The Low-Level RF System for KEKB, K. AKAI, N. AKASAKA, K. EBIHARA, E. EZURA, M. SUETAKE, S. YOSHIMOTO, KEK - This paper describes an overview of the low-level RF system for KEKB, laying an emphasis on the measures taken against a heavy beam-loading. The low-level RF system for the ARES normal conducting cavities and superconducting cavities for KEKB has been designed, and is under construction. Some stations have already started operating for conditioning the cavities in the ring. To achieve a very high luminosity required for KEKB, the low-level RF system has been designed to control the cavities stably with high accuracy under the extremely heavy beam-loading. In addition, measures have been taken to avoid a beam loss when one station trips, and to switch on the tripped station without losing the circulating high-current beam.