

Part Number: **4176400XX-3**

Model: **ALT-1920 General**

DATE	VERSION	SUMMARY OF CHANGES	NOTE
23 April 2019	10	<p>Official release ALT-1920 with firmware V1.00.00 ALT-1920 feature list</p> <ol style="list-style-type: none"> <li>1) Support up to 1920x1200 resolution LVDS (Single &amp; Dual channel) panel</li> <li>2) 3.3V / 5V / 12V / 18 V panel support.</li> <li>3) 8 bit controller platform.</li> <li>4) Backlight control : Analog or PWM</li> <li>5) Support VGA signal up to 1920x1200 60Hz resolution.</li> <li>6) Support HDMI 1.3 input up to 1920x1200 60Hz resolution.</li> <li>7) Support single-link Display Port 1.2a</li> <li>8) Multi panel support by changing the dip switch setting on board.</li> <li>9) Support "Resolution default by EDID" for different resolution panel.</li> <li>10) Support SPDIF audio output.</li> <li>11) Support audio line output (Stereo) from HDMI/Displayport.</li> <li>12) Support audio line out jack (Stereo) output from HDMI/Displayport.</li> <li>13) Support audio line input (Stereo) from VGA input only.</li> <li>14) DV RS-232 control serial protocol support, baud rate fixed at 9600bps</li> <li>15) IR remote control support.</li> <li>16) Dual color LED connector and on board LED reporting controller status.</li> <li>17) On board LED reporting power input status.</li> <li>18) Firmware upgrade via external programming board same as ALR-1400v2.</li> <li>19) Design for 12V/24VDC power input.</li> <li>20) Board size : 107mm x 92mm x 17.45mm</li> </ol> <p><b>Bare PCB: 017640001-5; P/N 417640010-3</b> BIOS: U6, V1.00.00 (Flash MX25L8006EM11-12G(new) U14, Checksum:B3,1D (ARGB DDC, 24C02)(new) U13, Checksum: 01, 48 (HDMI DDC, 24C02)(new) DP DDC checksum 4F, 48</p>	ECN# TW0688041
11 July 2019	10 to 11	<p>Hardware no change Release new firmware V1.01.00 Bug fixed</p> <ol style="list-style-type: none"> <li>1. Fixed on failing the HDMI EDID updated occasionally.</li> <li>2. Fixed 640x480 and 800x480 EDID error on HDMI &amp; DP port.</li> <li>3. Fixed Displayport cannot be waked up when Auto Source Seek sets OFF.</li> </ol> <p><b>Bare PCB: 017640001-5; P/N 417640011-3</b> BIOS: U6, V1.01.00 (Flash MX25L8006EM11-12G(changed) U14, Checksum:B3,1D (ARGB DDC, 24C02)(no change) U13, Checksum: 01, 48 (HDMI DDC, 24C02)(no change) U12(memory), DP DDC checksum 4F, 48 (no change)</p>	ECN# TW0688050

5 February 2020	11 to 12	<p>Hardware no change Release new firmware V1.02.00</p> <ol style="list-style-type: none"> <li>1) Added RS-232 command: 0xEE,0x70,0x50,0x35 0x33,0x3F for query Light Sensor values. ( e.g. 1735.7→ 0x36 0x43 0x37 0x2E 0x37 )</li> <li>2) Changed default Color Temperature to 6500K.</li> <li>3) Added Light Sensor on/off selection on the OSD menu</li> <li>4) Added Light Sensor Settings for automatic backlight brightness adjustment and RS-232 commands set: 0xEE, 0x78</li> <li>5) Changed 'SEL UP', 'SEL DN' button to control the Backlight Brightness hotkey function.</li> <li>6) Set no OSD menu displayed when adjusting the 'Backlight Brightness' hotkey function.</li> </ol> <p><b>Bare PCB: 017640001-5; P/N 417640012-3</b> BIOS: U6, V1.02.00 (Flash MX25L8006EM11-12G(changed) U14, Checksum:B3,1D (ARGB DDC, 24C02)(no change) U13, Checksum: 01, 48 (HDMI DDC, 24C02)(no change) U12(memory), DP DDC checksum 4F, 48 (no change)</p>	ECN# TW0688071
21 April 2020	12 to 12 (P/N remain unchanged)	<p>Hardware running change to use BOM of HLT-1920(417640110-3) except no conformal coating required for the ease of inventory control.</p> <p><b>Bare PCB: 017640001-5; P/N 417640012-3</b> BIOS: U6, V1.02.00 (Flash MX25L8006EM11-12G(no change) U14, Checksum:B3,1D (ARGB DDC, 24C02)(no change) U13, Checksum: 01, 48 (HDMI DDC, 24C02)(no change) U12(memory), DP DDC checksum 4F, 48 (no change)</p>	ECN# TW0688080
28 February 2020	1x to 20	<p><b>Release new version using PCB 017640002-3</b> Change light sensor connector CN9(3pin) to CN6(2pin) and related circuit PCB changes as below</p> <ul style="list-style-type: none"> <li>- Remove CN9</li> <li>- R203 changed from 2M to 10K</li> <li>- Add C24 0.1u/0402</li> <li>- Add CN6 DF13/2pin</li> <li>- R16(20K) change package from 0402 to 0603</li> <li>- Added V1(potentiometer), solder 20K(0603) resistor between pin1 and pin2 as in DT-1920-HDMI.</li> </ul> <p>Firmware no change</p> <p><b>Bare PCB: 017640002-5; P/N 417640020-3</b> BIOS: U6, V1.02.00 (Flash MX25L8006EM11-12G(no change) U14, Checksum:B3,1D (ARGB DDC, 24C02)(no change) U13, Checksum: 01, 48 (HDMI DDC, 24C02)(no change) U12(memory), DP DDC checksum 4F, 48 (no change)</p>	ECN# TW0688074
21 April 2020	20 to 20 (P/N remain unchanged)	<p>Update BOM use same BOM as in HLT-1920(417640120-3) except no conformal coating required for the ease of inventory control.</p> <p><b>Bare PCB: 017640002-5; P/N 417640120-3</b> BIOS: U6, V1.02.00 (Flash MX25L8006EM11-12G(no change) U14, Checksum:B3,1D (ARGB DDC, 24C02)(no change) U13, Checksum: 01, 48 (HDMI DDC, 24C02)(no change) U12(memory), DP DDC checksum 4F, 48 (no change)</p>	ECN# TW0688080

30 August 2021	20 to 21	<p>Hardware no change Release new firmware V1.04.00</p> <p>1) Add panel support :</p> <ul style="list-style-type: none"> <li>- Sharp LQ201U1LW32 1600x1200 panel. (SW1=0100 1000, SW2=00 (0=OFF, 1=ON))</li> <li>- Support NEC NL12876BC26-25 1280x768 panel. (SW1=1011 1100, SW2=11, 1=ON, 0=OFF)</li> </ul> <p>2) Fine-tuning EDID 1600x1200 Preferred Timing.</p> <p>3) Make OSD menu image not displayed on screen during press and hold the MENU button.</p> <p>4) Make single button function using '+' button to scroll through the inputs</p> <p>5) Make faster the time for sending between one and the next RS-232 command.</p> <p>6) Add Saturation RS-232 command (0x83), Range: "0x00"- "0x64", Default: "0x32".</p> <p>7) Add Hue RS-232 command (0x84), Range: "0x00"- "0x64", Default: "0x32".</p> <p>8) Improve the EDID update process to avoid any read/write EDID action in each power up cycle.</p> <p>9) Fix the soft ON/OFF command (0xC8) which needs at least 1 second long timeout before sending the next command.</p> <p>10) Fix to display odd resolution when power on the controller when firstly boot into the O/S (e.g Windows 10 Pro or RedHat 7) occasionally. The root cause is related to the scalar internal DP receiver detection issue that the firmware need to make some precaution to recognize the input signal.</p> <p><b>Bare PCB: 017640002-5; P/N 417640021-3</b></p> <p>BIOS: U6, V1.04.00 (Flash MX25L8006EM11-12G(changed U14, Checksume:B3,1D (ARGB DDC, 24C02)(no change) U13, Checksum: 01, 48 (HDMI DDC, 24C02)(no change) U12(memory), DP DDC checksum 4F, 48 (no change)</p>	ECN# TW0688134
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**Prepared by: DV-HK**

**Date: 30 August 2021**