abstract The Wide-field X-ray Monitor (WXM) is one of the scientific instruments carried on the High Energy Transient Explorer 2 (HETE-2) satellite launched on 2000 October 9. HETE-2 is an international mission consisting of a small satellite dedicated to provide broad-band observations and accurate localizations of gamma-ray bursts (GRBs). A unique feature of this mission is its capability to determine and transmit GRB coordinates in almost real-time through the burst alert network. The WXM consists of three elements: four identical Xe-filled one-dimensional position-sensitive proportional counters, two sets of one-dimensional coded apertures, and the main electronics. The WXM counters are sensitive to X-rays between 2 keV and 25 keV within a field-of-view of about 1.5 sr, with a total detector area of about 350 cm$^2$. The in-flight triggering and localization capability can produce a real-time GRB location of several to 30 arcmin accuracy, with a limiting sensitivity of $10^{-7}$ erg cm$^{-2}$. In this report, the details of the mechanical structure, electronics, on-board software, ground and in-flight calibration, and in-flight performance of the WXM are discussed.