1003-34-1068 **Jeffrey J. DaCunha*** (`Jeffrey.Dacunha@usma.edu`), Department of Mathematical Sciences, United States Military Academy, 646 Swift Road, West Point, NY 10996, and **John M. Davis** (`John_M_Davis@baylor.edu`), Department of Mathematics, Baylor University, PO Box 97328, Waco, TX 76798. *Floquet Theory II.*

We study periodic linear systems on periodic time scales which include not only discrete and continuous dynamical systems but also systems with a mixture of discrete and continuous parts (e.g. hybrid dynamical systems). We develop a comprehensive Floquet theory including Lyapunov transformations and their various stability preserving properties, a unified Floquet theorem which establishes a canonical Floquet decomposition on time scales in terms of the generalized exponential function, and use these results to study homogenous as well as nonhomogeneous periodic problems. Furthermore, we explore the connection between Floquet multipliers and Floquet exponents via monodromy operators in this general setting and establish a spectral mapping theorem on time scales. We conclude with several nontrivial examples to show the utility of this theory. (Received October 03, 2004)