

Comparison of NL3224AC35-01 and NL3224AC35-06 Color TFT Displays

Application Note 606-00

This Application Note describes the differences and similarities between the NL3224AC35-01 and -06 color TFT displays.

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Introduction

There are several differences between the NL3224AC35-01 and the NL3224AC35-06. The following table highlights the specific differences in comparing the two displays.

Comparison	AC35-01	AC35-06
Typical Weight -01 weighs 30 grams less than the -06 (max. weight 330 g).	315 grams	285 grams
Display Depth -01 measures 6.5 mm deeper than the -06	23.0 mm	16.5 mm
Response Time The response time of the -01 is 10 ms faster than the -06.	50 ms “white” to “black”	60 ms “white” to “black”
Power Consumption The -01 is 1.4 watts lower (at the same voltage).	6.6 W	8.0 W
Viewing Angle Both were designed for 10 and 2 o'clock viewing.	±45° Horizontal +30°/-15° Vertical	±50° Horizontal ±25° Vertical

Interface

The differences in the displays' input signals are not straightforward to list. Both displays are compatible with a variety of video signals; however the connection format and processing of these signals differ slightly.

The -01 display accepts analog RGB signals with digital, negative, CMOS-level sync signals (Hsync, Vsync). The display generates a clock signal (to drive the internal logic) to accept an external clock input. The scan direction can be changed from right to left as well as start from the top or bottom, enabling the user to rotate the display or reverse the image. There is a mode for displaying PAL (NTSC is the default) in which the scanning line is thinned out at the rate of seven to six lines. This corrects the difference between the number of lines in NTSC vs. PAL. The display can operate at 240 or 234 lines. Brightness control is pulse width modulated, CMOS High is full bright, 50% duty cycle is half bright, etc.

The -06 is very similar to the -01. The most notable exception is that there is a composite video input that will accept standard NTSC signals. NTSC is comprised of four signals superimposed on one another: luminance (pixel brightness) and chrominance (pixel color) which are both analog, and Hsync and Vsync CMOS digital levels.

The -06 accepts analog RGB signals with digital, negative, CMOS level sync

signals or a composite signal. There is no external clock option. The scan direction can be changed from right to left as well as start from the top or bottom. There is no PAL mode. The display can operate at 240 or 234 lines. There are inputs for controlling color, hue, and brightness with an analog (0-5V) input level.

To the customer driving the display from a computer source such as Chips and Technologies or SMOS, there are only subtle differences, mainly in how the picture is adjusted. Customers driving the display with a composite video signal (such as NTSC) will need additional circuitry with the -01 to separate the color signals from the source.

Figure 1. Block Diagram of NL3224AC35-06

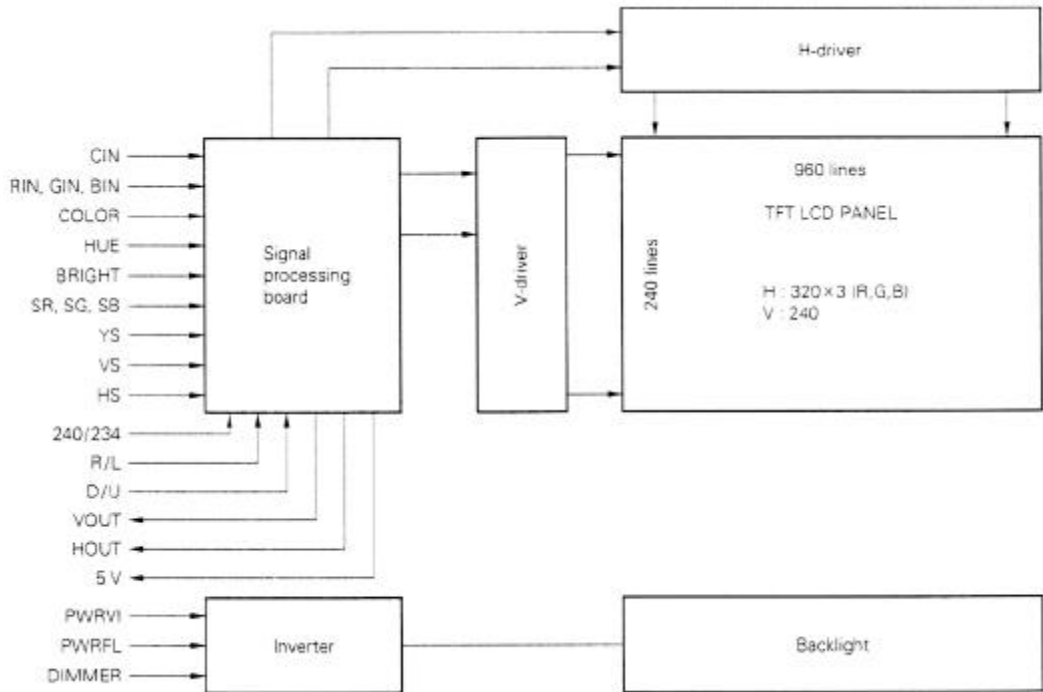
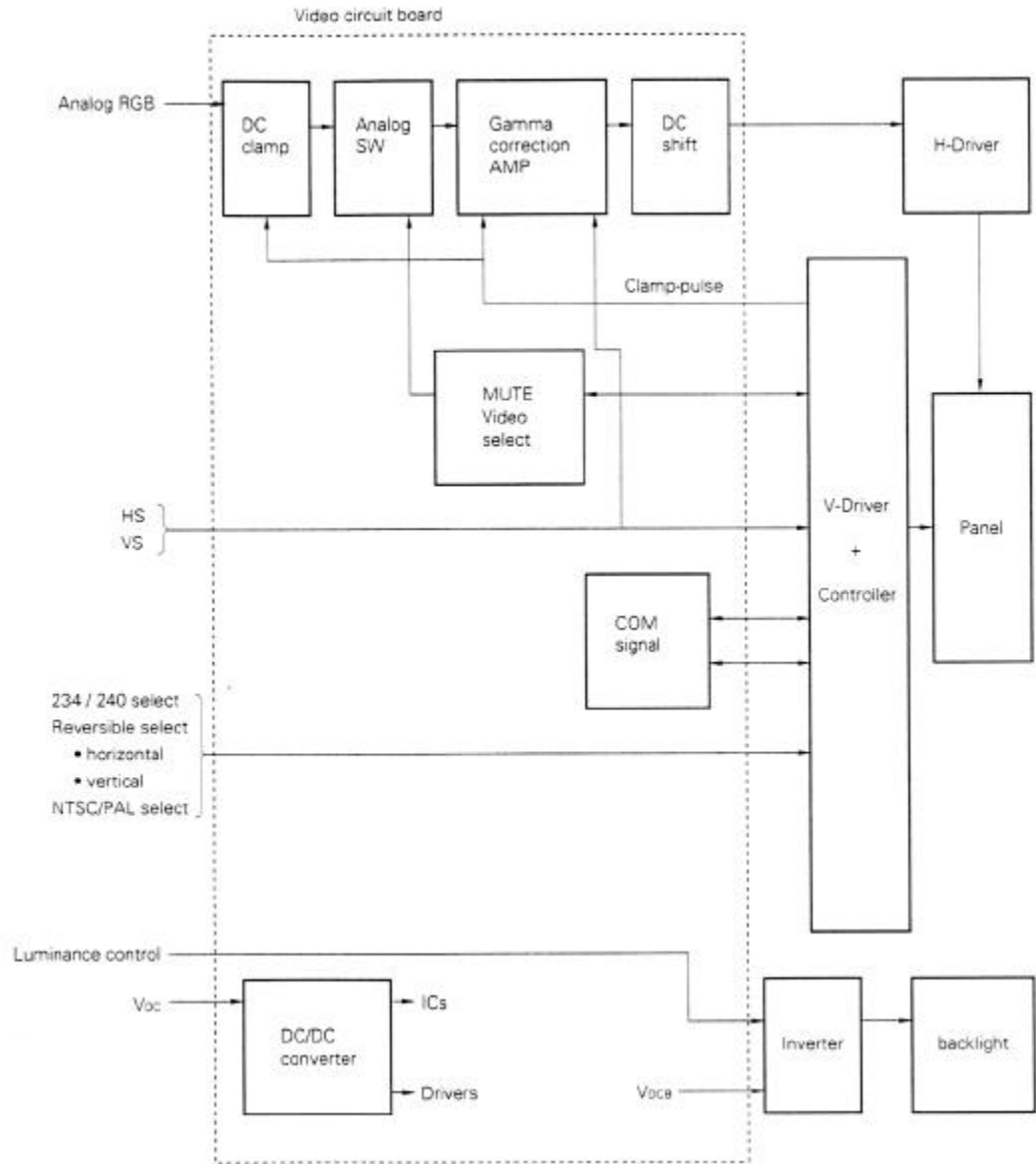


Figure 2. Block Diagram of NL3224AC35-01



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