

# FDI 3.5" PCAP Touch Screen LCD GUI

The 3.5" PCAP Touch Screen LCD GUI, UEZGUI-35CP-BA, adds new features and capabilities to FDI's standalone microcontroller-based  $\mu$ EZ<sup>®</sup>GUI product family. This unit features the optimized NXP LPC54608 Cortex-M4 microcontroller with Floating Point Unit, Flexcomm software selectable serial peripherals and a powerful State Configurable Timer (SCT) for CPU independent State Machine Control. The brilliant 400 nit display features a PCAP touch screen for a soft touch user interface. This product is ideal for customers who need a smaller footprint, cost effective GUI or HMI for their embedded design.

The Future Designs, Inc.  $\mu$ EZ<sup>®</sup> GUI product family is our standalone microcontroller-based solution designed for the easy integration of modern human machine interfaces (HMI) into a variety of end applications. Each  $\mu$ EZ GUI product includes a display with supporting hardware and FDI's open source  $\mu$ EZ / FreeRTOS software. FDI's  $\mu$ EZ GUI development kits include everything needed to kick off a project including JTAG debugger, power supply, cables, microSD card and full documentation. Once your design is complete, we offer cost-effective  $\mu$ EZ GUI production modules for prototypes or high-volume production. FDI also offers engineering design and production support services.

We are committed to saving our customers time, money and hassle. So, no matter how much (or little) support you need along the way, we can make your project concept a reality.  $\mu$ EZ GUI Products are available for immediate order at [www.TeamFDI.com](http://www.TeamFDI.com) or from any of our franchised distributors.



Development Kit Part #: UEZGUI-35CP  
Production Module Part #:  $\mu$ EZGUI-35CP-BA  
*Production guaranteed until 2027 or longer.*

## Module Features

- 3.5" TFT QVGA 320 x 240 PCAP Touch Screen Panel
- NXP LPC54608 180MHz CPU with 512KB internal Flash
- 16MB of QSPI Serial Flash
- 16MB of SDRAM
- Bluetooth BLE
- State Configurable Timer for CPU Independent State Machine Control
- High Speed SD interface supporting 15fps video playback
- microSD Memory Card Socket
- USB Device Mini-B for 5.0 VDC power and PC communications
- USB Host support through adapter cable
- NV Data Storage via 16KB Internal EEPROM
- Internal Real-Time Clock with Supercap Backup
- Speaker, 3-axis Accelerometer, Temperature and Ambient Light Sensor
- Pmod Type 2A connector with SPI and optional I2C
- Cortex-M 9-pin JTAG Debug Connector
- Optional CAN-FD Interface
- External Expansion via two I/O Connectors (50 pins)
  - UART, I2C, SPI, USB Host/Device, RMII Ethernet



[Sales@TeamFDI.com](mailto:Sales@TeamFDI.com)  
(256) 883-1240



[TeamFDI.com](http://TeamFDI.com)



[YouTube.com/  
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## Technical Specifications

### Production Module

- Part number: **UEZGUI-35CP-BA**
- MSRP (Volume) <\$85.00 (USD)
- Contrast Ratio: 500:1 typical
- Brightness: 400 nits typical
- Horizontal Viewing Angle: 70° L / 70° R
- Vertical Viewing Angle: 60° U / 70° D
- Power consumption typ/max: 225 / 430mA
- Overall Size: 91.44(W) x 78.74(H) x 13.13(D) mm
- Operating Temperature Range: -20°C to +70°C
- Viewable area: 70.08(W) x 52.56(H) mm
- Weight: 83g
- Touch Resolution: 320 x 240
- Number Simultaneous Touches: 1
- Glass Hardness: ≤4H

Available From:



### Development Kit

- Part number: **UEZGUI-35CP**
- MSRP (Qty 1): \$225.00 (USD)
- Includes UEZGUI-35CP-BA Production Module
- AC power supply
- Mini JTAG debugger with cables
- USB device cables for power and PC communications
- 4GB (or larger) microSD Memory Card
- Documentation and Example Software



Production Module

## uEZ Software

μEZ® (pronounced Muse) is an open source rapid development platform that allows companies to focus on innovation and their value-added applications while minimizing development time and maximizing software reuse. μEZ components comprise three primary categories to simplify embedded application development: Operating System Abstraction Layer (μEZ® OSAL), Sub-system drivers (ex: μEZ® TCP/IP, μEZ® USB, μEZ® Driver), and Hardware Abstraction Layer (μEZ® HAL)

FreeRTOS with Tasks, Semaphores, Mutex, Queues

SafeRTOS option for safety critical real-time applications

emWin Graphics library free with NXP ARM MCUs

FAT FS for USB/SD card with long-file name support

USB Host/Device including mass storage, HID Libraries

Wi-Fi library with integration into TCP/IP Stack from GainSpan

SEGGER JTAG development and production SW integration

10/100 Ethernet support with lwIP TCP/IP Stack

Memory SDRAM, NOR Flash, SPIFI Flash support

Audio PWM, DAC, and I2S support

TFT LCD support for QVGA, VGA, WQVGA, WVGA Displays

Multiple compilers and IDEs supported

Modbus TCP/IP and RTU support

Serial Comms I2C, SPI, UART, RS232, RS485, CAN & GPIO

Bootloader for field updates over SD/USB/Serial (affordable μEZ+)



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