

“A 500MHz 50mW Viterbi Detector for DVD Systems
using Simplified ACS and New Path Memory Architecture”

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A novel Viterbi detector has been developed for DVD Partial Response Maximum Likelihood (PRML) read channel systems. The Viterbi detector employs new calculation procedure of Add-Compare-Select (ACS) and new path memory architecture. A prototype chip has been fabricated in 0.18 μ m 1P3AL CMOS technology, and the Viterbi detector demonstrates a half active area (0.156mm²) and power consumption (50mW at 500MHz) compared with conventional one.