

Brief Description of Circuit Functions

Function Description for Hudson III-Lenovo Helen 17”

1. General

The SXGA TFT LCD monitor is specified as a display peripheral with analog (DSUB). Horizontal scan range is 30KHz-82KHz and the refresh range is 50Hz-76Hz in normal mode. This scan range allows it to display resolution up to 1280x1024x75Hz non-interlace input. The image can be adjusted by OSD control. These adjustments can be stored in an onboard memory.

2. Power supply

Main voltage : DC 12V (From PC side: Lenovo power supply)
Power consumption : 45W Max.
Power indicator : LED(ON: blue, Sleep: amber)
Auto power saving : VESA DPMS

3. Input signal

Horizontal scan : 30-82KHz
Vertical scan : 50-76Hz

Input signals :

A. D-SUB signal input level

Video : 0.7Vp-p linear/75 ohms
Sync : H,V TTL level

4. OSD(On Screen Display) function

Software control function via OSD

-Main controls:

Language----- Simple Chinese; English

Brightness & Contrast-- Brightness, Contrast

Video Settings ----- Phase; Clock; H&V Position

Color Temp.----- 7800K, 6500K, User

OSD Settings----- H&V Position; Timer

Product information----- Resolution, Refresh rate

Reset to factory setting; Exit Main controls

5. LCD Panel

Type : 17” TFT LCD flat panel
Dimensions : 17”(358.5 x 296.5 x 19 mm)
Pitch : 0.264mmx0.264mm
Color pixel arrangement : RGB vertical stripes
Number of color : 64 gray level (6 bits)
Backlight : 4 CCFL's
Active area (W*H) : 337.92 x 270.5mm

6. Function block

Scaler GM2126 (contains following functions):

(1) Analog RGB input

- Support up to SXGA 75Hz
- On chip high-performance PLLs
- High speed triple ADC

(3) Format converter

- Built in GPIO port, mode detection.
- Convert the image data from ADC, Video Decoder to LCD panel data format.
- Zoom the input video to full screen display.
- High quality zoom and shrink scaling engine

(4) RXDS

- Convert digital image signal to RSDS signal, it can reduce EMI.

(5) On-Screen display (OSD) controller

(6) On-chip microcontroller (OCM)

(7) Programmable OnPanel timing Controller (TCON)

Inverter

- Accept +12VDC voltage.
- Provide 680Vrms voltage for CCFL.

converter

- Accept +12VDC voltage.
- Convert +12V to +3.3V.

Hudson III Lenovo Helen 17” Circuit Architecture

