PAPERS

Algorithms
Multiple Operand Addition and Multiplication ........................................ S. Singh and R. Waxman 113
Arithmetic Algorithms in a Negative Base ........................................ P. V. Sankar, S. Chakrabarti, and E. V. Krishnamurthy 120
Deterministic Division Algorithm in a Negative Base ...................... P. V. Sankar, S. Chakrabarti, and E. V. Krishnamurthy 125

Applications
A Video Display System for Image Processing by Computer ........................ N. H. Kreitzer and W. J. Fitzgerald 128

Arithmetic Systems
General Division in the Symmetric Residue Number System ............... E. Kinoshita, H. Kosako, and Y. Kojima 134

Computer Systems
A Balanced Pipelining Approach to Multiprocessing on an Instruction Stream Level. J. M. Kurtzberg and R. D. Villani 143
Micromultiprocessing: An Approach to Multiprocessing at the Level of Very Small Tasks ................. J. L. Rosenfeld and R. D. Villani 149

Current Technology
An Expandable Ferroelectric Random Access Memory .......................... A. B. Kaufman 154

Fault-Tolerant Machines
Algorithms for Designing Fault-Detection Experiments for Sequential Machines ................ D. E. Farmer 159
Dissent in a Majority Voting System ........................................ S. L. Hight and P. D. Petersen 168

Iterative Arrays
An Augmented Iterative Array for High-Speed Binary Division ............... M. Cappa and V. C. Hamacher 172

Number Systems
Distance-2 Cyclic Chaining of Constant-Weight Codes .......................... D. T. Tang and C. N. Liu 176

Sequential Machines
Tan-Like State Assignments for Synchronous Sequential Machines ............... H. A. Curtis 181
On a New Approach for Finding All the Modified Cut-Sets in an Incompatibility Graph ................ S. R. Das 187
Modularity in Design: Shift Registers and Counters Used as System Building Blocks .................. K. H. O'Keefe 194

Threshold Logic
Multifunction Threshold Gates .................................................. D. Hampel 197
Partition of Boolean Functions for Realization with Multithreshold Threshold Logic Elements ................. S. Ghosh and A. K. Choudhury 204

(Contents continued on back cover)
(Contents continued from front cover)

<table>
<thead>
<tr>
<th>CORRESPONDENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fast State Minimization of Incompletely Specified Sequential Machines</td>
</tr>
<tr>
<td>Comments on “Minimization of Fuzzy Functions”</td>
</tr>
<tr>
<td>Comments on “Next-State Equations of Asynchronous Sequential Machines”</td>
</tr>
<tr>
<td>A Combinatorial Algorithm for Solving Covering Problems</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BOOK REVIEWS</th>
</tr>
</thead>
<tbody>
<tr>
<td>B73-3 Dynamic Programming and Partial Differential Equations—E. Angel and R. Bellman</td>
</tr>
<tr>
<td>B73-4 High Level Languages—International Computer State of the Art Report—C. Boon</td>
</tr>
</tbody>
</table>