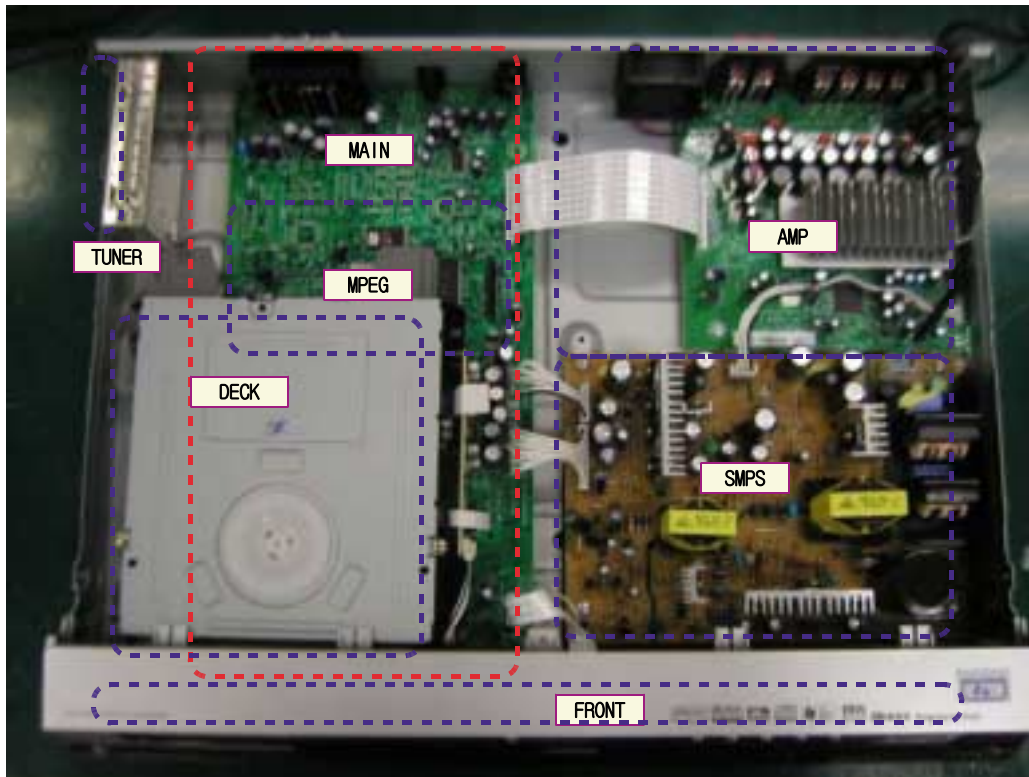


13. Circuit Board Description



Block	Major Functions	Remarks
SMPS	◇ <u>AC Rectifier and Switching Power Block</u> - The power supplied through the AC power cord is rectified and applied to the MAIN Switching Block and the Transformer after passing through the protection circuit (fuse, varistor, etc.) of SMPS. - To turn the power on in the Standby status when the POWER switch is turned on, this block receives "H" signal from the Micom and applies DC operation voltage to each terminal by controlling the second part regulator. ◇ <u>Connector Specifications</u> 1) CN6 ① $\pm 12V$: Supplies power for OP-AMP of H/P, GVDD of POWER AMP and the LED on the FRONT. ② 3.3V :Supplies power for PWM-IC(PS9818), ADC(WM8775), USB and MPEG. ③ 5.6V :Supplies drive power for MAIN Micom and VFD Driver IC in the Standby status and supplies power to turn the Standby LED on. ④ VP -32V : Supplies the negative drive power for VFD DRIVER IC (Approximate -31~34V) ⑤ VFD 4.3V: Supplies driver power for the filament of the VFD (Approximate +4.2~4.6V when the power is on) ⑥ P-SENSE: POWER-SENSE terminal to detect whether the AC power cord is connected to the power outlet. Only when the Micom detects that the SENSE terminal is "H", the user can turn the power on.(Approximate 4.5~5V) ⑦ P/ON : POWER-ON terminal. After the Micom recognizes P/SENSE, the Micom outputs "H" signal when the POWER switch is turned on so as to supply DC current to all output powers on the second part as well as VFD by controlling the Q2 and U5 of SMPS.	* 120V -Fuse(F1):6.3A -Varistor(VR1):10D221 * 240V -Fuse(F1):4A -Varistor(VR1):10D471

Block	Major Functions	Remarks
SMPS	2)CN4 ① A+5V : Supplies power for DVD-PACK SERVO ② D+5V : Supplies power for MPEG, USB and ADC ③ +8V : Supplies power for DVD MECHA MOTOR Control	
MAIN-PCB	◇ MAIN MICOM Block - 10MHz Oscillator - CLK : Shared by PS9818, WM8775 and TUNER - DATA : Shared by PS9818, WM8775, S5G5128A and TUNER ◇ VFD Drive Block - Micom supplies data to the VFD Driver to control VFD (Vacuum Fluorescent Display). ◇ JACK Block - Block to control various video functions - Input : AUX 1,2 / Digital IN / Video IN - Output : Composite / Component (Y/Pb/Pr) / S-Video ◇ MPEG Block - ES6698(MPEG IC) - Provides DPL2, DTS, DD, DVD-AUDIO and JPEG functions. ◇ USB Block - UB19021(USB IC) - Supports USB Host function for external memory, MP3, etc.	* For P10 Series Modulator => Use PS9808.

Block	Major Functions	Remarks
AMP-PCB	◇ AMP Drive Block - I ² S data from MPEG is input to the Modulator(PS9818) and modulated by channels through PWM. Then the data signal passes Digital AMP IC of FULL BRIDGE type and LPF and then is output as analog signal. - TAS5112 : Front L/R , Rear L/R , Sub Woofer Channel - TAS5111 : Center Channel ◇ PROTECTION Circuit - If an abnormal operation of an AMP IC is detected, this circuit outputs TI-SD(Shutdown) signal to the Micom port to turn the power off (ACTIVE LOW). - Protection Operations * Short Circuit: Detects short between the + and - of the SPK Output as well as between SPK Output and the Chassis. * OC(Over Current Protection): Detects over current due to abnormal over output. * OT(Over Temperature Protection): Detects if the temperature of IC Junction is higher than 155°C. * UV(Under Voltage Protection): Detects if the Power Stage Gvdd(Gate drive voltage) is lower than 7~8V (Normal: +12V) ◇ FAN Drive Block - LOW SPEED Operation: Operates the fan at low speed when the power is turned on. (FAN Drive Voltage: +6.5 ~ 7.5V) - HIGH SPEED Operation: Operates the fan in higher speed according to the output level of the POWER-AMP. (FAN Drive Voltage: +8.5 ~ 9.0V)	* For P10 Series AMP IC => Use TAS5112 only.
FRONT-PCB	◇ FRONT Operation Block This block is in charge of the operations of the front panel such as operations of remote control, buttons on the main body, LED control and headphone ON/OFF.	