Exhibit 5

The Introduction of CM25+, 21" Monitor

0. Functional Block Diagram

1. General Description

2. Description of Circuit Diagram

A. Power Supply / Power Saving Management

B. Horizontal / Vertical Deflection

C. Video board & DDC 1/2B

D. Digital Circuit & Micro-controller

1. GENERAL DESCRIPTION

The CM25+, 21" is a Digital Controlled Auto-scan Color Display Monitor with high resolution. This monitor can operate at horizontal scan frequencies from 30 to 115 kHz and vertical scan frequencies from 50 to 160 Hz.

This monitor is equipped with an embedded micro-controller which can preset the required modes. The CM25 provides many functions, such as digital adjustable picture, DDC1/2B, power management, low emission, high immunity ,etc.

This monitor complies with TCO low emission standard and also fulfills TCO99 automatic power saving requirements. To reduce power consumption less than 15 watts in standby or suspend mode and less than 3 watts in off mod, the monitor also complies with energy star computer program initiated by the EPA.

2. DESCRIPTION OF CIRCUIT DIAGRAM

This description mainly introduces the functions, including power supply / power saving management, horizontal / vertical deflection, video amplifier, micro-controller, etc.

A. POWER SUPPLY / POWER SAVING MANAGEMENT

POWER SUPPLY:

This monitor is designed as switch mode power supply which can operate mains input from 90 VAC to 264 VAC . The power supply uses an IC(STR-F6656) for current mode PWM controller and drives the MOSFET switch directly. The control scheme transforms a switching converter from a voltage source into a multi-output voltage. The control concept is exhibited many desirable properties such as inherent over-load protection, stable and fast system response.

The maximum power consumption is up to 130 watts. A power limiting circuit is added for safety reason.

On main power supply circuit, secondary feedback via an photo-coupler is used to obtain a stable output voltage. The secondary feedback supplies all necessary voltages for deflection and video..

POWER SAVING MANAGEMENT:

This monitor can save power consumption while no sync pulses are detected by micro-controller and automatically recover to normal power when sync signals are detected by micro-controller.

During power saving mode , the second power supply still delivers 5V to μc.

The consume power is less than 15 watts during standby / suspend modes, and less than 3 watts during off mode.

B. HORIZONTAL / VERTICAL DEFLECTION

HORIZONTAL DEFLECTION:

The heart of horizontal/vertical deflection controller is TDA4856 which can offer a complete and efficient small signal sync processing for auto-sync monitors. All functions are controlled by I2C bus.

This controller provides sync processing, which can accept separate , composite (H+V) input signals. A very short setting time after mode change for protection of external power components has been taken.

The TDA4856 provides extensive functions like a flexible SMPS block and a geometry control with facilities ,leading to excellent picture quality. This device also can directly drive the vertical deflection output stage ,the line driver stage , the E/W output stage and the EHT stage. All controls are dc and tracked with the incoming frequencies.

The horizontal deflection is built around the buck converter which makes it possible to combine H-deflection and EHT generator and allows size and E/W correction without influencing EHT. Raster can be adjusted along horizontal direction by I2C control.

Transformer (LOT) generates the required 27.0kV anode voltage.

The adjustable focus (G3) and screen (G2) voltages are internally derived from the anode voltage. Other secondary windings are used to generate the voltages for G1. For 21 inch monitor also provides dynamic focus on G4 to get a good focus performance.(G4 also adjustable).

To guarantee constant EHT over the whole frequency range , the B+ is made tracked with H-frequency by means of a step down converter.

The horizontal size and east/west correction are obtained by varying the voltage of buck converter of the lower deflection a circuit.

Six-capacitors switch and dc controlled linearity coil are designed for optimal screen linearity.

For safety reasons, x-ray protection circuit is included, L4990A will shut down EHT generator if the anode voltage exceeds a certain value(28.5kV).

This circuit is also used for beam current overload protection . Shut down EHT in case the total beam current exceeds a certain limit to protect both CRT and LOT.

VERTICAL DEFLECTION:

The majority of vertical deflection functions is integrated by two ICs ; TDA4856 and STV9379.

The TDA4856 takes care of sync polarity correction ,automatic catching and holding of the vertical oscillator ,generation of saw-tooth drive current for vertical output and vertical s-correction ,and generation of a correct V-blanking pulse for video blanking during vertical retrace lines.

The STV9379 which is a dc-coupled vertical deflection booster with differential input signals is suitable for color monitor. The output stage has thermal and soar protection ,and high linear saw-tooth signal amplification to obtain the required vertical deflection current.

To obtain a fast vertical retrace for non-VGA mode an external flyback supply is used.

C. VIDEO AMPLIFIER & DDC 1/2B

VIDEO AMPLIFIER:

The heart of video circuit is TDA4887. This controller can drive the hybrid post-amp. LM2402. The video DC level and gain at the cathode will be controlled by the software.

The red , green and blue video signals are amplified and inverted by the post-amplifier to output stage and AC coupled to the CRT cathodes.
Three cut-off adjustments are provided to set the video black level at cathode for all three guns. Also three individual gain adjustments are provided to adjust the white point at maximum swing. Both cut-off and gain controls are digit type control by micro-processor.
For limiting the beam current and preventing the local doming ,the beam current limit will automatically reduce the video swing in case the maximum beam current is exceeded.(ABL adjustment:by I2C of uPC)
A spot-killer circuit is also added to prevent the CRT spot burn-in when the set is switched off.

DDC 1/2B:

Via SDA, the data about the information of the monitor , including the serial number , production codes ,CRT type and applicable timings are stored in the EEPROM (24lC21). To avoid picture interference ,the reading and writing processes are executed during vertical blanking which is informed by the vertical SYNC.

D. MICROCONTROLLER

GENERAL DESCRIPTION:

HARDWARE DEFINITION:

a) KEY BOARD

There are one key pad at the front of monitor for the OSD control.

- OSD function key:

Push it, to confirm the entrance and use “up”, “down”, “left” and “right” functions from the OSD window

B)OSD WILL DISAPPEAR AND SAVE AUTOMATICALLY AFTER NON-OPERATION

C) SOFTWARE WILL CONTROL THE DPMS ACCORDING TO THE SYNC STATUS.

D)VIDEO PRESET MODES

Pre-set Video Resolution and Sync Polarities

Resolution modes	H frequency	V frequency	H	V
720 x 400	31.5KHz	70Hz	-	+
640 x 480	31.5KHz	60Hz	-	-
800 x 600	63.9KHz	100Hz	+	+
1024 x 768	68.7KHz	75Hz	+	+
1152 x 864	100.3KHz	100Hz	-	-
1280 x 1024	91.2KHz	85Hz	+	+
1280 x 1024	107.0KHz	100Hz	+	+
1600 x 1200	112.4KHz	90Hz	-	-
1600 x 1280	112.5KHz	85Hz	-	-
1856 x 1392	86.3KHz	60Hz	+	+