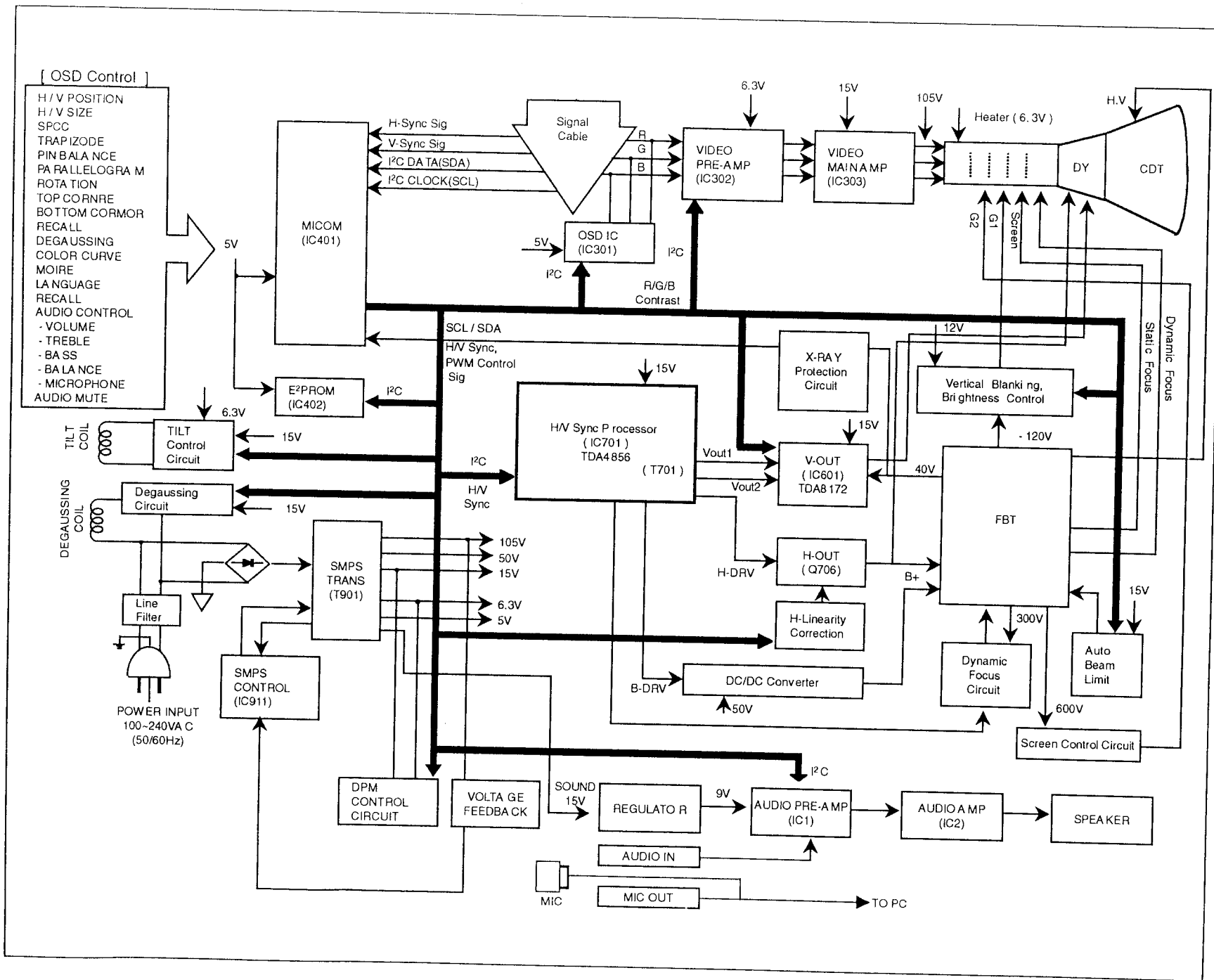


ATTACHMENT F – BLOCK DIAGRAM(S)



BLOCK DIAGRAM

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.
- 2) The control IC(IC901) starts switching and generates switching pulses in the primary turn of the SMPS transformer (T901)
- 3) The switching pulses of the primary turns are induced to the secondary turns of the transformer by the turn ratio. This pulses are rectified by each diode(D971, D961, D951, D941, D931)
- 4) Each rectified DC voltage(105V, 50V, 15V, 5V and 6.3V) is supplied to the main circuit.
- 5) Diode(D931) is supplied to the audio circuit.

2. Over Voltage Protection Circuit

When the input voltage of IC911 Vin(pin 4) is more than 22V, 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, Q951, Q952 are turned off and Q941 and Q942 are turned on. Then input power consumption is below 15 watts.
- 2) OFF mode
When no input of horizontal and vertical sync, Q951, Q952, Q941, Q942 are turned off. Then input power consumption is below 8 watts.

4. X-ray Protection Circuit

When the high voltage reaches to 29kV in an abnormal case, the high voltage detector circuit, R816, R818, ZD801, C805, and Q807 start operation to shut down high voltage circuit.

5. Microprocessor Control Circuit.

The operating procedure is as follows

- 1) Horizontal and Vertical sync signal 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, Select, Right, Left, Audio, Audio Mute buttons, and Brightness, Contrast volume.

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. And outputs horizontal and vertical drive signal to control screen distortions.

8. Horizontal S-correction 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 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 G1.

13. Video Processor Circuit.

Video processor circuit consists of the video drive outputblock. The video drive IC(IC302) receives the video signal from PC. The gain of each channel is controlled by MICOM through IIC.

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 information of the monitor's status on the screen.

15. 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).

14. H & V Blanking and Brightness Control.

Blanking circuit eliminates retrace line by supplying negative pulse to the G1 of the CRT. And Brightness circuit is used for control of the screen brightness by changing DC level of the G1.

15. 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.

16. Video Pre-Amp Circuit.

This circuit amplifies the analog video signal from 0-0.7V to 0-4V. It is operated by taking the clamp, R, G, B drive and contrast signal from the Micom(IC401).

17. Video Output Amp Circuit.

This circuit amplifies the video signal which comes from the video pre-amp circuit and amplified it to applied the CRT cathode.