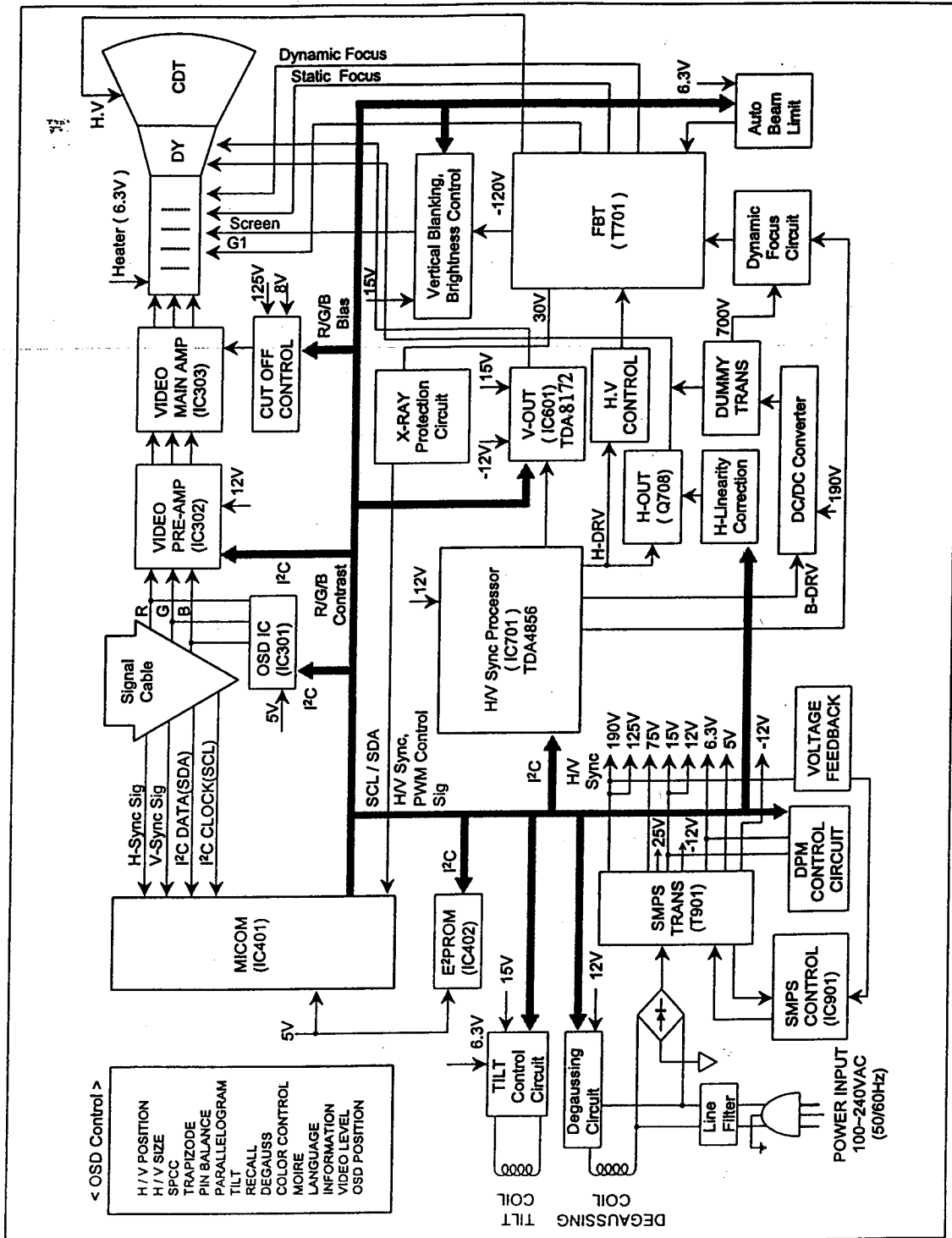


# BLOCK DIAGRAM



## 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 (TH901), and the relay (RL901). This circuit eliminates abnormal color of the screen automatically by degaussing the slot mask in the CDT when turn on the power switch.

When you need to degauss while using the monitor, select DEGAUSS on the OSD menu.

### 3. SMPS (Switching Mode Power Supply).

This circuit works with power of 110-240Vac (50/60Hz).

The operation procedure is as follows:

- 1) AC input voltage is rectified and smoothed by the bridge diode (D901) and the capacitor (C907).
- 2) The rectified voltage (DC voltage) is applied to the primary coil of the transformer (T901).
- 3) The control IC (IC901) generates switching pulse to turn on and off the primary coil of the transformer (T901) repeatedly.
- 4) Depending on the turn ratio of the transformer, the secondary voltages appear at the secondary coil of the transformer (T901).
- 5) These secondary voltages are rectified by each diode (D906, D907, D908, D909, D910, D911, D912, D913) and operate the other circuits. (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 and suspend mode. When no horizontal or vertical sync signal input, the circuit consists of Q930 and Q907 becomes stand-by and suspend mode. It's power consumption is below 8W. When no horizontal and vertical sync signal input, it's power consumption is below 3W.

### 5. X-ray Protection.

This circuit detects the rectified DC voltage comes from the FBT pin 4. If the high voltage of the FBT reaches up to about 30kV (abnormal state), Micom(IC401) detects. It stops B<sup>+</sup> voltage supplied to the FBT (T701), and high voltage is not be generated, (In the normal state, the high voltage is about 26kV.)

### 6. Micom(Microprocessor) Circuit.

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

- 1) H and V sync signal is supplied from Signal Cable to the Micom (IC401).
- 2) The Micom (IC401) distinguishes polarity and frequency of HandV sync.
- 3) The Micom controls each OSD function signals. (H-size, H-position, V-size, etc.)
- 4) The controlled data of each mode is stored in IC402. User can adjust screen condition by each OSD function. The data of the adjust screen condition is stored automatically.

### 7. Horizontal and Vertical Synchronous Processor.

This circuit generates the horizontal drive pulse and the vertical drive pulse by taking sync-signal from Signal Cable. This circuit consists of the TDA4856(IC701) and the associated circuit.

### 8. Oscillating Circuit for D/D Converter.

This circuit generates the pulse wave which has the horizontal period by taking the output of the TDA4856 (IC701).

### 9. D/D (DC to DC) Converter.

This circuit supplies DC voltage to the horizontal deflection output circuit by decreasing DC 190V which is the secondary voltage of the SMPS in accordance with the input horizontal sync signal.

### 10. Side-Pincushion Correcting Circuit.

This circuit improves the Side-pincushion of the screen by mixing east-west wave to the output of the horizontal deflection D/D converter which is used for the supply voltage source (B<sup>+</sup>) of the deflection circuit.

**11. D/D Drive & Convert Circuit.**

This circuit is used for supplying  $B^+$  voltage to horizontal deflection output transistor (Q709). This circuit makes to add side-pincushion correcting signal to  $B^+$  voltage.

**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 wave to the primary coil of the FBT (Flyback Transformer (T701)). A boosted voltage (about 26kV) appears at the secondary of the FBT and it is supplied to the anode of the CDT.

And there are another output voltages such as the dynamic focus voltage.

**14. H-Linearity Correction Circuit.**

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

**15. Vertical Output Circuit.**

This circuit takes the vertical wave from the TDA4856 (IC701) and performs the vertical deflection by supplying the saw-tooth wave current from the TDA8172 (IC601) to the vertical deflection yoke.

**17. Dynamic Focus Output Circuit.**

This circuit takes H and V parabola wave from the TDA4856 (IC701), and amplifies these waves to offer to the FBT (T701).

**18. H & V Blanking and Brightness Control.**

This circuit eliminates the retrace line by supplying a negative pulse to the G1 of the CDT. The brightness control circuit is used to 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 CDT near the deflection.

**20. Static Convergence Control Circuit.**

This circuit corrects the convergence of the screen by supplying the convergence signal to the 4H (STC) coil which is attached to the CDT near the deflection.

**21. Moiré Reduction Circuit**

This circuit reduce interference between the periodical display pattern and the CDT's slot (or dot).

The positions of every other one dot video signal beams (red, green, and blue beam) are shifted finely, thus reducing interference.

**22. OSD Circuit.**

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

When a user selects the OSD Select/Adjustment control, the adjustment status displays on the screen.

**23. Video Pre-Amp Circuit.**

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

**24. Video Output Amp Circuit.**

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