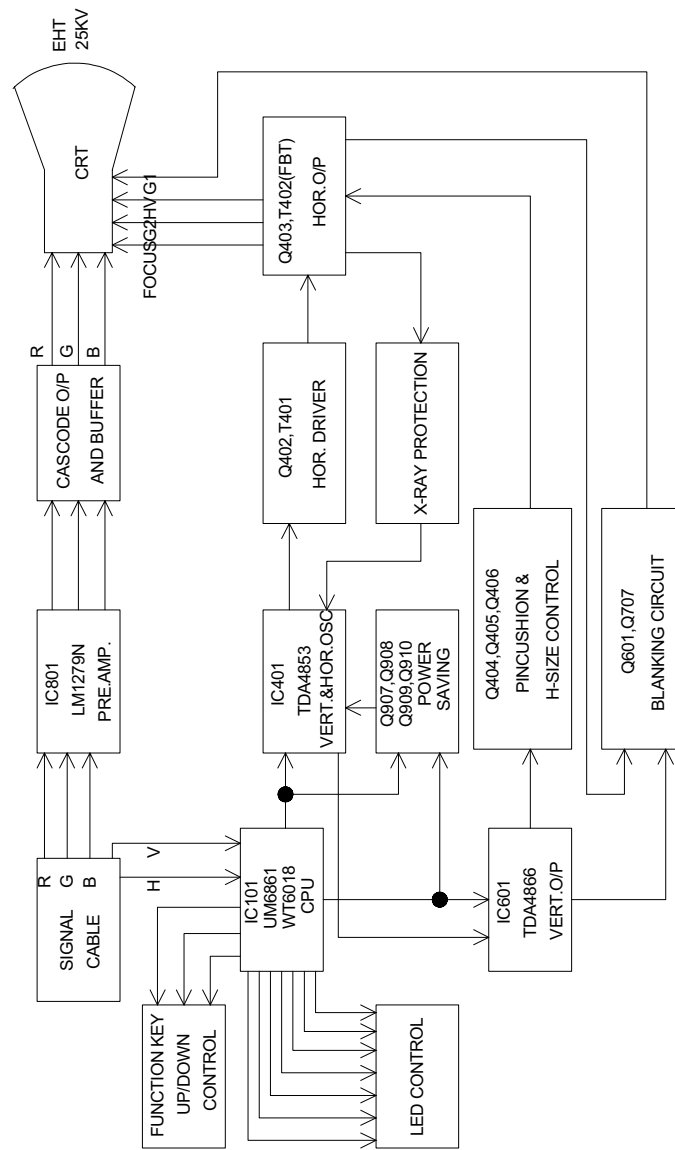
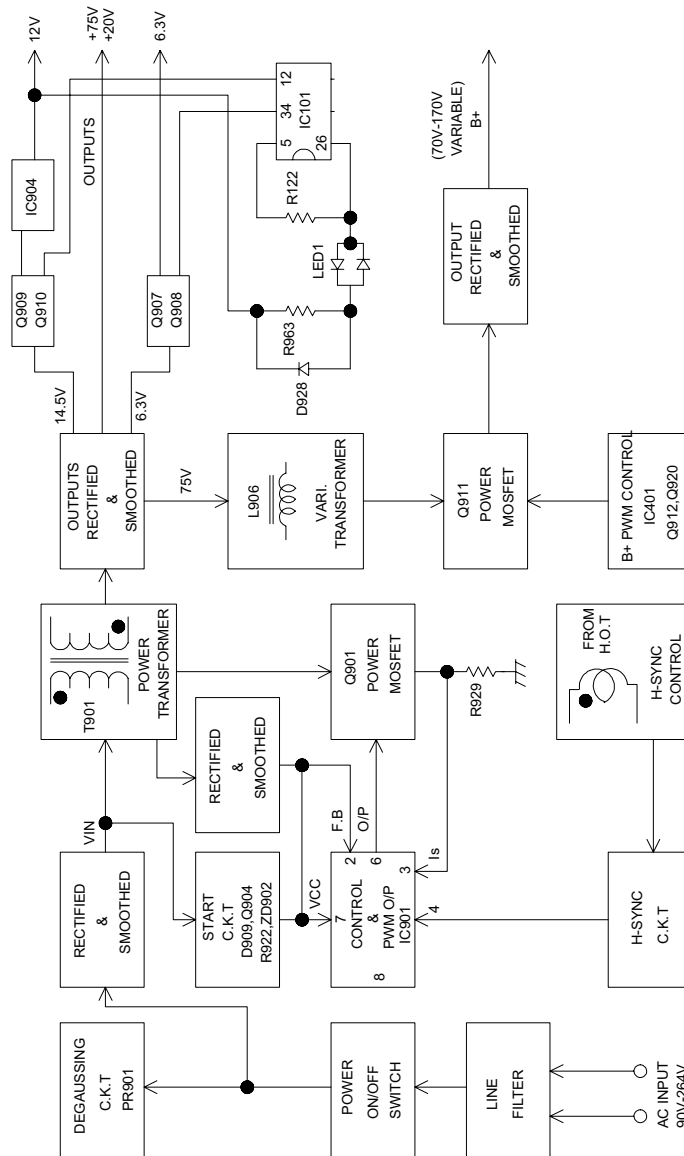


11. BLOCK DIAGRAM (DEFLECTION AND VIDEO)



11-1 BLOCK DIAGRAM (SMPS)



5. CIRCUIT DESCRIPTION

5-1 MICRO CIRCUIT

IC101 is CPU, This CPU has the following functions.

1. Detect timing mode by sensing the horizontal frequency, vertical frequency, the polarity of Hor. Sync and Ver. Sync.
2. Keyboard scan control.
3. Geometry control internal D/A converters and I²C bus control.
4. Cs capacitor switch control.
5. Power saving control.

When CPU detects timing, it takes data from E²PROM (IC102), then output voltage to control the geometry of this monitor.

If key is pressed, the CPU will do some job according to the key function. For example, if function key is pressed, it can change different value to control screen geometry (H-SIZE, V-SIZE...etc.)

5-2 DEFLECTION CIRCUIT

Hor. sync. and ver. sync. come from PC, go into the CPU (IC101). The output goes to the Hor. oscillation and Ver. oscillation processor (IC401). The IC401 treats sync. Signal and output the drive signal to horizontal and vertical output circuit. IC401 also generates some functions for geometry use, like, horizontal center, vertical size, by I²C bus control, the geometry can be controlled. IC601 is a vertical output IC to supply the vertical scan. Q404, Q405, Q406 and L405 are the horizontal size controls. Q403 is the horizontal deflection output, supply the horizontal scan of the monitor. Q707 and Q601 generate the Blanking signal output to G1 of CRT.

Q703 Q704 and Q705 are mute control, brightness control and G1 DC voltage output.

5-3 VIDEO CIRCUIT

IC801 is a video amplifier, clamping signal input from pin No. 11 to restore the DC voltage of video signal, the signal output from IC801 pass through cascode amplifier stage Q801, Q802, Q803, Q804, Q805, and Q806, then go to the cut off DC restore stage, The video output signal is about 40Vpp.

5-4 POWER SUPPLY

The design uses a discontinuous flyback topology operating in current-mode resulting in a multiple output switcher with stack well. Faster diodes are used. The fast transient response of the control loop maintains picture integrity. Very fast current limiting protects the switcher against short circuits.

UC3842AM (IC901) is the current mode controller selected. It offers feed forward compensation, feedback error amplifier, and low voltage lock out features. The 3842 draws very little current in start up mode. There is enough power from the line bleeder to slowly charge a capacitor to the 16 volts needed to start the switcher.

The FET starts a cycle by allowing current to flow into the primary of the power transformer. As current ramps up with time, the voltage across the current sense resistor (R929) also ramps to a point where the 3842 determines that enough power is stored and turns off the FET. As the voltage on the transformer reverses, power is dumped from the main power transformer through diodes into the different supplies. To keep RFI to a minimum and reduce transistor heating, a turn-off snubber network is placed across the FET. Current from the secondary windings are rectified and filtered to create the desired voltages. Small high current capacitors quickly return charging current to the source. Filter inductors remove high frequency noise.