Analog Base Product Description

Base Hardware Description and Operation

Base station receives and transmits signals from / to PC using RS-232 full duplex communication protocol in a speed of 115200 bps. Level transletor connect the Micro-controller to the RS232 communication port. Micro controller's crystal frequency : 16.384 MHz.

The RF communication between the base and toy has two operation modes: the commands transmitted digitally encoded by Manchester code (the rate is 8 Kbps, FSK modulation, $\Delta f \sim 11$ Khz) and the audio signal is transmitted in analog FM modulation (signal BW: 300 Hz – 3.6 Khz ; $\Delta f \sim 9$ Khz).

Tranceiver is an integrated RF module manfactured by Samsung Corporation, Electronic Components Group, model RU0902B18HKB.

Wall mount adapter feeds the Base power in the range of 7.5 to 11.0 VDC. Voltage regulator at the base input stabilize this voltage to 5V.

System Test Start Up and Configuration

Base

After base is powered up, the bases micro controller makes the electronic circuit initialization. If communication with the PC was established successfully, base waits for the commands from the PC's software. When no data transmitted to the toy, base's RF unit switches the transmitter off.

Base has no sleep / power down mode.