News Highlights – Issue 25 (April 2008):

- AverLogic Introduces FIFO Products for Digital Data Buffering Applications
- Jennic Starter Kit De-skills Low Power 2.4GHz Wireless Connectivity for just AU$299
- Cyan Launches New RF-*Solved*TM Evaluation Kit for 915MHz and 433MHz ISM Band Networking
- Atmel and Telit Revolutionize Machine-to-Machine Communications System Design for Processor-intensive Applications
- FTDI Introduces USB to USB Null Modem Serial Converter Cable

AverLogic Introduces FIFO Products for Digital Data Buffering Applications

AverLogic Technologies, the video processing IC and specialty memory design company and available through GLYN High-Tech Distribution, introduces its high-performance FIFO (First-In-First-Out) field memory chips designed to buffer audio/video/graphic digital data for a wide range of applications such as video capture or video editing systems for NTSC/PAL or SVGA resolution, security systems, scan rate converter, PIP (Picture in Picture) video display, timing correction, format conversion, multimedia systems, buffer for communication system, and DTV/HDTV video stream buffer.

The AL440B FIFO memory provides completely independent 8bit input and output ports that can operate at a maximum speed of 80 MHz. The built-in address and pointer control circuits provide a straightforward bus interface to serially read/write memory that can reduce inter-chip design efforts. Manufactured using a state-of-the-art embedded high density memory cell array, the AL440B uses high performance process technologies with extended controller functions (write mask, read skip, window mode read/write .. etc.), allowing easy operation of non-linearity and regional read/write FIFO for PIP, Digital TV, security system and video camera applications. Expanding AL440B data bus width is also possible by using multiple AL440B chips in parallel.

The 4Mbits AL440B is configured as 512K x 8-bit FIFO to accommodate NTSC, PAL or up to SVGA resolution. Running at high speed (80 MHz maximum) and low power consumption AC characteristics (3.3V power supply) allow the high performance and high quality application capability for designs such as HDTV.

The AL422B consists of 3Mbits of DRAM, and is configured as 380K x 8 bit FIFO. The high speed and low power consumption are achieved by using 0.35 micron process technology with embedded EDO dynamic memory. The interface is very user-friendly since all complicated DRAM operations are already managed by the internal DRAM controller. The AL422 can accept either 3.3V or 5V power with slightly different external configuration.

Current sources of similar memory (field memory) in the market provide limited memory size which is only enough for holding a TV field, but not enough for a whole PC video frame which normally contains 640x480 or 720x480 bytes. The AverLogic AL422 provides 50% more memory to support high resolution for digital PC graphic or video applications. The 50% increase in speed also expands the range of applications.

For further information on AverLogic A/V products, please send us an email at sales@glyn.com.au.

Jennic Starter Kit De-skills Low Power 2.4GHz Wireless Connectivity for just AU$299

Jennic announces the immediate availability of a new low-cost Starter Kit which allows developers with little or no wireless experience to develop products. Priced at just AU$299, the JN5139-EK020 IEEE802.15.4/JenNet Starter Kit, simplifies the evaluation and application development of low power wireless connectivity products using Jennic's robust and reliable JenNet networking stack.

- *Simplifies wireless network development with the JenNet networking protocol stack, based on the IEEE802.15.4 standard*
- *Supports Jennic JN5139 32-bit wireless microcontroller ICs and modules*
- *Demonstrates single-chip wireless microcontroller and co-processor configurations*
- *Eliminates the need for additional development tools*

The Starter Kit provides the flexibility to develop wireless capability by using Jennic JN5139 microcontrollers and modules as wireless processors or coprocessors. In the wireless co-processor configuration, the kit demonstrates nodes adding wireless connectivity to a PC or embedded processor via a serial port and Jennic's AT-Jenie serial communications API. In the single chip configuration, the kit demonstrates the protocol and application both running on the JN5139 32-bit wireless microcontroller. The Jenie 'C'-based API provides communication between the application and the wireless connectivity protocol.

The kit comprises 3 nodes, pre-programmed with a range of example applications to demonstrate the capabilities of wireless sensor networks. A simple introduction explains the common wireless network topologies that are supported by the JenNet wireless network stack. The kit clearly demonstrates point-to-point connections, and a simple network utilising a coordinator, router and endpoint, as well as the self-healing properties of the JenNet stack. Wireless co-processor operation is demonstrated using a PC connection to the nodes and communication via AT-Jenie serial commands. RF performance, range and packet error rate monitoring are also included, allowing users to evaluate the radio performance of the JN5139 modules and 2.4GHz IEEE802.15.4 standard.

Each node includes a standard Jennic module, which integrates a JN5139 wireless microcontroller and an antenna. Operating in the licence-free ISM band at 2.4GHz, the modules have worldwide RF approval and provide a seamless route from concept-proving, and easy application development using the evaluation kits, through to prototyping and volume production using either the ICs or modules.

The JenNet stack provides a powerful higher-layer networking solution based on the IEEE802.15.4 standard, which is becoming the worldwide de-facto standard for low power wireless connectivity. It implements networks ranging from simple point-to-point systems, to large tree or linear networks of devices. The Jenie and AT-Jenie programmer interfaces simplify access to the commands for building and running the network, de-skilling the task of designing the network and allowing the developer to concentrate on designing their application.

Developers also have free access to Jennic's full and unlimited software developer kit (SDK) which uses the Code::Blocks IDE with a GNU based compiler and linker. This provides a complete development environment and eliminates the need to purchase additional development tools. The AT-Jenie serial interface and Jenie C programmer's API are accessed through the SDK to simplify design of the application software.

The evaluation kit and networking stacks, backed up by Jennic's extensive documentation and comprehensive support, are available through GLYN High-Tech Distribution.

Cyan Launches New RF-*Solved*^TM Evaluation Kit for 915MHz and 433MHz ISM Band Networking
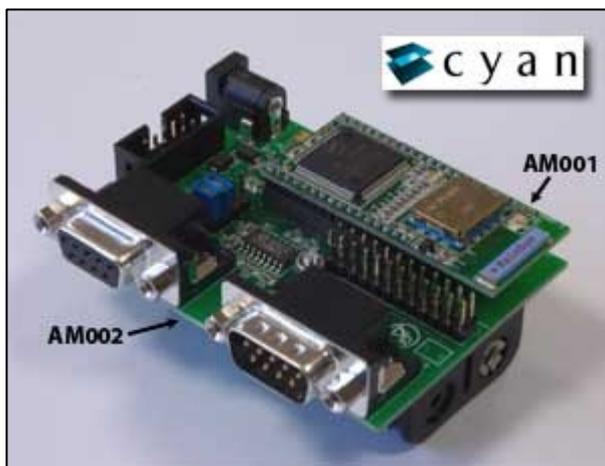
Cambridge-based semiconductor company Cyan, available through GLYN High-Tech Distribution, announces the launch of its RF-*Solved*™ Evaluation Kit, priced at AU$365. The RF-Solved evaluation kit contains everything needed to create a basic two node network, enabling examination of the features and capabilities of a Cy-Net ISM band solution. The kit primarily consists of two AM001 modules based on the Cyan Hunter reference design, which includes the eCOG1kG microcontroller pre-programmed with the Cy-Net v2.0 stack and a Micrel Radiowire RF transceiver. Cy-Net is an extended version of Micrel's proprietary network protocol, Micrelnet® and can support star and multi-level tree network topologies. Cy-Net also has self-forming and self-healing networking capabilities, advanced power management (active listening), and optional AT command (modem) interface.

With its flexible hardware interface, for the acquisition and control of a wide range of signals, the AM001 can be part of a standalone RF network, or it can be retrofitted to an existing network of devices that require wireless communication as an RF modem. The development system enables the rapid design of complete solutions with no prior knowledge of RF design techniques, RF standards, or networking. Cy-Net can be easily and quickly customised to provide features beyond the scope of competing standards-based solutions. Unused memory, processing power and peripherals are available for use in customer's own application.

Typical applications include intelligent remote sensors, smart utility meter reading, ("AMR" and "AMI"), security systems, and industrial and home automation.

Each AM001 module is supported by an AM002 carrier board which provides power via external supply or batteries, serial comms and eICE interface. Using the serial port, the modules can be configured using the AT command set. Also included in the kit is the Cyan USB eICE adapter which allows the customer to access the eCOG1 microcontroller to customise the network software and exploit unused memory and instruction cycles.

A demonstration depicts the nodes in the network in a graphical environment, with distance / signal strength represented by the length of line from the master.

Additional modules and carrier boards are available to increase the size of the network. Kit and module versions are available in 433 and 915MHz. An 868MHz version is also available for applications targeted for deployment in Europe.

Obfuscated stack source code is available on the Cyan website. Design documentation (software, bill-of-materials, and schematics) can be made available to customers wishing

to incorporate the AM001 Hunter reference design into their own designs either wholly or in modified form.

Kit Features

- eCOK1kG microcontroller pre-programmed with Cy-Net v2 stack
- Micrel Radiowire® RF transceiver
- Configuration via AT command set.
- Customisation via eICE interface and CyanIDE toolchain
- Graphical demonstration of network in operation

Kit Includes

- 2x AM001 Cy-Net modules
- 2x AM002 carrier boards
- eICE USB Adapter
- USB lead
- Serial lead
- CyanIDE tools and documentation on CD
- Battery holder and batteries

For more information on Cyan products, please send us an email at sales@glyn.com.au.

Atmel and Telit Revolutionize Machine-to-Machine Communications System Design for Processor-intensive Applications

Atmel® Corporation and Telit Communications PLC, an international leader in the field of machine-to-machine (M2M) communication, disclosed recently that Telit has been harnessing the expertise of microcontroller leader Atmel for the development of its high-performance M2M modules.

The GE863-PRO3 is the first product in Telit's dual-processor range to feature an Atmel AT91SAM9260 ARM9-based processor running the application in tandem with a dedicated processor for GPRS communication. It provides the extremely high processing power and the flexibility to support today's rapidly changing M2M market that demands more advanced features and more processing power at ever-shorter intervals. Its standard form factor and easy integration make the Telit module particularly attractive for applications such as POS terminals or fleet management. The GE863-PRO3 has met with tremendous market success since its launch in Q4 2007.

The core of the GE863-PRO^3 is the AT91SAM9260, an ARM9-based embedded processor from Atmel that delivers processing power above 200 MIPS. Whereas in the past just one sub-50 MIPS microcontroller took care of alternate communication and application tasks,

the additional AT91SAM9260 processor now controls only real-time applications, while the second GPRS processor in the GE863-PRO^3 handles time-critical GPRS communications transactions.

Advantages for End Users and Systems Integrators

The GE863-PRO^3 is designed as a small footprint platform that can be easily adapted to rapidly changing demand in the M2M market without the need to re-design the hardware. This is assured by a standard form factor, tried-and-tested BGA (Ball Grid Array) assembly and sufficient integrated memory for software applications. It thus facilitates a short time-to-market with a simultaneous reduction in development costs for applications. "By selecting a dual processor approach and using a high performance standard microcontroller supported by an extensive eco-system to run the application layers, integrating future demand becomes less time consuming, lower risk and less costly. With its core values of investment protection, easy integration, high quality and scalability, Telit is focusing precisely on the aspects that will in future be the key determinants of success in the M2M market," said Jacko Wilbrink, Atmel's ARM® Product Marketing Director. "This makes Telit an ideal partner to help us to become established in this market."

Targeted Use through Flexibility

Telit's PRO^3 professional dual-processor range can be adapted to the particular needs of specialist areas thanks to a number of expansion options. The WiFi add-on WA100-DUAL, for example, facilitates the wireless connections over short distances that are needed for fleet management. Hand-held devices and scanners on the loading ramp can thus transfer information on stock management or facilitate data transfer with trucks.

Stability Thanks to Expert Partners

In view of the company's many years' experience in microcontrollers and its excellent support, Telit has chosen Atmel for close collaboration in product development. Telit has already integrated a previous generation of Atmel's ARM7-based microcontrollers into its products. "The outstanding results of this cooperation and the availability of a high performance ARM9^{TM} Embedded Microprocessor in a 10x10 mm BGA package were the foundation of our decision to integrate Atmel's AT91SAM9260 in our PRO^3 professional dual-processor range too," says Dominikus Hierl, President of Telit Wireless Solutions. "The successful launch of the GE863-PRO^3 confirms our decision to continue relying on Atmel processors."

For more information on Telit products, please send us an email at sales@glyn.com.au.

FTDI Introduces USB to USB Null Modem Serial Converter Cable

In the era of legacy PCs with onboard RS232 COM Ports, it was common practice to establish a simple communications network between PCs using a cable popularly known as a Null-Modem cable. Typically, such a cable would have DB9 female connectors on each end with the TX / RX and handshaking signals cross-connected so that the PCs could communicate with each other via legacy COM ports. On modern PCs the legacy COM Port connector is rapidly disappearing as USB becomes the multi-function communication port of choice. However, this presents a dilemma in application areas that previously relied on legacy COM Ports for inter-PC communication. A convenient solution to the problem is the

FTDI USB NMC cable. From the outside, this cable appears to be two USB type "A" sockets wired together, however each of the USB sockets conceal a small PCB with a FT232RQ based USB-UART converter IC plus support components inside. The interconnect cable cross-connects the TXD / RXD data signals, RTS / CTS handshaking signals and interconnects the common GND reference rail betwen the two converter PCBs.

When used together with FTDI's supplied Virtual COM Port (VCP) drivers, the USB NMC cable may be used to establish inter-PC COM Port based communication at baud rates of up to 3M baud. The standard USB NMC cable p/n USB NMC-2.5m comes with an interconnect length of 2.5m - other lengths may be available on request. Multiple operating systems are supported including Windows, Linux, Mac OS etc. The USB NMC-2.5m is available from GLYN High-Tech Distribution at AU$59 for 1pc. Volume discounts are available for higher quantity orders.

For more information on FTDI products, please send us an email at sales@glyn.com.au.

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