

2.2.3.2 SMPS & HVPS board

The SMPS supplies DC Power to the System.

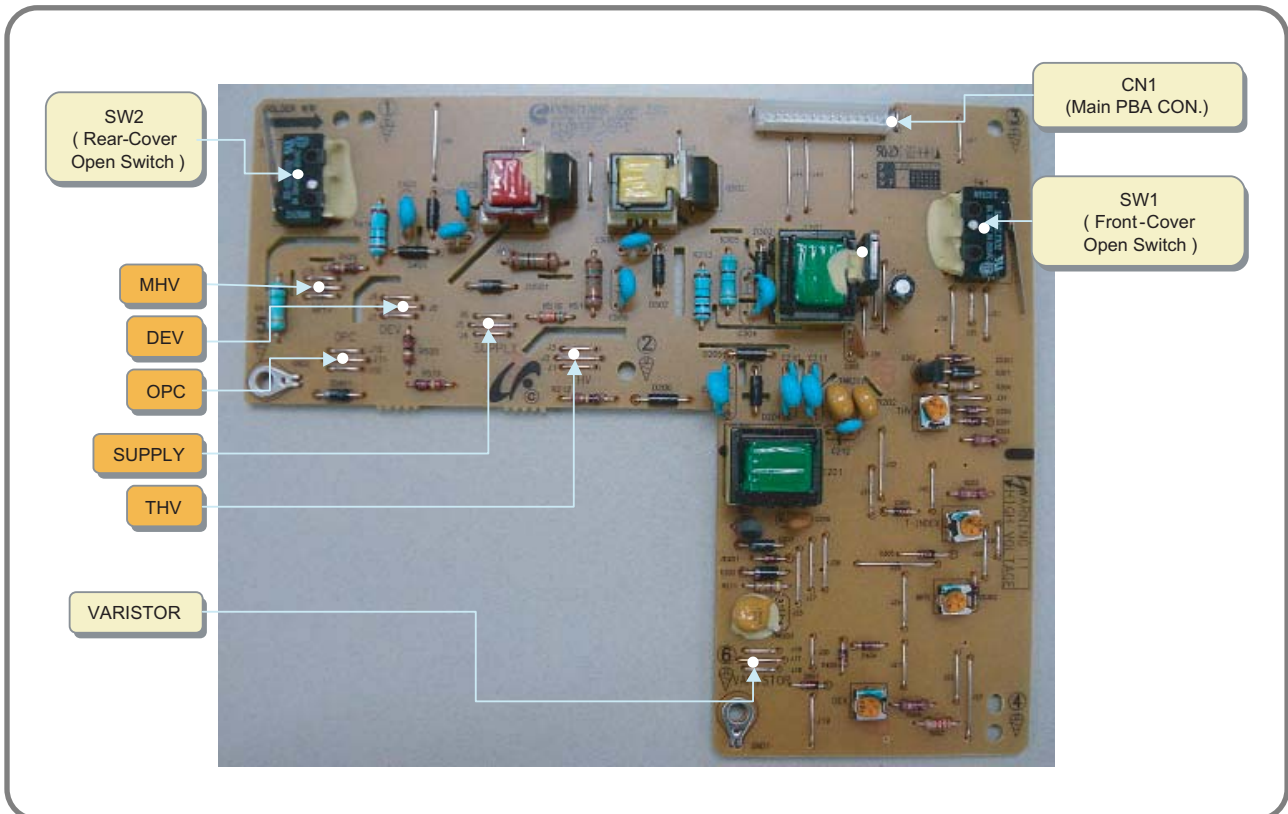
It takes 110V/220V and outputs the +5V, +24V to supply the power to the main board. The HVPS board creates the high voltage of THV/MHV/Supply/Dev and supplies it to the developer part for making best condition to display the image.

The HVPS part takes the 24V and outputs the high voltage for THV/MHV/BIAS, and the outputted high voltage is supplied to the toner, OPC cartridge, and transfer roller.

2.2.3.2(a) HVPS (High Voltage Power Supply)

- Transfer High Voltage (THV+)
 - Input Voltage : 24 V DC $\pm 15\%$
 - Output Voltage : MAX +5.0KV $\pm 5\%$, (Duty Variable, no loading)
 ->1.2KV $\pm 15\%$ (when cleaning, 200 M Ω)
 - Output Voltage Trigger : 6.5 μ A
 - Input contrast of the Voltage stability degree : under $\pm 5\%$ (fluctuating input 21.6V ~ 26.4V)
 Loading contrast : $\pm 5\%$ or less
 - Output Voltage Rising Time : 100 ms Max
 - Output Voltage Falling Time : 100 ms Max
 - Fluctuating transfer voltage with environmental various : +650 V (Duty 10%) ~ 5 KV (Duty 90%)
 - Environment Recognition Control Method : The THV-PWM ACTIVE is transfer active signal. It detects the resistance by recognizing the voltage value, F/B, while permits the environmental recognition voltage.
 - Output Voltage Control Method : Transfer Output Voltage is outputted and controlled by changing Duty of THVPWM Signal. 10% Duty : +650V, 90% Duty : +5KV $\pm 5\%$
- Charge Voltage (MHV)
 - Input Voltage : 24 V DC $\pm 15\%$
 - Output Voltage : -1.3KV ~ -1.8KV DC $\pm 50V$
 - Output Voltage Rising Time : 50 ms Max
 - Output Voltage Falling Time : 50 ms Max
 - Output Loading range : 30 M Ω ~ 1000 M Ω
 - Output Control Signal (MHV-PWM) : CPU is HV output when PWM is Low
- Cleaning Voltage (THV-)
 - The (+) Transfer Voltage is not outputted because the THV PWM is controlled with high.
 - The (-) Transfer Voltage is outputted because the THV-Enable Signal is controlled with low
 - The output fluctuation range is big because there is no Feedback control.
- Developing Voltage (DEV)
 - Input Voltage : 24 V DC $\pm 15\%$
 - Output Voltage : -200V ~ -600V DC $\pm 20 V$
 - Output Voltage Fluctuation range: PWM Control
 - Input contrast of the output stability degree : $\pm 5\%$ or less
 Loading contrast : $\pm 5\%$ or less
 - Output Voltage Rising Time : 50 ms Max
 - Output Voltage Falling Time : 50 ms Max
 - Output Loading range : 10M Ω ~ 1000 M Ω
 - Output Control Signal (BIAS-PWM) : the CPU output is HV output when PWM is low.

- Supply
 - Output Voltage : -400 V ~ -800V DC ± 50 V(ZENER using, DEV)
 - Input contrast of the output stability degree : under ± 5 %
 - Loading contrast : ± 5 % or less
 - Output Voltage Rising Time : 50 ms Max
 - Output Voltage Falling Time : 50 ms Max
 - Output Loading range : 10 M Ω ~ 1000 M Ω
 - Output Control Signal (BIAS-PWM) : the CPU is HV output when PWM is low.



2.2.3.2(b) SMPS (Switching Mode Power Supply)

It is the power source of entire system. It is assembled by an independent module, so it is possible to use for common use. It is mounted at the side of the set.

It is consisted of the SMPS part, which supplies the DC power for driving the system, and the AC heater control part, which supplies the power to fuser. SMPS has two output channels. Which are +5V and +24V.

- AC Input
 - Input Rated Voltage : AC 220V ~ 240V AC 110V ~ 127V
 - Input Voltage fluctuating range : AC 198V ~ 264V AC 99V ~ 135V
 - Rated Frequency : 50/60 Hz
 - Frequency Fluctuating range : 47 ~ 63 Hz
 - Input Current : Under 4.0Arms / 2.0Arms (But, the status when e-coil is off or rated voltage is inputted/outputted)