Highlights

Improvements in LED brightness have resulted in their use in applications that were formerly the domain of incandescent lamps. For example, LEDs can now be found in street lights, traffic signals, and automobile signal lamps.

The first LED signal lamp appeared on a passenger vehicle in 1985. In 1986 the Nissan 300ZX center high mounted stop lamp used 72 LEDs assembled on a printed circuit board. With today's LEDs, this same function can be achieved with 12 LEDs. Because of the reduction in the number of LEDs required for a particular function, LED packaging and assembly costs have also been greatly reduced. Compared to conventional incandescent automotive signal lamps, LEDs have lower power consumption, decreasing the overall system cost in today's electrically demanding vehicles.

This issue of the Hewlett-Packard Journal begins with an article about an HP technology that uses LEDs for automobile taillamps. The technology, called HP SnapLED, is a three-dimensional assembly technique that allows LEDs to be packaged into thin taillamps in such a way that they can be customized to conform to the shape of a particular vehicle. The author describes the design and manufacturing processes involved in creating the SnapLED assemblies.

Other products and technologies described in this issue include: two API libraries for creating applications to access and control OTDRs, a project that ported a UNIX®-based product to Windows NT®, the issues involved in integrating technical and corporate data information systems, a new approach to developing internationalized software, and two papers from HP internal engineering conferences.

C.L. Leath
Managing Editor
HP SnapLED: LED Assemblies for Automotive Signal Lighting

James W. Stewart
An assembly technique allows LEDs to be custom configured for automotive taillamps.

New Approaches to Creating and Testing Internationalized Software

Harry J. Robinson and Sankar L. Chakrabarti
By stressing early defect detection and using the World Wide Web as a collaboration tool, the quality of internationalized software has been dramatically improved at many HP organizations.

OTDR APIs Enable Customers to Build Their Own Systems

Torsten Born and Peter Thoma
Two software API libraries allow network operators to process OTDR measurement data and control OTDRs remotely.

Comparison of Finite-Difference and SPICE Tools for Thermal Modeling of the Effects of Nonuniform Power Generation in High-Power CPUs

Jeffrey L. Deeney and C. Michael Ramsey
Two different analysis tools were used to study the effect of nonuniform power dissipation on the variation of junction temperature across the surface of a high-power CPU.

Updating a UNIX Application Suite for the Windows NT World

Thomas W. Hutchinson and Ronald R. Derynck
The authors describe some useful lessons they learned while porting a real-time UNIX-based application to a Windows NT environment.

A Low-Complexity, Fixed-Rate Compression Scheme for Color Images and Documents

Nader Moayeri
A computationally simple data compression scheme provides a modest compression ratio of 3 to 4 and is useful when hardware is limited and coding delays cannot be tolerated.

Integrating Real-Time Systems with Corporate Information Systems

Ronald R. Derynck and Thomas W. Hutchinson
Integrating distributed systems involves more than just connecting different communications technologies. It also involves connecting different information environments.
November 1, 1998

Dear Reader,

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