

Part Number: **4175800XX-3/5**

Model: **ALR-1400v2 General**

DATE	VERSION	SUMMARY OF CHANGES	NOTE
2 September 2016	20-3	Release pilot run document for production Bare PCB: 017580002-5; P/N 417580020-3 BIOS: U10, E0.05.00 (Flash GD25Q40C)(new) U14, Checksume:B0 (ARGB DDC, 24C02)(embedded in firmware) U15, Checksum: 2C (DVI DDC, 24C02)(embedded in firmware)	ECN# N/A
11 November 2016	20-3 to 21-3	Official release ALR-1400v2 with new firmware V1.00.00 ALR-1400v2 feature list (1) Support up to 1440x900 resolution panel (2) Support LVDS & TTL (Single & Dual channel) interface panel (3) 8 bit controller platform (4) 3.3/5/12/18V panel support (5) Support Single Link DVI and VGA input (6) Support MStar scalar chip original OSD menu structure and features - Brightness - Contrast - Sharpness - Backlight - Image H & V position - Clock - Phase - Aspect ratio: Wide (Fill screen), 4:3 - Standard Gamma Selection (0.4/0.6/1.0/1.6/2.2) - Color Temperature: User RGB, 4200K/5000K/6500K/7500K/9300K - Support multi Language: English, French and Spanish - OSD menu H & V position - OSD menu Timeout - OSD Transparency - Image Auto Adjust (VGA only) - Color Auto Adjust (VGA only) - Factory Reset - Signal Source Selection: DVI / VGA - Support Auto Source Seek : On/Off - Wide Screen Mode (1280x768/1360x768/1366x768/1368x768) - Support show Display firmware version (5) Support Backlight Hotkey (6) Support Brightness Hotkey (7) Support DV OSD switch mount and Use OSD control connector change to Hirose DF13A-12P-1.25H (same as DD-1920-HDMI) (8) Support multi panels by DIP switches (9) Support RS232 commands (10) D/A or PWM control Backlight driver support (11) Support "Resolution default by EDID" for different resolution panel. (12) Support user panel timing and download on board via RS-232 port. (13) Use new LVDS connector JAE-FI-RE51S-HF (same as DD-1920-HDMI) and relocate the LVDS connector position in order to avoid LVDS cable connector exceeding the edge of the board. (14) Support +12V/24VDC power input. (15) Board size : 107.4 x 91.4 (same as ALR-1400) Bare PCB: 017580002-5; P/N 417580021-3 BIOS: U10, V1.00.00 (Flash GD25Q40C)(new) U14, Checksume:B0 (ARGB DDC, 24C02)(no change) U15, Checksum: 2C (DVI DDC, 24C02)(no change)	ECN# TW0688001
21 February 2017	21-3 (version not changed)	Change shipping default setting of JP8 to short 2-3 pin. Bare PCB: 017580002-5; P/N 417580021-3 BIOS: U10, V1.00.00 (Flash GD25Q40C)(no change) U14, Checksume:B0 (ARGB DDC, 24C02)(no change) U15, Checksum: 2C (DVI DDC, 24C02)(no change)	ECN# TW0688002

<p>21 March 2017</p>	<p>21-3 to 22-3</p>	<p>Upgrade firmware on U10 to V1.03.00 New features added : 1) Support input image scale down function. 2) Support to display OSD menu under no input video state. 3) Support user EDID download via RS-232 port in VGA and DVI port. 4) Added: The JP9 jumper open will disable the EDID update function, and set JP9 jumper close to enable the EDID update function.</p> <p>Bug fixed : 5) Fixed OSD menu is upside-down when the vertical position moves. 6) Correct 640x480 VGA and DVI resolution EDID Display Product Name from "ALR-1920V2DVI" to "ALR-1400v2DVI" and from "ALR-1920V2VGA" to "ALR-1400v2VGA".</p> <p>New panel supported : 7) Support Mitsubishi AA104VJ02 (640x480) panel (Tested) Dip switch setting : SW1=0100 0110, SW2=11 (1 = ON, 0 = OFF)</p> <p>8) Add the new panel timing and preferred timing EDID (No panel for testing) a) NEC NL8060BC31-47D (800x600) panel Dip switch setting : SW1=1110 1010, SW2=11 (1 = ON, 0 = OFF) b) NEC NL12876BC26-21 (1280x768) panel Dip switch setting : SW1=0100 1100, SW2=10 (1 = ON, 0 = OFF) c) NEC NL8048BC19-02 (800x480) panel Dip switch setting : SW1=0101 0110, SW2=10 (1 = ON, 0 = OFF) d) AUO M220EW01 (1680x1050) panel Dip switch setting : SW1=0110 1110, SW2=01 (1 = ON, 0 = OFF) e) SHARP LQ123K1LG03 (1280x480) panel Dip switch setting : SW1=1010 1110, SW2=11 (1 = ON, 0 = OFF) f) Chunghwa CLAA070NA01CT (1024x600) panel Dip switch setting : SW1=1000 1110, SW2=10 (1 = ON, 0 = OFF) g) NEC NL4823BC37-05 (480X234) panel (OSD menu size cannot be fully displayed) Dip switch setting : SW1=1100 1110, SW2=11 (1 = ON, 0 = OFF)</p> <p>Bare PCB: 017580002-3; P/N 417580022-3 BIOS: U10, V1.03.00 (Flash GD25Q40C)(changed) U14, Checksum:B0 (ARGB DDC, 24C02)(no change) U15, Checksum: 2C (DVI DDC, 24C02)(no change)</p>	<p>ECN# TW0688003</p>
<p>12 September 2017</p>	<p>22-3 to 23-3</p>	<p>Hardware change : Running change on C32 capacitor from 22uF/0603 to 47uF/0603 to improve the ripple voltage of the D/A conversion circuit for analog backlight brightness control (when JB5 3-4 closed).</p> <p>Upgrade firmware on U10 to V1.06.00 1) Changed Gamma values from (0.4,0.6,1.0,1.6,2.2) to (1.8,2.0,2.2,2.4,2.6) with also changing it's corresponding Gamma RS-232 command from 0x9D,(0x30,0x31,0x32,0x33,0x34) to 0x9D,(0x35,0x37,0x32,0x41,0x43).</p> <p>Bug fixed 2) Correct the RS-232 command range of Backlight brightness control (0xe0) from '0'0' ~ 'F'F' to '0'0'~'6'4'. 3) Fixed 0xC1 UART acknowledge bug.</p> <p>New panel supported: 4) Kyocera TCG121XGLPBPNN-AN40 1024x768 panel. (SW1=0110 001x, SW2=11, 3.3V LVDS) 5) LG LM190E09-TLD1 1280x1024 panel. (SW1=0110 010x, SW2=01, 5V LVDS) (Tested by DV-UK customer) 6) Kyocera T51750GD065J-LW-BGN 640x480 panel (SW1=1001 011x, SW2=11, 3.3V TTL) 7) AUO G121XN01.0 1024x768 panel (SW1=1010 001x, SW2=11, 3.3V LVDS) (Test by UK customer)</p> <p>Bare PCB: 017580002-5; P/N 417580023-3 BIOS: U10, V1.06.00 (Flash GD25Q40C)(changed) U14, Checksum:B0 (ARGB DDC, 24C02)(no change) U15, Checksum: 2C (DVI DDC, 24C02)(no change)</p>	<p>ECN# TW0688012</p>

<p>14 April 2021</p>	<p>23-3 to 24-3</p>	<p>Upgrade firmware on U10 to V1.08.00</p> <ol style="list-style-type: none"> 1) Support 'menu/power' key for 5 button switch mount control operation: Uses 'MENU' button to control the power on/off function: <ul style="list-style-type: none"> - Power on : Press 'MENU' button - Power off : Hold 'MENU' button for 3 - 4 secs. - And the jumper JP6 must be always closed. 2) Support Default Power on/off selection on the OSD menu and added RS-232 commands : <ul style="list-style-type: none"> Default Power On ('0xEE 0x6B 0x50 0x31') ; Default Power Off ('0xEE 0x6B 0x50 0x30') ; Default Power Query ('0xEE 0x6B 0x50 0x3F'). 3) Added 0xC9 RS-232 command for Query video input status. 4) Make RS-232 command (0xF7) can be controlled when no signal state. 5) Make 'No signal' message displayed on screen without OSD menu displayed under no signal state be reported 0xBB 0x30. <p>Bug fixed :</p> <ol style="list-style-type: none"> 6) Fixed the controller will turn 'ON' again after using 'MENU' button to control the power on/off function when unplug and plug back the input signal MENU button On/Off issues. <p>New panel supported :</p> <ol style="list-style-type: none"> 7) Support AUO G104STN01V0 (800x600) panel. (SW1=0100 1010, SW2=11) 8) Fixed the image flicker issues on NEC NL8060BC31-47D panel (SW1=1110 1010, SW2=10). 9) Support NEC NL10276BC24-21 1024x768 panel. (SW1=1001 001x, SW2=10) Tested 640x480, 800x600 and 1024x768 60Hz input modes on VGA and DVI ports. 10) Support Sharp LQ121S1LG81 panel. (SW1=1100 1010, SW2=10) Support 800x600 resolution input mode only. 11) Support NEC NL10276BC20-04 panel (SW1=0101 0010, SW2=10). 12) Support Mitsubishi AA050AA11 640x640 panel (SW1=1011 0110, SW2=11). 13) Support Ampire AM-1024768V1TZQW-A0H 1024x768 panel (SW1=0111 0010, SW2=11). (1 = ON, 0 = OFF) <p>Hardware no change</p> <p>Bare PCB: 017580002-5; P/N 417580024-3 BIOS: U10, V1.08.00 (Flash GD25Q40C)(new) U14, Checksum:B0 (ARGB DDC, 24C02)(no change) U15, Checksum: 2C (DVI DDC, 24C02)(no change)</p>	<p>ECN# TW0688125</p>
<p>27 February 2023</p>	<p>24-3 to 25-3</p>	<p>Upgrade firmware on U10 to V1.09.00</p> <ol style="list-style-type: none"> (1) Improve EDID update process to set EDID data will not read/write until the panel DIP switch setting has been changed to other resolution. (2) Changed "+" / "-" button and RS-232 command to control the Backlight brightness hotkey function. (3) Changed "Up" / "Down" button and RS-232 command to control the Source select hotkey function. <p>Hardware no change</p> <p>Bare PCB: 017580002-5; P/N 417580025-3 BIOS: U10, V1.09.00 (Flash GD25Q40C)(new) U14, Checksum:B0 (ARGB DDC, 24C02)(no change) U15, Checksum: 2C (DVI DDC, 24C02)(no change)</p>	<p>ECN# TW0688170</p>

19 February 2023	25-3 to 26-3	<p>Upgrade firmware on U10 to V1.10.00 (1) Fixed the picture noise for double pixel panels. (2) Add AUO G190EG02-V1 and G190ETN01.601 1280x1024 panels support Use SW1=1001 0100, SW2: 01 (1=ON, 0=OFF) dip switch setting.</p> <p>Hardware no change</p> <p>Bare PCB: 017580002-5; P/N 417580026-3 BIOS: U10, V1.10.00 (Flash GD25Q40C)(new) U14, Checksum:B0 (ARGB DDC, 24C02)(no change) U15, Checksum: 2C (DVI DDC, 24C02)(no change)</p>	ECN# TW0688189
		Start produce REACH version ALR-1400v2	
5 March 2025	26-5	<p>Production release REACH version of ALR-1400v2 - No hardware and firmware change. - Updated all production document's P/N with suffix(-5) for REACH materials if applicable.</p> <p>Hardware and firmware no change (same as 417580026-3)</p> <p>Bare PCB: 017580002-5; P/N 417580026-5 BIOS: U10, V1.10.00 (Flash GD25Q40C)(no change) U14, Checksum:B0 (ARGB DDC, 24C02)(no change) U15, Checksum: 2C (DVI DDC, 24C02)(no change)</p>	ECN# TW0688217

Prepared by: DV-HK	Date: 5 March 2025
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