A Beam Diagnostic System for Storage Rings, A.S. KALININ, D.N. SHATILOV, E.A. SIMONOV, V.V. SMALUK, BINP, Novosibirsk, Russia - The system described is based on a turn-by-turn signals, is controlled by computer, uses various data processing, and provides a wide range of beam diagnostic measurements. During commissioning a storage ring, the system can be used for closing the first turn. In circulating beam mode, injected beam parameters, betatron tune, closed orbit, and dispersion function are measured. Other applications are beta function and phase advance measurements, betatron motion observations on phase space diagram, measurement of low frequency beam vibrations. The system can be completely tested and calibrated by its own means. A calibration procedure, special features of the signal and data processing are described. Some results of applying such systems at VEPP-3, VEPP-4M, and SIBERIA2 storage rings are presented.