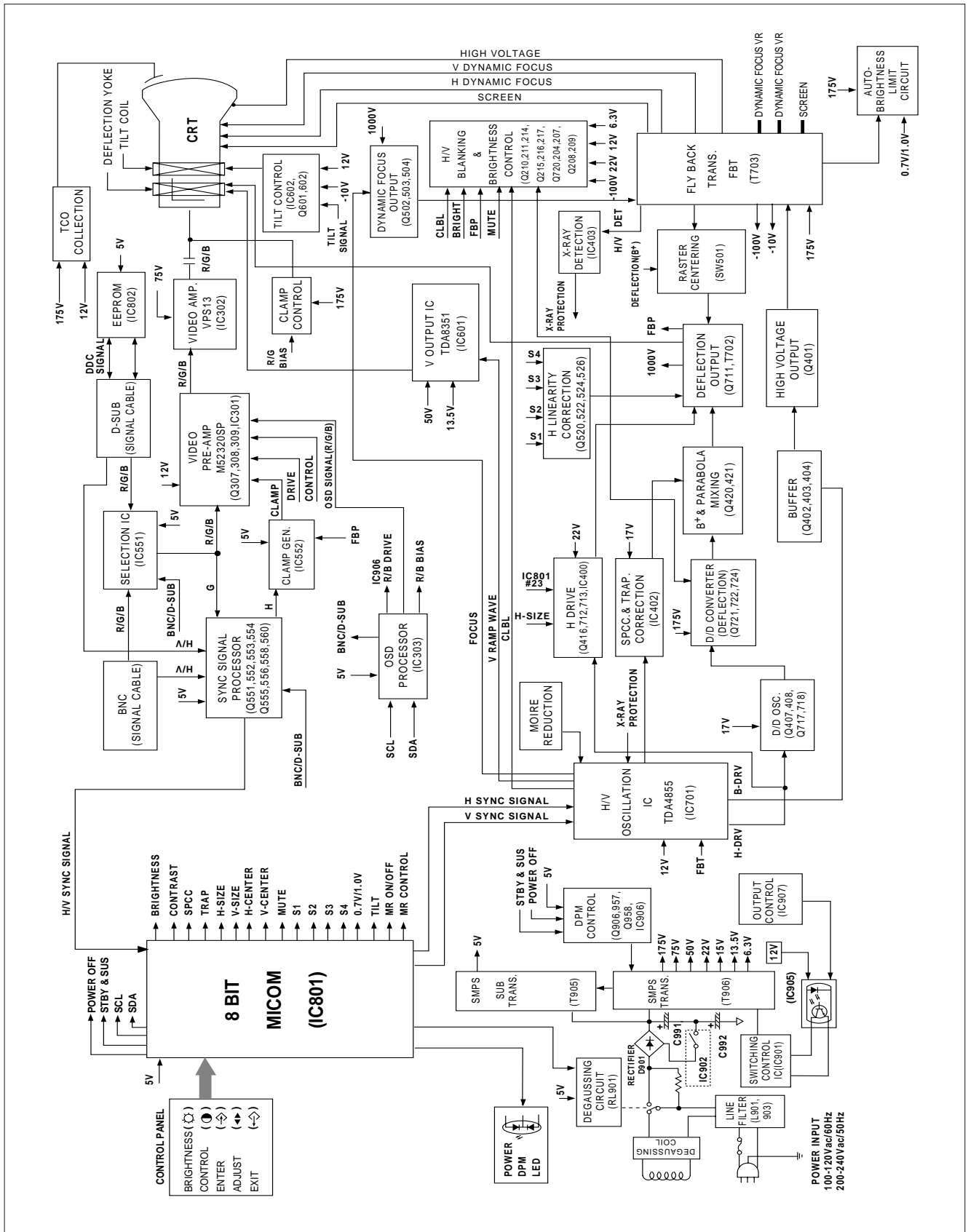


BLOCK DIAGRAM



DESCRIPTION OF BLOCK DIAGRAM


1. Line Filter & Associated Circuit.

This is used for suppressing noise of power input line flowing into the monitor and/or some noise generated in this monitor flowing out through the power input line. That is to say, this circuit prevents interference between the monitor and other electric appliances.

2. Degauss Circuit & Coil.

The degauss circuit consists of the degaussing coil, the PTC (Positive Temperature Coefficient) thermistor (TH902), and the relay (RL901).

This circuit eliminates abnormal color of the screen automatically by degaussing the shadow mask in the CRT when turn on the power switch.

When you need to degauss while using the monitor, select  (DEGAUSS) in the OPTION SELECT on the OSD menu.

3. SMPS (Switching Mode Power Supply).

This circuit works with power of 100-120VAC/200-240VAC (50/60Hz).

The operation procedure is as follows:

- 1) AC input voltage is rectified and smoothed by the bridge diode (D901) and the capacitor (C991, C992).
- 2) The rectified voltage (DC) is applied to the primary coil of the transformer (T906).
- 3) The control IC (IC901) and Q911 generates switching pulse to turn on and off the primary coil of the transformer (T906) repeatedly.
- 4) Depending on turn ratio of the transformer, the secondary voltages appear at the secondary coils of the transformer (T906).
- 5) These secondary voltages are rectified by each diode (D922~D926, D928~D930) and operate the other circuits. (H and V Deflection, video amplifier, ... etc.)

4. Display Power Management Circuit.

This circuit control power consumption of the monitor by detecting H and V sync signal. There are stand-by, suspend and off mode.

- 1) Stand-by and Suspend mode.
When no input of horizontal or vertical sync signal, Q906 and IC906 are turned off. Then input power consumption is below 15W.
- 2) OFF mode.
When no input of horizontal and vertical sync signal, Q906, IC906, and Q957 are turned off. Then input power consumption is below 5W.

5. Over Voltage Protection Circuit.

This circuit consists of opto-coupler (IC905), shunt regulator diode (IC907), and associated circuit.

If the secondary voltage exceeds the specified voltage, current of the IC905 is increased, then collector current of the IC905 is also increased and stop oscillation of the control IC (IC901). Consequently, the secondary voltage drops to zero volts.

6. X-ray Protection.

This circuit detects the DC voltage come from the FBT pin 12. If the high voltage of the FBT reaches up to 30kV (abnormal state), OP Amp (IC403) pin 7 come to high level (above 5.0V). It turns on the diode (D742) and charges high level at the X-ray protection pin of IC701 (TDA4855). Then, B DRV (pin 6) function of this IC is shut down, and high voltage not generated. (In normal state, high voltage is about 26kV.)

7. Micom (Microprocessor) Circuit.

The operating procedure of Micom (microprocessor) and its associated circuit is as follows:

- 1) Hand V sync signal are supplied from the sync processor block to the Micom (IC801).
- 2) The Micom (IC801) distinguishes polarity and frequency of H and V sync from the sync processor block.
- 3) The Micom controls operating mode and offers the controlled data. (H-size, H-position, V-size,...etc.)
- 4) The controlled data of each mode is stored in itself.
- 5) User can adjust screen condition by each OSD function. The data of the adjusted condition is stored in itself automatically.

8. Horizontal and Vertical Oscillation.

This circuit generates the horizontal pulse and the vertical pulse by taking the hold data from Selection IC (IC551).

This circuit consists of the TDA4855 (IC701) and associated circuit.

9. Oscillating Circuit for D/D Converter.

This circuit generates the saw-tooth wave which has the horizontal period by taking the output of the TDA4855 (IC701).

10. D/D (DC to DC) Converter.

This circuit supplies DC voltage to the horizontal deflection output circuit by decreasing DC 175V which is the secondary voltage of the SMPS in accordance with the input horizontal sync signal.

This circuit consists of Q724 and the associated circuit.

11. Side-Pincushion & Trapezoid Correction Circuit.

This circuit improves the side-pincushion and the trapezoid distortion of the screen by mixing parabola and saw-tooth wave to the output of the horizontal deflection D/D converter which is used for the supply voltage source (B^+) of the deflection circuit.

12. Horizontal Deflection Output Circuit.

This circuit makes the horizontal deflection by supplying the saw-tooth current to the horizontal deflection yoke.

13. High Voltage Output & FBT (Flyback Transformer).

The high voltage output circuit is used for generating pulse to the primary coil of the FBT (Flyback Transformer :T703). A boosted voltage – about 26kV – appears at the secondary of the FBT and it is supplied to the anode of the CRT. There are other output voltages such as the dynamic focus and the screen voltage.

14. H-Linearity Correction Circuit.

This circuit corrects the horizontal linearity for each horizontal sync frequency by S1, S2, S3, and S4 signal from the Micom(IC801).

15. H-Raster Centering Circuit.

This circuit makes the back raster stay in the center of the screen by the selecting switch (SW501).

16. Vertical Output circuit.

This circuit takes the vertical ramp wave from the TDA4855 (IC701) and performs the vertical deflection by supplying the saw-tooth current to the vertical deflection yoke.

17. Dynamic Focus Output Circuit.

This circuit operates Q502, Q503, and Q504 by applying output voltage of the secondary circuit of T702 and H/V parabola wave from the TDA4855 (IC701). Therefore, this circuit enables to maintain constant focus on center and corners in the screen.

18. 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 the DC level of G1.

19. 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 to the CRT near the deflection yoke.

20. Moiré Reduction Circuit.

This circuit reduce interference between the periodical display pattern and the CRT's dot.

It adjusts vertical scanning lines of video signal, consists of IC803, Q432 and Q433.

21. OSD Circuit.

This circuit is used for performing the OSD (On Screen Display) function.

When a user select the OSD Select/Adjust button, the adjustment status displays on the screen.

22. Sync Signal Processing Circuit.

The IC551 can accommodate separate TTL, composite and SOG (Sync On Green) signal.

23. 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 drives, and contrast signals from the Micom (IC801).

24. Video Output Circuit.

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