1. Base Board

Edge Sensors | Swing mirror | Laser | Y-axis Step motor | DC Motor | Eraser

2. Peripheral

−1250V | +15V | +15V_SM | +5V | +24V | +24V | +24V

High Voltage Generator

3. Core Board

USB Controller 480Mbps

DC-DC Converters +5V

FPGA
System Clock 83MHz

Memory Clock 83MHz

+15V −15V

3.3V 2.5V 1.2V

Linear Regulators 1.25V

DDR memory

Analog circuit +3.3V Regulator

50MHz

4. PMT

PMT

+24V

Power 100 ~ 240VAC

AC-DC Adaptor
Input : 100 ~ 240VAC, 47 ~ 63 Hz
Output : DC 24V, 150W

5. Power adapter

1. Block Diagram

(1) Base Board:

Base board is a controller of peripherals.   It controls peripherals upon command of core board.

(2) Peripheral:

This is peripherals for image acquisition. It consists of "Eraser" which erases residual images in imaging plate, "Step Motor and Photo Interrupters" which moves stage, "Laser, Swing Mirror and DC Motor" which are required to radiate laser onto imaging

plate, "Edge Switch and DC Motor" which assures proper insertion of the cassette, and "Indicator" which displays the status of the system.

(3) Base Board Image Data Controller (Core Board):

This parts controls peripherals for image acquisition.   And it delivers amplified digitized signal to PC via USB.

(4) Image Sensor (PMT):

This Photomultiplier Tube receives the signal through scanning of imaging plate, and it sends signal to analog readout circuit.

(5) Power Adapter:

It supplies power to all modules of the system which are required for operation.