

# Hands-On Digital Power Three-Day Workshop



Learn to design and implement digital power supplies with Texas Instruments' TMS320C2000™ microcontroller (MCU) generation.

- Reduce your development time and learning curve
- Aimed at analog power supply designers and embedded systems engineers
- Morning theory followed by extensive design labs in the afternoon
- Requires no/little knowledge of programming
- Automated web tools make discrete time-control theory easy
- Dedicated C2000™ MCU peripheral libraries minimize coding
- Complete syllabus available on [www.biricha.com](http://www.biricha.com)

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## Abridged Workshop Syllabus

For full details, please visit [www.biricha.com](http://www.biricha.com)

### Day 1:

#### Introduction to Digital Power

- Topologies used in the workshop (digital buck/synchronous buck and flyback)
- The C2000™ MCU generation's development tools and features (GPIOs, PWM, over-current trip zones, ADC, etc.)
- **Lab:** Use Biricha Digital's libraries to run MCU code with minimal programming

### Day 2:

#### Digital Power Supply Design

- Step-by-step design of digital power supplies
- Discrete control theory, Z transforms and digital convolution
- How to design digital compensators for voltage-mode control
- **Lab:** Design and implement multiple voltage-mode digital controllers on the C2000 MCU

### Day 3:

#### Digital Peak Current Mode Using Piccolo™ B and CLA

- Piccolo B and the CLA
- How to design digital compensators for peak current mode control
- Digital slope compensation
- **Lab:** Implement peak current mode with slope compensation on Piccolo B and CLA

### About Biricha Digital Power

Biricha Digital Power is an established UK-based consulting company specializing in hardware/software design of digital power supplies, power supply modeling, embedded system programming and industrial training. In particular, Biricha Digital's collaboration with TI is focused on providing digital power supply design workshops aimed at analog power supply designers and embedded systems engineers needing to design digital power supplies. These excellent workshops utilize bespoke hardware, software and teaching material to significantly reduce development time of digital power supplies.

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