

Seminar



USB and Embedded Connectivity Seminar

Op 30 mei 2006 organiseert Alcom in samenwerking met Silicon Laboratories het "USB and Embedded Connectivity" Seminar in het NH-Hotel in Utrecht. Dit seminar speelt in op de hedendaagse behoefte aan meer "Embedded Connectivity". Het portfolio van Silicon Labs speelt daarbij een grote rol. De Silicon Labs microcontrollers komen dan ook uitgebreid aan bod alsmede de tools en andere ondersteunende software. Daarnaast zal er veel tijd besteed worden aan Ethernet en zal er een IrDA training met demo volgen. Het seminar wordt afgerond met een gedetailleerd overzicht van de USB enabled producten en Zigbee inclusief de demo en development kits. Kortom, een welbestede dag voor iedereen die geïnteresseerd is in meer Embedded Connectivity! Voor meer informatie kunt u terecht op www.alcom.nl. Inschrijven kan via seminar300506@alcom.nl.

Seminar



Wireless and Embedded Connectivity Seminar

Op 13 juni 2006 vindt wederom het *Wireless and Embedded Connectivity Seminar* plaats. Alcom organiseert dit seminar ditmaal in samenwerking met Digi en Wavecom, beiden marktleiders in hun segment. Het seminar wordt gehouden in het Grand hotel Karel V in Utrecht. Tijdens dit seminar wordt de laatste stand van zaken rond GSM / GPRS / EDGE communicatie behandeld. Naast de bekende Wavecom modules komen ook zaken als de splinternieuwe Wireless Processor en de Bluetooth gekoppelde module aan bod. Verder wordt in detail gekeken naar "Download over the Air," OpenAT en de security rond deze communicatievormen. In het tweede deel van de dag worden de *Embedded Connectivity* modules van DIGI behandeld. Hun brede portfolio bestrijkt het gebied van de Rabbit Ethernet Core Modules (inclusief het nieuwe Rabbit FLEX concept), de met meer rekenkracht (ARM9) uitgeruste modules met Ethernet, 802.11b en USB connectiviteit, en zelfs de nieuwste Wi-9C module met IEEE 802.11g ondersteuning. Voor meer informatie kunt u terecht op www.alcom.nl. Inschrijven kan via seminar130606@alcom.nl.



Features:

- Quad Band (850/900/1800/1900MHz)
- ARM 946E-S, 32bit, 104MHz, 30MIPS
- Real Time OS (99% MIPS in disconnected mode)
- DOWNLOAD OVER THE AIR
- RTC with calendar

Interface:

- USB 1.1 Slave
- Up to 44 GPIO
- LCD interface via SPI
- 3V/1.8V SIM

Size: 40 x 32.2 x 4mm
Weight: <9g

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Wireless computing power

All included: huge processing power, Open AT[®], the world's most powerful cellular embedded application environment and Wavecom Operating System 6.60 supporting Internet connections. The first in a bold new family of platforms from Wavecom, the OS 6.60/Q2686 is the most compact customizable quadband GSM/GPRS package available on the market. Powered by a new ARM9 processor, it provides up to six times more MIPS than previous solutions along with digital audio capability and extended connectivity features. With power consumption as low as 5 μ A, the Q2686 Wireless CPU has the performance, flexibility and adaptability you need for your next wireless application.

Register for seminar on June 13th at seminar130606@alcom.nl

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Postbus 358 - 2900 AJ CAPELLE AAN DEN IJSSEL - Tel. 010-2882500 - Fax 010-2882525 - www.alcom.nl - info@alcom.nl

32-bit AVR MCU/DSP core outperforms 32-bit MCUs by as much as 3X in EEMBC benchmarks

Data forwarding logic, zero-cycle branches, high code density increase throughput per cycle

Atmel has announced a new 32-bit embedded CPU architecture, with an integrated DSP and SIMD instruction set for computationally intensive, power-constrained embedded systems. The core is targeted at wireless, battery-powered applications that include consumer infotainment, point of sales terminals, biometric scanners, voice recognition and motion detection. The AVR32 core consistently outperforms competing 32-bit MCUs 32-bit cores in every EEMBC® benchmark for performance and code density, allowing it to execute the same functionality with fewer clock cycles, substantially reducing power consumption. For example, comparable processors, frequently used in portable applications, require up to 266 MHz clock frequencies to execute quarter-VGA MPEG4 decoding at 30 frames per second (fps). The AVR32 can execute the same application with a 100 MHz clock (166% faster, with obvious implications for power consumption).

Features:

- Efficient pointer arithmetic instructions
- Multiple pipelines with out-of-order execution
- Data forwarding and SIMD operations
- Branch prediction support with folding

The architecture is furthermore targeted at modern operating systems such as Linux, which is supported by some optimized CALL instructions.

Atmel adds USB and OTG to its range of AVR Flash MCU

Atmel introduced four new AVR® Flash MCUs with USB controller for applications needing USB connectivity in host and function modes. The AT90USB1286 and AT90USB646 have USB host interface. The AT90USB1287 and AT90USB647 comply with the USB On-The-Go (OTG) standard for use as Dual Role Devices (DRD) in applications operating as either host or function on the USB. The AT90USB1286 and AT90USB1287 have 128 Kbytes of In-System Programmable (ISP) Flash, 8 Kbytes of RAM and 4 Kbytes of EEPROM. The AT90USB646 and AT90USB647 are identical but with half the memory size. All devices have an on-chip bootloader that allows ISP through the USB bus providing unrivalled flexibility from development phase to field update.

The new USB controller has been developed to support all USB modes and OTG it can be configured to operate in low speed at 1.5 Mbit/s or full speed at 12 Mbit/s. On-chip PLL with an external crystal of 2 MHz to 16 MHz provides a 48 MHz clock for USB operation.

All devices include a hardware multiplier, one USART, one SPI, one TWI, two 8-bit and two 16-bit timers with PWM and RTC, 8-channel 10-bit ADC with differential inputs, a programmable gain amplifier and 48 programmable I/Os.

An extensive software library is offered to support the most-relevant USB classes for the embedded market: Mass Storage Device (MSD), Human Interface Device (HID), Device Firmware Upgrade (DFU), Communication Device Class (CDC), Audio Class, etc.

Evaluation and debug tools are available now.



AVR AC Induction motor control

Evaluate and design asynchronous AC motor applications

The ATAVRMC200 is an evaluation kit dedicated to asynchronous AC motor control, using various sensors for regulation. The kit includes an evaluation board and a demonstration firmware. It allows you to quickly evaluate the capability of the AVR microcontroller AT90PWM3 to control asynchronous AC motor applications. The kit can also serve as a development platform. Low cost AVR development tools make debugging easier, and source codes, written in C, can be easily re-used for your own motor control applications.

Key features ATAVRMC200:

- Evaluation board with AT90PWM3 microcontroller
- Various sensor inputs
- Supports in-system programming and chip emulation
- Complete software and schematics

Key features AT90PWM3:

- 8KB Flash
- 512 Bytes SRAM
- Peripheral features
- 3 12bit PWM
- 11 ADC input
- 2 ADC diff
- 3 Analog compar

ARM7 including 802.3 Ethernet MAC and CAN

Atmel's AT91SAM7X(C)256/128 features 256/128 Kbyte high-speed Flash and 64/32 Kbyte SRAM, a large set of peripherals, including an 802.3 Ethernet MAC and a CAN controller. A complete set of system functions minimizes the number of external components. The embedded Flash memory can be programmed in-system via the JTAG-ICE interface or via a parallel interface on a production programmer prior to mounting. Built-in lock bits and a security bit protect the firmware from accidental overwrite and preserve its confidentiality. By combining the ARM7TDMI processor with on-chip Flash and SRAM, and a wide range of peripheral functions, including USART, SPI, CAN Controller, Ethernet MAC, Timer Counter, RTT and Analog-to-Digital Converters on a monolithic chip, the AT91SAM7X(C)256/128 is a powerful device that provides a flexible, cost-effective solution to many embedded control applications requiring communication over, for example, Ethernet, CAN wired and Zigbee wireless networks.

Features:

- Incorporates the ARM7TDMI® ARM® Thumb® processor
 - Internal high-speed Flash 128 - 256 Kbytes
 - Internal high-speed SRAM, single-cycle access at maximum speed 32-64Kbytes
 - Thirteen peripheral DMA controller (PDC) channels
 - One USB 2.0 full speed (12 Mbits per second) device port
 - One Ethernet MAC 10/100 base-T
 - One part 2.0A and part 2.0B compliant CAN controller
 - One advanced encryption system (AES) (AT91SAM7XC128-256)
 - One triple data encryption system (TDES) (AT91SAM7XC128-256)
- Power sequencer, watchdog, brownout detection, on chip oscillator



ATMEL 060503



ATMEL 060504

Total power management solutions

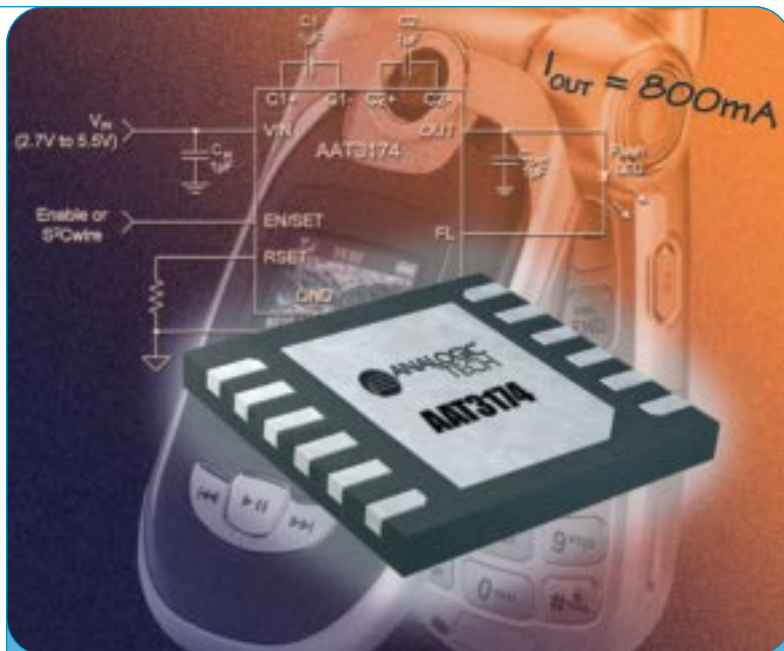
As electronic system designers strive to create the next generation of portable products, they face the ongoing challenge of extending battery life, improving reliability, and reducing the size and weight of new designs. AnalogicTech solves these challenges with total power management solutions based on innovative analog and mixed-signal integrated circuits and a new generation of discrete-power MOSFETs. Playing a critical role in system design, these devices manage battery life, voltage regulation, power-saving load switching, and electronic protection of computer input/output (I/O). The company's engineering team possesses a unique combination of expertise in analog IC and device design, process technology, packaging, and power management applications. AnalogicTech delivers leading-edge products by using world-class outsourcing partnerships for manufacturing in place of conventional wafer foundries.

These products primarily address three high-volume global markets:

Communications: cell phones, wireless PDAs, wireless modems, and pagers

Computing: desktops, laptops, handheld computers, and peripherals such as disk drives, CD ROMs, displays and monitors, printers, and USB hubs

Consumer Electronic Products: game players, information appliances, personal audio systems, portable DVD players, camcorders, and digital still cameras



Analogictech 060505

VoP and Voice network products from AudioCodes

AudioCodes enables the new voice infrastructure by providing innovative, reliable and cost-effective Voice over Packet technology and Voice Network products. AudioCodes has a diverse range of flexible, comprehensive media gateway, server and processing technologies, based on VoIPerfect™ - AudioCodes' underlying, best-of-breed, core media gateway architecture. AudioCodes is a market leader in voice compression technology and is a key originator of the ITU G.723.1 standard for the emerging Voice over IP market. AudioCodes voice network products feature media gateway and media server platforms, which function as core gateways or CPE voice gateways for packet-based applications in the wireline, wireless, broadband access, and enhanced voice services markets. AudioCodes enabling technology products include VoIP, CTI and call logging communication boards, VoIP media gateway processors and modules. Partnering with AudioCodes cutting-edge solutions based on AudioCodes' reliable, flexible, and comprehensive technology offerings - all under one roof.



Audiocodes 060506

GigaSTaR Digital Display Link – long-distance and high-resolution!

The GigaSTaR Digital Display Link (DDL) generation of Inova Semiconductors integrates long-distance imaging and man-to-machine interfacing into one chip. This highly integrated chip solution digitally links TFT-monitors and peripherals to the computing unit at distances up to 50 m, via a simple CAT-5 cable. With the help of one simple copper pair cable, the GigaSTaR DDL transfers video, audio and side-band signals down to the man-machine terminal at XGA-resolution - for SXGA/UXGA two pairs are required. By including an additional pair inside the cable the reverse channel is fed back to the controlling unit. As a result of Inova's combined CMOS and bipolar chip approach, the link offers best electro-magnetic compatibility, resulting in robust and reliable data transmission.

The devices are available in two series – INDT/R165 for XGA screen resolution and INDT/R330 for SXGA/UXGA screen resolution. Both chip series offer generic backchannel capabilities up to 100 Mbit/s, allowing man-machine-interfacing and/or automatic display identification (EDID). The DDL product family features integrated multi-channel S/P-DIF interfaces for audio transmission. Through the configurable 12/18/24/36/48 bit RGB interface, the GigaSTaR Digital Display Link devices enable convenient adaptations of a wide range of graphic controllers or TFT displays. For example the 12 bit half-pixel mode adapts to applications using the popular DVO-interconnect (Digital Video Output) or the 24bit interface mode at the receiver's side allows adaptation of a wide range of displays. It is possible to repeat the signal an unlimited number of times to allow connection of multiple displays to a long chain in a building, train, bus or plane. Main applications targeted include remote terminals, infotainment screens, kiosks, home cinemas and digital large-screen TV, and projectors.



Inova 060507

CMX869A low-power V.32bis auto-modem

With a maximum available 'speed' of 14,400bps full-duplex, the CMX869A will meet the requirements of most mid-range telephone data applications, especially those which have need for speed but are governed by low-power limitations. This is a compact and versatile full-feature modem which offers QAM, DPSK and FSK modulation. V.32bis, V.32, V.22bis and V.22 full auto-modem to ITU standards. V.22bis, V.22, V.23, V.21, Bell 202 and Bell 103 manual modem for fast-connect and other non-standard applications. This is combined with all the on-chip signalling functions required to set-up, negotiate and carry-out data transfers over a 2 or 4-wire telephone system.



CML 060508

CMX868A V.22 bis Modem IC

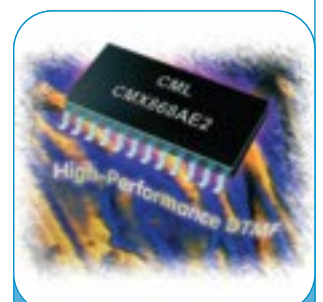
The CMX868A is a multi-standard modem IC for use in telephone based information and telemetry systems. Control of the device is via a simple high speed serial bus, compatible with most types of μ C serial interface. The data transmitted and received by the modem is also transferred over the same serial bus. On-chip programmable Tx and Rx USARTs meeting the requirements of V.14 are provided for use with asynchronous data and allow unformatted synchronous data to be received or transmitted as 8-bit words. A high-quality DTMF decoder with excellent immunity to falsing on voice and a standard DTMF encoder are included.

Alternatively, these blocks can be used to transmit and detect user-specific, programmed single and dual-tone signals, call progress signals or modem calling and answering tones.

Flexible line driver and receive hybrid circuits are integrated on chip, requiring only passive external components to build a 2 or 4-wire line interface.

Features:

- V.22 bis 2400/2400 bps QAM
- V.22, Bell 212A 1200/1200 or 600/600 bps DPSK
- V.23 1200/75, 1200/1200, 75, 1200 bps FSK
- Bell 202 1200/150, 1200/1200, 150, 1200 bps FSK
- Bell 103 300/300 bps FSK
- Low voice falsing DTMF decoder
- DTMF/ tones transmit and receive
- 'Powersave' standby mode



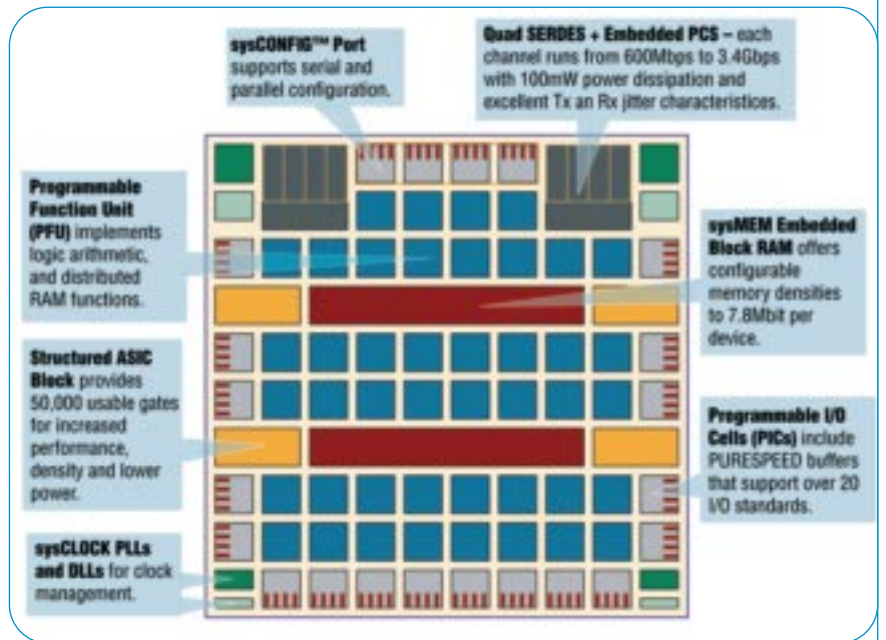
CML 060509

Lattice SC FPGA Family: Extreme Performance

Lattice recently announced its new LatticeSC™ System Chip FPGA family, designed to provide the unsurpassed performance and connectivity essential for high-speed applications. Fabricated on Fujitsu's 90nm CMOS process technology, LatticeSC FPGAs are packed with features that accelerate chip-to-chip, chip-to-memory, high-speed serial, backplane and network data path connectivity to provide "Extreme Performance." Integrated into the LatticeSC devices are up to 32 channel SERDES blocks supporting 3.4Gbps data rates, PURESPEED™ parallel I/O providing an industry-leading 2Gbps speed, innovative clock management structures (DLLs and PLLs), FPGA logic operating at 500MHz, dense block RAM up to 7.8Mbits, and Lattice's unique Masked Array for Cost Optimization (MACO™) embedded structured ASIC blocks. The LatticeSC SERDES also has an extremely low typical power consumption of 100 mW / channel @ 3.125 Gbps. The flexiPCS block can be configured to support an array of popular data protocols, including PCI-Express, Fibre Channel, Gigabit Ethernet, 10 Gigabit Ethernet (XAUI), Serial RapidIO. LatticeSC I/Os support a broad range of differential and single-ended I/O standards, including LVTTTL, LVCMOS, LVDS, and LVPECL. Pre-designed MACO-based IP will include Lattice's innovative flexiMAC™ multiprotocol communications engine supporting multi-layered protocols such as PCI Express and Ethernet, as well as SPI4.2 and high speed DRAM/SRAM Memory Controllers.



Lattice 060510



LatticeSC Features

Parameter	LFSC15	LFSC25	LFSC40	LFSC80	LFSC115
Logic resources – LUTs (k)	15.2	25.4	40.4	80.1	115.2
Embedded memory (Mbits)	1.03	1.92	3.98	5.68	7.80
Max. distributed memory (Mbits)	0.24	0.41	0.65	1.28	1.84
Max. SERDES channels (3.4 Gbps)	8	16	16	32	32
DLLs	12	12	12	12	12
PLLs	8	8	8	8	8
MACO blocks (LFSCM only)	4	6	10	10	12

Lattice low-cost ECP2 FPGAs with DSP functionality

Compared to Lattice's first-generation LatticeECP™ FPGAs, the new 90nm family increases available logic density to 70K LUTs, increases the number of 18x18 multipliers to 88, boosts I/O performance over 50% and enhances configuration capabilities while at the same time cutting FPGA prices to under \$0.50 per 1,000 Look-up Tables (LUTs) in high volume.

Capabilities added for the first time to this class of FPGAs include pre-engineered 400Mbps DDR2 memory interface support, configuration bitstream encryption and dual-boot configuration support. Six device densities from 6K to 70K LUTs are planned for the LatticeECP2 family. The LatticeECP2 devices will provide between 55K and 1Mbit of embedded memory through sysMEM™ Embedded Block RAM (EBR), sysDSP™ Blocks with 12 to 88 18x18 multipliers and 95 to 628 I/O pins. In addition, each device provides two Delay Locked Loops (DLLs) and from two to six Phase Locked Loops (PLLs) for timing control. The parts will be available in a variety of low-cost TQFP, PQFP and fine pitch BGA (fpBGA) packages and operate from 1.2V power supplies.

LatticeECP2 Features

Parameter	ECP2-6	ECP2-12	ECP2-20	ECP2-35	ECP2-50	ECP2-70
Logic resources – LUTs (K)	6	12	21	32	48	68
Distributed RAM (Kbits)	12	24.2	42.3	64.5	95.9	136.2
EBR SRAM (Kbits)	55.3	221.2	276.5	331.8	387.1	1032.2
sysDSP Blocks	3	6	7	8	18	22
18x18 multipliers	12	24	28	32	72	88
GPLL + SPLL + GDLL	2+0+2	2+0+2	2+0+2	2+0+2	2+2+2	2+4+2

New low-cost Lattice Power Manager II Family

The Power Manager II family is a functional superset of Lattice's award winning ispPAC Power Manager programmable mixed signal devices, which provide a complete power management solution for a printed circuit board (PCB) through an optimized set of programmable digital and analog functions. The new ispPAC-POWR1014 device replaces power management functions typically requiring multiple ICs, including Reset Generators, Voltage Supervisors, Sequencers and Trackers. In addition, the ispPAC-POWR1014A device replaces Analog-to-Digital Converter (ADC) ICs used for power supply voltage measurements, controlled through a standard I2C interface. Analog features such as input comparator thresholds and digital functions such as supply control sequences are programmed into non-volatile E2CMOS® elements on the devices using an IEEE1149.1 protocol. The POWR1014 device integrates a 24-macrocell ruggedized CPLD and dual precision voltage monitoring comparators with an accuracy of 0.2%. In addition, the POWR1014A device integrates a 10-bit Analog to Digital Converter (ADC) for voltage measurements and an I2C interface that enables a microcontroller to read the status of all the comparators, inputs as well as outputs.

Power Manager II Features

Feature	POWR1220AT8	POWR1014A	POWR1014
Analog input pins	12	10	10
Programmable comparators	24	20	20
Trip points per input	368	368	368
Typical precision	0.20%	0.30%	0.30%
Lowest supply voltage monitored	0.7V	0.7V	0.7V
Power-off detection	80mV	80mV	80mV
CPLD macrocells	48	24	24
Outputs	20	14	14
FET drivers	4	2	2
Trim outputs (DACs)	8	None	None
ADC support	Yes (10-bit)	Yes (10-bit)	No
I2C Interface	Yes	Yes	No
Operating voltage	2.8V to 3.9V	2.8V to 3.9V	2.8V to 3.9V
Package	100 TQFP	48 TQFP	48 TQFP



Lattice 060511



Lattice 060512

Fully contained evaluation system in a USB stick

The ToolStick evaluation platform is a fully contained evaluation system in a USB stick that demonstrates Silicon Laboratories' easy-to-use development tools. The ToolStick is based on Silicon Laboratories' industry leading C8051F300 small form factor MCUs which interface with the PC via the integrated Silicon Laboratories USB debug adapter that uses the C8051F321 USB MCU. Connected via the USB port on the PC, the ToolStick acts as a human interface device so drivers are not necessary to communicate with the MCU on board.

The ToolStick kit contains the following items:

- ToolStick
- CD-ROM containing Silicon Laboratories Integrated Development Environment (IDE)
- Keil software 8051 development tools (limited 2K code-size C-compiler, assembler and linker)
- Source code examples and register definition files
- Documentation



Silabs 060513

Single-chip Ethernet controller

The CP2200/1 is a single-chip Ethernet controller containing an integrated IEEE 802.3 Ethernet Media Access Controller (MAC), a 10 BASE-T Physical Layer (PHY), and 8 kB of non-volatile Flash memory available in a 28-pin QFN (5x5 mm) or 48-pin TQFP package.

The CP2200/1 can add Ethernet connectivity to any microcontroller or host processor with 11 or more Port I/O pins. The 8-bit parallel interface bus supports both Intel and Motorola bus formats in multiplexed and non-multiplexed mode. The 28-pin QFN device supports multiplexed addressing only. Mode select pins are used to configure the bus interface mode.

The on-chip Flash memory may be used to store user constants, web server content, or can be used as general purpose non-volatile memory. The Flash is factory preprogrammed with a unique 48-bit MAC address stored in the last six memory locations. Having a unique MAC address stored in the CP2200/1 often removes the necessary serialization step from the product manufacturing process of most embedded systems.

Firmware features:

- Software support:
 - Royalty-free TCP/IP stack with device drivers
 - TCP/IP configuration wizard
 - Hardware diagnostic software and example code



Silabs 060514

Embedded USB made easy with new MCUs

The USB MCUs from Silicon Laboratories feature an on-board USB 2.0 function controller with an integrated transceiver and on-chip clock recovery. No external resistors, crystal, voltage regulator, EEPROM or other components are required. On-chip resources include a high-speed 8051 CPU with up to 64 kB Flash, UARTs, SMBus, SPI, timers, counters and PWM generators. On-chip analog features include a multi-channel 10-bit ADC, voltage reference, internal oscillator, comparators and a temperature sensor. They are available in 28-pin QFN, 32-pin LQFP or 48-pin TQFP packages. Development kits are available at € 89,-

Features:

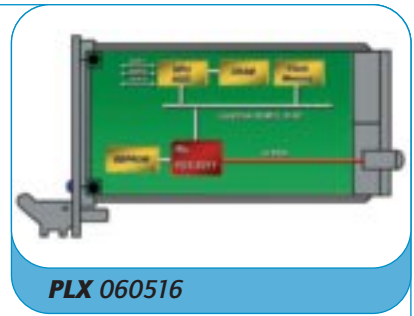
- | | |
|---|---|
| <ul style="list-style-type: none"> • 25–48 MIPS 8051 CPU • 16–64 kB Flash Memory • 1536–5376 B RAM • USB 2.0 <ul style="list-style-type: none"> – Integrated transceiver – Integrated clock recovery – 1 kB buffer RAM – Full (12 Mbps), or low-speed operation – Control endpoint plus six bi-directional endpoint pipes | <ul style="list-style-type: none"> • 10-bit, 200 ksps ADC • Two asynchronous comparators • Voltage reference • Temperature sensor • 15–40 Digital I/O • Packages <ul style="list-style-type: none"> – QFN28 – LQFP32 – TQFP48 |
|---|---|



Silabs 060515

PEX8311 interfaces standard local bus to PCI Express

The PEX 8311 provides an efficient conversion between a parallel, low-overhead local bus and the serial, packet-based PCIe inter-connect, allowing to add a scalable, high-bandwidth inter-connect to a wide variety of root complex- or endpoint-based applications. The PEX 8311 provides a cost-effective, off-the-shelf alternative to programmable solutions; using the device to bridge between PCIe and a local bus can save up to 50 % of the cost of programmable solutions, with no IP expenses or added design time. Additionally, the PEX 8311 delivers features not found in IP for programmable devices, such as two independent data-transfer channels for simultaneous bi-directional traffic, simultaneous Direct Master and Direct Slave modes, a read-ahead mode and zero-wait-state bursts for high throughput, and integrated SerDes physical-layer (PHY) interfaces that eliminate the need for a separate PHY device. The PEX 8311 provides a complete local-bus-to-PCIe interface, including address translation, packet generation and decode, Message Signaled Interrupt support, and parallel to serial conversion. It features a 66MHz local bus that can be configured in 8-, 16- or 32-bit widths. Additionally, the bridge features one PCIe lane with a bi-directional bandwidth of 2.5 Gbps. The Hot Plug-compatible PEX 8311 features 3.3v- and 5v-tolerant I/Os, and its PCIe port is PCI Express Base Specification R1.0a-compliant. The PEX 8311 is register-compatible with the PLX PCI 9xxx series of PCI-to-local-bus bridges, enabling to quickly upgrade to PCIe technology existing designs based on the widely used PCI 9xxx platform.



PLX 060516

Programmable-current LED lamp driver IC with PWM dimming

Supertex introduced the HV9925, an eight pin LED driver IC with adjustable output current and pulse width modulated (PWM) dimming. An enable input facilitates PWM dimming of the entire LED load. The output current of the IC can be programmed between 20 and 50mA by a single resistor. The HV9925 also includes an internal 500V switching MOSFET and built in thermal shutdown to prevent excessive power dissipation. The IC accepts inputs of 85-264V AC and 20-400V DC. The IC is ideal for driving multi-LED strings in off-line applications such as decorative lighting and low power lighting fixtures. The HV9925 is available in an eight pin SOIC package (HV9925SG-G). Samples are available.

Features:

- Programmable output current to 50mA
- PWM dimming / enable
- Universal 85-264VAC operation
- Fixed OFF-time buck converter
- Internal 500V power MOSFET
- Over temperature protection with Hysteresis



Switch-mode LED driver IC with high current accuracy

Supertex introduced the HV9911, a new LED driver IC designed to provide high LED current accuracy and a very wide input voltage range (9V to 250V). The HV9911 is a closed loop, switch mode LED driver IC. It features an internal transconductance operational amplifier for tighter line and load regulation of the LED current and good transient response to PWM dimming. It can be synchronized in applications requiring multiple LED drivers to prevent system subharmonic oscillations, often associated with driving multiple driver schemes. This versatile IC features fixed frequency or fixed off-time operation for use in a variety of converter topologies such as boost, fly-back, and buck. The HV9911 also features slope compensation to allow for wider operating ranges in fixed frequency mode, and an internal regulator for use in both low voltage and high voltage applications. The HV9911 is specially designed for DC/DC applications such as RGB backlighting, automotive lighting, and battery powered LED lamps. The HV9911 is available in a 16-lead SOIC package (HV9911NG-G). Samples are available.



Mixed signal ICs

Xignal Technologies develops and markets mixed-signal ICs that enable new system architectures through significant improvements in performance and in power consumption

Xignal features world class expertise in the following product areas:

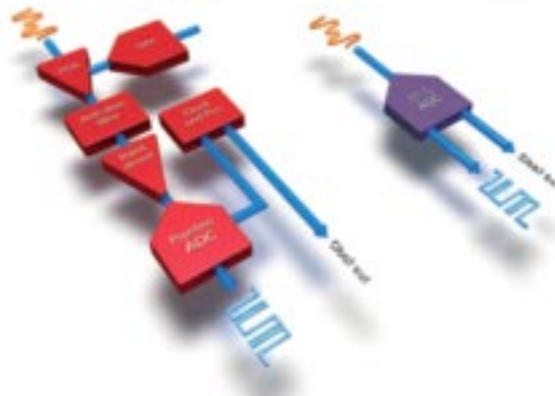
Analog-to-Digital converters

Xignal is a pioneer in continuous time sigma delta ADCs 12-bit and 14-bit resolutions. These products offer performance levels equivalent to pipeline products at greatly reduced power levels like excellent dynamic range, super low power consumption, lower system cost and reduced design time and complexity.

Silicon timing products

Xignal products include very high performance clock distribution and management IC's Covering frequencies of 100 MHz to 10 GHz these PLL's exhibits extremely low output jitter which is typically less than 150 fs.

Integrating the signal path -
enabled by Xignal's CTΔΣ ADC technology



Xignal 060519

The world's smallest 10/100 TX Fast Ethernet PHY

The World's smallest 10/100TX Fast Ethernet PHY housed in a 32 lead QFN package, the MicroPHY is the smallest Fast Ethernet PHY available that provides a full 802.3 Media Independent Interface (MII) to the system Media Controller. With support for HP Auto-MDI/X and an industrial temperature operating range, the 78Q2123 is the ideal choice for any application.

Features and benefits:

- 5 x 5mm 32-lead QFN minimizes board space
- Auto-negotiating 10BASE-T/100BASE-TX UTP media interface
- HP Auto-MDI/X for automatic crossover correction
- Full 802.3 compliant MII management interface
- 2 programmable LEDs
- Single 3.3V supply requirements
- Low-power operation
- Industrial temperature operating range



Teridian 060520

Applied Data Systems' introduces the BitsyXb for portable applications

The BitsyXb leverages Intel's 520MHz XScale CPU, the Intel® PXA270. This powerful embedded single board computer provides dynamic (variable) speed and voltage regulation, and includes 5 low-power modes which ADS has leveraged throughout its low-level software code to make BitsyXb power-stingy, and perfect for handheld, wearable and unmanned applications. The BitsyXb, like its Intel® PXA255-based sister product, the BitsyX, is compact, (3x5"), robust (USB, 3 serial ports, ADSmartIO..., ruggedized (-40 to +85 degC), and power-thrifty (partitioned for optimized power usage), and powerful: 520MHz. ADS systems have been successfully deployed in PDA/handheld, instrumentation, medical monitoring, telematics and in numerous other battery-backed embedded applications.



ADS 060521

Bluegiga's new class 1 Bluetooth module WT11 fully certified

Bluegiga Technologies announced that its class 1 Bluetooth 2.0 Enhanced Data Rate (EDR – supporting speed up to 3Mbps) module, named WT11, recently gained Bluetooth end product certification status. WT11 is the first Bluetooth 2.0+EDR class 1 module, which is certified as an end product. End product status means that no additional Bluetooth certification is needed when using WT11. The WT11 module is a complete system that OEM's can utilize without putting any effort for extremely time consuming and expensive RF and Bluetooth certifications. WT11 module integrates the latest CSR's BC04 chipset, flash memory and antenna with all the needed components. WT11 module's range in line of sight is up to 200 meters. This new WT11 module really differentiates from the competing solutions at the market with it's maximum certification level. Bluetooth certification system consists of several product classes where you can certify your products: Components, subsystems and end products. All other certification statuses than end product require at least a product listing to Bluetooth Special Interest Group. As the WT11 is listed as a complete end product, an OEM does not need to worry about Bluetooth certifications at all. Naturally the module also has full CE and FCC certifications meaning significant money and time savings with national authorities and certification houses.

WT11 features

- Bluetooth® Class 1 module
- Two antenna options: internal chip antenna or U.FL connector
- Enhanced Data Rates (EDR) with data throughput up to 2-3Mbps
- Support for Adaptive Frequency Hopping (AFH) and 802.11 co-existence
- SPP, DUN, OBEX and HCI supported
- Industrial temperature range from -40C to +85C
- Pin-to-pin compatible with WT12 class 2 module
- Simple iWRAP™ firmware for controlling Bluetooth® wireless technology
- Fully qualified end product with Bluetooth® 2.0+EDR, CE and FCC**



Bluegiga 060522



Cirronet ZMN2400HP High Power Zigbee module

Occupying less than one square inch of space, the low cost ZMN2400HP module is ideal for Zigbee applications needing higher RF power (+18dBm) and higher data rate applications including industrial sensors, building and home automation and any other applications requiring low power consumption RF communications. The ZMN2400HP (and its +0dBm companion module ZMN2400) are fully IEEE802.15.4 and Zigbee compliant modules that can function as Reduced Function or Full Function Devices in a Zigbee-based mesh network.

With +18dBm of transmit power, the ZMN2400HP has the power to communicate in industrial and high noise environments. The ZMN2400HP also has a full industrial temperature operating range, -40°C to +85°C. The ZMN2400HP is treated just like other integrated circuits. Even though it is a complete RF module, it is reflow soldered to the host PCB – there is no need for expensive, unreliable connectors and with its small footprint, there is no size penalty for using a module. Interfacing can be done through Cirronet's CSM profile, thus obviating the need for understanding and writing a full, complex Zigbee-based application. The user can really concentrate on his own application software.

ZMN2400HP features

- 2.4GHz Direct-Sequence Spread Spectrum technology
- Support for Zigbee-based ad-hoc mesh networking
- +18dBm output power
- Small form factor, 41 x 21 mm
- CE & FCC certified
- SPI, ADC, PWM and UART peripherals
- Operating Voltage from 3.3V to 5.5V



Cirronet 060523

Flexible Telematics solutions from Centurion

Centurion, a unit of Laird Technologies, is one of the world leaders for antenna solutions for mobile phones and telematics applications. For Telematics, the solution includes internal and external GSM and GPS antennas, as well different variants of Bluetooth antennas. Centurion telematics antennas are low-profile, high performance and cost-effective solutions for your mobile communications needs. Available in combinations that cover all primary cellular frequencies plus GPS and Satellite Radio, Centurion antennas feature small form factors allowing easy installation virtually anywhere inside or outside a vehicle. The portfolio is augmented with Centurion's new ultra-small ceramic antennas for portable, embedded solutions. A few antenna examples are given below.

TRI-BAND External	
External Mercury™	
AMPS/PCS/GPS	GSM/DCS/GPS
AMPS/PCS Gain: 3.5 dBi	GSM/DCS Gain: 3.5 dBi
GPS Gain: 30 dBi	GPS Gain: 30 dBi
3 or 5 Volt	3 or 5 Volt

Centurion 060524

BLUETOOTH Internal	
BLUETOOTH/GPS	BLUETOOTH
Bluetooth Gain: 2 dBi	Gain: 4 dBi
GPS Gain: 30 dBi	

Centurion 060525

DUAL-BAND Internal	
MicroBlade	
AMPS/PCS	GSM/DCS
AMPS Gain: 2.5 dBi	GSM Gain: 3.2 dBi
PCS Gain: 3.6 dBi	DCS Gain: 2.4 dBi

Centurion 060526

Conga-X945: the first XTX module with dual core technology

The conga-X945 XTX module is equipped with Intel's latest 65 nm Core™ Duo processors up to L2500 LV 1.83 GHz with 2 MByte cache and 667 MHz frontside bus. It's based on the Intel® 82945GM chipset and ICH7-M southbridge. This combination provides all the features specified by the XTX standard. Four PCI Express lanes, six USB 2.0 ports, two serial ATA interfaces and signals for two ExpressCards allow for fast system extension. Fan control, LPC bus for slow speed extensions and HDA, a high performance digital audio interface, complete this full feature set. Intel's Graphics Media Accelerator 950, which is a chipset integrated graphics controller, allows for more than 10 GB/s bandwidth to a maximum of 192 MByte video memory allocation. Both independent graphic pipelines can use either 2x24 Bit LVDS, SDVO, TV-Out or analog VGA. The conga-X945 implements the new EPI (Embedded Panel Interface) standard allowing for automatic recognition of the attached flat panel display.



Congatec 060527

conga-CLX embedded computer module utilizing the miniaturized COM Express Compact standard

The conga-CLX is the first COM Express module offered by congatec. It's equipped with the low power consuming AMD Geode™ LX800 @ 500 MHz. This entry level module provides an easy transition to COM Express technology. All COM Express modules are legacy free, old PC interfaces i.e. PS/2 keyboard/mouse, RS232, LPT and ISA are no longer supported. The conga-CLX supports new interfaces like Gigabit Ethernet, Serial ATA and LPC. Upgrading to Gigabit Ethernet enables new possibilities for fast and flexible data transmission. The serial ATA interface speeds up data throughput to new levels. System expansions can be attached via the PCI bus. To control slower devices on the baseboard, the ISA compatible LPC (Low Pin Count) interface can be used. In principle the LPC bus is a serialized ISA bus. It's software compatible to the parallel ISA bus but it uses considerably fewer pins. A lot of devices with direct LPC support allow easy integration of low speed I/O's even without the ISA bus. The low power consuming 500 MHz AMD Geode™ LX 800, combined with ACPI 2.0 and battery support, is very suitable for all types of mobile and fanless applications.

conga-CLX also features an integrated graphic controller and supports EPI (Embedded Panel Interface) for automatic detection of almost any flatpanel display. The video output can be routed to LVDS, analog VGA or TV-out. All congatec boards are equipped with a board controller, which controls certain aspects of the congatec embedded BIOS. It's ability to isolate itself from the main x86 processor enhances embedded features such as system monitoring, watchdog timer, I2C bus. These features are also available while in standby mode.

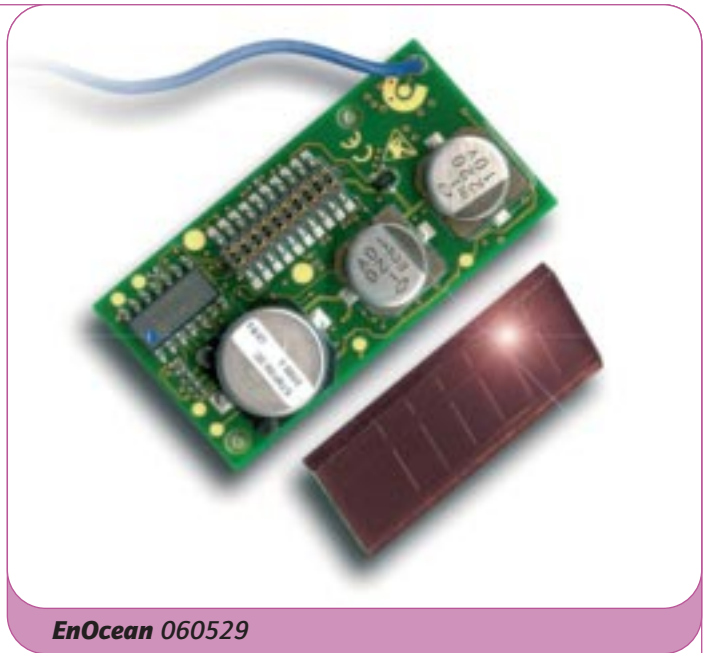


Congatec 060528

STM 100 with solar cell

The STM100 tiny solar-powered wireless sensor module overcomes the challenges to efficient wireless sensing: powerhungry radios and battery deficiencies such as limited life, maintenance and disposal. STM100 achieves fundamental breakthroughs in the creation, storage and management of power. Within its custom two-stage solar cell, one stage provides quick startup energy while the other charges an onboard energy reservoir. Designed to operate indoors, the device requires only 200 lux to generate energy (typical lighting values in a building range from 200 lux in hallways, 500 lux on desktops and up to 1200 lux in display cases).

EnOcean has become the de facto standard for sensors that are wireless, batteryless and maintenance free. EnOcean's ground-breaking components create energy seemingly from nothing. The slightest change in pressure, the smallest variation in temperature is enough to generate power for our ultra efficient sensors to make their readings and transmit their results.



EnOcean 060529

Digi ConnectCore9P – Compact, high performance ARM9 module

The ConnectCore 9P modules are part of Digi's ConnectCore embedded core processor module family combining superior performance and a complete set of integrated peripherals in a compact and versatile form factor. Built on leading NetSilicon® 32-bit NET+ARM technology, the network-enabled ConnectCore 9P family provides a modular and scalable core processor solution with a wide range of available embedded software platform options.

Complete and royalty-free development kits supporting the NET+OS, LxNETES Linux, and Microsoft Windows CE environments are available for platform evaluation and product development use. All development kits include a development board, hardware debugging options, board support packages, sample code, documentation, cables, and related accessories.

Soon available:
Wireless Wi-9C module with 802.11a/b/g support

ConnectCore9P9360 Features

- 240-pin core processor module in compact 60 x 44mm form factor
- Powerful NS9360 processor with ARM926EJ-S core @ 200MHz
- Up to 128MB Flash and 128MB SDRAM
- On-board Ethernet PHY
- Up to 4 high-speed serial ports (UART or SPI)
- USB Host and device mode
- On-chip LCD controller
- Development platforms for NET+OS, LxNETES Linux and WinCE 5.0



Digi 060530

EES-5718, fanless box computer, small and high performance

Measuring 238mm x 160mm x 60mm, Evalue's EES-5718 box computer is specially suitable for space-critical applications. It adopts an onboard Intel® Celeron® M 600 MHz processor that provides optimal power consumption at 7W only, while enhanced thermal operation are secured by the housing chassis which acts as a heat sink to dissipate internal heat and supply noise-free operation. Perfect for applications like embedded control, interactive kiosk, gaming, digital signs, medical devices and so on.

- Onboard Intel® Celeron® M 600 MHz with 0K L2 Cache or Intel® processor at 800 MHz
- Intel® 82852GM chipset
- Dual view, DVI interface
- 5.1 CH audio
- Dual Intel® 82562ET & 82551ER 10/100Mbps LAN
- Optional Intel® 82540EM Gigabit LAN
- 1 IEEE-1394A, 1 CardBus, type I/II CF
- 2 COM, 4 USB 2.0
- Fanless operation



Evalue Successors for the boards affected by VIA EOL (ECM3610/11)

Features: ECM3714/15

- VIA Eden 1GHz nanoBGA (max VIA C7 2.0GHz on request)
- One DDR2 SODIMM 200Pins Support up to 1GB DDR2 533/400 SDRAM
- 128bit 2D and 3D Graphics engine supports MPEG4 acceleration and MPEG-2 decoder and WMV9 Video acceleration
- Two different display engines support WinXP, WinME and Win98 multi monitor for extended desktop
- Support 2-channel 18-bit/24Bit LVDS interface
- Support HDTV
- Support TV-out for NTSC/PAL and S-video/composite video
- 2 Serial ATA ports
- 2*COMs / 4*USB20 / 1* IrDA port
- PC/104 expansion (3715) PC104+(PCI/104) (3714)
- High definition audio controller, SPDIF output supporting 7.1L
- Dual Realtek 8101L fast Ethernet controllers

Features: ECM3711

- VIA C&M & Pentium M 533 FSB or C7 1.5Ghz/Eden 1GHz nanoBGA
- One DDR2 SODIMM 200pins support up to 1GB DDR533 SDRAM
- 128bit 2D and 3D graphics engine support MPEG-4 acceleration and MPEG-2 decoder and WMV9 video acceleration
- Two different display engines support WinXP, WinME and Win98 multi-monitor for extended desktop
- Supports 2-channel 18-bit/24-bit LVDS interface
- 12-bit DVI interface
- Support HDTV
- Support TV-out for NTSC/PAL and S-video/Composite video
- 2 Serial ATA ports
- 2*COMs / 6* USB 2.0 / 1* IrDA port
- PC/104 Expansion
- High definition audio controller, 8CH HD audio codec
- Dual Realtek 8101L fast Ethernet controllers
- 12V only operation

1H 2006	2H 2006	1H 2007	2H 2007
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ECM-3610

Onboard VIA Eden ESP6000 667MHz / VIA VT8623 Chipset

ECM-3714/15

Onboard Via Esther 1.0GHz / CX700M Chipset
Sample available June, 2006

Evalue 060532

1H 2006	2H 2006	1H 2007	2H 2007
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ECM-3611

Onboard VIA Eden ESP10K 1.0GHz / VIA CLE 266 VT8623 Chipset

ECM-3711

Onboard Via Esther 1.0GHz / CN700 VT8251R+ Chipset
Sample available July, 2006

Evalue 060533

Protocol modules

ProtoCessors are a family of Industrial Communications Protocol modules with a standardized common interface. This enables you to assure compatibility with a broad range of serial and Ethernet protocol requirements by adding a ProtoCessor footprint into a PCB design and providing a standardized TTL data interface. The interface protocol can be as simple as an existing Modbus RTU protocol. ProtoCessors relieve you from committing to a single protocol and from having to maintain skills in multiple protocols. Now you can take advantage of the extensive library of FieldServer Technologies' protocol drivers and you can be confident of your ability to support both changes to existing protocols and to implement with future protocols. The ProtoCessor Protocol Coprocessor includes FieldServer Firmware (FieldServer Protocol Engine), along with user selected protocols installed. The ProtoCessor family of Protocol Coprocessors provides you with a simple, rapid and cost effective method of adding one or more contemporary protocols to existing and future embedded controllers.



ProtoCessor 060534

Add any of these protocols to your embedded product:

BACnet	Ethernet/IP	Modbus/TCP
Webserver	GE-SRTP	GE-EGD
Omron	Allen Bradley	Siemens
XML	HTML	SNMP
Telnet	Custom Protocols	Modbus/IP
Modbus ASCII	Modbus RTU	

PC/104-Plus Single Board Computer AMD Geode™ GX 500, 366 MHz

The Cool FrontRunner is a PC/104-Plus Single Board Computer featuring very little power consumption. Its processor is a Pentium compatible AMD Geode GX 500@1.0W processor that needs only 1 Watt to operate at a speed of 366 MHz. Together with a CS5535 I/O companion and a super I/O chip it forms a complete PC compatible system. The Cool FrontRunner is especially well suited for embedded applications in rough environments requiring a wide range of ambience temperatures. It is available with 256 MB of soldered RAM.



Lippert 060535

Features:

- AMD Geode™ GX 500@1.0W
- 256 MB soldered RAM
- Disk-On-Chip 2000 socket
- VGA, TFT display adapters
- 10/100 Base-T Ethernet
- 4 x USB 1.1
- 3 x serial RS232/422/485
- Power consumption: max. 7.5 Watt
- No heatsink necessary
- LEDs for power, watchdog, Ethernet and user-defined life signalization

Surface mount 20-channel high sensitivity GPS receiver module

Navman's very competitively priced Jupiter 30 has been designed without compromise to reach the ultimate in high sensitivity GPS performance! Especially under low signal conditions the Jupiter 30 acquires GPS position faster than any other available GPS engine. Tracking continues in areas of dense foliage or built-up inner city environments and even indoors down to -159 dBm. Using the new and highly integrated GSC3 from SiRF and carefully selected key components including TCXO, LNA and Flash, the Jupiter 30 offers faster GPS acquisition, up to 10% lower power consumption, a wider operating voltage range and greater noise rejection capability than leading competitors products using a similar architecture. Sharing the same form factor and extended software messaging as the Jupiter 20, the Jupiter 30 offers a risk free upgrade path for any customer, using an active or passive antenna.

Features:

- Ultra-high sensitivity GPS receiver
- Faster times to fix under all conditions
- Indoor fixes and tracking capability
- SIRFLoc multi-mode GPS support for improved fix availability
- 20 GPS channels supported
- 200,000+ effective correlators
- 0.5PPM TXCO for optimal performance
- Integral LNA with low power control
- On-board Flash
- ARM 7CPU
- User selectable SBAS
- RoHS compliant
- 3 V low power operation

Navman Jupiter 21: 12-channel GPS receiver module

Navman's new release in its Jupiter product line of GPS modules is the Jupiter 21. The Jupiter 21 provides electrical and mechanical backward compatibility with the Jupiter 12. It continues to offer the excellent features of the Jupiter 12: superior performance, high accuracy and the option of using either an active or passive antenna. In addition, based on the Jupiter 20, the Jupiter 21 combines very low power consumption with cost-effectiveness to provide an advanced GPS receiver solution. The module supports all NMEA output sentences applicable to the Jupiter 12.

Features:

- Popular Jupiter 12 form factor
- Upgradable Flash memory
- State-of-the-art algorithms for optimised urban environment tracking
- Integrated gyro interface for custom DR option
- Integral LNA (supports both active and passive antennas)
- Low power consumption: 75 mA, power management options to further reduce current consumption
- User-selectable WAAS/EGNOS
- RoHS compliant from 2006



Navman 060536



Navman 060537

RabbitFLEX – From click to ship

RabbitFLEX is a new patent-pending manufacturing process that accelerates embedded development by giving you the power to seamlessly design, build, and integrate custom-configurable embedded controllers right into your embedded applications.

Until now, engineers have been forced to choose between off-the-shelf single board computers or custom-designed embedded hardware. Both choices result in high engineering costs and extended development times. RabbitFLEX eliminates these problems by providing a rapid design and manufacturing platform with zero non-recurring engineering costs. You pay only for what you need, and receive the finished product in days instead of months.

RabbitFlex offers a base level single-board computer with 40 configurable I/O, and is paired with either the PowerCore 3800 or the PowerCore 3810. In the RabbitFLEX web interface the following options are available for placement:

- Choice of a PowerCore 3800 including 10Base-T RJ-45 3810
- Serial Communications
 - (2) RS-232 (3-Wire)
 - (1) RS-232 (5 Wire)
 - (1) RS-485 (2-Wire)
 - (1) RS-422 (RabbitNet Expansion Port)
- Up to 16 A/D channels
- Up to 2 D/A channels
- Up to 40 configurable I/O for many combinations of: digital inputs, sinking outputs, sourcing outputs, line drivers
- Supports matrix keypad
- Supports LCD's with or without backlight and/or contrast control
- Supports power routing of 5 V on all user-selectable connectors. 3.45 V on three connectors



Rabbit 060538

Key features:

- Highly configurable platform
- Pre-engineered circuit options
- Fast order processing
- Supports future design changes
- Accelerates development schedules
- Reduces development costs
- Lower design costs
- User-friendly web interface

RabbitCore – Removable - Memory Core Module

The RCM3365 and RCM3375 RabbitCore modules present a new form of embedded flexibility with removable "hot-swappable" memory cards. Supporting on-board 16 MB NAND Flash as well as memory cards of up to 128 MB (sold separately), these RabbitCore modules are ideal for data intensive applications requiring low-power operation. The RCM3365 and RCM3375 come fully loaded: Rabbit 3000 at 44 MHz clock, 10/100Base-T Ethernet connectivity, 512K Flash, 512K program execution SRAM, 512K data SRAM and up to 50 digital I/O shared with up to 6 serial ports operating at 3.3 V (with 5 V-tolerant I/O). Derived from industrial client feedback and combining traditional RabbitCore product strengths into one device, the RCM3365 takes microprocessor core modules to the next level.



Rabbit 060539

Embedded Serial-to-Bluetooth® Module

The SocketWireless™ Bluetooth® adapter utilizes Bluetooth technology to provide a secure, standard-based wireless connection between a host and peripheral device. Providing wireless data transfer up to 100 meters, it completely eliminates the need for serial cable connections. This wireless module is designed around Multi-Tech's space-efficient, universal socket architecture.

Benefits:

- Eliminates need for serial cables
- Bluetooth V1.2 compliant
- Transparent to application software
- Universal socket connectivity

Family Features:

- Class 1 Bluetooth V1.2 compliant module with a maximum range of 100 meters (330 feet)
- Creates wireless serial link transparent to application software
- Secure and robust communication link
- Operating system independent
- Serial interface supporting speeds from 1200 bps to 921.6K bps
- AT command software interface
- Hardware flow control
- Space efficient, universal socket connectivity
- Two-year warranty



Multitech 060540



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Function:

E-mail:

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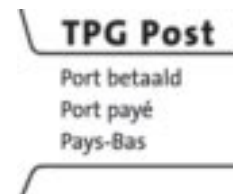
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Postbus 358
2900 AJ CAPELLE AAN DEN IJSSEL
Tel. 010-2882500 Fax 010-2882525
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