

Laerdal VitalSim Control Unit

Operational description

VitalSim Control Unit is intended to control a patient simulator (training manikin) for health personnel.

- Sound:
The manikin is supplied with sound signals for 8 independent speakers
- Pulse:
The manikin may have up to 6 puls-units (linear motors). The pulse units are driven by pulse-width modulated signals supplied by the control unit. The Control unit also senses when pulse-units are palpated
- ECG:
Control unit supplies ECG-signals to the manikin (pulse-width modulated). Control unit senses defibrillation and pacing on the manikin.
- Blood Pressure:
Control unit measures the pressure in BP cuff, and supplies BP sound to the manikin based on the pressure.
- User control:
Laerdal Operating Device is the user control for the Control Unit

Power Source:

- 6 Alkaline batteries, C-cells or DC Input
- Input voltage range: 5,5V-13,6V

RF:

- The RF circuit is based on IC; Chipcon CC1000
- RF Frequency: 915,606-916,484MHz (5 channels)
- IF frequency: 150 kHz (typ)
- IF bandwidth: 175kHz (typ)
- XTAL oscillator 14,7456MHz (20ppm)
- Modulation: FSK

Antenna:

- Internal monopole (PCB track)
- PCB contains 6 layers including ground plane and power plane.

Interface:

- Manikin Connector. Connection to training manikin.
- PC/USB. Connection to PC for production and service usage (reprogramming)
- Serial Port. Connection to Laerdal Operating Device. Alternative to RF interface.
- Line Input. For audio equipment (e.g. wireless MIC)
- BP Cuff. Cuff pressure inlet (not an electrical connection)