**Experience with the Control of the Vector Sum in the TESLA Test Facility**, A. GAMP, S. GOLOBORODKO, A. KHOLODNYI, M. LIEPE, T. PLAWSKI, K. REHLICH, T. SCHILCHER, S.N. SIMROCK, J. SONNENBERG, Y. TCHERNOOUSKO, DESY; M. HÜNING, RWTH AACHEN - In the rf system for the TESLA Test Facility each klystron will supply rf power to up to 32 cavities. The superconducting cavities are operated in pulsed mode and at high accelerating gradients. The control of significant Lorentz force detuning and precise calibration and measurement of the vector-sum are the main issues to be solved. Presently installed are 8 cavities in the first cryomodule of the linac which have been in operation since June 97. Initial commissioning has been conducted in a very short time due to the extensive diagnostics available in the digital rf control system. The paper describes commissioning of the rf system with emphasis on the calibration of the vector-sum, adaptive feed forward, and the various diagnostic tools available. RF control performance and plans for the control of 24 cavities are also presented.