

Part Number: **4174801xx-3**

Model: **HX-1920 V3**

DATE	VERSION	SUMMARY OF CHANGES	NOTE
21 October 2014	10	<p>Release pilot run material for HX-1920 V3</p> <p>Bare PCB: 017480001-3; P/N 417480110-3 BIOS: U3, E 1.08.00.00 (Flash MX25L3206E)(new) U27, V2.20.20 (EPM30128ATC100) (new) U20, V4.18.9.0 (PIC18F67J60)(same as SVX-1920) U30, DigitalView20120813.bin(same as SVX-1920)</p>	ECN# 870689463
30 January 2015	10 to 11	<p>Release new firmware</p> <p>1. Phase 2 requirements :</p> <p>1.1 Support Full OSD menu and RS232 command functions (The OSD menu structure will be implemented same as SVX-1920)</p> <p>1.1.1. Color Temperature function 1.1.3. Individual Brightness, Contrast, Color.... Setting on Each input port 1.1.4. Auto color Calibration, VGA and component port 1.1.5. Aspect/Size 1.1.6. Auto Source Seek 1.1.7. User Default setting 1.1.8. HotKey 1.1.9. Backlight Setup (Ambient light sensor) 1.1.10. Zoom 1.1.11. Wide Screen Mode Selection 1.1.12. Auto Power 1.1.13. OSD position / timeout 1.1.14 Language (English, spanish, French, German, Chinese)</p> <p>2 Phase 3 requirements :</p> <p>2.1 Support soft power on/off RS-232 (0xc8) command function. 2.2 Networking (same as SVX-1920) 2.3. Support PWM backlight setup. 2.4. Support PIP for 18 sizes selection and SBS (Side by Side) 2.5. Fix some IR remote not working problem. 2.6. Support HD-1000, HD-2000 & HD-3000S connection. 2.7. Add the user port name function. 2.8. Anti Image Retention</p> <p>Bare PCB: 017480001-3; P/N 417480111-3 BIOS: U3, V 1.12.00.00 (Flash MX25L3206E)(changed) U27, V2.20.20 (EPM30128ATC100) (no change) U20, V4.18.9.0 (PIC18F67J60)(no change) U30, DigitalView20120813.bin(no change)</p>	ECN# 870689480

<p>5 February 2015</p>	<p>1x to 20</p>	<p>Using new PCB 017480002-3</p> <ul style="list-style-type: none"> - fix ADC 2.5V with regulator(SGM2019-2.5YN5G) instead of using diode(S1A) - C81,C89,C95,C112,C117 & C118 changed to more reliable Kemet T521 series capacitor <p>Release new firmware</p> <p>1. Phase 2 requirements :</p> <p>1.1 Support Full OSD menu and RS232 command functions (The OSD menu structure will be implemented same as SVX-1920)</p> <ul style="list-style-type: none"> 1.1.1. Color Temperature function 1.1.3. Individual Brightness, Contrast, Color.... Setting on Each input port 1.1.4. Auto color Calibration, VGA and component port 1.1.5. Aspect/Size 1.1.6. Auto Source Seek 1.1.7. User Default setting 1.1.8. HotKey 1.1.9. Backlight Setup (Ambient light sensor) 1.1.10. Zoom 1.1.11. Wide Screen Mode Selection 1.1.12. Auto Power 1.1.13. OSD position / timeout 1.1.14 Language (English, spanish, French, German, Chinese) <p>2 Phase 3 requirements :</p> <ul style="list-style-type: none"> 2.1 Support soft power on/off RS-232 (0xc8) command function. 2.2 Networking (same as SVX-1920) 2.3. Support PWM backlight setup. 2.4. Support PIP for 18 sizes selection and SBS (Side by Side) 2.5. Fix some IR remote not working problem. 2.6. Support HD-1000, HD-2000 & HD-3000S connection. 2.7. Add the user port name function. 2.8. Anti Image Retention <p>Bare PCB: 017480002-3; P/N 417480120-3</p> <p>BIOS: U3, V 1.12.00.00 (Flash MX25L3206E)(no change) U27, V2.20.20 (EPM30128ATC100) (no change) U20, V4.18.9.0 (PIC18F67J60)(no change) U30, DigitalView20120813.bin(no change)</p>	<p>ECN# 870689482</p>
<p>18 March 2015</p>	<p>20 to 21</p>	<p>Remove the whole real time clock circuit on board, including battery and battery holder and it's related components</p> <ul style="list-style-type: none"> - Remove R226, R235, R237-238, DC14, Y1, U37 and BT1(Battery and holder) <p>Remark : This hardware change is only apply on new production batch. (i.e It will not apply on handling the RMA boards and return for version update unless special request)</p> <p>Bare PCB: 017480002-3; P/N 417480121-3</p> <p>BIOS: U3, V 1.12.00.00 (Flash MX25L3206E)(no change) U27, V2.20.20 (EPM30128ATC100) (no change) U20, V4.18.9.0 (PIC18F67J60)(no change) U30, DigitalView20120813.bin(no change)</p>	<p>ECN# 870689497</p>

<p>9 September 2015</p>	<p>21 to 22</p>	<p>Release new firmware <u>Features added :</u> 1) Support text overlay function. 2) Support AVD-1000 board. - support Composite x2, SVideo x2 and Component x2 in the OSD menu - support AVD-1000 ports enable/disable selection OSD menu - support Auto source seek for AVD-1000 enabled ports - support ports selection via RS232 commands 3) Add Image Orientation function Support in OSD menu & RS-232 command. But this image orientation function is not support under the following conditions : - PIP - Component 1 (via CNV2 connector) input. - Driving with 1366x768 panel - Zoom 4) Add to display the "Loading" on screen display message to avoid the unstable HDMI / DVI source detected (especially connected to HDMI splitter) causing flashing image.</p> <p><u>Problems fixed :</u> 5) Fix the LVDS output setting problem when running under 1280x1024 resolution panel. 6) Fixed runtime counter is still incremented when setting the display power off using soft power on/off command (0xc8,0) 7) Fix video lock bug which cause no image display after wake up on input signal. 8) Fix the HDMI wake up and lose detection issues</p> <p>Bare PCB: 017480002-3; P/N 417480122-3 BIOS: U3, V 1.16.00.00 (Flash MX25L3206E)(changed) U27, V2.20.20 (EPM30128ATC100) (no change) U20, V4.18.9.0 (PIC18F67J60)(no change) U30, DigitalView20120813.bin(no change)</p>	<p>ECN# 870689527</p>
<p>6 May 2016</p>	<p>22 to 23</p>	<p>Firmware change : Use firmware revision V1.19.00.00 on U3 implemented the features below :</p> <p><u>Features added :</u> 1) Support dual digital PIP input by changing the DVI port characteristics from HDMI to DVI. 2) Added Standard Gamma Selection (0.6 ~ 2.6) support on OSD menu and RS-232 command. 3) Support "Resolution default by EDID" for different resolution panel. The controller will set the preferred timing based off the dip switch setting selection, but also be able to go higher to 1920x1200. For example, if the panel is a 1024x768 and the dip switch setting are set for 1024x768. The preferred EDID resolution should be 1024x768. It should also have the capability to set the max resolution to 1920x1200.</p> <p><u>New panel supported :</u> 4) Add Samsung ASI545FB01-0 (1920x1080) OLED panel timing (SW3 position 1-8 : OFF-ON-ON-ON-OFF-OFF-OFF-ON, SW4 position 1-6 : OFF-OFF-ON-OFF-OFF-OFF).This panel timing is turned off the Spread Spectrum and do not transmit the H-Sync & V-Sync signal to the panel. 5) Add Hitachi TX48D02VM0BAA (1680x1050) panel support (SW3 position 1-8 : OFF-OFF-ON-ON-ON-ON-OFF, SW4 position 1-6 : OFF- OFF-ON-ON-OFF-OFF)</p> <p><u>Problems fixed :</u> 6) Fix HD-3000S support problem. 7) Fix the Saturation bug found in E1.18.00.01 that it will drop the Saturation level at 50. 8) Display "0" pattern on screen when pressing "-" button under OSD menu > Utilities > Setting > Anti-Image Retention.</p> <p>Bare PCB: 017480002-3; P/N 417480123-3 BIOS: U3, V 1.19.00.00 (Flash MX25L3206E)(changed) U27, V2.20.20 (EPM30128ATC100) (no change) U20, V4.18.9.0 (PIC18F67J60)(no change) U30, DigitalView20120813.bin(no change)</p>	<p>ECN# 870689573</p>

25 November 2016	23 to 24	<p>Firmware change : Use firmware revision V1.25.00.00 on U3 implemented the features below : - Change details please refer to `417480133-3</p> <p>Bare PCB: 017480002-3; P/N 417480124-3 BIOS: U3, V 1.25.00.00 (Flash MX25L3206E)(changed) U27, V2.20.20 (EPM30128ATC100) (no change) U20, V4.18.9.0 (PIC18F67J60)(no change) U30, DigitalView20120813.bin(no change)</p>	ECN# 870689620
14 April 2015	2x to 30	<p>Using new PCB 017480003-3 - Fixed GPIO pin support issue on J3 connector pin16-19.</p> <p>Bare PCB: 017480003-3; P/N 417480130-3 BIOS: U3, V 1.12.00.00 (Flash MX25L3206E)(no change) U27, V2.20.20 (EPM30128ATC100) (no change) U20, V4.18.9.0 (PIC18F67J60)(no change) U30, DigitalView20120813.bin(no change)</p>	ECN# 870689504
24 August 2015	30 to 31	<p>Release new firmware <u>Features added :</u> 1) Support text overlay function. 2) Support AVD-1000 board. - support Composite x2, SVideo x2 and Component x2 in the OSD menu - support AVD-1000 ports enable/disable selection OSD menu - support Auto source seek for AVD-1000 enabled ports - support ports selection via RS232 commands 3) Add Image Orientation function Support in OSD menu & RS-232 command. But this image orientation function is not support under the following conditions : - PIP - Component 1 (via CNV2 connector) input. - Driving with 1366x768 panel - Zoom 4) Add to display the "Loading" on screen display message to avoid the unstable HDMI / DVI source detected (especially connected to HDMI splitter) causing flashing image.</p> <p><u>Problems fixed :</u> 5) Fix the LVDS output setting problem when running under 1280x1024 resolution panel. 6) Fixed runtime counter is still incremented when setting the display power off using soft power on/off command (0xc8,0) 7) Fix video lock bug which cause no image display after wake up on input signal. 8) Fix the HDMI wake up and lose detection issues</p> <p>Bare PCB: 017480003-3; P/N 417480131-3 BIOS: U3, V 1.16.00.00 (Flash MX25L3206E)(changed) U27, V2.20.20 (EPM30128ATC100) (no change) U20, V4.18.9.0 (PIC18F67J60)(no change) U30, DigitalView20120813.bin(no change)</p>	ECN# 870689521
4 March 2016	31 to 31 (remain unchanged)	<p>Running change to use black color VGA connector (Update BOM Only) Bare PCB: 017480003-3; P/N 417480131-3 BIOS: U3, V 1.16.00.00 (Flash MX25L3206E)(no change) U27, V2.20.20 (EPM30128ATC100) (no change) U20, V4.18.9.0 (PIC18F67J60)(no change) U30, DigitalView20120813.bin(no change)</p>	NA

<p>6 May 2016</p>	<p>31 to 32</p>	<p>Firmware change : Use firmware revision V1.19.00.00 on U3 implemented the features below :</p> <p><u>Features added :</u></p> <ol style="list-style-type: none"> 1) Support dual digital PIP input by changing the DVI port characteristics from HDMI to DVI. 2) Added Standard Gamma Selection (0.6 ~ 2.6) support on OSD menu and RS-232 command. 3) Support "Resolution default by EDID" for different resolution panel. The controller will set the preferred timing based off the dip switch setting selection, but also be able to go higher to 1920x1200. For example, if the panel is a 1024x768 and the dip switch setting are set for 1024x768. The preferred EDID resolution should be 1024x768. It should also have the capability to set the max resolution to 1920x1200. <p><u>New panel supported :</u></p> <ol style="list-style-type: none"> 4) Add Samsung ASI545FB01-0 (1920x1080) OLED panel timing (SW3 position 1-8 : OFF-ON-ON-ON-OFF-OFF-OFF-ON, SW4 position 1-6 : OFF-OFF-ON-OFF-OFF-OFF). This panel timing is turned off the Spread Spectrum and do not transmit the H-Sync & V-Sync signal to the panel. 5) Add Hitachi TX48D02VM0BAA (1680x1050) panel support (SW3 position 1-8 : OFF-OFF-ON-ON-ON-ON-ON-OFF, SW4 position 1-6 : OFF- OFF-ON-ON-OFF-OFF) <p><u>Problems fixed :</u></p> <ol style="list-style-type: none"> 6) Fix HD-3000S support problem. 7) Fix the Saturation bug found in E1.18.00.01 that it will drop the Saturation level at 50. 8) Display "0" pattern on screen when pressing "-" button under OSD menu > Utilities > Setting > Anti-Image Retention. <p>Bare PCB: 017480003-3; P/N 417480132-3 BIOS: U3, V 1.19.00.00 (Flash MX25L3206E)(changed) U27, V2.20.20 (EPM30128ATC100) (no change) U20, V4.18.9.0 (PIC18F67J60)(no change) U30, DigitalView20120813.bin(no change)</p>	<p>ECN# 870689573</p>
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<p>25 November 2016</p>	<p>32 to 33</p>	<p>Firmware change : Use firmware revision V1.25.00.00 on U3 implemented the features below :</p> <p><u>Features added :</u></p> <ol style="list-style-type: none"> 1) Support External audio board and enable SPDIF function. 2) Support monochrome mode for Red, Green, Blue on OSD menu and RS-232 command control. 3) Support the firmware upgrade via Digital input ports (HDMI/DVI). 4) Added Hotkey for Image Orientation. 5) Support user EDID upgrade via RS-232 command. <p><u>New panel supported :</u></p> <ol style="list-style-type: none"> 6) Support JDI TX48D02VM0BAA (1680x1050) panel (Dip switch setting : SW3 position 1-8 : OFF-OFF-ON-ON-ON-ON-ON-OFF, SW4 position 1-6 : OFF-OFF-ON-ON-OFF-OFF) <p><u>Problems fixed :</u></p> <ol style="list-style-type: none"> 7) Fixed zoom function bug : <ol style="list-style-type: none"> (i) Not zooming to Center - If Zoom in the Picture one step, the Picture gets Zoomed, but also shifted to left, so there is a black strip on the right side of the Screen. Even with H-Pan = -100 there still a black strip (cannot get scrolled enough) (ii) Max zoom show 1/3 of picture distorted - If Zoom is at max, the Picture shows distortion in the top ~1/3 of the Screen, which are persistent (stay as long this zoom level is selected). 8) Fix the text overlay image problem when running with a non 1920x1080 & 1920x1200 resolution panel. 9) Fix the loose audio level issue during power up. 10) Wrong image size and OSD info when inputted the NTSC mode via AVD-1000 after power cycle the controller/AVD-1000. 11) Found distort image on the text overlay box when sending texts through Text overlay utility by input the 1600x1200 60Hz mode at VGA & DVI port and running with Samsung LTM220CS01 (1920x1200) panel. 12) Found distort image when increase the zoom level and set back the zoom level to zero when running in PIP application. 13) Anti-image retention operation errors <ol style="list-style-type: none"> (a) Found distortion image under component & HDMI & PIP configuration when running the pixel shift function (b) Wrong "SEL UP" select loop sequence under "Horizontal / Vertical Pan" setting sub-menu in Anti-image retention menu. 14) Bad image display ~0.5 second on screen when changing zoom value or Aspect/Size settings under 720p30 at component video port input. 15) Found the RS-232 command (0x98 0x45 0x31) is still function to allow two Digital inputs displays on Main and PIP. It will cause main and PIP input displays the same image as main input image. 16) Wrong PIP representation after turning off the PIP and then re-activate the same PIP input source. (e.g Main is VGA & PIP is HDMI, it will get Main is HDMI and PIP is HDMI after turning off the PIP and re-activate to display HDMI on PIP) 17) RS-232 commands error - No function PIP Brightness (0xa2) & PIP Contrast(0xa3), but RS-232 feedback correct. 	<p>ECN# 870689620</p>
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		<p>18) When the main is displaying Composite / S-Video, it will wrongly show the same Composite /S-Video image displayed on the PIP window when using PIP On/Off hotkey function.</p> <p>19) Found wrong distorted image when change the Zoom level to 88 or 94 under S-Video (NTSC) or Composite (PAL)</p> <p>Bare PCB: 017480003-3; P/N 417480133-3 BIOS: U3, V 1.25.00.00 (Flash MX25L3206E)(changed) U27, V2.20.20 (EPM30128ATC100) (no change) U20, V4.18.9.0 (PIC18F67J60)(no change) U30, DigitalView20120813.bin(no change)</p>	
14 March 2017	33 (P/N remain unchanged)	<p>Hardware change</p> <p>Change to use the Common mode filter with ESD protection component (SP5001-04TTG) to replace the end of life part (EMI4182MTTAG) on D19-20 and D24-26 (Total 5pcs)</p> <p>Bare PCB: 017480003-3; P/N 417480133-3 BIOS: U3, V 1.25.00.00 (Flash MX25L3206E)(no change) U27, V2.20.20 (EPM30128ATC100) (no change) U20, V4.18.9.0 (PIC18F67J60)(no change) U30, DigitalView20120813.bin(no change)</p>	ECN# 870689633
18 October 2018	33 to 34	<p>Use firmware V1.27.00.00 on U3</p> <ul style="list-style-type: none"> - Change the gamma interpretation be : 1.8/1.9/2.0/2.1/2.2/2.3/2.4/2.5/2.6(2.2 is the default value), instead of 0.6/0.7/0.8/0.9/1.0/1.1/1.2/1.3/1.4. - Support new panel : LG LM300WQ06-SLA1 panel(SW3 position 1-8 : ON-ON-OFF-OFF-OFF-ON-OFF-ON) - Bug fixed : Wrong PIP representation after turning off and then on the PIP by using PIP swap hot key function. It will display same input source problem on the Main and PIP window. <p>Bare PCB: 017480003-3; P/N 417480134-3 BIOS: U3, V 1.27.00.00 (Flash MX25L3206E)(changed) U27, V2.20.20 (EPM30128ATC100) (no change) U20, V4.18.9.0 (PIC18F67J60)(no change) U30, DigitalView20120813.bin(no change)</p>	ECN# 870689712
23 October 2018	3x to 40	<p>Production release new version using new PCB 017520004-5 Rev B</p> <ul style="list-style-type: none"> - Change to use the DC-DC converter (EUP3226JIR1) on U13 with associated component to replace the end of life part (EUP3420JIR1). - Change to use JST B3B-XH-A compatible type connector on LED1. - Change to use new Atmel CPLD ATF1508ASV-15AU100-T on U27 to replace EOL Altera EPM3128ATC100-10 <p>Firmware on U3 no change, same as 417480134-3 Firmware on CPLD(U27) is changed to V3.40.20 as IC changed</p> <p>Bare PCB: 017480003-3; P/N 417480034-3 BIOS: U3, V 1.27.00.00 (Flash MX25L3206E)(no change same as 417480134-3) U27, V3.40.20 (ATF1508ASV-15AU100-T) (changed) U20, V4.18.9.0 (PIC18F67J60)(no change) U30, DigitalView20120813.bin(no change)</p>	ECN# 870689714

Prepared by: DV-HK	Date: 23 Oct 2018
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