AL300B-EVB-A0

Evaluation Board

User Manual

Version 0.2

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Contents

1 Function Description

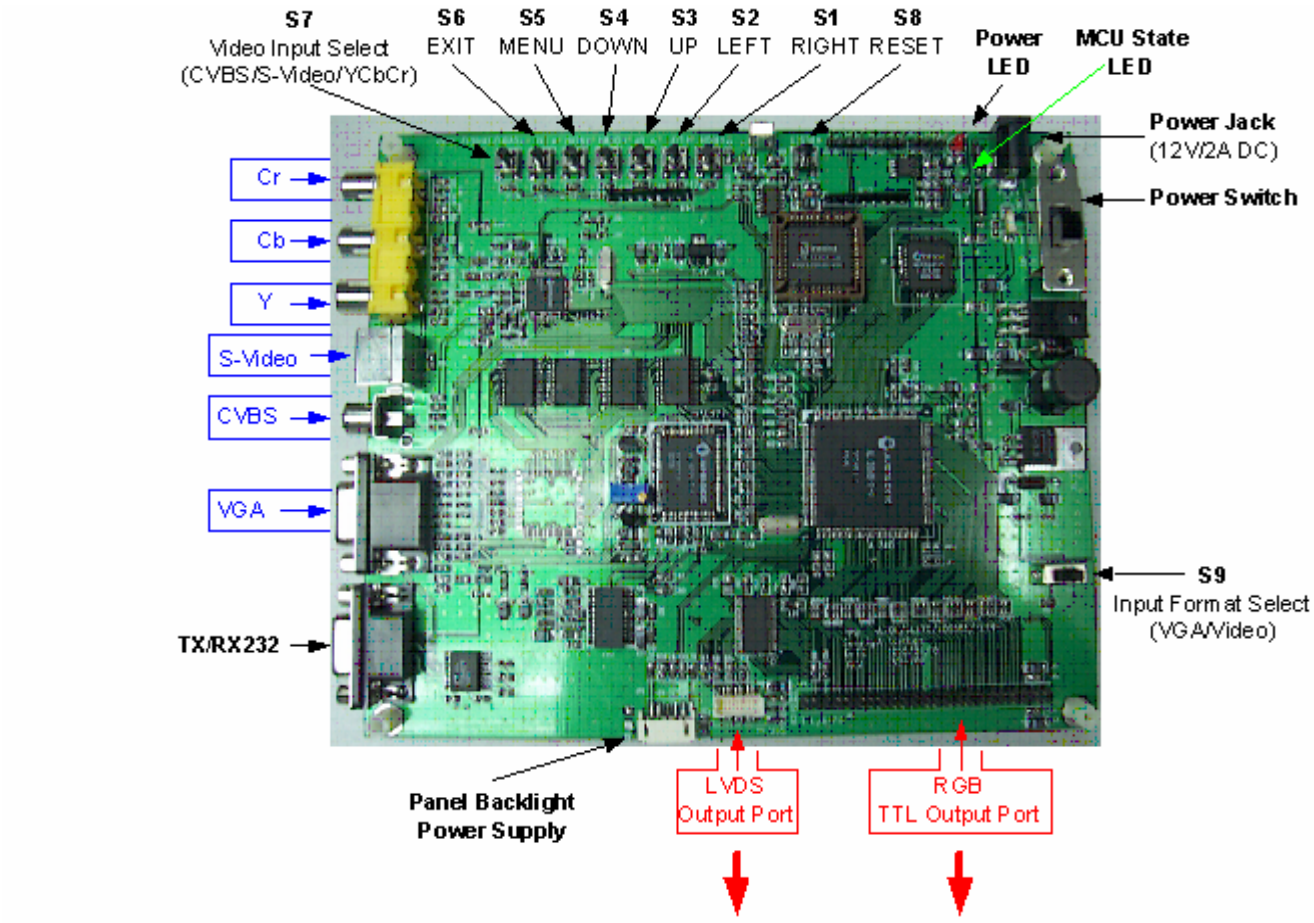
AL300 is an LCD controller that supports Dual or single Port output. It accepts ITU-R 601 – 16-bit digital video and 24-bit digital RGB input. The OSD function provides an easy access to system control. The embedded high-quality scaling engine and numerous functions facilitate AL300 to be used in various video conversion and processing applications. These functions are programmable through a 2-wire serial bus interface. This user's manual is the operating guide to demonstrate the AL300's competence for customer evaluation.

2 Features

- Support analog RGB and CVBS/ S-Video/YCbCr input.
- Frame Rate Conversion (FRC) from 50Hz to 120Hz
- Independent Up-Scale in both Horizontal and Vertical direction
- Built-in LUT for Gamma Correction and Color Adjustment
- Dithering logic for Color Depth Enhancement
- 2-Wire Serial Bus Interface
- Built-in 2K Bytes OSD RAM and support External OSD Font ROM
- Frame Capture Mirroring support in Horizontal or Vertical direction
- Auto-detect NTSC/PAL video input.
- Support Debug Mode for easy registers access

3 Getting Start

3.1 EVB Board Top View



AL300EVB Top View & Connection Diagram

3.2 Hardware Installation

- For Video display demonstration:
  Connect Composite, S-Video or Component video source to CVBS, S-Video or YCbCr connector respectively with right cable
- For PC display demonstration:
  Connect PC graphic source to VGA (15-pin D-sub) connector
- Connect TTL or LVDS output signal to a LCD panel with matching interface
- Connect a **12V/1A** power adaptor to **Power Jack**
- Turn on the **Power Switch** (**SW1**)
  Power LED (red): indicate power on/off state
  MCU State LED (green): indicate MCU running right state

3.3 Hardware Configuration Using Keypad

- Input Format Select ----- **S9** (RGB: PC Input; YUV: Video Input)
- Video Input Select ----- **S7** (CVBS/S-Video/YCbCr)
- System Reset ----- **S8**
- Enter Debug Mode ----- **S1+S4** (press simultaneously)
  *Entering debug mode allows registers access (slave address = 70h)
- Exit Debug Mode ----- **S6**

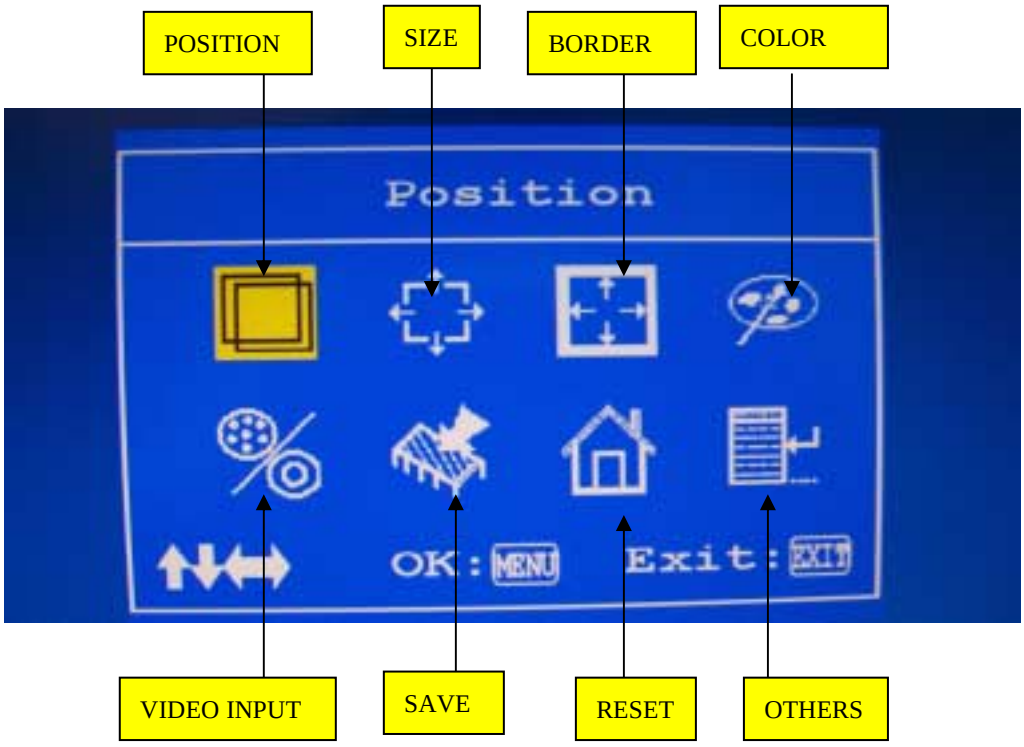
4 Operating Menu

4.1 *Assigned Key Function*

Key Number	**Function Descriptions**
S6:	Exit
S5:	Enter
S4:	Down
S3:	Up
S2:	Left / (+)
S1:	Right / (-)

4.2 *Main Menu*

During normal operating mode, press "**S5**" will enter the Main Menu, which includes eight sub-menus.



Note: during PC input demonstration, "VIDEO INPUT" appears as "PHASE"

4.2.1 POSITION

Enter this sub-menu allows user to change the PC or Video display window position through 2 items as:

Horizontal Position	10
Vertical Position	10

4.2.1 SIZE

Enter this sub-menu allows user to change the PC or Video display window size through 4 items as:

Active width	640
Active height	480
Horizontal total	800
Vertical total	500

4.2.2 BORDER

Enter this sub-menu allows user to create border around the PC or Video display window through 2 items as:

Horizontal border	0
Vertical border	0

4.2.3 VIDEO INPUT / PHASE

- In Video Display

  Enter this sub-menu allows user to select video source among 3 video inputs as:

Video Input	0

  *0: CVBS
  *1: S-Video
  *2: YCbCr

- In PC Display

  Enter this sub-menu allows user to change clock phase through 2 items as:

Hsync phase	0
Clock delay	0

4.2.4 SAVE

Enter this sub-menu allows user to save the changes made in each sub-menu, the window appears as:

Yes	No

4.2.5 RESET

Enter this sub-menu allows user to reset the system with default value, the window appears as:

Yes	No

4.2.6 OTHERS

Enter this sub-menu allows user to access 8 additional functions:

Auto positioning
Auto phasing
Sharpness
OSD Time Out
OSD Background
OSD Position
System Info
MAIMENU

CONTACT INFORMATION

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