Zefeer

ARM9 CPU Module Series

- CPU module based on ARM920T core from Cirrus Logic
- Bus speed from 166 to 200 MHz
- Ethernet MAC + PHY, PCMCIA, IDE, USB Hosts, Graphic Engine, Display Interface
- Compact form factor
- Ready for Linux 2.6.X, Windows CE BSP
- Evaluation Board available with all peripherals and exhaustive development kit
- ITE & ISM approvals
- Ready-to-go. Regular operation starts just powering module.
- "One-module-fits-all", i.e. all modules are pin compatible

Zefeer is a family of compact and essential CPU modules based on Cirrus Logic EP93XX ARM920T based family. Modules are aiming to a simple usage by customers, while mantaining a very high-performing profile. Zefeer modules are ?ready-to-go?, i.e. only few components are needed to start modules in their standard configuration. Also, a unique pinning disposition for whole Zefeer family allows to span from the most simple entry-point to the most sophisticated full-featuring solution.

Zefeer module linecard supports both Linux and WindowsCE.net OS as well as eCos, that are provided with the Zefeer Evaluation Board. Zefeer Evaluation Board is a flexible and complete system where users can test their own applications or add their own expansion boards. Since all modules are pin-compatible, Evaluation Board fits all types of modules.

All Zefeer modules are provided with SDRAM, Flash, CPU supervisor and Ethernet MAC+PHY on board. External bus interface at 16 bits, AC97, I2S, SPI, JTAG, timers, UARTs, USBs, IrDA and GPIOs are common to all Zefeer family as explained in the Common Technical Data.
Table below summarizes main characteristics of off-the-shelf modules.

MODULE NAME	CPU	Processor speed	Bus speed	Flash [MB]	SDRAM [MB]	UARTs (max)	Audio engine and floating point coprocessor	PCMCIA	IDE controller	USB Host	LCD controller	Graphic Engine	Touch screen or ADC
DZA 4100C	EP9301	166	66	4	16*	2				2			5ADC
DZB 4100C	EP9302	200	100	4	16*	2	Y			2			5ADC
DZG 8600C	EP9307	200	100	8	64	3	Y			3	Y	Y	8 wire
DZN 3600C	EP9312	200	100	32	64	3	Y		Y	3	Y		8 wire
DZQ 3600C	EP9315	200	100	32	64	3	Y	Y	Y	3	Y	Y	8 wire

* access to the SDRAM is performed at 16 bit.
Extended temperature range is also available. Customizations and adaptations are also possible. Informations are subject to change. Inofrmations may be not complete due to the need to condensate many informations in one table. In order to have a detailed information about each module, please contact sales department.

Common Technical Data

CPU	ARM9 (920T core) @166 or 200 MHz with MMU
CPU supervision	
PSU supervisors	Core and I/O power supply separate supervision
Watchdog	1
DMA	12 internal
Digital ID	unique 32 bit
Memory	
Cache	16K cache for instructions +16K cache for data
SDRAM	from 16MBytes to 128MBytes (16-bit access in DZA and DZB only)
Flash NOR	4 MBytes (2M x 16bit) to 64 MBytes (32M x 16bit) ; access is at 16-bit
EEPROM	internal 16 kbit
Interfaces (to the connector)	
Ethernet PHY	1/10/100Mbps ready for magnetics
UART	16550 compatible; IrDA on UART nr.2, HDLC on UART nr. 3 when existing
SPI	1 channel
AC97	2 channels
I^2S	6 channels
I^2C	Master/slave/multimaster 400kHz
Timers	two general purpose 16-bit, one general purpose 32-bit, one 40-bit debug timer
External Bus	8/16-bit byte - 29 Address Bits -5 direct Chip Select
I/O Controller	yes (see model specs)
Debug	JTAG IEEE 1149.1 Test Access Port
Interrupts	up to 54
Mechanical	
Phisical	67,50 x 50,80 x 1,00 mm^3 (2,7?x 2,0?), with fixing holes
Connectors	2 x 120 pins 0.6mm pitch, gold-plated contacts
Compatibility	Hirose FX8-120S-SV
PCB	8 layers
Material	FR4
Technology	double-sided SMT
Temperature	0|70 °C (-40|85 °C available) operational temperature
PSU	
Single 3.3V± 5%	Through connector; 1.8V regulated on-board
Consumption	Less than 1,0W total power consumption
Software	
RTOS	eCos (Order Code ZECK)
Multitasking OS	Linux 2.6.XX (Order Code ZELK)
Multitasking OS	Windows CE.net (Order Code ZWCK)
Agency approvals	
CE Mark	ITE & ISM (EN 55022, EN 55011, EN 55024)

Typical applications: Industrial Controls, Digital Media Servers, Home Media Gateways, Digital Audio Jukeboxes, Streaming Audio Players, Set-Top Boxes, Point-of-Sale Terminals, Koisks, Biometric Security Systems, GPS Systems, Consumer Electronic Applications.

Ultimate Solutions, Inc.
10 Clever Lane • Tewksbury, MA 01876
Tel: 978-455-3383 • Fax: 978-926-3091
Email: info@ultsol.com