

System ECGMobile

Preliminary Datasheet

ECGMobile System is based on modern concepts in Electronics and Information Technology and is intended to be used in urgent tele-medicine. It is composed of the following elements:

- Personal device **ECG 401**
- Calibration device **ECG 1401**
- **ECGMobile center**
- **Central server**

Typical configuration of an ECGMobile system as shown on Fig.1:

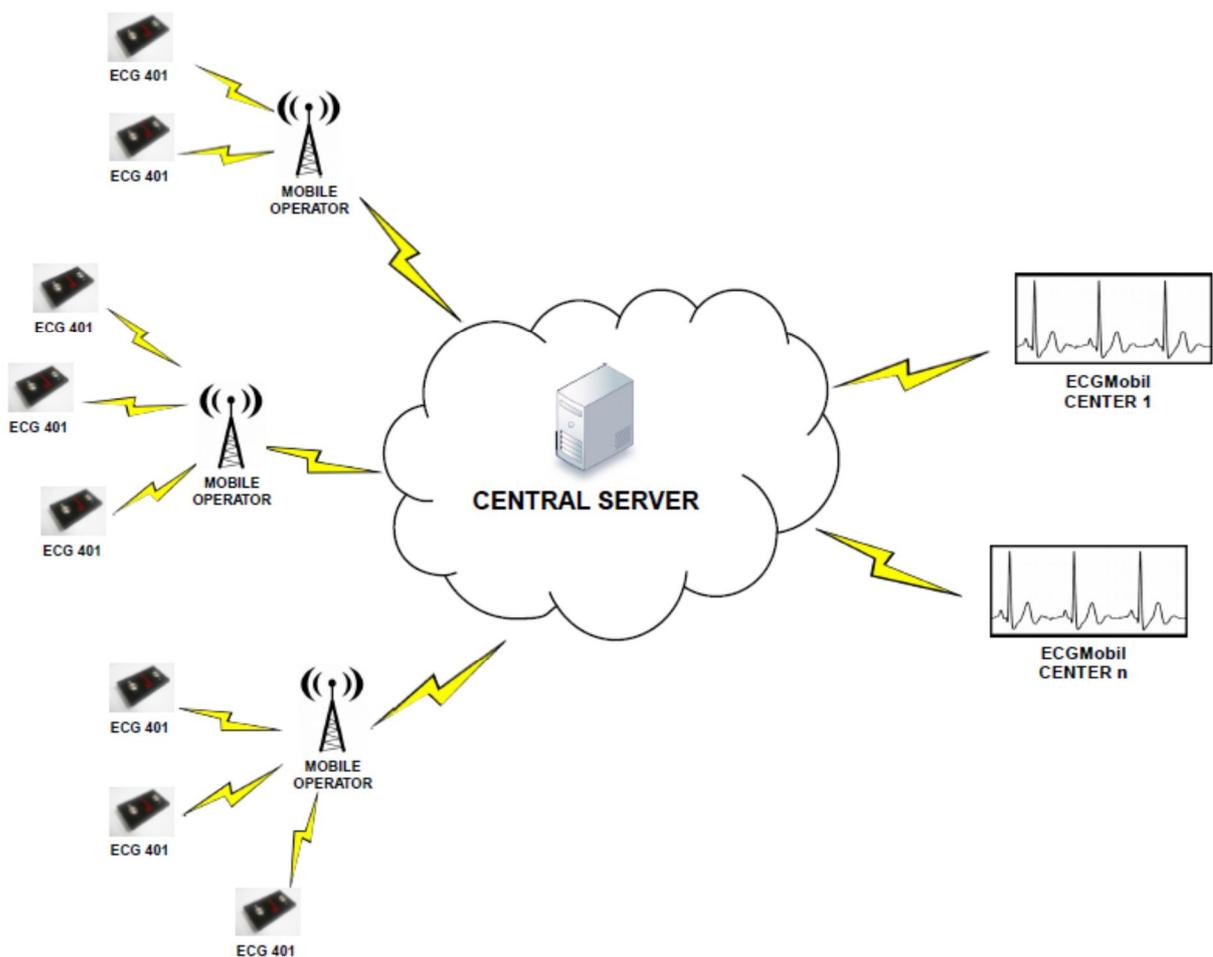


Fig.1 ECG Mobile system

Personal device **ECG 401** patient can always carry with himself/herself. In case of need device is used to record ECG signal. Recorded ECG is then automatically sent to the central server by mobile phone network, and it instantly became available to corresponding ECG Mobile center.

Calibration device **ECG 1401** is used in procedure of introducing patient to the urgent tele-medicine. This device records 15 (12 conventional and 3 special) ECG leads. Special ECG leads are provided by auxiliary

device **ECGaux** (Fig. 6). These recordings are used for calculating characteristic parameters of every individual user. Parameters obtained are later being used for analysis of signals recorded by Personal device.

Central server is a platform where all recorded ECG signals from Personal devices are stored.

At **ECGMobile center** patients are introduced to urgent tele-medicine, which implies:

- Creating of electronic patient record and taking patients medical history
- Recording ECG signal of the patient, using Calibration device
- Patients training for Personal device use
- Personal device assembly and handover of the device to patients.

At **ECGMobile center** there are cardiologist in charge (24/7) and they take ECG recordings from the server, analyse them, contact patients and make all other necessary steps.

Typical **ECGMobile** system consists of one **Central server** and one or more **ECGMobile centers**. Each **ECGMobile center** has its own group of patients, i.e group of Personal devices. Every **ECGMobile center** can access to ECG records from **Central server**, but only to records from Personal devices that are supervised by the specific **ECGMobile center**.

Personal **ECGMobile** device is packed in plastic box, Fig. 2 and Fig. 3, designed specifically for this purpose. On top side of the device there are leads for ECG recording of left hand finger (upper button) and right hand finger (lower button).



Fig.2. Top side of the Personal device



Fig.3. Bottom side of the Personal device



Fig 4. Front side of the Calibration device



Fig. 5 Back side of the Calibration device



Fig. 6 Auxiliary device **ECGaux**

BASIC TECHNICAL DATA - PERSONAL DEVICE

Battery charging	220V \pm 10% external AC/DC adapter
Battery capacity	Li-Ion 4.2V, 1100mAh
Battery charging current	max 450mA
Protection class	DIN 40050: IP 20
Electrical protection	Protection class I /unit has its own battery power supply
Dimensions	length 121mm, width 71mm, height 13mm.
Weight	142g
Working mode 1	Battery charging, when device is not functional
Working mode 2	Battery powered ECG recording
Number of ECG record and sent cycles,	100
Working environment temperature	+10°C do +35°C
Max working environmental humidity	95%
Storage temperature	-25°C do +55°C
Storage environmental humidity	10% do 95%

BASIC TECHNICAL DATA - CALIBRATION DEVICE

Battery charging	220V \pm 10% external AC/DC adapter
Battery capacity	Li-Ion 4.2V, 1100mAh
Battery charging current	max 450mA
Protection class	DIN 40050: IP 20
Electrical protection	Protection class I /unit has its own battery power supply
Dimensions	length 135mm, width 91mm, height 33mm.
Weight	175g
Working mode 1	Battery charging, device is not used for ECG recording
Working mode 2	Battery powered ECG recording
Working environment temperature	+10°C do +35°C
Max working environmental humidity	95%
Storage temperature	-25°C do +55°C
Storage environmental humidity	10% do 95%