

MCF52277 Micro-Blox



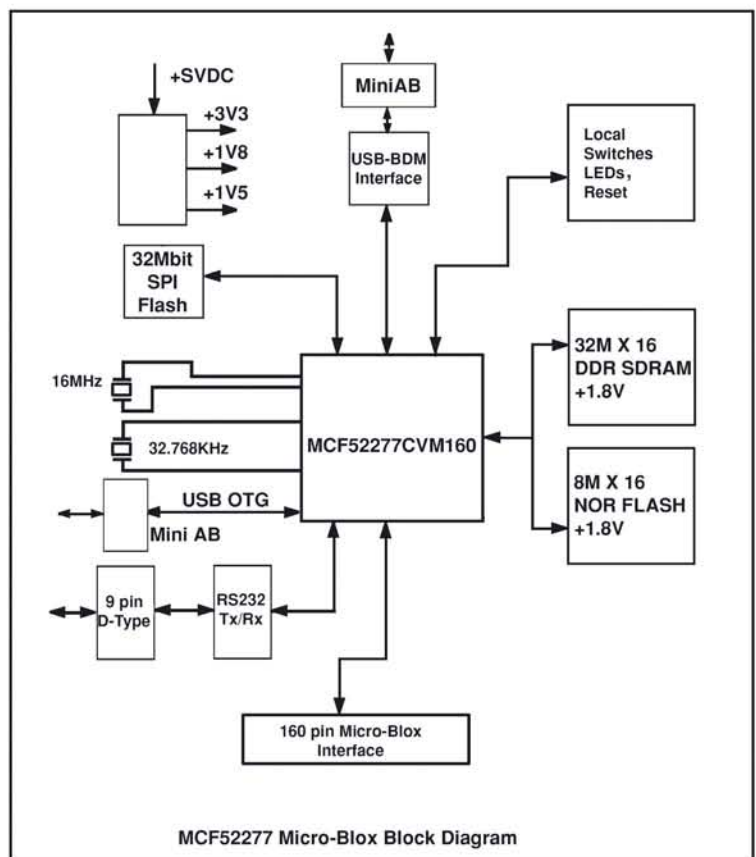
Microcontroller LCD Interface Made Easy

The MCF52277 Micro-Blox is a flexible evaluation platform for rapid assessment and prototyping and features the MCF52277 microprocessor from Freescale Semiconductor. This Micro-Blox board may be used as an independent board or as part of a system using Future Electronics' LongBow base-board to enhance the I/O capability of the system and to add enhanced communication interfaces. The Micro-Blox connection interface on the board allows board-to-ribbon connection to user systems or board-to-board development to the LongBow base-board.

The MCF52277 microcontroller has many features of interest to development engineers including: Version 2 ColdFire core with Enhanced Multiply/Accumulate Unit (EMAC) capable of up to 152 Dhrystone/2.1MIPS; 16- or 32-bit SDR/DDR controller, USB 2.0 On-The-Go controller; Liquid crystal display controller with support up to 4096 x 4096 pixels; FlexCAN module; DMA supported serial peripheral interface (DSPI); Support for booting from SPI-compatible flash, EEPROM, and FRAM devices.

MCF52277 Micro-Blox Features:

- MCF52277CVM160 device (196 pin MAPBGA package)
- USB-to-BDM (Background Debug Mode) interface
- 32M x 16 1.8V DDR SDRAM
- 8M x 16 1.8V NOR Flash
- External crystal timing circuitry (enabling either 16MHz or 32.768KHz crystal)
- 160 pin Micro-Blox interface supporting: 3 x UART; USB 2.0 (HOST); USB OTG; SPI; I²C; 8 x ADC; 6 x PWM; 8 x timer/capture; RTC alarm; I²S; DAC, 6x GPIO; MII interface; SD/MMC card interface; LCD interface (8-bit RGB data lines)
- RS-232 port
- USB OTG port
- 32Mbit SPI Flash (not populated)
- Voltage regulators supporting board power-up from +5V USB supply from the USB-to-BDM interface
- Single 5V supply, or power from LongBow base-board



Tools Provided

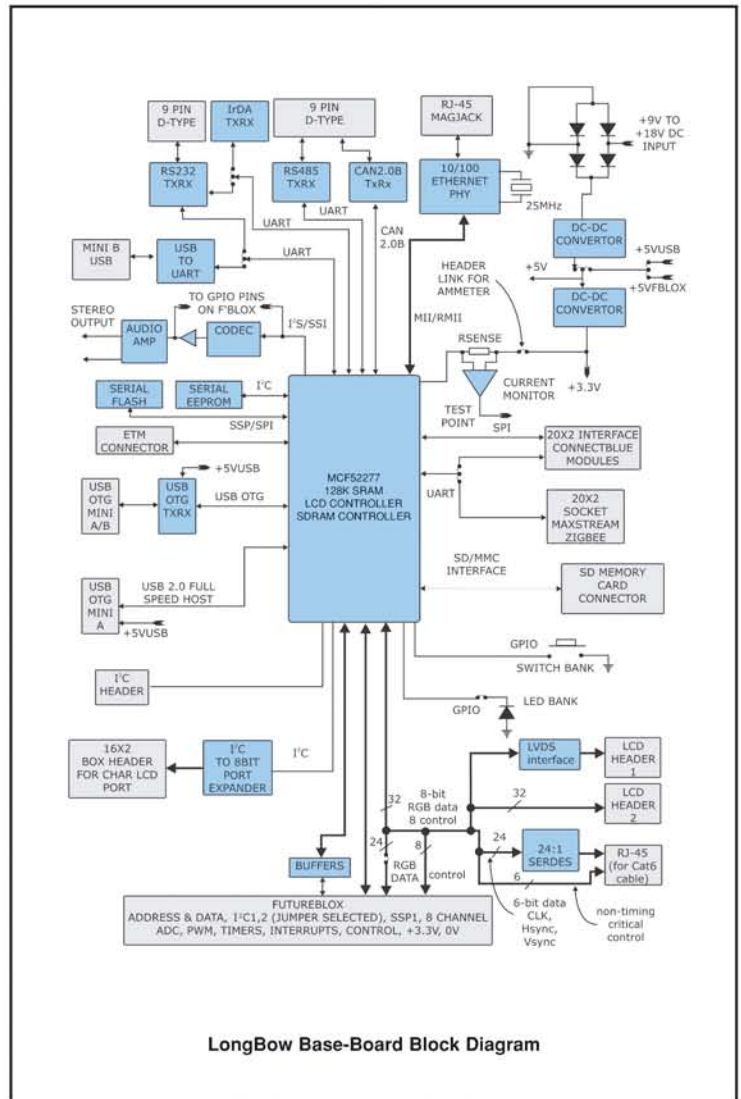
The MCF52277 Micro-Blox supports device evaluation and application development within a known working environment. The board is preconfigured for development within a μ CLinux OS environment with μ CLinux OS loaded into Flash memory. Demonstration code is available, operating under μ CLinux, which demonstrates operation of a NL2432HC22-41K QVGA display. (This demonstration operates when the MCF52277 Micro-Blox is connected to the LongBow base-board).

The MCF52277 Micro-Blox comes equipped with CodeWarrior Development Studio For ColdFire Architectures V7.1 (Special Edition). This may be used via the on-board USB-to-BDM interface to provide real-time access to all hardware and memory on the board. The CodeWarrior Development Studio provides a C/C++ compiler, Flash programmer and source-code level debug capability. CodeWarrior for ColdFire architectures V7.1 Special Edition is a fully functional freeware version of the CodeWarrior Development Studio for ColdFire microcontrollers with a code size restriction of 128Kb on the build chain.

Added functionality in combination with LongBow base-board

For added capability enabling full system evaluation using the MCF52277 Micro-Blox may be used with LongBow base-board. The combined LongBow and Micro-Blox package will support the following additional features:

- 160 pin interface supporting Micro-Blox daughter-boards
- RS-232; IrDA; RS-485 & CAN2.0B
- Current monitoring via ammeter or current monitor IC. (ZXCT1010E5TA from Zetex)
- USB2.0 Host and OTG ports
- Status LEDs and power LEDs
- 20x2 interface for Bluetooth and WiLAN modules
- 20x2 header supporting ZigBee wireless modules
- SD memory card interface
- 16 pin header interface supporting 16x2 alphanumeric LCD
- Small buzzer for tone audio feedback
- 160 position Future-Blox Rev 2.3 board-to-board interface
- Audio Codec and Class D audio amp (UDA1344 and SA58670BS-G from NXP)
- Serdes support for LCD connection using National Semiconductor DS90UR124IVS serialiser
- LCD Touchscreen control (LM8300 from National Semiconductor)
- Direct interface to the selection of TFT LCDs shown below:



Part Number	Size	Manufacturer
NL2432HC22-41K	3.5" QVGA with integrated touchscreen	NEC
NL8060BC21-03	8.4" SVGA	NEC
NL6448BC33-63D/C	10.1" VGA	NEC
NL8060BC31-41D	12.1" SVGA	NEC
NL10276BC24-13	12.1" XGA	NEC

Ordering Information

Part Number: MCF52277 Micro-Blox.
 Register for your free board through
www.my-boardclub.com