

Staff device (SDV01) description of operation

Read with reference to system diagram “sd000system.pdf”.

The staff device is an information appliance used in a commercial environment by trained staff. The device is not used by, or sold to the general public.

The device includes a computer system based on a Compaq ipaq. The ipaq includes a 206MHz microprocessor, flash memory and a colour LCD display backlit by an electroluminescent source. Network services are provided by a 2.45 GHz Wireless LAN module. The module is interfaced directly to the ipaq via a PCMCIA slot system. The Wireless LAN module has FCC approval. The ipaq is connected through RS232 serial port to pcb SD001 (Charger and Logic). RS232 signals from the ipaq are converted to TTL signals which are used to communicate with the RFID module. The 13.5 MHz RFID module is used for detecting RFID tags. The SD001 pcb includes a charger circuit for charging two NiMH batteries (battery pack SD004) and provides a 5V DC power supply. A 4MHz PIC processor is used to manage state and drive indicator lamp logic.

In normal operation the staff person runs software on the device and accesses a web based information system using the 2.45 GHz module. At intervals an RFID tag is scanned by the RFID module and it's data read. This data is transmitted to the serial port of the ipaq. The data is used by software to navigate the web based information system. The RFID module is polled once per second while the software is running, when it is polled the RF electronics are energised to scan for a tag.

Normal read range for tags is 1-5 cm.