Application Notes Overview

The following gives brief details of Application Notes available from Cyan Technology to support application developments for the eCOG1 family of microcontrollers.

Please visit http://www.cyantechnology.com/support for detailed application notes, updates and additions, or to download associated application software.

Application Note	Title	Description
AN001	eCOG1 Internal Flash Memory	Describes internal Flash memory implemented in eCOG1, how to program and erase and the method for detecting and setting the read and write protect status of the main Flash block.
AN002	eCOG1 External Flash Memory	Describes the use of external flash memory with eCOG1
AN003	eCOG1 SDRAM Interface	Describes the use of SDRAM in conjunction with eCOG1.
AN004	eCOG1 Low Power Serial Communications	Illustrates simple interrupt driven serial communications within a power saving environment
AN005	eCOG1 Configuration Guidelines	Shows how different combinations of features can be routed to a choice of external ports of eCOG1. Comprehensive support is provided for various serial interface standards – dual USART can be configured as RS232, I2C, Infra-Red or Smart card Interface
AN008	eCOG1 Low Power Operation	Describes profiling of power consumption to match usage. Shows how each peripheral, CPU and Cache can be independently controlled during operation to minimise power, with code running from 512Hz
AN009	Installing the PicOS Real -Time Operating System	Describes the compilation and installation method of the PicOS operating system on the eCOG1 Development Board
AN010	eCOG1 Differential ADC Measurement using PicOS	Describes method used to perform measurements across the differential inputs on the ADC on the eCOG1 Evaluation Board
AN011	eCOG1 On-Chip Temperature Measurement Using PicOS	Describes method used to perform measurements of the eCOG1 silicon temperature, using the on-chip sensor on the eCOG1 development board, running PicOS 1.0
AN012	Multitasking using PicOS	Describes method for performing multiple operations simultaneously using the eCOG1 microcontroller running the PicOS operating system
AN013	PicOS Based Data Logger	Describes a configurable environment for sampling and storing multiple, separate ADC inputs on the on board SDRAM in a time aware environment
AN014*	eCOG1 using the DUART Function in DUSART	Describes how to set up the DUART peripheral for the standard UART function.
AN015*	eCOG1 implementing Serial Ports with Timers	Describes how to use on-chip Timers to implement a simple UART serial port.
AN016*	eCOG1 implementing a UART with the User Serial Port (USR)	Describes how to use the USR to implement a simple UART serial port

AN017	eCOG1 uIP Embedded TCP/IP Stack	Describes the eCOG1 port of the TCP/IP Stack and a sample application implementing an embedded web page server
AN018	Writing Data to Flash Memory	Describes applications designed to write data to the internal Flash memory of eCOG1
AN019	eCOG1 Flash Memory Bootloader	Describes a Flash memory bootloader example for eCOG1 designed to run on the development board
AN020	A Simple Command Line Interface	Describes a command line interface for use with eCOG1 providing a simple method for testing and experimentation with new hardware
AN021	Common Bus Serial Communications (RS485)	Describes how eCOG1 can be used to communicate on a common serial bus and control the transmitter on that bus
AN022	Software LCD Driver	Describes a software driver for a static (non-multiplexed) LCD that runs on the eCOG1 requiring no additional hardware
AN023	Audio Output from Sound Files	Describes a method for playing back raw audio samples using the eCOG1 PWM output configured as a DAC. Audio samples are stored on the external SDRAM on the Development Board.
AN024	CVSD Compression Files on eCOG1	Describes how to use CVSD (Continuous Variable Slope Delta) compression to reduce the amount of data used to represent an audio data stream
AN026	eCOG1 - Implementing 16-bit SPI with the User Serial Port	Describes how to use the USR serial port function to implement 16-bit synchronous data transfers with simultaneous transmit and receive.
AN027	Using a CMOS Camera with the eCOG1	Demonstrates the use of Omnivision OV3620 camera module with eCOG1 and example software to configure the camera, capture and process the image
AN028	eCOG1 JPEG Image Compression	Extends the capabilities of AN027 by adding a JPEG Algorithm providing image compression for the captured image
AN029	eCOG1 Using the I2C Function in the DUSART	This application note describes how to set up the DUSART peripheral for the standard I2C protocol.
AN030	Using Multiple Serial Ports on eCOG1	Explores issues with using multiple asynchronous serial ports (eg. RS232 or RS422) with the eCOG1 family of micontrollers
AN031	Using eCOG1 with an SPI DAC	Describes an example using a two channel, 12 -bit, low power DAC controlled by an eCOG1k
AN032	Using the Flash Information Block	Describes how the eCOG1k Flash memory information block can be used as a non-volatile storage area for application data with full read-write access.
AN033	Simple VoIP Implementation on the eCOG1k	Describes how to implement a VoIP application for the eCOG1k microcontroller using IETF standards
AN034	Driving a 240 x 64 LCD with eCOG1k	Describes how an eCOG1k can be used to drive a 240 x 64 pixel STN monochrome graphical LCD
AN035	eCOG1k MicrelNet Implementation	Describes an implementation of the MicrelNet RF network in a star topology for an eCOG1k