CPC150-01\COATED\WCE

AMD GEODE LX 800, 500 MHz, 256 MB DDR SDRAM, 2xEthernet 10/100 Mb/s, 1xCF, VGA, LCD, 1 GB IDE, 4xUSB 2.0, 2xRS-232, 2xRS-422/485, 24 discrete I/O channels, Protective coating  
Windows CE 6

Ver. 1.2 2011

Product specifications are subject to change without notice