

## News Highlights – Issue 30:

[4D Systems Introduces Goldelox-GFX Graphics Processor for LCD and OLED Displays](#)  
[Micronas Releases New Hall-Effect Sensor Family with Integrated RISC Processor](#)  
[AverLogic Launches New Full HD FIFO for Video Applications](#)  
[Bluegiga Targets High-End Bluetooth Stereo Markets with apt-X® Audio Codec](#)

### 4D Systems Introduces Goldelox-GFX Graphics Processor for LCD and OLED Displays

4D Systems, available through [GLYN High-Tech Distribution](#), introduces the **GOLDELOX-GFX** Graphics Processor, an exciting new concept in LCD and OLED display technology. It is completely configurable and will interface with many popular LCD and OLED displays and implements a set of integrated high-level graphics and I/O functions controlled by **E.V.E.** (**Extensible Virtual Engine**).



EVE is a proprietary, high performance virtual processor implemented across a variety of architectures to provide a single unified platform. This enables the same application code developed for the GOLDELOX-GFX to run on any other 4D custom processor (with EVE implementation) such as the PICASO-GFX. You will never again need to worry about selecting third party C source libraries, or which microcontroller to use. Just simply choose your display, interface it to the GOLDELOX-GFX on a PCB and add some I/O depending on your application. Finally select the PmmC file that matches your display driver IC (e.g. GOLDELOX-GFX-1339.pmmc for the SSD1339 display IC from Solomon) and download this into the GOLDELOX-

GFX chip via the serial port and you have a powerful single chip graphics user interface solution. You are now ready to write your code in 4DGL (a high level 4D Graphics Language) using the 4D Workshop (editor and compiler) and save weeks even months of development time on your next embedded graphics project. 4DGL is a graphics oriented language allowing the developer to write applications in a high level language, syntax similar to popular languages such as BASIC, C and Pascal.

In simple applications, the GOLDELOX-GFX may be all you need as its modest but comprehensive I/O features can interface to serial, analogue, digital, sound generation and Dallas 1-wire devices. In more complex applications, you can offload most of your graphics overhead to the GOLDELOX-GFX and just send serial commands to perform the required actions from your favourite host processor. All of the LCD and OLED built-in driver libraries implement and share the same high-level function interface. This allows your GUI application to be portable to different display controller types.

The software development tools such as **4DGL Workshop** and **Graphics Composer** is FREE and there are no licensing requirements. Your development is supported by an ever increasing range of modules and prototyping boards to provide a rapid aid to development.

The GOLDELOX-GFX is available in a tiny 28 pin QFN package.

## Features

- Low-cost OLED, LCD and TFT display graphics user interface solution
- Ideal as a stand alone embedded graphics processor or interface to any host controller as a graphics co-processor
- Connect to any colour display that supports an 80-Series 8 bit wide CPU interface. All data and control signals are provided
- Built in high performance virtual processor engine (EVE) with an extensive byte-code instruction set optimised for 4DGL, the high level 4D Graphics Language
- Comprehensive set of built in graphics functions and algorithms that can draw LINES, CIRCLES, TEXT and much more
- Display full colour images, animations, icons and video clips
- Digital I/O ports
- Analogue to Digital converter with 8 or 10 bit resolution
- Complex sound generation
- External 1-Wire device support
- 16 bit free running timer with 1msec resolution
- Hardware interface support for SD, micro-SD or MMC memory cards for multimedia storage and data logging purposes
- Asynchronous hardware serial port with Auto-Baud feature
- 8K bytes of flash memory for user code storage and 456 bytes of RAM for user variables
- Single 3.3 Volt Supply @15mA typical
- Available in a tiny 6mm x 6mm 28pin QFN package

## Applications

- Industrial (general)
- Test and Measurement equipment
- Elevator Control Systems
- Point of Sale Terminals
- Home Appliances (general)
- Security Systems
- Access Control Systems
- Air-conditioning Control Systems
- Universal Remote Control
- Automotive (general)
- Electronic Gauges and Meters
- Portable ECG Systems
- Portable Blood Pressure Monitors
- Aviation (general)
- Gaming and Slot Machines

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## Micronas Releases New Hall-Effect Sensor Family with Integrated RISC Processor

Micronas, a leading supplier of innovative application-specific IC system solutions for automotive and consumer electronics and available through [GLYN High-Tech Distribution](#), announced the HAL 28xy series, a family of Hall-effect sensors optimized for automotive and mechatronic applications that demand accuracy and flexibility combined with low cost. The HAL 28xy is the first Hall-effect sensor family to include a microcontroller, a temperature sensor, advanced on-chip compensation, and a digital interface.



The latest automotive designs require smart sensors to deliver the high level of precision and robustness linked with the capability of local pre-processing of the measured data. HAL 28xy devices meet these needs with a programmable on-chip microcontroller that makes each device more adaptable and more accurate and provides diagnostics for additional reliability and ease of service. The digital interface reduces component and wiring costs, making HAL 28xy family members cost-effective for applications such as seat-track position and fuel-level sensing.

"The HAL 28xy family is highly flexible, offering a fast implementation scenario for new output formats. With the built-in RISC processor we are even able to offer customer-specific signal processing." says Peter Zimmermann, Market Manager Automotive at Micronas. "This flexibility allows OEMs to save time and money in the development cycle."

The key to overall accuracy are three types of error correction. The Hall-effect sensor and on-chip temperature sensor each have their own analog-to-digital converter (ADC). This lets the microcontroller perform spinning-current offset compensation, plus first-order temperature compensation for Hall offset error and second-order temperature compensation for overall Hall-effect sensitivity. The on-chip EEPROM makes it possible to store custom individualized application parameters in each device.

The implemented bus interface can drive the serial bus directly because the bus-driver is fully integrated. Both the power supply and the serial bus connections are protected by over-voltage devices. Family members include devices with LIN bus, used for most interior and passenger comfort applications, SENT, targeted for engine management, and PWM, addressing power steering applications.

Along with the HAL 28xy, Micronas offers an easy-to-use application kit containing a programmer board, LabVIEW™ programming software and the necessary source code. Key application variables such as sample rate, magnetic field range, sensitivity, offset, and the temperature coefficients of sensitivity and offset can be adjusted by programming the non-volatile memory. Programming is done via LIN frames or BiPhase-M telegrams, depending on the family member.

All HAL 28xy family members are offered in a TO-92UT package rated for use from -40 to +140°C. Pricing and availability vary with model.

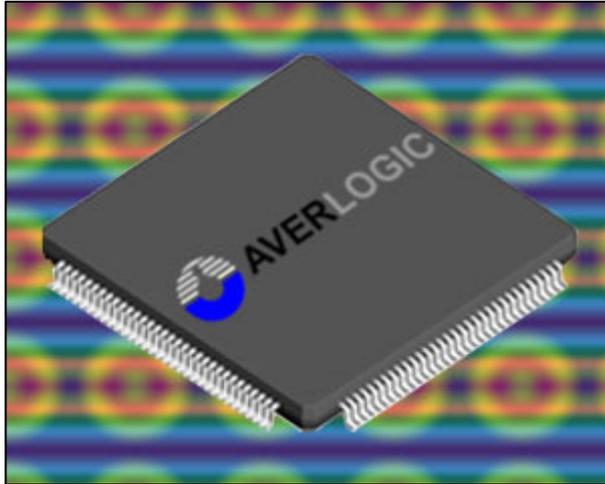
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## AverLogic Launches New Full HD FIFO for Video Applications

AverLogic, available through [GLYN High-Tech Distribution](#), launches the AL460 Full HD FIFO which consists of 128Mbit of memory density and can be configured as 8M x 16-bits FIFO (first in first out) at maximum R/W operating speed 150MHz. The full HD FIFO can be used in a wide range of applications such as multimedia, video capture systems and many other varieties of video data buffering applications. The size and high-speed data access allow full HD video frame capture up to 1080p resolutions.



The AverLogic AL460 FIFO memory provides completely independent input and output ports. The built-in address and pointer control circuits provide a straightforward bus interface to sequentially read/write memory that can reduce inter-chip design efforts.

The AL460 uses high performance process technologies with extended controller functions (write mask, read

skip .. etc.); allows easy operation of non-linearity FIFO read/write for use in broadcasting systems, security systems, camera and many other applications. An additional feature, dual chip cascading, is also available to double FIFO size.

The AL460 is designed and manufactured using state-of-the-art technologies with low power consumption AC characteristics (2.5 & 3.3V power supply) facilitating high performance and high quality applications.

The chip is available in LQFP-128 pin package; the small footprint allows product designers to keep board real estate to a minimum.

### *Applications*

- HD video capture and editing systems
- Switcher or format converter box
- Video capture or editing systems
- Video data buffering for security systems
- Scan rate converters
- TBC (Time Base Correction) systems
- Frame synchronizer
- Digital video camera
- Hard disk cache memory
- Buffer for communication systems
- 1080p video data stream buffering

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## Bluegiga Targets High-End Bluetooth Stereo Markets with apt-X® Audio Codec

APT, the audio processing technology specialist from Ireland, announces further industry endorsement of its low-latency apt-X® audio codec technology for high quality stereo over *Bluetooth* wireless applications with news of a licensing partner agreement with Bluegiga Technologies Ltd., the world's leading provider of *Bluetooth* OEM modules. Bluegiga, available through [GLYN High-Tech Distribution](#), will offer the apt-X audio codec technology developed by APT to maximize the streaming stereo performance of the Bluegiga WT32 *Bluetooth* Audio Module across a range of OEM applications, including high-end *Bluetooth*



A2DP stereo headsets, wireless speaker systems and iPod speaker-dock wireless adapters, and the latest *Bluetooth* enabled portable media players and music phones.

Commenting at CTIA Wireless I.T. & Entertainment on the downstream benefits of the apt-X featured WT32 module to the end-customer, Tom Nordman, Bluegiga's Vice President of Sales and Marketing said, "Bluegiga's audio modules are designed to ensure that OEM customers enter their

markets on time and in budget with superior products with value-add features. Now, with the higher quality audio afforded by the apt-X codec, our WT32 *Bluetooth* Audio Module can stream the best possible *Bluetooth* A2DP stereo audio experience – the famous apt-X codec is a key differentiator given today's raised expectations for high-definition sound."

Launched last year at Embedded Systems Conference in Boston, the Bluegiga WT32 module is the latest generation plug-and-play *Bluetooth* 2.1 + EDR compliant embedded systems solution that combines with Bluegiga iWRAP firmware flexibility to facilitate wireless, secure and standard-based *Bluetooth* wireless connectivity. The WT32 addresses new and existing embedded systems applications with minimal development and manufacturing effort. Potential applications for the WT32 include *Bluetooth* enabled hands-free headset kits for drivers and motorcyclists, and two-way radio handsets for push-to-talk over cellular (PoC).

"Bluegiga clearly recognizes the phenomenal pent-up market demand for outstanding audio quality over *Bluetooth* A2DP," said Stephen Wray, VP Licensing, APT. "The option to go with apt-X audio codec technology is exactly what *Bluetooth* integrators have been waiting for. Listening demonstrations confirm that *Bluetooth* stereo with apt-X realizes the theoretical maximum sonic performance of Advanced Audio Distribution Profile, whereas *Bluetooth* with entry-level Sub-band Codec technology struggles to impress. Apt-X is now available for Bluegiga's OEM modules, wireless stereo and streaming audio designers can move quickly to offer the full advantages of *Bluetooth*."

APT recently won a prestigious Queen's Award for Enterprise, the second such award in the company's history. Bluegiga was ranked as the second fastest growing Finnish technology company by Deloitte's Technology Fast 50 competition in 2007.

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