The paper proposed a noise-immunity human blood pressure measurement system.Noise immunityachieved by combining the two methods of measuring pressurein one system:oscillometric method with reference channel, whichbased on the detection of spatially separated pulse signalsand tachooscillographic method, whichbased on registration the oscillations in cuff. The resultof system's research shows sufficiently high accuracy of blood pressure measurement by the system compared with the ausculatory method, whichwas used as an etalon.