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Baruch Solel* (mabaruch@techunix.technion.ac.il), Department of Mathematics, Technion, Israel Institute of Technology, 23000 Haifa, Israel. *Representations of Product Systems over Semigroups and Dilations of Commuting CP maps.*

We study completely contractive representations of product systems of C^* -correspondences over semigroups. For a product system of C^* -correspondences over the semigroup \mathbb{N}^2 , we prove that every such representation can be dilated to an isometric (or Toeplitz) representation. We use it to prove that every pair of commuting CP maps on a von Neumann algebra M can be dilated to a commuting pair of endomorphisms (on a larger von Neumann algebra). (Received August 07, 2005)