BMT202 MESLEKİ YABANCI DİL 2

13.HAFTA

GAMA MESLEK YÜKSEKOKULU

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Theory of Operation and System Architecture

General

This section contains a high level overview of the theory of operation of the major functional modules of the monitor.

Philips service providers perform Bench Repair at the assembly level.

For this purpose, they should review this high level information.

Anyone wishing to perform component level repairs should review the detailed information provided in the Concepts Guide.

Please be aware that Philips only stocks assembly level parts.

System Overview - A1

This section contains a system overview for the A1 monitor, including the overall block

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diagram, power supply, isolated front end, NiBP control, the SpO2 processing module, and

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microcontroller.

Block Diagram - A1

The monitor contains an isolated front-end section, powered by an isolated power supply,

and in which the signals from SpO2, temperature, and ECG sensors are processed (see Figure

1).

The plastic tubing provides sufficient isolation for signals from the cuff in NiBP monitoring.

A single A/D converter is used to digitize processed temperature, NiBP, and ECG inputs; the

SpO2 module produces digitized data.

A microcontroller, Intel 386, requests and receives instructions from a flash memory.

The processor has a 16-bit data bus, and uses 19 of the 24-bit address bus.

These, and eight control signals, are used to read and write to the DRAM, flash memory,

UART, and FPGA (programmable gate array).

Other interface connections are made through the I/O port signals, timer signals, and

interrupt signals.

The FPGA provides signals for control and data to the LCD.

Bias voltage and backlight power for the LCD are provided by the power supply section.

The FPGA processes front-panel button and A1 wheel operations.

Circuit details for these blocks are contained in the Concepts Guide.

Kaynakça:

Philips A1 and A3 Patient Monitors- Service Guide

Service Guide.

Philips Medical Systems

https://www.usa.philips.com/healthcare