Registration (Fax Reply)

To: ECPE e.V.
Att.: Ingrid Bollens

Fax: +49 (0)911 / 81 02 88 – 28

Register before **13 February 2008**

Participation fee:

☐ **€ 530,-** (plus 19 % VAT)
☐ **€ 395,-** (plus 19 % VAT) for university members
The fee includes dinner, lunch, coffee/soft drinks and seminar handouts.
☐ **€ 120,-** (plus 19 % VAT)
for students (shortened seminar package)

With the confirmation of the registration you will receive the invoice.
In case of cancellation after 13 February 2008 or non-attendance 50 % of the participation fee are payable.

Three participants from each ECPE member company free of charge. Allocation in sequence of registration.

Sender:

_____
title, given name, name

_____
company, department

_____
full address

_____
phone, fax

_____
e-mail

_____
date, signature

Organisational information

Organiser: ECPE e.V.
90443 Nürnberg, Germany
www.ecpe.org

Chair of seminar: Prof. José A. Cobos,
Universidad Politécnica de Madrid
Thomas Harder, ECPE e.V.

Organisation: Ingrid Bollens, ECPE e.V.
+49 (0)911 / 81 02 88 – 10
ingrid.bollens@ecpe.org

Place of seminar: Maritim Hotel Munich
Goethestrasse 7
80336 Munich

Further information (hotel list and maps) will be provided after your registration.

Draft Programme

ECPE European Center for Power Electronics e.V.

Seminar

Digital Power Conversion

20 – 21 February 2008
Maritim Hotel
Munich, Germany

in cooperation with

EUROPEAN POWER ELECTRONICS AND DRIVES

Centro de Electrónica Industrial

Introduction

ECPE Seminar

Digital Power Conversion

20 – 21 February 2008
Munich, Germany

Digital power is no longer a promise, but a commercial fact with many available products. The reasons for the market irruption are competitive cost compared to analog solutions and additional functionality at almost no extra cost. Additionally, international policies for energy saving, like Energy Star or European Codes of Conduct, can be more easily met using digital power. This may become a driving force for digital power adoption.

Digital power refers not only to the digital implementation of the control loop of a power converter, but also to the power management in its broader sense, including monitoring and fault detection, programming of the loop filter and control algorithm, tracking of output voltages, sequencing of different voltage rails, margining of power converters or remote maintenance.

Two main approaches can be distinguished: Fully digital controlled converters including closed loop control (driven by ICs or Microcontrollers) and digital managed analog or semi-digital contolled converters (complete modules which use digital techniques for control and/or power management). Attention needs also to be paid to the communication bus. Among the available alternatives, PMBus is becoming most popular, already adopted by the main players.

An increasing market transition from analog to digital power is foreseen in the near future, and this seminar brings some insight in the key digital control techniques.

Prof. José A. Cobos (Universidad Politécnica de Madrid) will chair the seminar together with Dr. Ulrich Kirchenberger (STMicroelectronics) and Thomas Harder (ECPE). All presentations and discussions will be in English.

Programme

Wednesday, 20 February 2008

10:00	**Start of Registration**
10:30	**Opening, Welcome Address** UPM, ST, ECPE

Trends in Digital Power

11:00	Past, present and future of digital control
11:30	Market evolution and digital power products
12:00	Regulations and codes of conduct made easy with digital control
12:30	Lunch

Basics of Digital Control

13:30	Basics of digitally controlled converters
14:00	DPWM architectures & techniques
14:30	Closing the digital loop
15:00	Coffee Break

Digital Control Techniques for ICs

15:30	Issues on the development of digital ICs
16:00	Comparison of auto-tunning techniques in digital controllers
16:30	Digital non-linear control breaks bandwidth limitations & enables fast dynamics
17:00	End of 1st day's programme
19:30	**Dinner**

Programme

Thursday, 21 February 2008

Application of DP in Power Converters (I)

09:00	Semi Digital Power Factor Correction
09:30	Improved off-line conversion with mixed signal control
10:00	DSP off-line controlled converter
10:30	Coffee Break

Application of DP in Power Converters (II)

11:00	High power density resonant LCC converter with DSP.
11:30	Digital control applied to multi-phase converters
12:00	Lighting applications benefit from digital control
12:30	**Lunch**

Power Mangement & Buses

13:30	System energy management
14:00	Digital buses
14:30	Power management in a telecom architecture
15:00	End of the seminar