

EXPOSITORY STATEMENT / CIRCUIT DESCRIPTION

BLOCK DIAGRAMS

Guardian transceiver Model 20603 used in a hospital to transmit ECG and blood oxygen level of a patient to the central nursing station. The receiver allows the central nursing station to download into transceiver EEPROM a patients' room number, name etc.

Please refer to Programmable Frequency Synthesizer Transmitter Block Diagram with the following brief description of each block :

- * ECG Amplifies ECG signal from leads connected to patient. Amplified signal from ECG leads is sent to CPU board where it is digitized and packetized for transmission by the transmitter.
- * SP02 SP02 board measures blood oxygen level of patient. The measured levels are sent to CPU board over a serial digital interface. The CPU board packetizes the data for transmission by the transmitter.
- * 9 RECEIVER The receiver is a single chip, direct conversion type receiver with a low noise preamplifier between receiver chip and the antenna. The receiver allows the central nursing station to download to transceiver EEPROM information such as patient name and room number.
- * 9V BATTERY Supplies power to DC to DC converter.
- * DC to DC DC to DC converter operates at Approximately 85 Khz switching rate. Converts 9V to 3.3v and 5.0v
- * CPU CPU board takes signals from ECG, SP02 and receiver circuits and packetizes the data to be transmitted by the transmitter.

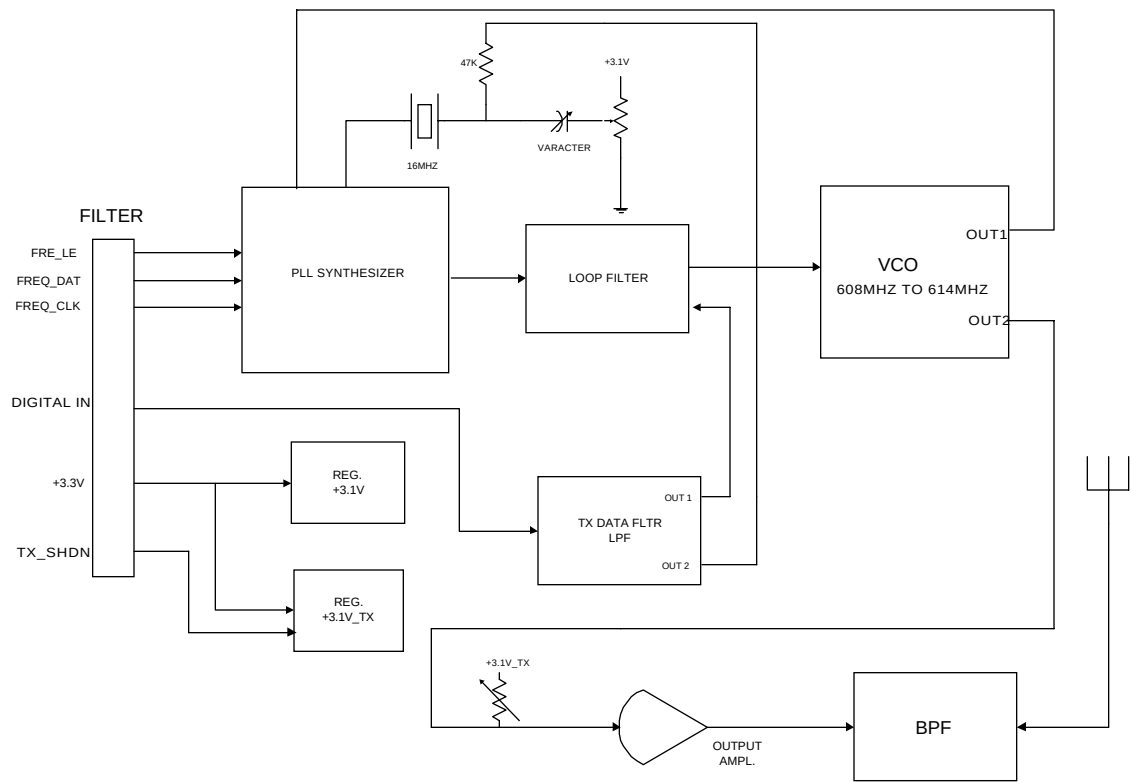
- * **PROGAMMABLE TRANSMITTER**

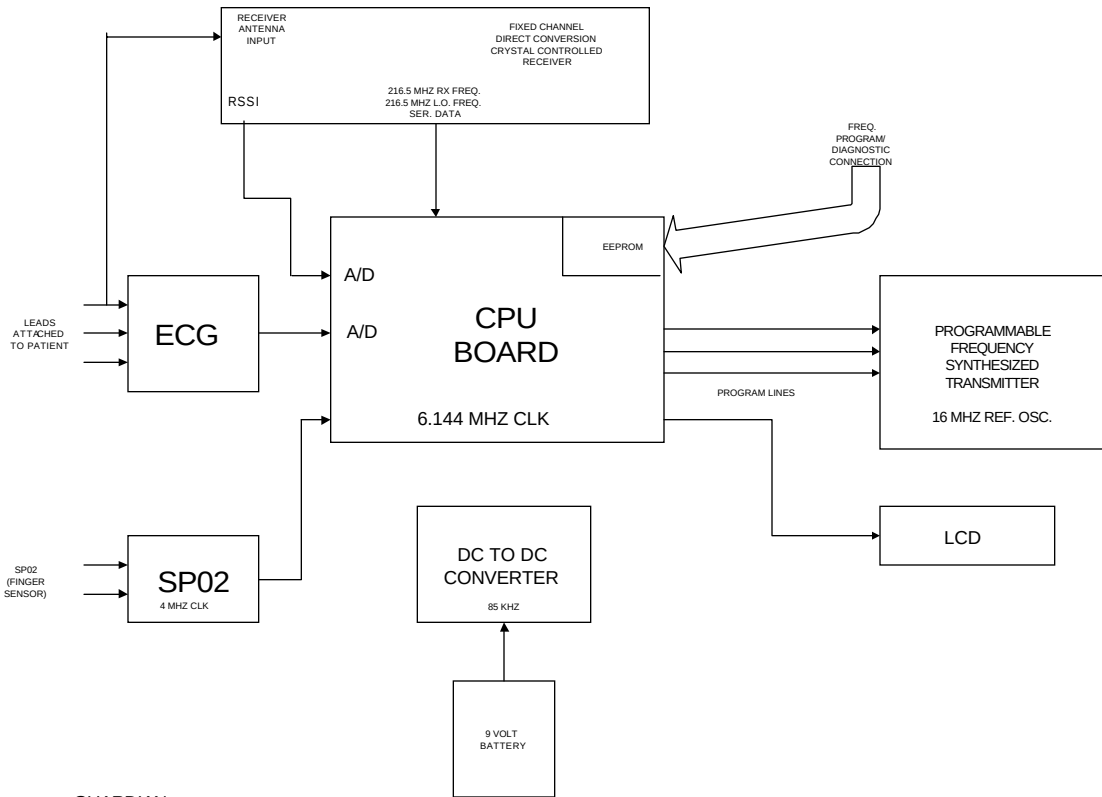
Transmitter can be programmed with a computer in 12.5 KHz steps from 608 Mhz to 614Mhz.
Transmitter is an FM transmitter with 5.5 KHz deviation at a maximum baud rate of 9600. Nominal power out is 5 mw. See schematic and transmitter block diagram for more detail of transmitter circuitry.
- * **VHF ANTENNA**

The 216.5 Mhz receiver uses one of the ECG leads for its antenna.
- * **UHF ANTENNA**

The 608Mhz to 614Mhz transmitter is capacitively coupled into ECG leads for its antenna.
- * **LCD**

Displays status and configuration data.





GUARDIAN
TRANSCIVER BLOCK
DIAGRAM