



AL- MUSTAQBAL UNIVERSITY COLLEGE
DEPARTMENT OF BIOMEDICAL ENGINEERING

Bio-Electronics Design Lab

BME 515

Lecture 7

- Patient Monitor -

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Patient Monitor

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Patient Monitor

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Types of Patient Monitor



- Central Monitor.
- Bedside Monitor.



Types of Patient Monitor



Neonatal monitor



Adult monitor

Measurement Capabilities



- Heart/Pulse Rate.
- Electrocardiography (ECG).
- Oximetry.
- Non-invasive Blood Pressure (NIBP).
- Respiration Rate (RR).
- Temperature (TEMP).



- The patient monitor collect the data by using various methods for a different parameters such as ECG, NIBP, Temperature, SpO2, Heart rate, Respiration rate . . . etc)
- The input data are amplify, process and display as a waveform, and/ or a numerical value.
- Alarm limits can be adjusted to desired levels, for alert the medical staff of undesirable health conditions.

The Main Unit





1. Power switch: Press it for 3 seconds to start the monitor or turn off the monitor.
2. AC power indicator: When it is light it means that AC power supply is being used.
3. DC power indicator: When both AC and DC indicators are on, it means that AC power supply is applicable, and the battery is being recharged. If only DC indicator is on, it means that the battery is being used.



4. ECG lead.

5. Alarm silence.

6. Freeze: Press the key to freeze/unfreeze the waveforms.

7. NIBP: Press to start or stop NIBP measurement.

8. DISP: Click to shift the display modes or return to the Main Screen from other screens.



9. Navigation Knob: It is the major operating key of the system, which can be used to select functions or parameters.

10. Alarm indicator.

Indicator Color	Alarm Level
Red flashing	High priority alarm
Yellow flashing	Middle priority alarm
Yellow light	Low priority alarm
Green light	Normal

The Main Unit



Different ports are located in different positions of the monitor for operating convenience.

- SpO₂ Cable connector.
- NIBP Cable connector.
- TEMP Cable connector.
- ECG Cable connector.





- DC Power supply socket indication with rated voltage and current.
- Serial communication port which is used to network with central monitoring system.
- USB port used for data uploading.



The Main Unit

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