

ACX391AKB

Transmissive 8.8 cm (3.5-Type, Wide) 920k-Dot Color LCD Panel Features the VSPEC III™ Wide Viewing Angle LCD Mode



The ACX391AKB is a built-in driver diagonal 8.8 cm active matrix panel that uses low-temperature polycrystalline silicon transistors.

This panel features ultrahigh resolution (213 ppi) and provides a detailed and smooth display. It also provides improved visibility from all viewpoints by adopting VSPEC III™, a new wide viewing angle LCD mode.

This panel allows direct connection to the DSP using a direct interface method and achieves a significant reduction in the number of peripheral components.

- Direct interface method allows direct connection to the DSP
- VSPEC III™ (wide viewing angle technology) achieves the wide viewing angle of 160° in the up/down and right/left directions (CR 100:1)
- Number of display dots: 920k dots in an 8.8 cm (3.5-type, Wide) stripe arrangement panel
- Horizontal resolution: 360 TV lines
- Optical transmittance: 6.0%
- New LCD mode adopted
Contrast: 800:1
- Wide color gamut: NTSC 65%
- Up/down and/or right/left inverse display function
- Sub-bright adjustment function

*: VSPEC III™ is a trademark of Sony Corporation.

Direct Interface (8-bit RGB Serial)

The driver IC is mounted on the panel itself, and the interface is 8-bit digital and achieves the expression of 16.77 million colors. Furthermore, NVM is also included and the Vcom adjustment value is written prior to shipment. Thus there is no need for Vcom adjustment in end products.

Increased Resolution

This panel features ultrahigh resolution (213 ppi) and provides a detailed and smooth display. The number of dots displayed is $640H \times 3 \times 480V = 921,600$ dots.

Wide Viewing Angle LCD Mode Adopted

This device adopts a wide viewing angle mode based on Sony's new VSPEC III™ technology. Visibility is increased at every viewing position and the panel achieves a viewing angle of 160° in the up/down and right/left directions.

Thinner Panel Module

While the ACX391AKB is a 3.5-type wide aspect ratio panel, Sony has reduced the thickness of the glass used to hold the panel module thickness to under 1.01 mm. This can contribute to increasing flexibility in end product mechanical design.

High Contrast

The ACX391AKB achieves the high contrast of 800:1 by adopting the VSPEC III™ technology. In conjunction with the increased viewing angle characteristics, this creates a high picture quality panel.

Up/Down and/or Right/Left Inverse Display Function

Since there are now digital still cameras that allow the monitor to be rotated, the ACX391AKB provides up/down and/or right/left inverse display function that can be controlled with just serial signals. This provides a high degree of flexibility for end product design.

V O I C E

This is a panel module that achieves a wide viewing angle and high contrast by the adoption of Sony's new VSPEC III™ technology. This panel reaches a display dot count of 920k dots with a dot spacing of 213 ppi and provides superb picture quality.

Table 1 VSPEC III™ Lineup

Product name	ACX386	ACX387	ACX389	ACX396	ACX391	ACX398
Screen size	2.5 type	3.0 type	3.0 type	3.0 type	3.5 type Wide	2.8 type Wide
Number of pixels	960 × 240 = 230,400	960 × 240 = 230,400	960 × 480 = 460,800	640 × 3 × 480 = 921,600 (VGA)	640 × 3 × 480 = 921,600	960 × 240 = 230,400
Pixel size [μm]	52 × 156	62.5 × 187.5	62.5 × 93.75	31.25 × 93.75	39.75 × 89.75	63.5 × 143
Pixel arrangement	Delta arrangement	Delta arrangement	Delta arrangement	Stripe arrangement	Stripe arrangement	Delta arrangement

Figure 1 Viewing Angle Characteristics

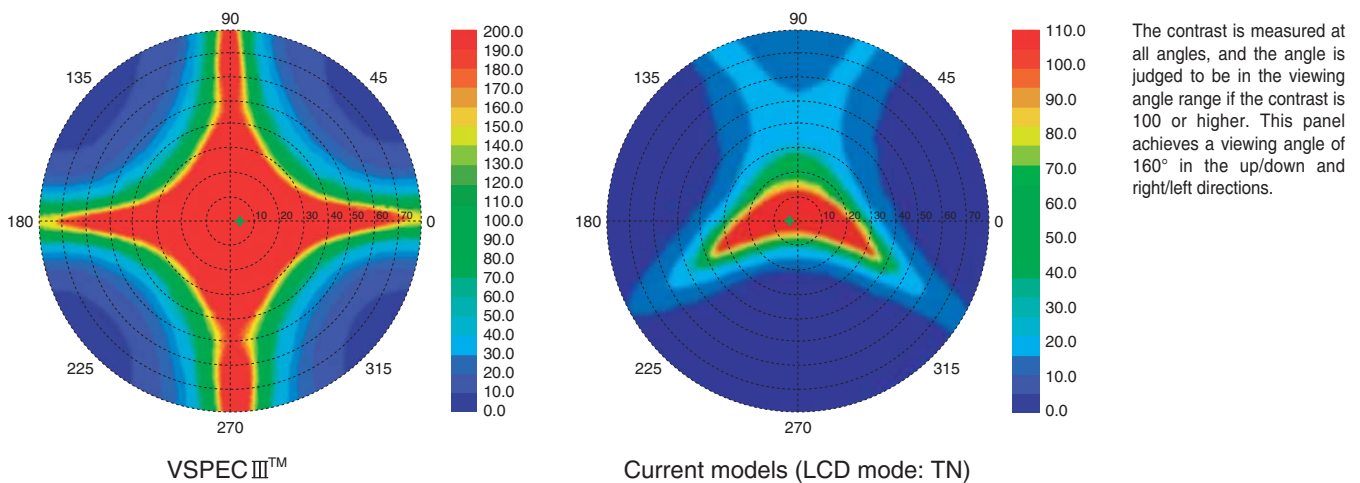


Figure 2 Block Diagram

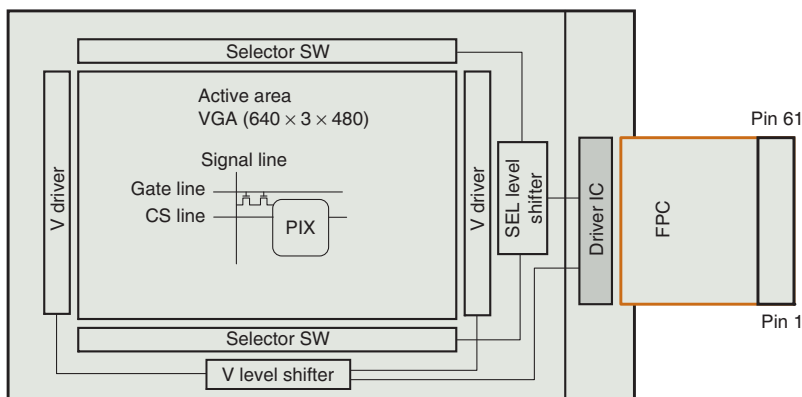


Table 2 Main Specifications

Item	ACX391AKB
Number of pixels	640 × 3 × 480
Diagonal size	8.8 cm (3.5 type, Wide)
Display mode	Transmissive
Interface	Parallel RGB interface: 8 bits × 3 channels
Transmittance	6%
Contrast	800:1
Power consumption (panel only)	55 mW