

# MCC2

## Multi-Channel Camera 2

Imaging Computer for one or two LVDS Cameras

- COM Express CPU module
- Field bus interface on-board
- LVDS camera interfaces
- Linux operating system
- Aluminum case

→ preliminary

### III Main Features

- ETX CPU module with memory, chip set and I/O
- CPU Geode 500 MHz
- 100 Mbit network interface
- Serial channel
- Dual Camera input LVDS
- Profibus DP slave interface
- Debian Linux
- Optimized for camera sensor MCLS-1

### III Overview

The MCC-2 is an integrated imaging computer that can also be used as an intelligent camera. It works closely with ELTEC's camera heads MCLS-1. The integrated digital interface in an FPGA accepts LVDS video data and stores it in the CPU's main memory. The CPU with its clock speed of 500 MHz is fast enough for many imaging tasks. It can send data directly to actuators, attached to the field bus Profibus DP or through Ethernet.

### III CPU module

An ETX module supplies complete Computer-on-Module (COM) functionality. It contains not only the CPU kernel with the CPU itself (AMD Geode LX800 with 500 MHz) with the chip set, but also graphics, Ethernet connectivity, and keyboard and mouse interfaces. Due to the standardized module interface, it can be exchanged with more powerful modules. Also on the module is the memory SO-DIMM module with 512 MB memory size.

The low power consumption of the CPU makes it possible to build systems withstanding high ambient temperatures with simple cooling.

### III Memory Configuration

The 64-bit wide memory allows configurations of 512...2048 MBytes with DDR RAMs in a single SO-DIMM module.

### III Profibus interface

The field bus interface implements a Profibus DP with a single-chip controller.

### III Compact Flash

Boot code and operating system is stored in a Compact Flash EPROM (size 512MB... 4 GB) for the file system. The user application can also be stored and updated here.

### III Ethernet Interface

The network interface has one on-module Fast Ethernet controller for 10/100 Mbps transfers with 10BaseT (twisted pair) or 100Base TX connectivity.

### III Serial I/O

One asynchronous serial channel (chip set-internal) with up to 115 kbaud transfer rate with RS232 levels are available.

### III Operating Systems

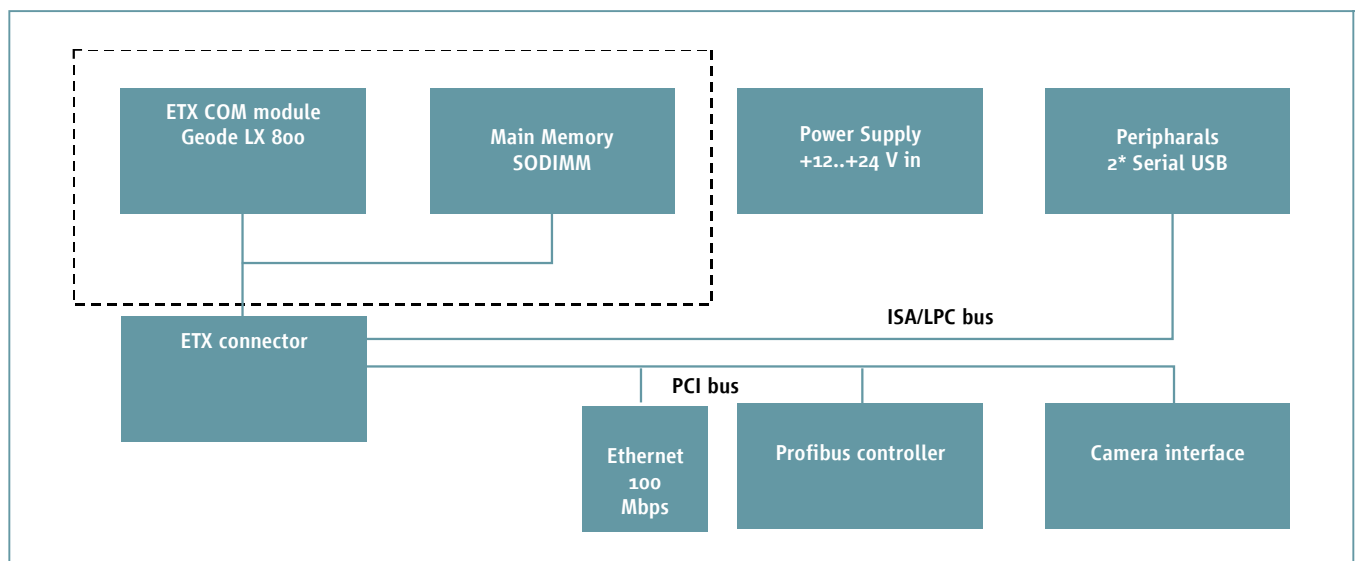
A Debian Linux with a kernel 2.6.24 runs on the MCC-2. Additional drivers include the frame grabber interface and Profibus.

### III Front-panel I/O

The front-panel carries Ethernet (RJ45), opto-I/O (4 in + 4 out) and connectors for two LVDS cameras, each with the RJ-45 video connector and serial RS-422 for camera control.

### III Internal I/O

The board has additional on-board connectors for VGA, 1 \* USB, IDE (optional).

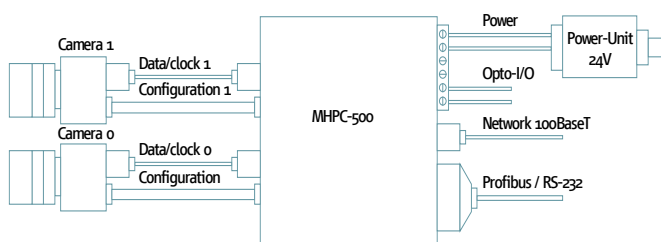


### III Case

The MCC-2 is housed in an industrial-grade case, made of aluminum. This case is meant to be mounted inside a weather-protection case, providing protection against rain and dust; air is circulating inside the protection case without air exchange with the outside world. EMC tightness is provided by the case itself.

### III Connectivity diagram

The MCC-2 can be connected as shown:



**GERMANY****ELTEC Elektronik AG**

Galileo-Galilei-Strasse 11  
55129 Mainz  
PO Box 10 03 64  
55134 Mainz

Fon +49 6131 918 100  
Fax +49 6131 918 195  
Email [info@eltec.com](mailto:info@eltec.com)  
www [eltec.com](http://eltec.com)

**FRANCE****ELTEC International SARL**

1, Allée des Garays  
91872 Palaiseau  
France

Fon +33 1 64 47 18 77  
Fax +33 1 64 47 09 33  
Email [info.fr@eltec-france.fr](mailto:info.fr@eltec-france.fr)  
www [eltec-france.fr](http://eltec-france.fr)

**USA****American ELTEC, Inc.**

2401 Windjammer Way  
Las Vegas, Nevada 89107  
USA

Fon +1 702 878 40 85  
Fax +1 702 878 47 35  
Email [info.us@eltec.com](mailto:info.us@eltec.com)  
www [americaneltec.com](http://americaneltec.com)

**UK****ELTEC International PLC**

Unit 32, Stratford Office Village  
Wolverton Mill  
Milton Keynes MK12 5NS  
United Kingdom

Fon +44 1908 32 00 55  
Fax +44 1908 31 01 07  
Email [info.uk@eltec.com](mailto:info.uk@eltec.com)  
www [eltec.com](http://eltec.com)

### III Specifications

#### III Environmental Conditions

- Storage Temperature: -40 °C – 70 °C, at 10% - 100% non-condensing.
- Operating Temperature: 0 °C – 45 °C. This temperature is measured on the air intake of the PC case.
- Maximum Operating Humidity: 85 % relative

#### III Power Requirements (CPU board only)

- 10 V ... 34 V, max. 20 VA

#### III MTBF Values

- T.b.d. hrs (computed after MIL HDBK-217F) t.b.d. hrs (realistic value from industry standard experience)

#### III Connectors

##### Front Panel

- RJ45 Ethernet
- Profibus D-9
- I/O and power input
- Serial RS-232

#### III Regulatory

- CE: EN50082-2, EN50081-1, EN55011.

#### III Documentation

- Hardware / Software – free / internet

Please contact your local sales office for detailed information.

#### III Ordering options

t.b.d.

