DESCRIPTION OF BLOCK DIAGRAM

1. SMPS(Switching Mode Power Supply)

When you turn on the power switch, the operating procedure is as follows:

1) The AC line voltage is rectified by the bridge diodes D900 and D907

2) The control IC(IC901) starts switching and generates switching pulses in the primary turns of the SMPS transformer (T901)

3) The switching pulses of the primary turns are induced the secondary turns of the transformer by the turn ratio. These pulses are rectified by each diode (D901,D920, D922, D923, D924 ,D926 and D937)

4) Each rectified DC voltage(sound) (15V, 80V, 165V, 15V, 6.3V and –12V) is supplied to the main circuit.

2. Over Voltage Protection Circuit

When the input voltage of IC901 V_{in}(pin 4) is more than 22.5V(typical), all the secondary voltages of the SMPS transformer (T901) down to low value.

3. Display Power Management Circuit

1) Stand-by and Suspend mode.

When no input of horizontal **or** vertical sync, Q923 and Q930, are turned on and Q920 , Q926 are turned off .Then input power consumption is below 15 watts

2) OFF mode

When no input of horizontal **and** vertical sync, Q923, Q926, Q930 are turned off and Q920 is turned on. Then input power consumption is below 5 watts

4. X-ray Protection Circuit

If the high voltage of the FBT reaches up to 29KV IN an abnormal case, Q807 operates and IC401 pin 40 came to low level, Then IC401 control IC701 to stop Horizontal drive pulse and stop Horizontal Deflection.

5. Microprocessor Control Circuit.

The operating procedure is as follows :

1) Horizontal and Vertical sync signals are supplied to the microprocessor (IC401).

2) Microprocessor(IC401) discriminates the operating mode from the sync polarity and resolution.

3) After microprocessor reads these adjusted mode data stored at EEPROM, it controls operating mode data through IIC

4) Users can control screen condition by the OSD, SET, UP, DOWN, RIGHT , LEFT ,and Audio and Audio Mute buttons.

6. D/D Convert Circuit.

To obtain constant high voltage, this circuit supplies controlled DC voltage for FBT and horizontal deflection circuit according to the horizontal sync frequency.

7. Horizontal and Vertical Sync Processor Circuit.

The horizontal and vertical sync processor IC (IC701) has a sync detector, a saw-tooth generator, and drive function. So output horizontal and vertical drive signal control screen distortions.

8. Horizontal linearity Circuit.

This circuit corrects the horizontal linearity for each horizontal sync frequency.

9. Horizontal drive and Output Circuit.

This circuit is a horizontal deflection amplifier for raster scan.

10. ABL Circuit.

This circuit limits the beam-current for the reliability of the CDT.

11. Vertical Output Circuit.

This circuit takes the vertical ramp wave from the TDA4856(IC701) and performs the vertical deflection by supplying the saw-tooth wave current to the vertical deflection yoke.

12. Blanking and Brightness Control Circuit.

Blanking circuit eliminates the retrace line by supplying a negative pulse wave to the G1 of the CDT.

Brightness control circuit is used for control of the screen brightness by changing the DC level of the G1.

13. Video Processor Circuit.

Video processor circuit consists of the video drive output block. The video drive IC(IC302) receives the video signal from PC. The gain of each channel is controlled by the voltage of

contrast pin. The cut-off circuit compensate different voltage of each channel between the cathode and the G1 of the CDT.

14. OSD (On-Screen-Display) Circuit.

This circuit displays on the screen information of the monitor's status.

15, Dynamic Focus Output Circuit.

This circuit takes the horizontal and the vertical parabola waves from the TDA4856(IC701) and amplifies it to maintain constant focus on center and comers in the screen.

16. Audio circuit

MIC circuit sends the microphone sound to PC.

The sound circuit get to the audio gain with the pre-amp(IC1) and the main amp(IC2).

17. Image Rotation (Tilt) Circuit.

This circuit corrects the tilt of the screen by supplying the image rotation signal to the tilt coil which is attached near the deflection yoke of the CRT

18. Earth Margnetic Correction(Purity) Circuit

This circuit corrects the convergence of screen by suppling the convergence signal to the coil which is attached to the CRT near the deflection

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