

Operational Description of 907D

1. Power Supply Circuit

1) AC Inlet (EMI Filter)

The AC power is supplied to the Inlet Socket and EMI Filtering circuit consists of two X-caps, three Y-caps and Line filters.

This filter reduces the conductor noise through power line.

2) Bridge Rectifier Circuit

This circuit converts AC input voltage into DC voltage by rectifying through bridge diode (location D101, D102, D103, D104) and bulk capacitor (C005)

3) Output Voltage

The power supply circuit makes DC output voltages : 5V, 6.3V, -15V, 12V, 15V, 80V,190V

4) Power ON/OFF

When the voltages of the Microprocessor pin #20 and pin #21 become high levels, Q102 turns on and then DC voltage is supplied to the boards and the state becomes power-on.

2. Horizontal & Vertical Oscillation Circuit

The H/V Oscillation IC TDA4856 makes Horizontal drive pulse for Horizontal drive circuit and Vertical ramp pulse for Vertical driver TDA4863A.

The Horizontal drive pulse frequency range is from 30KHz to 95KHz.

The Horizontal drive pulse is applied to Horizontal drive transistor Q539.

When the vertical sync is supplied to IC TDA4856 pin #12 and #13, Vertical ramp pulse is made.

3. Microprocessor

The microprocessor applied to this monitor is made in Weltrend and the name is WT62P2. The following is the major function of the microprocessor.

- H/V sync processing, Power on/off, DPMS function.

- CS port output, Recall, Degaussing function.

- OSD, H/V OSC, Video preamp IC control.

The operational clock of the microprocessor is 12MHz and It has I2C Interface to control above ICs.

4. Horizontal drive and Output part

The output of Horizontal oscillator goes out of the pin #8 of IC TDA4856 and it is applied to the base of Horizontal drive transistor Q539. A large amount of drive current necessary for horizontal output transistor Q539 is made by T501 (Horizontal drive transformer). Q539 is switched by pulse voltage provided by T501 and when on-time pulse is charged on the base of Q539, Q539 turns on and has collector current flow which increases linearly through horizontal deflection coil. At the moment of off-time, pulse is charged on the base of Q507, collector current stops increasing and it turns off. All the above chain of actions becomes a cycle and it goes on and on. As for the high voltage of FBT, The output of IC601 KA7500B goes to the gate of high voltage drive transistor Q608 and then the high voltage of FBT is obtained from the same methods that the horizontal output voltage is.

5. Video Preamp and OSD processing

The analog R,G,B signal is supplied from signal source and passes through capacitors C801, C831, C861 and is applied to the pin#5, #6, #7 of the Video Preamp IC (LM1237). Preamp IC has built-in OSD function and controls OSD function by I2C bus with the microprocessor.

6. CRT Output Driver and Bias Circuit

This video output circuit consists of the 3-channel video outputamp IC and the Bias IC LM2480. Its bias voltage is about 80 volts and the output gain is obtained from the preamp output voltage level controlled by the microprocessor.