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Nadeau-Dostie et al.

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(54) **METHOD FOR SCAN TESTING OF DIGITAL CIRCUIT, DIGITAL CIRCUIT FOR USE THEREWITH AND PROGRAM PRODUCT FOR INCORPORATING TEST METHODOLOGY INTO CIRCUIT DESCRIPTION**

(76) Inventors: **Benoit Nadeau-Dostie**, Aylmer (CA);  
**Jean-Francois Cote**, Chelsea (CA)

Correspondence Address:  
**Eugene E. Proulx**  
Manager, Intellectual Property,  
LogicVision (Canada), Inc.  
1525 Carling Avenue, Suite 404  
Ottawa, ON K1Z 8R9 (CA)

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(57) **ABSTRACT**

A method for at-speed scan testing of circuits having scan-able memory elements which source multi-cycle paths having propagation delays that are longer than the period of a system clock used during normal operation comprises loading a test stimulus into the scannable memory elements; performing a capture operation, including configuring in capture mode throughout the capture operation, non-source memory elements and multi-cycle path source memory elements which have a predetermined maximum capture clock rate which is the same as or higher than the clock rate of the capture clock; and configuring in a hold mode during all but the last cycle of the capture operation and in capture mode for the last cycle, source memory elements which have a predetermined maximum capture clock rate which is lower than the clock rate of the capture clock; applying at least two clock cycles of the capture clock; and unloading test response data captured by said scannable memory elements.

