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FUNCTIONAL OVERVIEW OF THE AURION BADGE READER (PTV 60204007)

The PTV's function is to read dosimeters (MIFARE RFID tags) which contain radiation dose information. The readers read dosimeter data within 2 inches above the reader's surface.

The PTV consists of an Intel 80196 16-bit microcomputer board, a transceiver board with a Philips MIFARE module and an antenna board.

The PTV continuously drives the antenna at a carrier frequency of 13.56MHz. The antenna field powers the dosimeter badge. Once the badge has power, it sends out information by tuning and detuning its resonant circuit. When tuned, the badge loads the reader antenna which causes small amplitude perturbations of the reader field. The transceiver receives this signal using AM detection, applies gain, and filters the signal.

The transceiver board converts tag data to ASCII and transmits this data over its data bus to the microcomputer. The microcomputer in turn sends the data to a host PC over an RS-232 serial link.

PTV CONNECTIONS

9 V DC 500 mA Battery charger input
RS-232 serial port (RJ-45 connector)