

Table of Contents

Multimedia

Asterisk - video recording and playback.....	3
<i>Lukas Kapicak, Jaroslav Zdralek, Pavel Nevlud</i>	
Possibilities of Using an Embedded Accelerometer in Mobile Device Applications.....	7
<i>Ondrej Krejcar, Jindrich Cernohorsky, Martin Vanek</i>	
Web-based Call Forwarding Management	11
<i>Jiri Vychodil, Karel Tomala, Filip Rezac, Jan Rozhon, Miroslav Voznak</i>	

Speech Quality

Erlang Formulas and Next Generation Networks	17
<i>Erik Chromý</i>	
High-speed Data Transmission in Wireless and Mobile Networks.....	22
<i>Tomas Macha, Lubos Nagy, Jan Ochodnický</i>	
Analysis of Influence of Network Performance Parameters on VoIP Call Quality.....	26
<i>Adrian Kovac, Michal Halas</i>	

Optical Communications

Fog model for Free Space Optics Link	33
<i>Jan Vitásek, Artem Ganiyev, Jan Látal</i>	
The Optical Burst Switching OMNeT++ Simulator Model Extension with The Polarisation Multiplex.....	36
<i>Milos Kozak, Leos Bohac</i>	
System for Evaluating Impulse Signals.....	40
<i>Radek Novak, Vladimir Vasinek</i>	

Radio Networks and Wireless Communications

Synthetic Coordinate System in Wireless Sensor Networks.....	45
<i>Patrik Moravek, Dan Komosny, Pavel Vajsar</i>	
The Proposal of System for Distance Measurement and 2-D Location Services Using CC2420.....	51
<i>Luboš Nagy, Jan Karasek, Petr Vychodil, Pavel Holesinsky</i>	
Scalar Measurement of Electromagnetic Shielding Efficiency of Carbon Textiles.....	57
<i>Yunus Terzioglu</i>	
GPRS transmission from short-circuit indicator.....	61
<i>Petr Mlynek, Jiri Misurec, Pavel Kubicek</i>	
Localization Techniques for Sensor Networks.....	64
<i>Juraj Machaj, Peter Brida, Jan Duha</i>	
Direct Quadrature Frequency Synthesizer Implementation in VHDL.....	69
<i>Daniel Kekrt, Milos Klima, Radek Podgorny, Jan Zavrtalek, Leoš Bohac</i>	

Telecommunication systems

Dependence of Far-end Crosstalk on Capacitive and Inductive Unbalances between Pairs in Cable.....	77
<i>Pavel Lafata</i>	

Modeling of Aluminum Power Cables Network Containing Cascaded Taps.....	83
<i>Jiri Vodrazka, Jaromir Hrad</i>	
The use of simulation framework OMNeT++ in telecommunications.....	87
<i>Petr Chlumsky, Zbynek Kocur, Jiri Vodrazka</i>	
Software Architectures for High Available Telecommunication Service Platforms.....	92
<i>Jiri Hlavacek, Robert Bestak</i>	
Analyze of Impulse Noise.....	96
<i>Jaroslav Krejci, Tomas Zeman</i>	

Security in Communications

Protection of Web-based Applications.....	103
<i>Radek Dolezel, Jan Humpolik</i>	
EMV payment cards	107
<i>Ondrej Morsky, Jan Karasek</i>	
Broadcast Authentication Mechanism Optimization in Fully N-ary Tree Topology.....	111
<i>Matej Rohlik, Tomas Vanek</i>	
Random number generation	115
<i>Jiri Sobotka</i>	
Secured monitoring probe with highly redundant WAN connection.....	118
<i>Lukas Macura, Jan Rozhon, Filip Rezac, Jiri Vychodil, Miroslav Voznak</i>	

Network technologies and Services

The New Unified Platform for Services and Applications in NGN with Regard to Quality of Services and Network Security.....	125
<i>Milos Orgon, Marek Lednický</i>	
VoIP and Converged NNetworks Coontroll led by ANNN	131
<i>Skorpil Vladislav, Novak David</i>	
Functional safety in relation to fieldbus in industrial communication.....	135
<i>Tomas Larys, Jiri Koziorek</i>	
Testing and Comparison of Protocols for Desktop Virtualization.....	140
<i>Jiri Kouril, Jiri Hosek</i>	
Voice Messaging System as Measure to Distribution of Urgent Information.....	146
<i>Filip Rezac, Miroslav Voznak, Jan Rozhon, Jiri Vychodil, Karel Tomala, Jan Diblik, Jaroslav Zdralek</i>	

Applied Electronics in Telecommunications

Detection of Negative Impact of Radio Relay Communication on the Weather Radar Measurement by Using Hough Transform.....	153
<i>Ladislav Chmela, Jaroslav Burcik</i>	
Bluetooth Based Body Sensor Network	158
<i>Martin Cerny, Marek Penhaker</i>	
Implementation of Incremental Controller into a Single Chip Microcontroller.....	161
<i>Robert Frischer, Ivo Spicka, Milan Heger</i>	
Battery-less Remote Sensors with Reversed Peltier Power Source based on Energy Harvesting Principle	167
<i>Robert Frischer, Ondrej Krejcar, Jindrich Cernohorsky</i>	

Surface conductance of textile materials modeling.....171
Marek Neruda, Lukas Vojtech

Electromagnetic Compatibility Implantable Pacemaker Testing176
Radovan Hajovsky, Marek Penhaker, Ondrej, Jindrich Cernohorsky, Jan Skapa, David Korpas

Implantable Defibrillator Testing.....180
Marek Penhaker, Jiri Kotzian, Vladimir Kasik, Jiri Sterba, Jindrich Cernohorsky, David Korpas

Measurement and Diagnosis Assessment of Plethysmographycal Record185
Marek Penhaker

FPGA-supported Diagnostics of Digital Systems in Biomedicine.....189
Vladimir Kasik

FPGA based ZigBee Interface for Biomedicine Applications.....193
Vladimir Kasik

Speech and Image Processing

Speckle Noise Supression in Ultrasound Medical Images.....199
Radek Benes, Kamil Riha

Grammar Guided Genetic Programming for Automatic Image Filter Design205
Jan Karasek, Radim Burget, Radek Benes, Lubos Nagy

Algorithm Calculating the Ratio of Cerebrospinal Fluid to the Skull211
Radka Pustkova, Frantisek Kutalek, Marek Penhaker, Jindrich Cernohorsky, Vilem Novak

Face recognition on ORL and YELL database using PCA method215
Dominik Jelsovka, Robert Hudec

The Architecture of 3D Reconstruction Algorithm Through Segmentation of Stereo Image Sequence220
Patrik Kamencay, Peter Lukac

Summary.....225