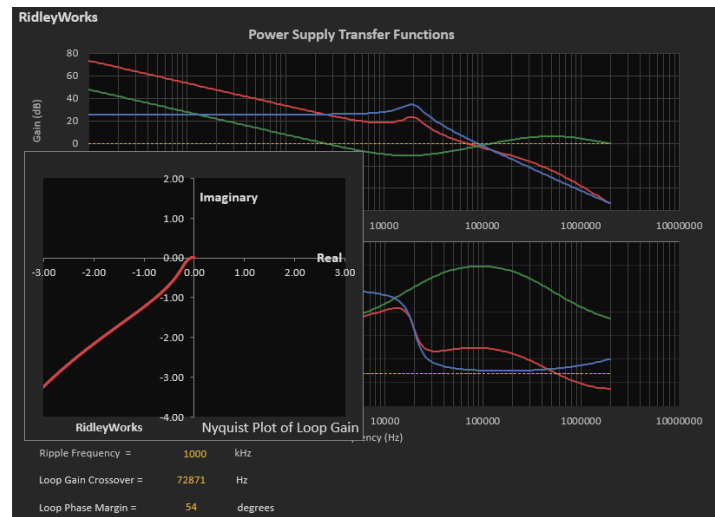


Current or Voltage-Mode?



Webinar Recorded June 18, 2020 10:00 am PCT

Dr. Ray Ridley

Ridley Engineering

To Follow Along with Software Download and Install RidleyWorksDemo


RIDLEYWORKS® DOWNLOADS

On this page, you can download the current user manual and the demo version of RidleyWorks.

USER MANUAL RIDLEYWORKS (VERSION 14.10)

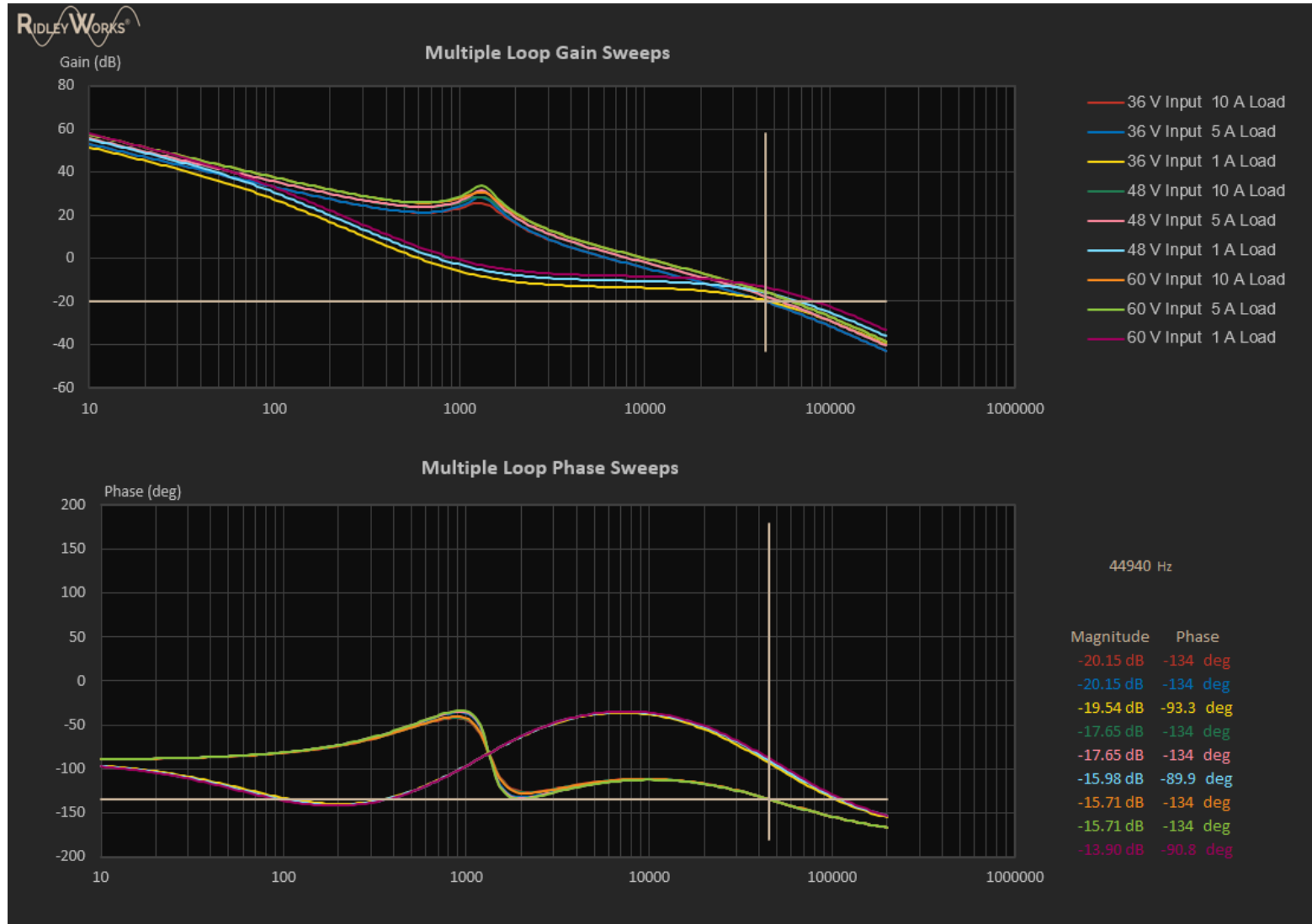
 Download RIDLEYWORKS Manual

RIDLEYWORKSDEMO (VERSION 14.13)

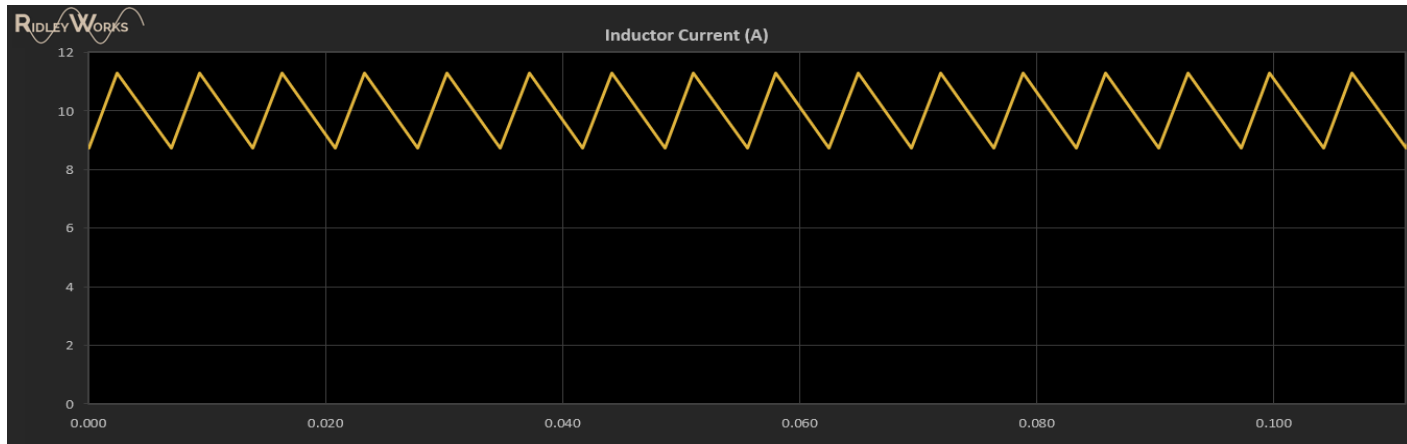
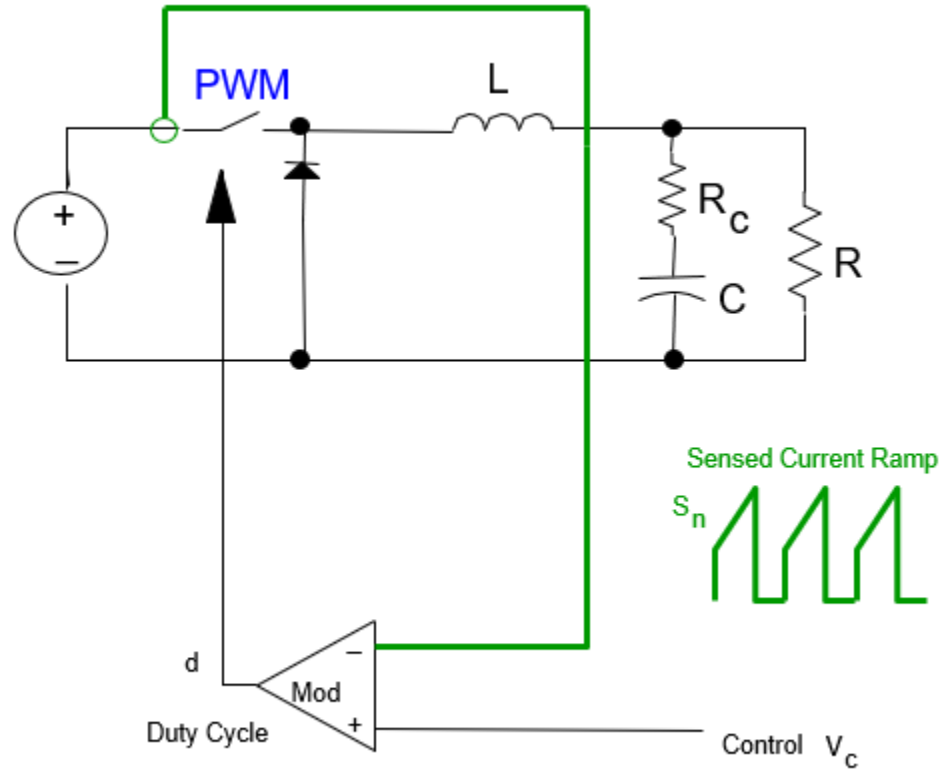
 Download RIDLEYWORKS Demo

<http://ridleyengineering.com/software-ridley/ridleyworks/software-ridley-works-downloads.html#>

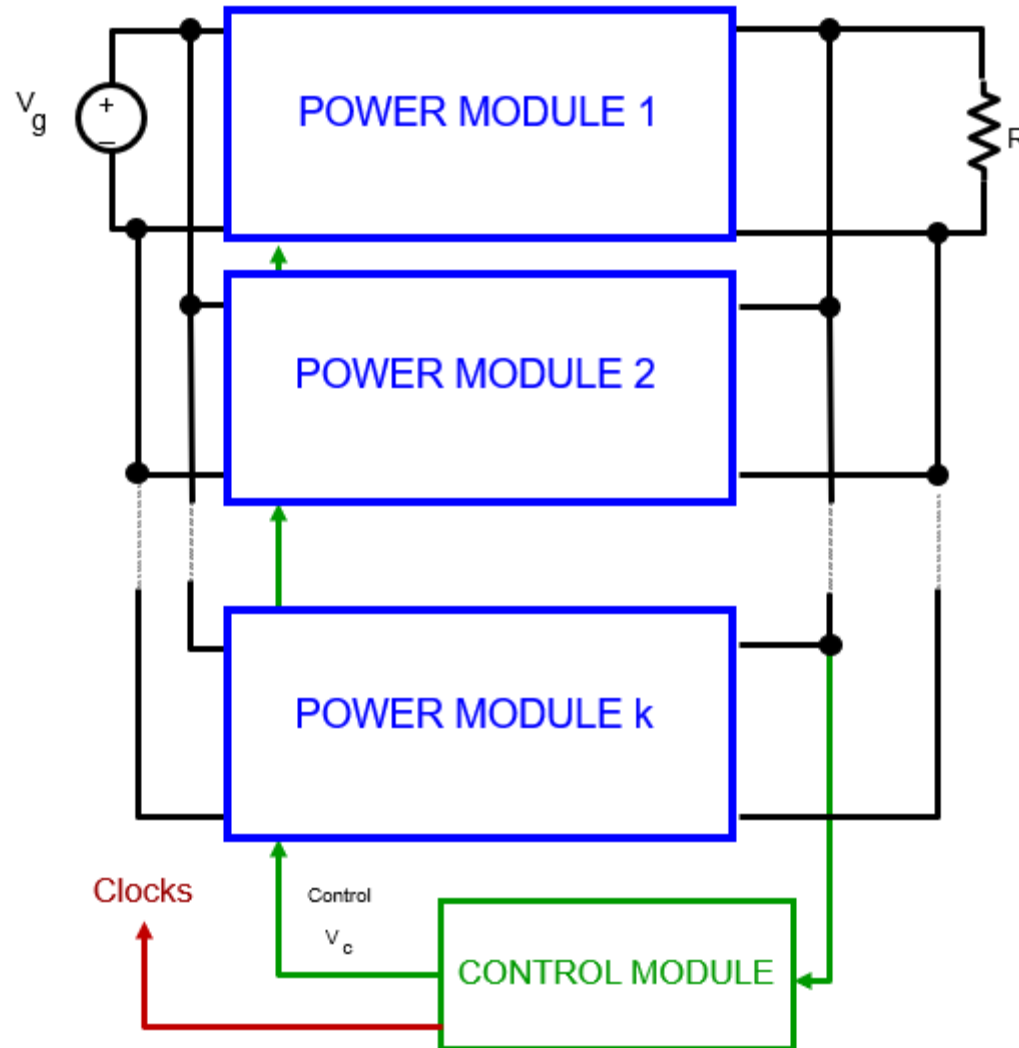
Voltage-Mode Loop Gains



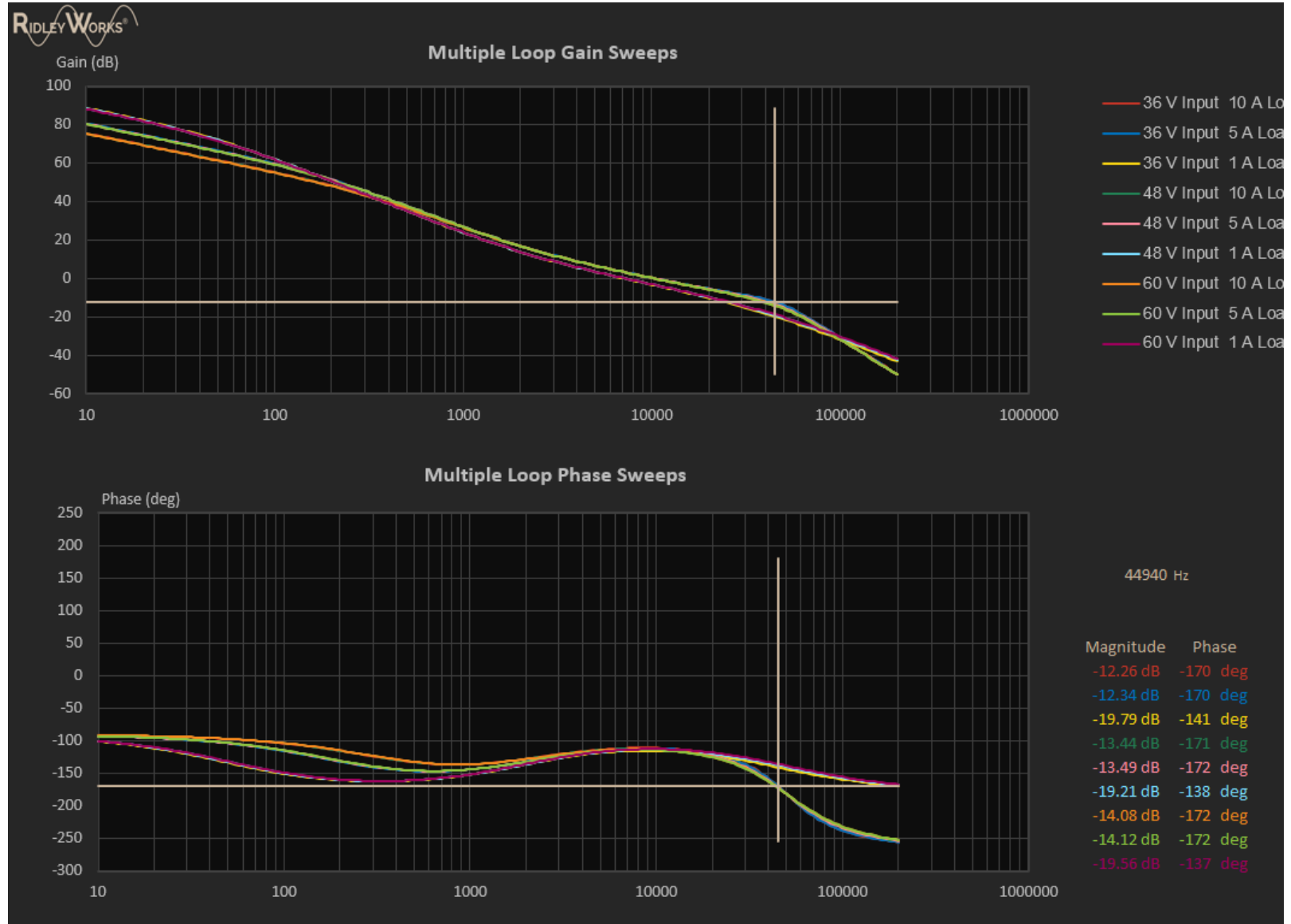
Current-Mode Control (One Way to do it)



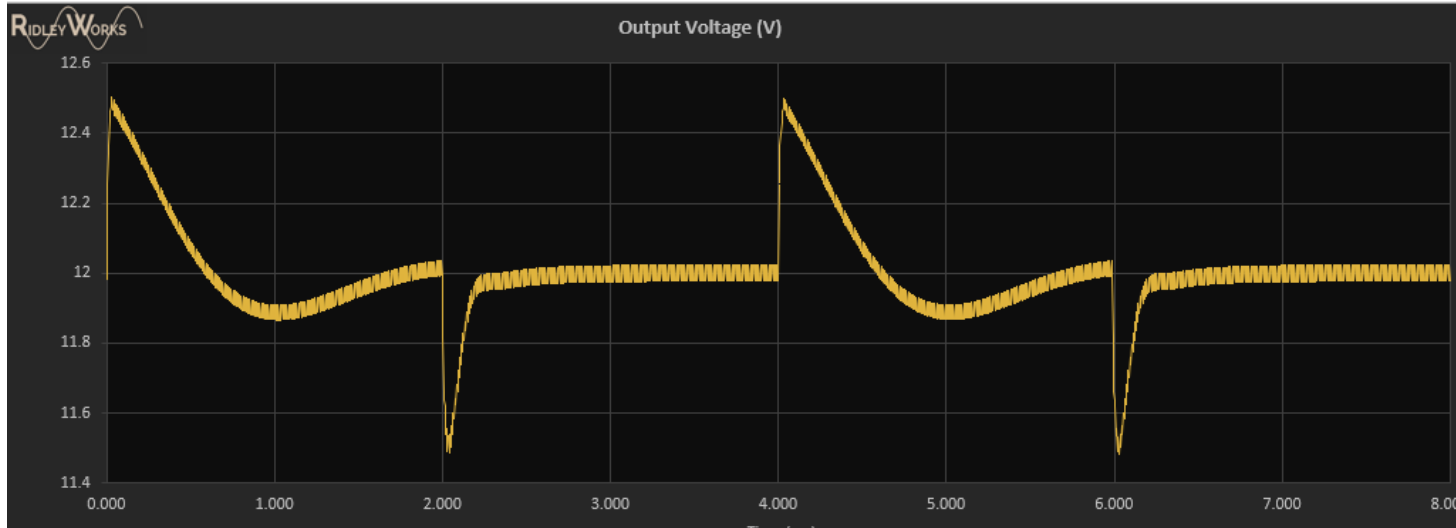
Multiphase Control of Converters



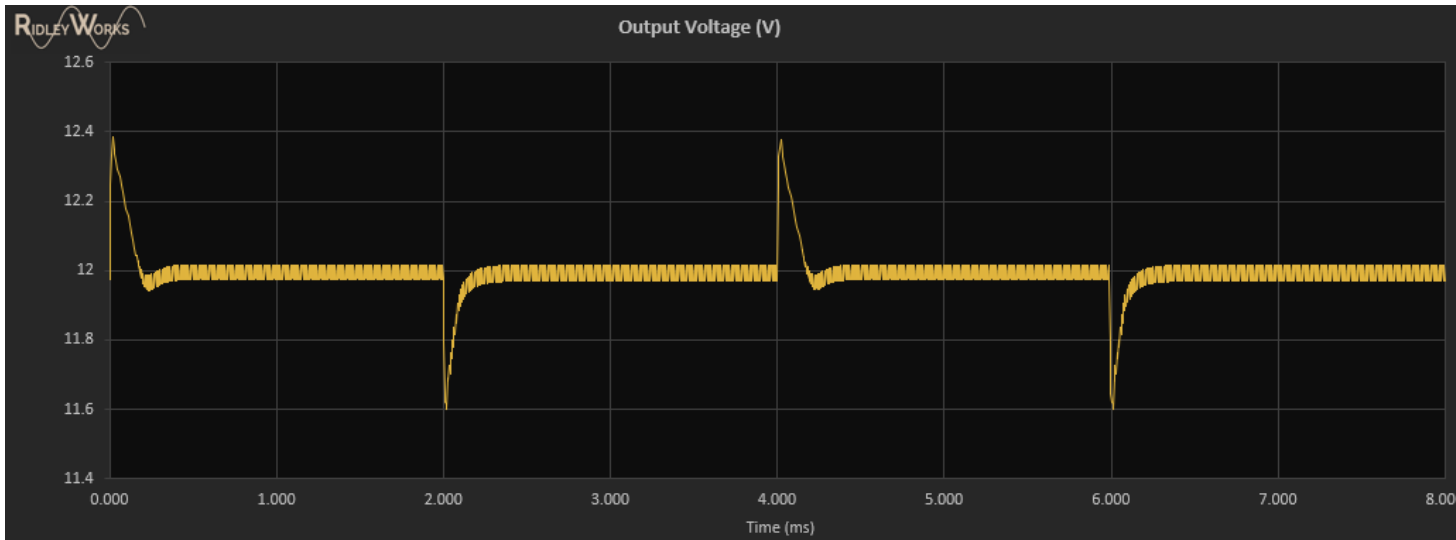
Current-Mode Loop Gains



Large Step Load Response

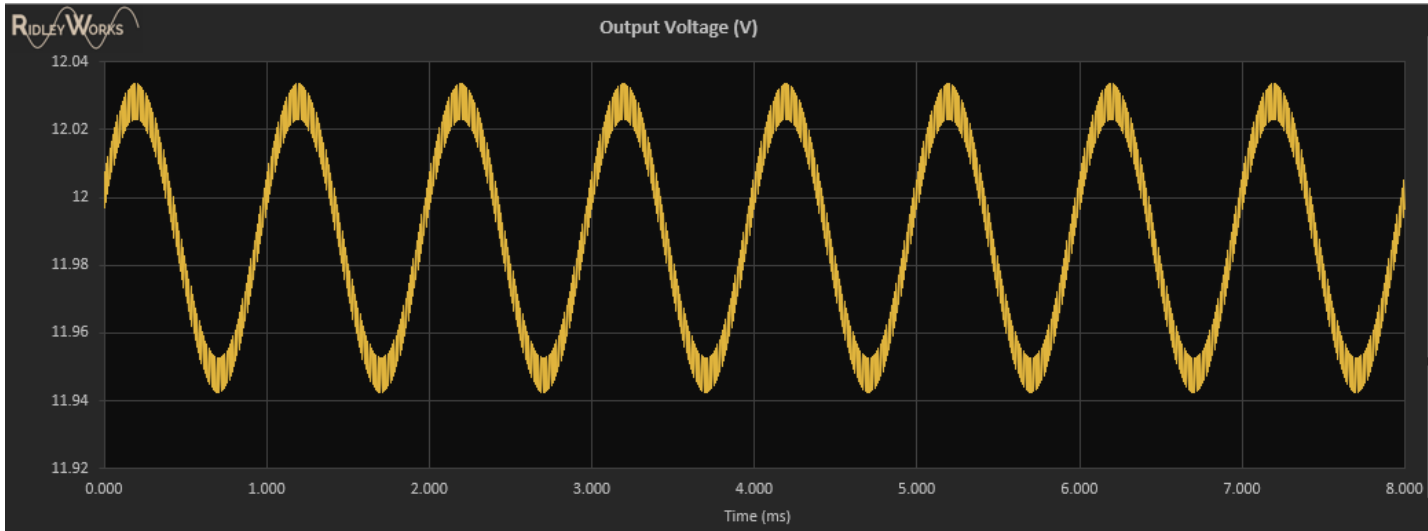


Voltage-Mode

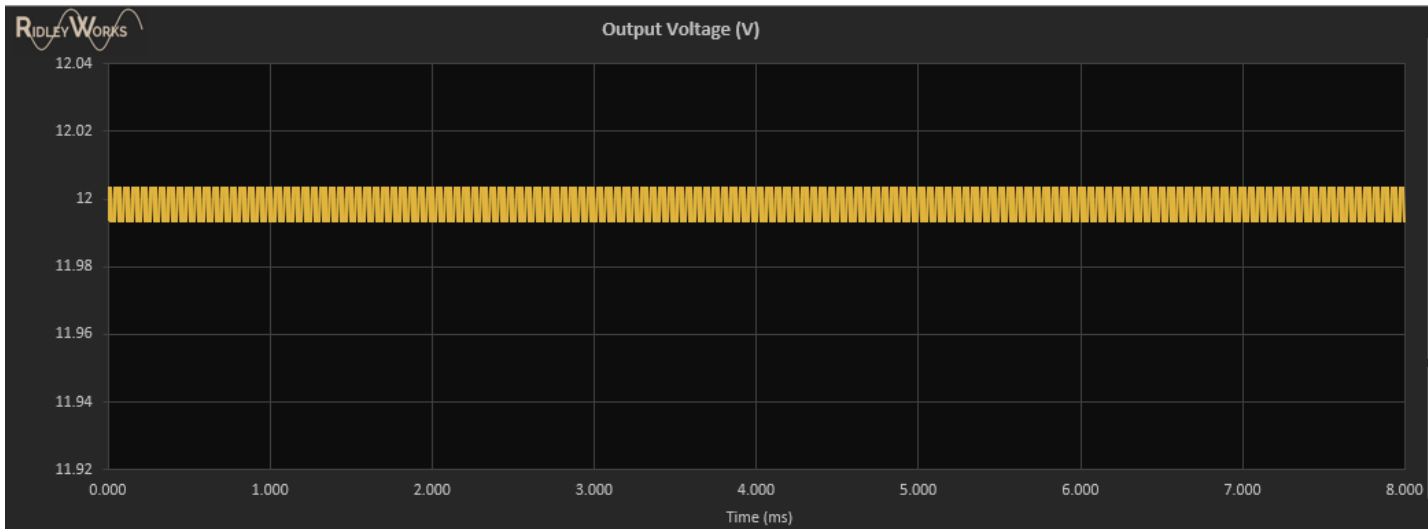


Current-Mode

PSRR Input Disturbance 1 kHz 1 V

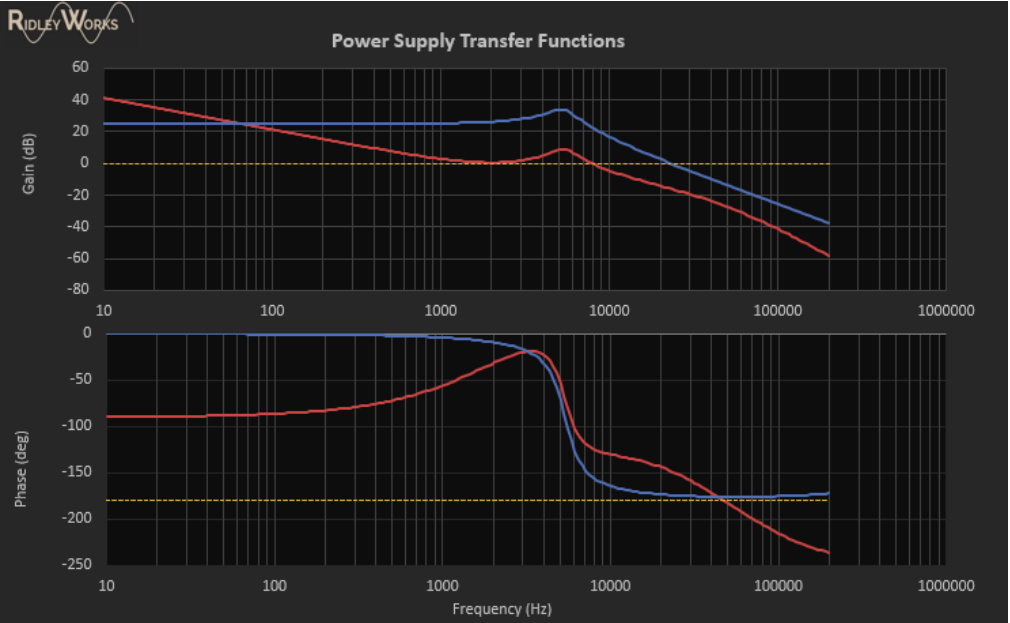


Voltage-Mode

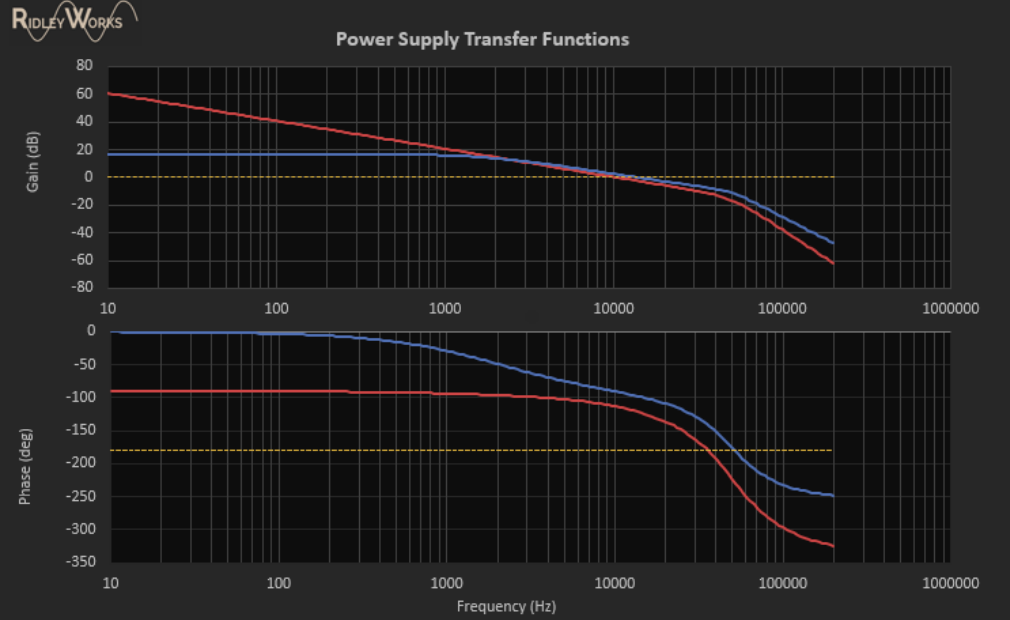


Current-Mode

Challenging Loop Designs

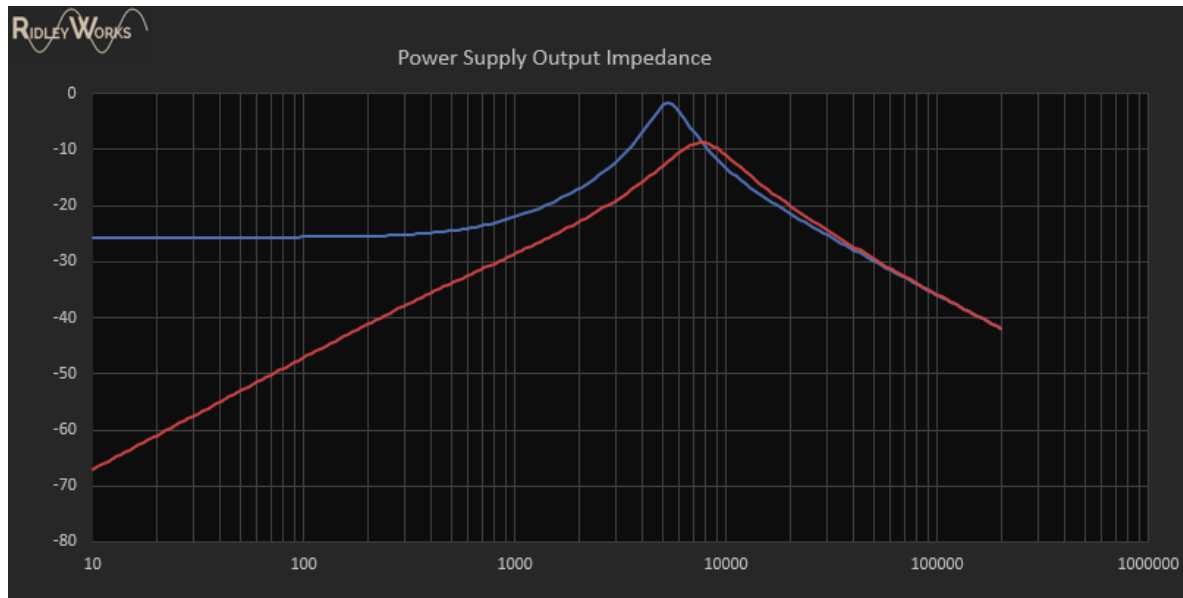


Voltage-Mode
100 μ F 9 μ H

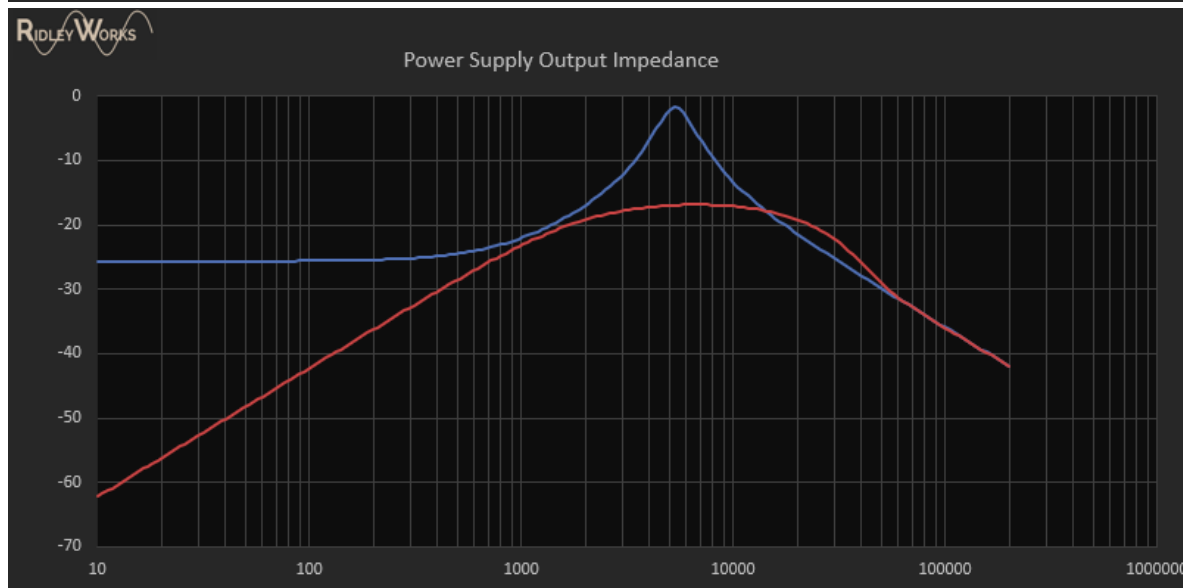


Current-Mode

Challenging Loop Designs – Output Impedance

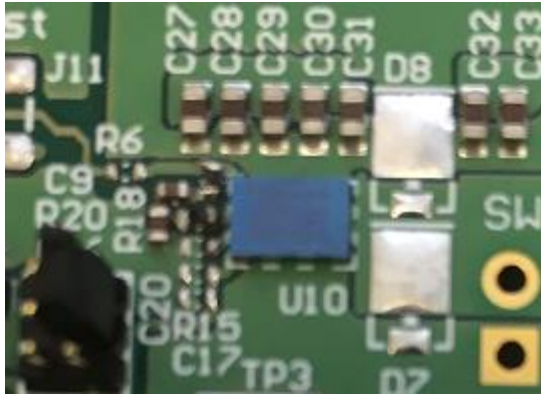


Voltage-Mode
100 μ F 9 μ H



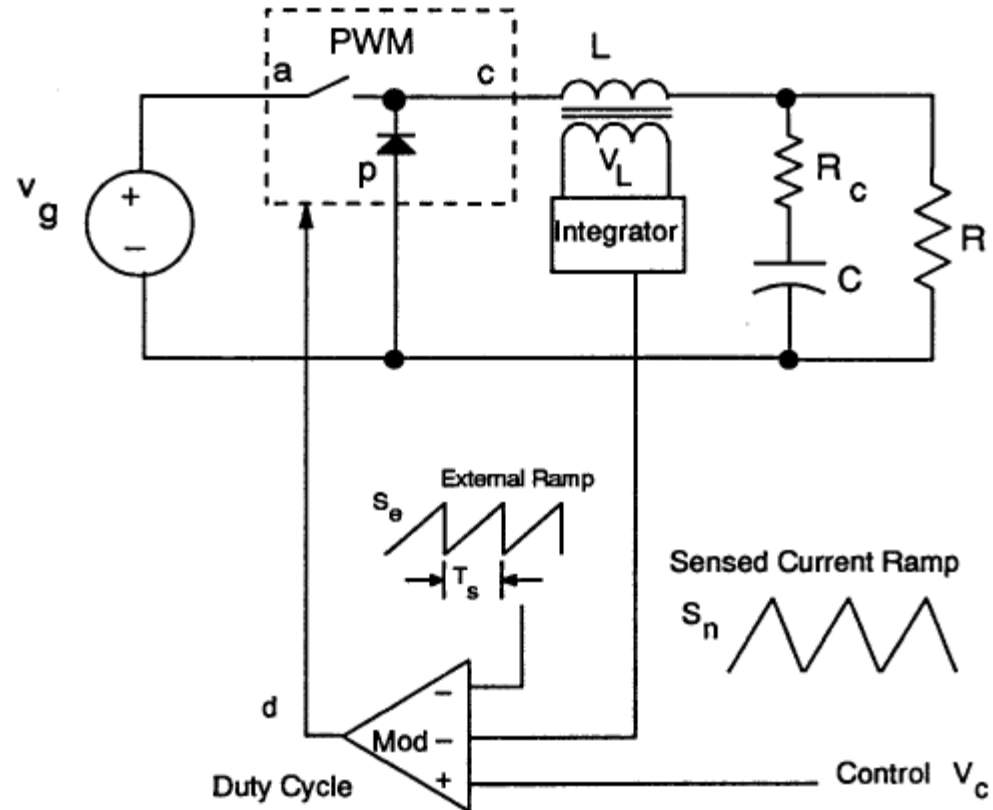
Current-Mode
3x Lower Impedance

Current-Mode for Modern Converters



Half-bridge GaN from EPC – where to put the current sensor?

Old Technology – 1960s and 1970s

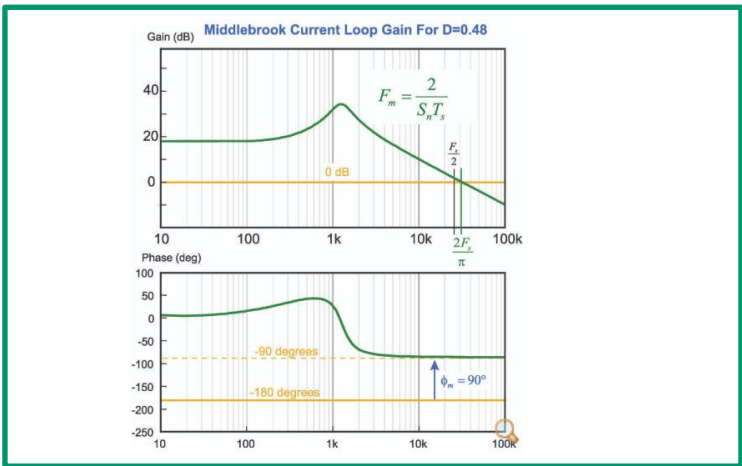
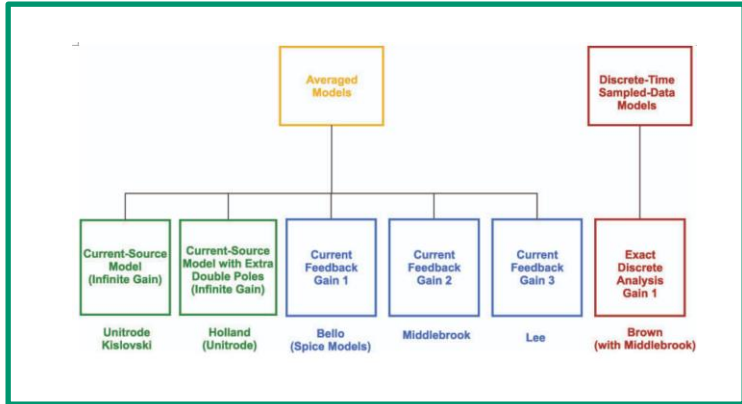


Understanding Current-Mode

Complete Reading List

A New Small-Signal Model for Current-Mode Control

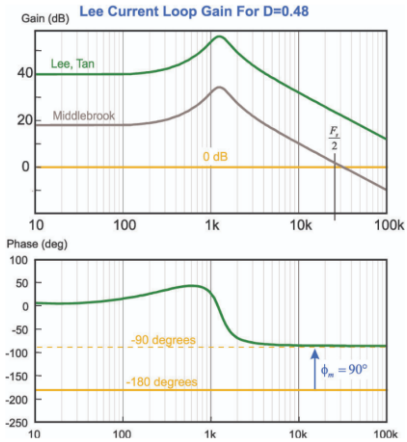
Raymond B. Ridley



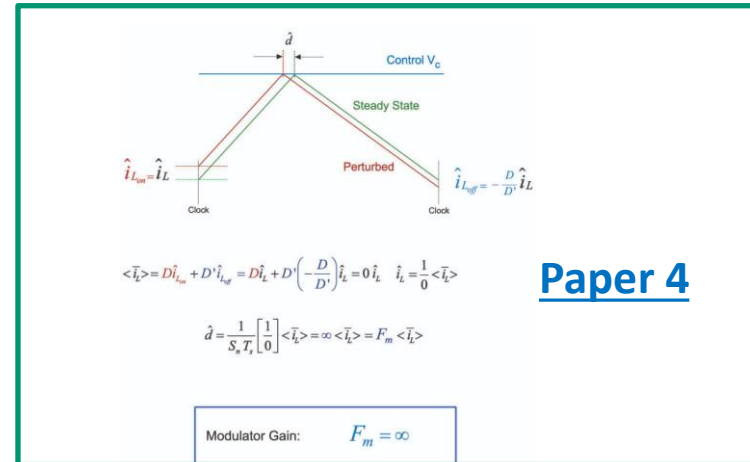
[Free Book](#)

[Paper 1](#)

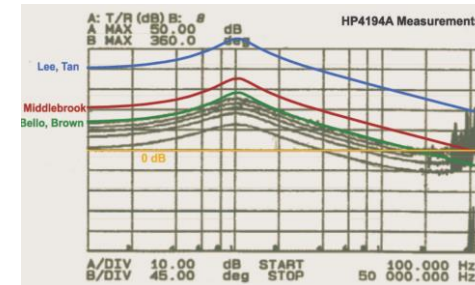
[Paper 2](#)



[Paper 3](#)



[Paper 4](#)



[Paper 5](#)

How to Learn More



Email info@ridleyengineering.com
For full demo



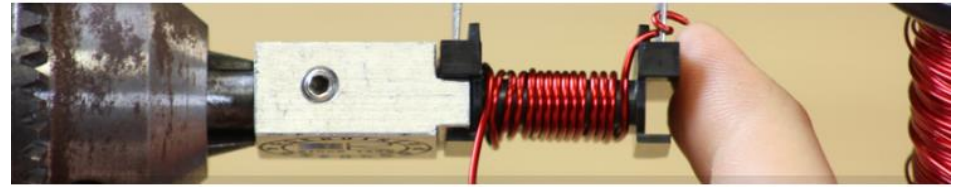
Frequency Response Analyzers



A New Small-Signal Model
for Current-Mode Control

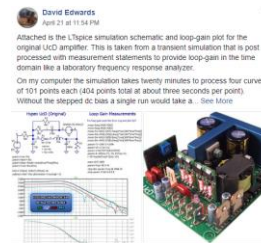
Raymond B. Ridley

Free
Book



> Education > Power Design Workshop > Intro

POWER SUPPLY DESIGN WORKSHOPS



Power Supply Design Center Facebook Group

Power Supply Design Center Articles

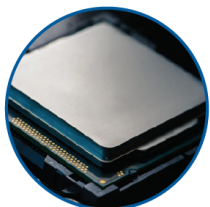
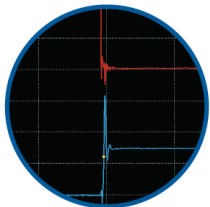
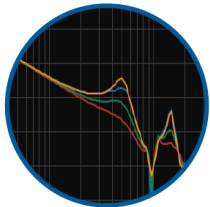
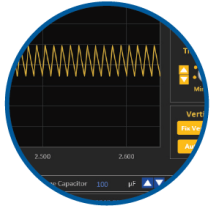
<p>[113] THE ADVENTURES OF OHM</p> <p><i>This custom-designed comic strip is for all the electrical engineers who are suddenly working from home.</i></p>	<p>[112] THE POWER OF DOWELL'S EQUATIONS AND CURVES</p> <p><i>The standardized curves of Dowell's equations are a superb tool for designing better high-frequency magnetics. A careful balance of layer count and wire or foil count is needed to reach an optimum design.</i></p>	<p>[A24] FLYBACK CONVERTER SNUBBER DESIGN</p> <p><i>In this article, we will talk about practical design techniques for the most commonly used snubber and clamp circuits for the flyback converter.</i></p>	<p>[111] ZVS FULL-BRIDGE CONVERTER EMPLOYING AN ACTIVE SNUBBER</p> <p><i>The ZVS full bridge converter can be enhanced greatly by implementing an active snubber on the secondary side of the transformer.</i></p>
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RidleyWorks® Lifetime License

Power Stage Designer
 Power Stage Waveforms
 Magnetics Designer
 Transfer Function Bode Plots

Closed Loop Design
 Automated FRA Control
 LTspice® Automated Link
 PSIM® Automated Link



4-Channel Frequency Response Analyzer

Frequency Range 1 Hz - 20 MHz
 Source Control from 1 mV - 4 V P-P
 Built-In Injection Isolator
 Bandwidth 1 Hz - 1 kHz
 Automated Setup from RidleyWorks®
 Direct Data Flow into RidleyWorks®

4-Channel 200 MHz Oscilloscope

Picoscope® 5444D 4-Channel Oscilloscope
 200 MHz Bandwidth
 1 GS/s at 8-bit res; 62.5 MS/s at 16-bit res
 Signal Generator up to 20 MHz
 Computer Controlled

Embedded Computer

Intel® Computer with 32 GB RAM, 256 GB SSD
 Intel® HD Graphics 620
 Integrated Dual Band Wireless, Bluetooth 4.2
 Dual HDMI and USB Ports, Ethernet



Differential Probes



Line Injector



Accessories



Output Impedance



Impedance Test Kit