

Title (en)  
METHOD AND PROCESSOR FOR HIGH-SPEED CONVERGENCE FACTOR DETERMINATION

Publication  
**EP 0461230 A4 19930818 (EN)**

Application  
**EP 91901464 A 19901203**

Priority  
US 45891589 A 19891229

Abstract (en)  
[origin: WO9110188A1] A high-speed processor utilizes combinational logic and range limitation for a modified input value to increase efficiency in convergence factor determination for convergent division and square root computation. An input value (101) is modified to a value in a limited range (104), which is then partitioned into two subdivisions (106, 108). By utilizing these two groupings, the processing platform minimizes time consumption in conversion factor determination by inverting selected binary bits to form a modified factor (114) and utilizes that modified factor to facilitate high-speed convergence factor computation.

IPC 1-7  
**G06F 7/38**

IPC 8 full level  
**G06F 7/537** (2006.01); **G06F 7/38** (2006.01); **G06F 7/483** (2006.01); **G06F 7/52** (2006.01); **G06F 7/535** (2006.01); **G06F 7/552** (2006.01)

CPC (source: EP KR)  
**G06F 7/38** (2013.01 - KR); **G06F 7/535** (2013.01 - EP); **G06F 7/5525** (2013.01 - EP); **G06F 7/4873** (2013.01 - EP);  
**G06F 2207/5355** (2013.01 - EP)

Citation (search report)  
• [L] US 5157624 A 19921020 - HESSON JAMES H [US]  
• [X] PROCEEDINGS OF THE 9TH SYMPOSIUM ON COMPUTER ARITHMETIC, 6-8 SEPT. 1989, SANTA MONICA, CA, USA. 1989, IEEE, WASHINGTON D.C., USA pages 60 - 67 D. FOWLER ET AL. 'An Accurate, High Speed Implementation of Division by Reciprocal Approximation'  
• [A] IEEE MICRO vol. 9, no. 3, 1989, NEW YORK US pages 26 - 44 S. KAWASAKI ET AL. 'A Floating-Point VLSI Chip for the TRON Architecture: An Architecture for Reliable Numerical Programming'  
• [A] WEITEK APPLICATION NOTE 'WTL 1032/1033 Floating Point Division/Square Root/ IEEE Arithmetic' 1983 , WEITEK CORPORATION , SANTA CLARA, CA, USA  
• See references of WO 9110188A1

Designated contracting state (EPC)  
AT BE CH DE DK ES FR GB GR IT LI LU NL SE

DOCDB simple family (publication)  
**WO 9110188 A1 19910711**; CA 2050353 A1 19910630; CA 2050353 C 19940830; EP 0461230 A1 19911218; EP 0461230 A4 19930818; JP H04505978 A 19921015; KR 920701901 A 19920812; KR 940008610 B1 19940924

DOCDB simple family (application)  
**US 9007034 W 19901203**; CA 2050353 A 19901203; EP 91901464 A 19901203; JP 50194690 A 19901203; KR 910701002 A 19910827