

STATUTORY DECLARATION

I, **Rupert Lee** of The British Library, 96 Euston Road, London NW1 2DB, United Kingdom, **Legal designation the British Library Board ('the Library')**, do solemnly and sincerely declare, that:

1. I have access to and knowledge of the records and record keeping practices and procedures of the Library **which relies to some extent on information collated by a third party**. I have reviewed these records and record keeping practices, to prepare this declaration. Based on that review, the ordinary practices and procedures of the Library and **to the best of my personal knowledge and belief**, I make the following declaration.
2. The Reading Rooms of the Library are open to any bona fide enquirer and any publication in the Library may be consulted in the Reading Rooms on request. Any organisation or individual may purchase photocopies of extracts from publications.
3. On the 24th June, 2003 the Library received a copy of **Computer Networks: The International Journal of Telecommunications Networking: Volume 42, Issue 4**. It included a paper entitled **System integration of WAP and SMS for home network system** at page number 493. It was to the best of my knowledge received intact and was assigned the Library shelfmark **3394.114900**. It was then catalogued on **24 June 2003** and would have been available for public use to the best of my knowledge and belief from that date. There is now produced to me and marked "**A**" a true and correct copy of the journal cover page, the journal Contents page, and page 493, showing the Library shelfmark and receipt and cataloguing date stamp.¹
4. On the 2nd March 2004 the Library received a copy of **Transactions on Consumer Electronics: Volume 49, Issue 4**. It was to the best of my knowledge received intact and was assigned the Library shelfmark **4363.176500**. It was then catalogued on **2nd March 2004** and would have been available for public use to the best of my knowledge and belief from that date. There is now produced to me and marked "**B**" a true and correct copy of the journal front cover page, the journal back cover page, and the journal verso page, showing the Library shelfmark and receipt and cataloguing date stamp.²

¹ Each exhibit will have to be signed by the solicitor and will have to have the words below printed on it. The exhibit will then have to be signed and dated by the solicitor "This is the exhibit marked "A" referred to in the statutory declaration of.....[name of person making the declaration] signed the[ddmmyyyy] before me[name of solicitor] Notary Public"

² Each exhibit will have to be signed by the solicitor and will have to have the words below printed on it. The exhibit will then have to be signed and dated by the solicitor "This is the exhibit marked "A" referred to in the statutory declaration of.....[name of person making the declaration] signed the[ddmmyyyy] before me[name of solicitor] Notary Public"

5. And I make this solemn declaration conscientiously believing the same to be true and by virtue of the provisions of the Statutory Declarations Act 1835.

Signature

R. Le

Date *18. June 2019*

DECLARED at *London, England*

This *18* day of *June* in the year *2019*

Before me

Dolores Rice

Dolores Rice
Notary Public

3 Cedar Court
6 Grosvenor Road
Wanstead
London
E11 2HQ

Tel: 0208 530 3085

Dolores Rice
NOTARY PUBLIC
London
England

My Commission expires
on death

18 June 2019



Volume 4
119
C

APOSTILLE (Convention de La Haye du 5 octobre 1961)	
1. Country: Pays / Pais:	United Kingdom of Great Britain and Northern Ireland
This public document Le présent acte public / El presente documento público	
2. Has been signed by a été signé par ha sido firmado por	Dolores Rice
3. Acting in the capacity of agissant en qualité de quien actúa en calidad de	Notary Public
4. Bears the seal / stamp of est revêtu du sceau / timbre de y está revestido del sello / timbre de	The Said Notary Public
Certified Attesté / Certificado	
5. at à / en	London
6. the le / el día	19 June 2019
7. by par / por	Her Majesty's Principal Secretary of State for Foreign and Commonwealth Affairs
8. Number sous no / bajo el numero	APO-1510770
9. Seal / stamp Sceau / timbre Sello / timbre	10. Signature Signature Firma



P. Forbes
[Handwritten signature]

This Apostille is not to be used in the UK and only confirms the authenticity of the signature, seal or stamp on the attached UK public document. It does not confirm the authenticity of the underlying document. Apostilles attached to documents that have been photocopied and certified in the UK confirm the signature of the UK official who conducted the certification only. It does not authenticate either the signature on the original document or the contents of the original document in any way.

If this document is to be used in a country not party to the Hague Convention of the 5th of October 1961, it should be presented to the consular section of the mission representing that country.

To verify this apostille go to www.verifyapostille.service.gov.uk

Volume 42, Issue 4

15 July 2003

ISSN 1389-1286

This is the exhibit marked "A" referred to in the Statutory Declaration of Rupert Lee signed the 18th June 2003 before me Dolora Rice notary public

COMPUTER NETWORKS



The International Journal of Computer and Telecommunications Networking

0000035

CG 24 JUN 2003

24-JUN-2003 BSDS

BOSTON SPA
LS23 7BQ

COMPUTER NETWORKS -AMSTERDAM-

ETOC



3394.114900

VOL 42 PART 4

JCP-ESTAR1
PB mP

2/2

AVAILABLE AT
www.ComputerScienceWeb.com

POWERED BY SCIENCE @ DIRECT®

NORTH-HOLLAND



ELSEVIER

Volume 42, Issue 4, 15 July 2003

COMPUTER
NETWORKS

www.elsevier.com/locate/comnet

CONTENTS

Abstracted/Indexed in: ABI/Inform, ACM Computing Reviews, Cambridge Scientific Abstracts, Compumath Citation Index®, Computer Abstracts, Computer Literature Index, Current Contents®/Engineering, Computing & Technology, Engineering Index/Compendex, INSPEC Information Services, Library and Information Science Abstracts (LISA), Research Alert, Scisearch®, Sociological Abstracts, Zentralblatt für Mathematik.

- F. Hu, N.K. Sharma and J. Ziobro*
An accurate model for analyzing wireless TCP performance with the coexistence of Non-TCP traffic 419
- T.X. Brown and H.N. Gabow*
The limits of input-queued switch performance with future packet arrival information 441
- E. Magaña, J. Aracil and J. Villadangos*
A protocol-adaptive monitoring tree for efficient design of traffic monitoring probes 461
- Z. Lotker and B. Patt-Shamir*
Nearly optimal FIFO buffer management for two packet classes 481
- C.-H. Wu and R.-H. Jan*
System integration of WAP and SMS for home network system 493
- Y. Yang, L. Zhang, J.K. Muppala and S.T. Chanson*
Bandwidth-delay constrained routing algorithms 503
- T. Bonald and J.W. Roberts*
Congestion at flow level and the impact of user behaviour 521
- R.J. Boucherie and J. van der Wal*
Transient handover blocking probabilities in road covering cellular mobile networks 537

CONTENTS
direct

This journal is part of **ContentsDirect**, the *free* alerting service which sends tables of contents by e-mail for Elsevier Science books and journals. You can register for **ContentsDirect** online at: <http://contentsdirect.elsevier.com>



1389-1286(200307)42:4;1-V



ELSEVIER

Available at
www.ComputerScienceWeb.com
POWERED BY SCIENCE @ DIRECT®

Computer Networks 42 (2003) 493–502

COMPUTER
NETWORKS

www.elsevier.com/locate/comnet

System integration of WAP and SMS for home network system

Chi-Hsiang Wu, Rong-Hong Jan *

Department of Computer and Information Science, National Chiao Tung University, 1001 Ta Hsueh Rd., Hsinchu 30050, Taiwan

Received 12 October 2001; received in revised form 16 December 2002; accepted 1 February 2003

Responsible Editor: S.K. Das

Abstract

This paper proposes a Home Network System (HNS) architecture integrated with Wireless Application Protocol and Short Message Service to support the connectivity between home and Internet/Global System for Mobile Communication (GSM) networks. The HNS architecture includes an HNS gateway and three home network subsystems, i.e., home appliance, security and messaging subsystems. The main objective of the integrated system is to remotely monitor and control the devices in the HNS via laptop computer or a GSM mobile terminal. In addition to responding to remote queries, the managed devices (e.g., home appliances or burglar alarm system) can actively send alerting messages to a mobile terminal when an abnormal state occurs. Through the HNS gateway, the monitoring and control information is diffused to the Internet/GSM network. An implementation of the HNS system is described in this paper as an illustration of the feasibility of the proposed architecture.

© 2003 Elsevier Science B.V. All rights reserved.

Keywords: Home networking; Wireless application protocol; Short message service

1. Introduction

In recent years, interest in home networking has increased significantly due to technological innovations and market forces. Improvements in micro-processor computing power and memory capacity, associated with decreasing costs, have ensured their widespread use. In addition, the development of the Internet has engendered new ideas for living and working that utilize every facet of technology. Many of these ideas offer achievable means of in-

tegrating information, processing and control for every individual user and device.

In order to utilize appliances efficiently and effectively and to increase comfort in the home, a Home Network System (HNS) is proposed. HNS is a small network that allows the connection of computers, audio and video equipment, washing equipment and home automation subsystems (e.g., heating and air-conditioning systems, lighting systems, etc.) in an integrated, cooperative environment designed to increase comfort and ensure the sharing and management of home resources as well as the provision of new, enhanced services.

Several specifications used in home automation already exist, including Consumer Electronic Bus (CEBus) [1,2], European Home System (EHS) [3,4],

* Corresponding author. Fax: +886-3-5721490.

E-mail address: rhjan@cis.nctu.edu.tw (R.-H. Jan).

2004 BSDS

TRANSACTIONS ON CONSUMER ELECTRONICS

BOSTON SPA
LS23 78Q

*ETOC

TRANSACTIONS ON

LOAN BAN

EXPIRES

- 2 SEP 2004

03.176500

VOL 49 PART 4

JCP ESTARS

2/2

E 49

NUMBER 4

ITCEDA

(ISSN 0098-3063)

Electronics Society

Administrative Committee
Officers and Committee Chairmen

SPECIAL SECTION ON JPEG 2000 DIGITAL IMAGING

Introduction to Special Section on JPEG 2000 Digital Imaging	Touradj Ebrahimi and Daniele D. Giusto	771
Analysis and Characterization of JPEG 2000 Standard for Imaging Devices	S. Battiato, A. R. Bruna, A. Buemi and A. Castorina	773
An Efficient JPEG2000 Tier-1 Coder Hardware Implementation for Real-Time Video Processing	Paul R. Schumacher	780
Motion JPEG2000 for High Quality Video Systems	Siegfried Föfßel, Gunther Föttinger and Jörg Mohr	787
Content-aware Authentication of Motion JPEG2000 Stream in Lossy Networks	Yongdong Wu and Robert H. Deng	792
Segmentation and Compression of Documents with JPEG2000	Klaus Jung and Ruedi Seiler	802
Interpretability Performance Assessment of JPEG2000 and Part 1 Compliant Region of Interest Coding	Anthony Nguyen, Vinod Chandran, Sridha Sridharan and Robert Prandolini	808
Exploitation and Extension of the Region-of-Interest Coding Functionalities in JPEG2000	Alberto Signoroni, Fabio Lazzaroni and Riccardo Leonardi	818
Steganography in JPEG2000 Compressed Images	Po-Chyi Su and C.-C. Jay Kuo	824
Compression of Electrocardiogram Signals using JPEG 2000	Ali Bilgin, Michael W. Marcellin and Maria I. Altbach	833
Innovative Channels for Digital Images Delivery: Multimedia Messaging Service Technology Enhancing Picture Messaging for Mobile and Internet Environments	Sam Habibi Minelli and Andrea de Polo	841
A Proposal for Supporting Selective Encryption in JPSEC	Yulen Sadourny and Vania Conan	846
JPEG 2000 and Interactive Applications	Gregory J. Colyer and Richard A. Clark	850
JPEG 2000 Backward Compatible Error Protection with Reed-Solomon Codes	Didier Nicholson, Catherine Lamy-Bergot, Xavier Naturel and Charly Poulliat	855
JPEG2000 and MJPEG2000 Transmission in 802.11 Wireless Local Area Networks	F. Frescura, M. Giorni, C. Feci and S. Cacopardi	861
Error Sensitivity Data Structures and Retransmission Strategies for Robust JPEG 2000 Wireless Imaging	Marco Grangetto, Enrico Magli and Gabriella Olmo	872
Transmission of JPEG2000 Images over Wireless Channels with Unequal Power Distribution	Luigi Atzori	883
CAMERA/DISPLAY/TRANSDUCER SYSTEMS		
A Simple Method for Estimating the Impulse Responses of Loudspeakers	Per Åhgren and Petre Stoica	889
An Embedded Camera Lens Distortion Correction Method for Mobile Computing Applications	Wonpil Yu	894
Practical Aspects of Video Data Transfer to Network Storage using 802.11 WLAN Technology for Low-End Consumer Digital Cameras	Peter M. Corcoran and Ilariu Raducan	902
250W Flyback SMPS Design for a Big Size CTV	M. Selim Göksu and Irfan Alan	911
COMMUNICATIONS		
Forward Error Correction with Reed-Solomon Codes for Wearable Computers	B. Fong, P. B. Rapajic, G. Y. Hong and A. C. M. Fong	917
A Complementary Clipping Transform Technique for the Reduction of Peak-to-Average Power Ratio of OFDM System	Guangliang Ren, Hui Zhang and Yilin Chang	922
Error Propagation in Decision Feedback Equalization for a Terrestrial Digital Television Receiver	Jeongsoo Park, Ivonete Markman, Seo Weon Heo and Saul B. Gelfand	927
A Newly Proposed ATSC DTV System for Transmitting a Robust Bit-stream along with the Standard Bit-stream	Vasanth R. Gaddam and Dagnachew Birru	933
Spectral Analysis of OFDM Signals and its Improvement by Polynomial Cancellation Coding	Kusha Panta and Jean Armstrong	939
Impulsive Noise Suppression in OFDM Based Communication Systems	Sergey V. Zhidkov	944
A Channel Characterization Technique Using Frequency Domain Pilot Time Domain Correlation Method for DVB-T Systems	Xianbin Wang, Yiyang Wu, Jean-Yves Chouinard, Sili Lu and Bernard Caron	949
Spatial Diversity Technique for Improvement of DTV Reception Performance	Sung-Hoon Moon, Ju-Yeun Kim and Dong-Seog Han	958
A Novel Method of Carrier Frequency Offset Estimation for OFDM Systems	Mingqi Li and Wenjun Zhang	965
Doppler Spread Estimation for Mobile OFDM Systems in Rayleigh Fading Channels	Jueping Cai, Wentao Song and Zan Li	973
A Comparison of 64-QAM and 16-QAM DVB-T under Long Echo Delay Multipath Conditions	Scott L. Linfoot	978
An Adaptive Carrier Synchronizer for M-QAM Cable Receiver	Chun-Nan Ke, Cheng-Yi Huang and Chih-Peng Fan	983
NETWORKS		
An Error Spreading Scheme for Video Streaming over the Internet	Lianji Cheng, Wenjun Zhang and Hongkai Xiong	990
Adaptive Modulation based MC-CDMA Systems for 4G Wireless Consumer Applications	S. Chatterjee, W. A. C. Fernando and M. K. Wasantha	995
Handoff Provisioning in Bluetooth Wireless Personal Area Networks	Won Hee Lee, Yang-Ick Joo, Kyun Hyon Tchah, Yongsuk Kim and DooSeop Eom	1004
Robust Error Concealment for Visual Communications in Burst-Packet-Loss Networks	Jae-Young Pyun, Jun-Suk Lee, Jin-Woo Jeong, Jae-Hwan Jeong and Sung-Jea Ko	1013
A Novel Communication Protocol for Wireless Short Command	K. F. Tsang and L. T. Lee	1020
Realizing MPEG-4 Video Transmission over Wireless Bluetooth Link via HCI	Chong Hooi Chia and M. Salim Beg	1028
Development and Features of a TV Navigation System	Tadashi Isobe, Masao Fujiwara, Hiroyuki Kaneta, Noriyoshi Uratani and Toshiya Morita	1035
Networked Home Appliance System using Bluetooth Technology Integrating Appliance Control/Monitoring with Internet Service	Yosuke Tajika, Takeshi Saito, Keiichi Teramoto, Naohisa Oosaka and Masao Isshiki	1043
Home Appliance Control System over Bluetooth with a Cellular Phone	Hiroshi Kanma, Noboru Wakabayashi, Ritsuko Kanazawa, Hiromichi Ito	1049
A Reliable Power Line Carrier and Wireless Data Concentrator for Broadband Energy Information Network	Yute Chen, Jeng Kuang Hwang and Sau Mou Wu	1054
Adaptive Scheme for Streaming MPEG-4 contents to Various Devices	Kyung-Ae Cha and Sangwook Kim	1061
Power-Efficient and QoS-Aware Scheduling in Bluetooth Scatternet for Wireless PANs	Yang-Ick Joo, Tae-Jin Lee, Doo Seop Eom, Yeonwoo Lee and Kyun Hyon Tchah	1067

(Continued on back cover)



Derivative Staircase Data Broadcasting Protocol For Video On Demand	Gu Zhiqi and Yu Songyu	1073
Auto-Average Power Control for Multiple-Antenna HIPERLAN/2 and IEEE802.11a Systems	Joo-Hee Moon, Young-Hwan You, Won-Gi Jeon, Ki-Won Kwon and Hyoung-Kyu Song	1078
A Novel Family of Frequency Hopping Sequences for Multi-hop Bluetooth Networks	Zan Li, Yilin Chang and Lijun Jin	1084
A Design and Implementation of Wireless Sensor Gateway for Efficient Querying and Managing through World Wide Web	Kwang-il Hwang, Jeongsik In, NhoKyung Park and Doo-seop Eom	1090
RECORD/PLAYBACK SYSTEMS		
A Unified Transcoding Approach to Fast Forward and Reverse Playback of Compressed Video	Yap-Peng Tan and YongQing Liang	1098
VCR-oriented Video Broadcasting for Near Video-On-Demand Services	Jin B. Kwon and Heon Y. Yeom	1106
Development of VCR with ULP (Ultra Long Play) Mode	Seung Hong Lee, Hyung Nam Kim, Young Soon Park and Yunmo Chung	1114
A New Approach for Rustle Noise Canceling in Pen-type Voice Recorder	Ki-Man Kim, Young-Keun Choi and Kyu-Sik Park	1118
Low-Offset CMOS OEIC for Optical Storage Systems	Michael Förtsch and Horst Zimmermann	1125
Home Server for Home Digital Service Environments	Changseok Bae, Jinho Yoo, Kyunchang Kang, Yoonsik Choe and Jeunwoo Lee	1129
A Storage and Retrieval Method of XML-based Metadata in PVR Environment	Hyoseop Shin	1136
Effects of Limit Equalizer in Blu-ray Disc Format	Hideki Kobayashi, Hiroki Kuribayashi, Yoshimi Tomita and Seiichi Ohsawa	1141
A Real Time Recording System for Camcorders on the DVD Video Format	Hirokyu Marumori, Hiroshi Chiba and Susumu Yoshida	1148
Improved Techniques for Dual-Bitstream MPEG Video Streaming with VCR Functionalities	Shih-Yu Huang	1153
An HDD-based Removable Medium and its AT-Attachment Interface Architecture for Copyright Protection	Tatsuya Hirai and Yoshihiro Hori	1161
Architecture of High Capacity VOD Server and the Implementation of its Prototype	Songan Yang, Hua Yang and Yuhang Yang	1169
Track-Following Control using a Disturbance Observer with Asymptotic Disturbance Rejection in High-Speed Optical Disk Drives	Jung Rae Ryoo, Kyoung Bog Jin, Jung-Ho Moon and Myung Jin Chung	1178
Track Following Control Design For ODDs by Employing Repetitive Two-Degree-Of-Freedom Control Scheme	Fengdan Dong, Youyi Wang and Jianying Zhou	1186
SECURITY SYSTEMS		
Security of Two Remote User Authentication Schemes Using Smart Cards	Chien-Lung Hsu	1196
On Vulnerabilities and Improvements of Fast Encryption Algorithm for Multimedia FEA-M	Miodrag J. Mihaljevic	1199
A DCT-based MPEG-2 Transparent Scrambling Algorithm	Ci Wang, Hong-Bin Yu and Meng Zheng	1208
A New Face Authentication System for Memory-Constrained Devices	Kyunghee Lee and Hyeran Byun	1214
A Provable Secure Access Control using Smart Cards	Fuw-Yi Yang and Jinn-Ke Jan	1223
A CMOS Image Sensor (CIS) Architecture with Low Power Motion Detection for Portable Security Camera Applications	Sung-Min Sohn, Soo-Hwan Kim, Suh-Ho Lee, Kwang-Jin Lee and Suki Kim	1227
Applying Projection and B-spline to Image Authentication and Remedy	Chih-Hung Lin and Wen-Shyong Hsieh	1234
Digital Signature with a Threshold Subliminal Channel	Nam-Yih Lee and Pei-Hsiu Ho	1240
Cryptanalysis of a Modified Remote User Authentication Scheme Using Smart Cards	Kai-Chi Leung, L. M. Cheng, Anthony S. Fong and Chi-Kwong Chan	1243
A Remote User Authentication Scheme Using Smart Cards with Forward Secrecy	Amit K. Awasthi and Sunder Lal	1246
Computational Complexity and Implementation Aspects of the Incremental Hash Function	Bok-Min Goi, M. U. Siddiqi and Hean-Teik Chuah	1249
Motion Adaptive Interpolation with Horizontal Motion Detection for Deinterlacing	Shyh-Feng Lin, Yu-Ling Chang and Liang-Gee Chen	1256
SIGNAL PROCESSING		
A Motion-Adaptive De-interlacing Method Using an Efficient Spatial and Temporal Interpolation	Sung-Gyu Lee and Dong-Ho Lee	1266
Radio Specifications of Double Conversion Tuner for Cable Modem	Choong-Yul Cha, Jeong-Ki Choi, Hyo-Seok Kwon and Sang-Gug Lee	1272
A Stable and Adaptive Pole-Zero Filter	Mohammad, Usman, Amjad A. Luna and Imtihan Elahi	1279
Design and Implementation of a Novel Sync Processing System for Composite Video Signals	Dengpan Mou, Roland Lares, Wenhao Yan, Friedrich Rominger and Albrecht Rothermel	1286
Synchronization of Analog Video Signals with Improved Image Stability	Albrecht Rothermel and Roland Lares	1292
Contrast Enhancement using Recursive Mean-Separate Histogram Equalization for Scalable Brightness Preservation	Soong-Der Chen and Abd. Rahman Ramli	1301
Minimum Mean Brightness Error Bi-Histogram Equalization in Contrast Enhancement	Soong-Der Chen and Abd. Rahman Ramli	1310
Digital Image Stabilization with Sub-Image Phase Correlation Based Global Motion Estimation	S. Ertürk	1320
An Adaptive Color Transient Improvement Algorithm	Peng Lin and Yeong-Taeg Kim	1326
Motion Adaptive Search for Fast Motion Estimation	Prabhudev Irappa Hosur	1330
QoP-Driven Scheduling for MPEG Video Decoding	Shaoxiong Hua and Gang Qu	1341
High Performance Memory Mode Control for HDTV Decoders	Seong-Il Park, Yongseok Yi and In-Cheol Park	1348
Optimizing Facial Animation Parameters for MPEG-4	Gunnar Hovden and Nam Ling	1354
Novel Plasma Display Driver with Low Voltage/Current Device Stresses	Chung-Wook Roh	1360
Video Quality-of-Service for Consumer Terminals-A Novel System for Programmable Components	Christian Hentschel, Reinder J. Bril, Yingwei Chen, Ralph Braspenning and Tse-Hua Lan	1367
Modified Bespoke Data Broadcasting Scheme for Popular Videos	Satish Chand and Hari Om	1378
Reconfigurable Hardware Implementation of an Improved Parallel Architecture for MPEG-4 Motion Estimation in Mobile Applications	R. Gao, D. Xu and J. P. Bentley	1383
Efficient Error Handling for Video and Still Picture Standards	Giuseppe Spampinato, Mirko Guarnera, Filippo Vella and Antonio Buemi	1391
Error Concealment Algorithm Using Interested Direction for JPEG 2000 Image Transmission	Pei-Jun Lee and Liang-Gee Chen	1395
Embedded Linux Implementation on a Commercial Digital TV System	Sang-Pil Moon, Joo-Won Kim, Kuk-Ho Bae, Jae-Cheon Lee and Dae-Wha Seo	1402
New Processing System for On-Line Video Image Retrieval Utilizing DSP	Xinlei Wang, Kayo Suzuki, Hiroaki Ikeda, Katsuhiko Ishimaru and Shunichiro Egami	1408
A Novel Selective Motion Vector Matching Algorithm for Error Concealment in MPEG-4 Video Transmission over Error-Prone Channels	Bo Yan and Kam Wing Ng	1416
Analysis and Detection of MPEG-4 Visual Transmission Errors over Error-Prone Channels	Bo Yan and Kam Wing Ng	1424
An Electronic Nose for Multimedia Applications	Rafael Castro, Mrinal Kr. Mandal, Peter Ajemba and Mujtaba A. Istihad	1431
Fast POCS Based Post-Processing Technique for HDTV	Yoon Kim, Chun-Su Park and Sung-Jea Ko	1438
New Efficient Methods of Image Compression in Digital Cameras with Color Filter Array	Chin Chye Hoh, Jayanta Mukherjee and Sanjit K. Mitra	1448
A Personal Identity Annotation Overlay System using a Wearable Computer for Augmented Reality	Jong Bae Kim	1457
Design of Echo Cancellation and Noise Elimination for Speech Enhancement	Chi-Chou Kao	1468
VLSI Implementation of Genetic Four-Step Search for Block Matching Algorithm	Angus Wu and Sammy So	1474
Personal Digital Assistant (PDA) Based 12C Bus Analysis	J. W. Bruce, M. A. Gray and R. F. Follett	1482
A Low-Cost Media-Processor Based Real-Time MPEG-4 Video Decoder	Jin-Hau Kuo, Chia-Chiang Ho, Kan-Li Huang, Jim Shiu and Ja-Ling We	1488
Advanced Rate Control Technologies for 3D-HDTV	JeongEun Lim, Jun Kim, King N. Ngan and Kwanghoon Sohn	1498
New Edge Dependent Deinterlacing Algorithm Based on Horizontal Edge Pattern	Min Kyu Park, Moon Gi Kang, Kichul Nam and Sang Gun Oh	1508
An Index Coding Algorithm for Image Vector Quantization	Pei-Yin Chen and Ren-Der Chen	1513



IEEE CONSUMER ELECTRONICS SOCIETY

The Consumer Electronics Society is an organization, within the framework of the IEEE, of members, with technical interests in all facets of consumer electronics products. All members of the IEEE may join the Society and have the option of receiving the Transactions on CONSUMER ELECTRONICS, for which the annual fee is \$28.00. For more information, see address below. *Member copies of Transactions/Journals are for personal use only.*

IEEE TRANSACTIONS ON CONSUMER ELECTRONICS

WAYNE C. LUPLOW, *Publication Chairman and Editor*

Publications committee:

Dr. Walter Ciciora
John Henderson
Leander Hoke, Jr.
Dave Hostetler
C. Bailey Neal
Dr. Howard Prosser
Dr. Ted Rzeszewski
Dr. Anthony Vetro

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

2003 Officers

MICHAEL S. ADLER, *President*
ARTHUR W. WINSTON, *President-Elect*
LEVENT ONURAL, *Secretary*
PEDRO A. RAY, *Treasurer*
JAMES M. TIEN, *Vice President, Educational Activities*

JAMES V. LEONARD, *President, IEEE USA*
MICHAEL R. LIGHTNER, *Vice President, Publications Services & Products*
W. CLEON ANDERSON, *Vice President, Regional Activities*
GERALD H. PETERSON, *President, IEEE Standards Association*
LEAH H. JAMIESON, *Vice President, Technical Activities*

HAROLD L. FLESCHER, *Director, Division IV*

Executive Staff

DANIEL J. SENESE, *Executive Director*

DONALD CURTIS, *Human Resources*
ANTHONY DURNIAK, *Publications*
CECELIA JANKOWSKI, *Regional Activities*
BARBARA COBURN STOLER, *Educational Activities*
JUDITH GORMAN, *Standards Activities*

W. THOMAS SUTTLE, *IEEE-USA*
MARY WARD-CALLAN, *Technical Activities*
MATTHEW LOEB, *Corporate Strategy & Communications*
RICHARD D. SCHWARTZ, *Business Administration*

IEEE TRANSACTIONS ON CONSUMER ELECTRONICS is published quarterly by The Institute of Electrical and Electronics Engineers, Inc. Responsibility for the contents rests upon the authors and not upon the IEEE, the Society, or its members. **IEEE Corporate Office**, 3 Park Avenue, 17th Floor, New York, NY 10016-5997. **IEEE Operations Center**, 445 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08855-1331. **NJ Telephone**: 732-981-0060. **Price/Publication Information**: Individual copies: IEEE members \$10.00 (first copy only), nonmembers \$20.00 per copy. (Note: Add \$4.00 postage and handling charge to any order from \$1.00 to \$50.00, including prepaid orders.) For single copy orders: 1-800-678-4333 in the U.S.; 732-981-0060 outside the U.S. Member and nonmember subscription prices available on request. Available in microfiche and microfilm. **Copyright and Reprint Permissions**: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy for private use of patrons, provided the per-copy fee indicated in the code at the bottom of the first page is paid through the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923. For all other copying, reprint, or republication permission, write to: Copyrights and Permissions Department, IEEE Publications Administration, 445 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08855-1331. Copyright © 2003 by The Institute of Electrical and Electronics Engineers, Inc. All rights reserved. Periodicals postage paid at New York, NY, and at additional mailing offices. **Postmaster**: Send address changes to IEEE TRANSACTIONS ON CONSUMER ELECTRONICS, IEEE, 445 Hoes Lane, P.O. Box 1331, Piscataway, N.J. 08855-1331. GST Registration No. 125634188. Printed in U.S.A.