

Rex 6000 PDA

Franklin Electronic Publishers introduced the Rex electronic organizer at the 1997 Comdex show. The Rex was a Type II-compatible, 3.4×2.1×0.13-in., 1.4-oz PCMCIA, or PC-Card. The company later introduced a version with 512 kbytes of memory. Xircom bought the Rex line in 1999 for \$13.25 million. Intel acquired the Rex as part of its acquisition of Xircom, which was completed in March 2001. A month earlier, Xircom had introduced the Rex 6000, which Citizen Watch Company of Japan produced and marketed as the DataSlim-2. The organizer held phone numbers, a to-do list, an appointment calendar, a memo list, and several utilities, such as a calculator and some games. The Rex 6000 had 2 Mbytes of flash memory and 32 kbytes of RAM. It initially sold for \$150. Intel canceled the project shortly after its acquisition of Xircom.

Two 3V CR-2016 lithium batteries with 90-mAhr capacity power the PDA. The operating system shows a low-battery icon when power decreases to 2.86V and emits a warning at 2.82V.

The five hardware buttons connect through a six-circuit ribbon cable to a connector on the motherboard. The ribbon goes under the battery clip and snakes through a gap in front of the connector.

A piezoelectric actuator lies on top of the chips to provide alarm and beeping sounds. Plastic tape over the back of the case ensures that the actuator and the battery do not short out.

The 4.3-MHz Rex 6000 CPU is a Toshiba microprocessor that is compatible with the Zilog Z80. A separate 32.768-kHz watch crystal provides the real-time clock, two Fujitsu 29DL164BD-90 chips provide flash memory, and the fourth digital chip is an LCD controller.

A tab of metal forms a crude reset switch that users actuate through a small hole in the back of the case.

The PCMCIA form factor of the Rex 6000 allows you to synchronize it by sliding it into the PC-Card slot of a laptop computer. Alternative offerings are RS-232 and USB docks. The Rex does not use the PCMCIA bus to communicate; it uses the UART channel that is part of the PCMCIA standard. The USB cradle also emulates a serial UART.

Analog chips include an Epson SCI7661 charge-pump dc/dc converter to make a negative bias for the LCD. A Texas Instruments quad, 10-bit, 85k-sample/sec TLV1544 ADC senses the touchscreen. Other analog chips include several linear regulators.

The gray-scale, 240×120-pixel, 2.6-in.-diagonal LCD has no backlight. The display connects to a ribbon cable soldered to the motherboard. The row- and column-driver chips mount on the LCD glass.

The resistive touchscreen connects to the motherboard by a small, five-pin ribbon connector with only four used circuits. Icons on the bottom of the touchscreen provide seven soft buttons for the four primary PDA functions as well as a network download, a calculator, and a clock function.

