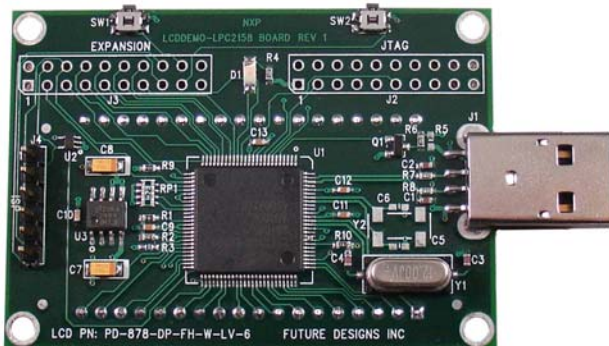
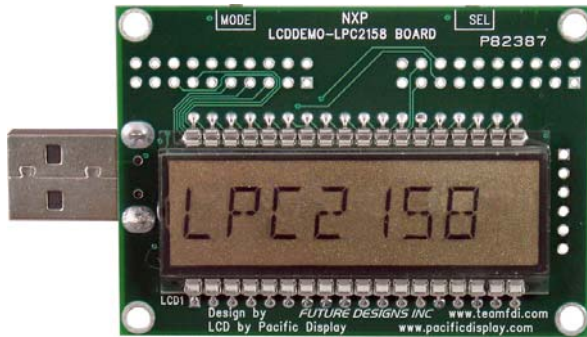


# LCD-DEMO-LPC2158



## Highlights

- Single chip solution for LCD User Interface
- ARM7TDMI-S Microcontroller
- Multiple I/O ports available via optional 20-pin expansion header
- 512 KB Internal Programmable Flash Memory, 40 KB RAM
- Hi-Speed USB 2.0 Device
- 8-character alphanumeric LCD
- Integrated I<sup>2</sup>C based LCD driver with 160 segment support
- Powered by 5V Supply from PC USB Port
- Two miniature push-buttons on-board for user control
- Reprogrammable by the user through USB or optional 6-pin ISP header

The LCD-Demo-LPC2158 is a reference design for a low cost microcontroller and LCD solution using the NXP LPC2158 along with a few discrete external components. The Board is controlled by a simple two-button user interface (MODE and SELECT). Example source code may be downloaded for several sample applications: an FM Radio display during a simulated channel scan, a 15 minute countdown timer, a repeating pattern of 4 text lines, and virtual COM port allowing users to display their own messages on the LCD. The user can edit this code and download to the reprogrammable Flash microcontroller directly through a USB virtual COM port on the user's PC (no external programmer required). The LCD-Demo-LPC2158 can function as a Single Board Computer since the powerful LPC2158 contains an ARM7TDMI-S microcontroller with 512 kB of programmable Flash memory and 40 kB of RAM. Additionally, the 20-pin expansion header allows for the connection of external devices to the microcontroller directly through GPIO or through the SPI and I<sup>2</sup>C interfaces.

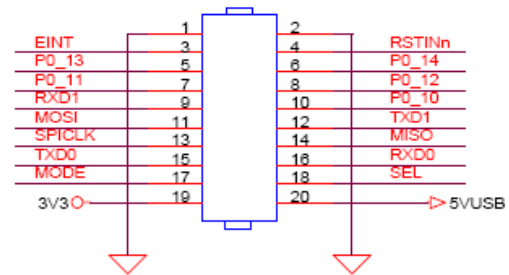
# Features

The LPC2158 is a TQFP100 pin multi-chip module (MCM) made up of the following 2 NXP devices:

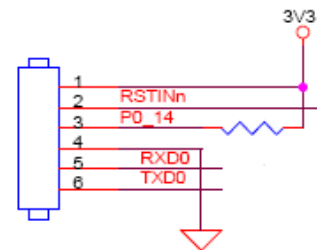
1. LPC2148 32-bit, 60 MHz, ARM7TDMI-S
  - 512 KB Flash, 40 KB RAM
  - Full Speed USB 2.0 Device Controller
  - 2 UARTs, 2 ADCs , DAC
  - Two 32-bit Timers & RTC
  - Vectored Interrupt Controller
  - Idle, Power-down Power Saving Modes
2. PCF8576D LCD Controller
  - 400 KHz I<sup>2</sup>C-bus interface
  - 40 segment drives
  - Up to 160 elements with ¼ multiplexing
  - No external components
  - Wide supply range 1.8 to 5.5V

I/O Expansion Header provides access to:

- UART, I<sup>2</sup>C, SPI
- 3 A/D inputs
- External Interrupt
- Mode and Select Buttons



Optional I/O Expansion Header



Optional ISP Header

Optional JTAG Header  
also available

## Ordering Information

Part Number: LCD-DEMO-LPC2158  
Suggested Resale Price: \$69.00(USD)  
Order Online at:  
[www.digikey.com](http://www.digikey.com)  
[www.mouser.com](http://www.mouser.com)

Warranty: 30-day money back guarantee  
Availability: Stock

(256) 883-1240 Phone  
(256) 883-1241 FAX  
E-mail: [sales@teamfdi.com](mailto:sales@teamfdi.com)  
[www.teamfdi.com/lcddemo-lpc2158](http://www.teamfdi.com/lcddemo-lpc2158)

### Contents:

LCD-Demo-LPC2158 Board:  
- LPC2158 512KB Flash microcontroller  
- Integrated 160-segment LCD Driver  
- 8-character alphanumeric LCD

### QuickStart Guide:

- Device Installation  
- Programming Custom Software  
- LCD Demo Software Operation

### Optional USB Extension Cable

- Digi-Key PN: AE9934-ND
- Mouser PN: 538-68806-0013

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