Crystalio® Release Note v4.0.4

By Pixel Magic Systems Ltd.

Crystalio® Release Note v4.0.4

(1) HDTV DVI input port mode

User can define the HDTV DVI is either PC or STB mode. For PC mode, Crystalio will process incoming signal from HDTV DVI port and output signal for both analog and digital without any encryption. For STB mode, Crystalio will process incoming signal from HDTV DVI port and output encrypted signal on digital output only. So, user needs to connect HDCP-compliant display devices to watch.

Usage: Setup -> System setup ->DVI Config

(2) Improved HDCP engine

Improved HDCP engine in Crystalio keep the communication between Crystalio and HDCP-complaint display devices more stable. So, no more “snow” screen will be displayed.

(3) Bug fixed for change customized output format in some cases

Crystalio® Release Note v4.0.2 & 4.0.2a

By Pixel Magic Systems Ltd.

Crystalio® Release Note v4.0.2 & v4.0.2a

(1) HDTV Auto Position Adjust function

Before, user needs to adjust the HD active wnd manually to achieve a correct input position. Now, for HDTV inputs, user can use Auto Adjust function to set the correct input position for HDTV signals. The process needs to take around 15 second, please wait until it done.
Also, User can also do the manual adjust in case the Auto adjust function is not too fit sometimes.

Usage: Setup -> System setup -> HD Active Wnd -> Auto Pos Adj

(2) Basic RS232 control system support

The remote control protocol for controlling Crystalio via the rs232 interface is available on this new firmware.
For details, please refer to “Crystalio Serial Programming Interface” document.

(3) More timing added

More output resolution timing added on this firmware. Those new added timing divided into two categories. One is “RT” and the other is “HD”. For “RT” timing, those refresh rate already fine tuned so that no pending error on movement. For “HD” timing, those refresh rate are suitable for display “HDTV” materials correctly.

RT timing		**HD timing**
"852x480(RT)"	"1360x768(RT)"	"1024ALis(HD)"
"1024x576(RT)"	"1366x768(RT)"	"1280x720(HD)"
"1024x768(RT)"	"1368x768(RT)"	"1280x768(HD)"
"1024ALis(RT)"	"1400x788(RT)"	"1360x768(HD)"
"1280x720(RT)"	"1400x1050(RT)"	"1368x768(HD)"
"1280x768(RT)"	"1920x1080(RT)"	"1400x1050(HD)"
"1280x1024(RT)"		

(4) HDTV analog input width and phase control

For HDTV analog inputs (HDTV Component, HDTV RGBHV and HDTV RGBS), user can adjust the width and phase of analog incoming signal.

Usage: Setup -> System Setup -> HD Active Wnd -> Width Adjust / Phase Adjust

(4) Bug fixed for DynaVOut Analog and Digital output

(5) Bug fixed for RGB Offset lose when bootup

(6) Bug fixed for display negative value in "ZoomToLine" for no source

(7) Bug fixed for NLS aspect ratio on resolution 1400x1050/1400x788

(8) Bug fixed for recall profile on input format item.

For version v4.0.2a

(9) Fine tuned rs232 control command

(10) Fine tuned image aspect ratio switching

Crystalio® Release Note v4.0.0

By Pixel Magic Systems Ltd.

Crystalio® Release Note v4.0.0

(1) HDCP Support

HDCP, a specification developed by Intel for protecting digital entertainment content that uses the DVI interface. HDCP encrypts the transmission of digital content between the video source, or transmitter -- such as a computer, DVD player or set-top box -- and the digital display, or receiver -- such as a monitor, television or projector. HDCP is not designed to prevent copying or recording of digital content but to protect the integrity of content as it is being transmitted.

For those who already upgraded the Crystalio or HDCP-compliant Crystalio user, please upgrade this firmware. This firmware is needed for handling HDCP incoming source

Remark: When input HDCP DVI source, the DVI output of Crystalio will be HDCP signal. For non-HDCP compliant display device, you will see a blanking signal or snow signal in screen for DVI output from Crystalio. And no signal output for analog output from Crystalio.

Crystalio® Release Note v3.0.5

By Pixel Magic Systems Ltd.

Crystalio® Release Note v3.0.5

(1) Enhanced Bad Edit

The new firmware v3.0.5 enhanced the bad edit correction. It can handle more bad edit cases.

(2) Improved Non Linear Sketching

NLS (non linear stretching) is used to fill a full 16:9 screen with a 4:3 image. There are two parameters, ***Center Shape*** and ***Crop to Fit***, that control how the 4:3 image stretched to the 16:9 screen, depending on different personal tastes.

NLS Config -> **Center Shape**

This parameter controls the shape of image in center area. Set to 3 makes the image look good at center, but with more distortion at left and right side. Set to 0 makes the image smooth across the whole picture, but a bit *fat* at center.

The following pictures show the difference of setting ***Center Shape*** from 0 to 3, with ***Crop to Fit*** being set to default value of 2.

Center Shape = 0 (produces a less non-linear stretched image)

Center Shape = 1

Center Shape = 2

Center Shape = 3 (Horizontal stretching takes place mainly at the two sides, resulting in minimum horizontal stretching at center)

NLS Config -> **Crop to Fit**

This parameter controls how the image can be cropped at top and bottom. By cropping the image, we can maintain good shape at center and also less distortion at left and right side.

Set to 0 for no cropping allowed and 3 for maximum cropping.

The following pictures show the difference of setting ***Crop to Fit*** from 0 to 3, with ***Center Shape*** being set to default value of 2.

Crop to Fit = 0

Crop to Fit =1

Crop to Fit = 2

Crop to Fit = 3 (Maximum cropping)

(3) Film Bias Control

This can be set to a value ranging from 1 to 9, with the smallest value suitable for most video sources, while the greater values better suit film sources.

Usage: Setup -> Advanced -> Film Bias

(4) SDI Auto Polarity

In firmware v3.0.5, it can auto detect the polarity of SDI input signal. So, user doesn't need to configure it anymore.

For user firmware upgrade, the SDI polarity will remain the same as user selected before. Except user do the factory reset which set the SDI polarity to Auto as default.

For new user using v3.0.5, the SDI polarity set to "Auto" as default.

Usage: Setup -> System Config -> SDI Polarity -> SDI 1 / SDI 2 / SDI 3 -> Auto

(5) Different Screen Aspect Ratio for analog and digital devices

User can select different screen aspect ratio for digital and analog devices.

For user firmware upgrade, both digital and analog device screen aspect ratio are the same as previous setting

(6) Bug fixed for DynaVOut problem

In previous version, the DynaVOut didn't function well on selecting output format when NTSC/PAL in. In this new firmware v3.0.5, it fixed this DynaVOut bug.

Remark: The DynaVOut may need to activate by select it again. Please select DynaVOut function again after firmware upgrade if the DynaVOut still not working properly.

Crystalio® Release Note v3.0.4

By Pixel Magic Systems Ltd.

Crystalio® Release Note v3.0.4

(1) More Preset Timing

Resolution: 1400x1050(A)

- This resolution is designed for 1400x1050 with analog output [RGBHV / RGB(Cs)]

Common Model: Panasonic TH-50PHD6

Remark: The index for customized resolution selection may not be correct. E.g., if you are using customized resolution, after the upgrade and you go into the menu setup -> System Config -> Resolution, the resolution SHOWN may not be the current customized resolution (although the image output is correct). You can correct this by selecting the customized resolution once again.

(2) DVI Pass Through

For using HDTV DVI input, user can select this option to enable DVI pass through such that no scaling part will be performed by Crystalio. The output of Crystalio will automatically changed according the input format of source. For example, if the source is 1080i with HDTV DVI input, Crystalio will automatically output 1080i. If the source is 720p with HDTV DVI input, Crystalio will output 720p.

Usage: "Setup" -> "System Config" -> "DVI Pass Thr" -> "On" / "Off"

Note: The output setting (resolution/format) will be ignored when this setting is on.

Note: The video processing part (such as video setting, truelife …etc) still apply on the source.

(3) HD Active Wnd associated with HDTV input ports

In previous firmware versions, the "HD Active Wnd" is a global setting for HDTV input ports (HDTV Component, HDTV RGBHV, HDTV RGB and HDTV DVI). When user wants to change different HDTV input sources, this setting may need to alter. So, in this firmware version, the "HD Active Wnd" associated with HDTV input ports that each HDTV input port has own setting

and stored separately. User doesn't need to change it anymore when switching different HDTV sources.

Note: When upgrading from version v3.0.3a to v3.0.4, the HD Active Wnd setting of previous version will update all "HD Active Wnd" settings for new version.

(4) Separate output resolution / format for digital (DVI) and analogue (RGBHV) output

It is very common to connect Crystalio output to two different display devices by using digital and analog output. To achieve a better picture quality, user must select different resolution / format for digital and analog output.
In firmware v3.0.4, the output resolution / format are stored into two different profiles. One is for DVI output select. The other is for analog output select such as RGBHV, YPbPr, YCbCr and RGB(Cs). The setup for resolution/format is the same as before but the setting will store into different profiles according the output select.

For example:

SDI1 input, DVI output. Resolution: 1440x1050
SDI1 input, RGBHV output. Resolution: 1280x720

Note: When upgrading from version v3.0.3a to v3.0.4, the current output setting of previous version will update both digital and analog profile in new version.

(5) Remap button for Crystalio

On Crystalio remote control, there are no "16:9 Letter Box" nor "Toggle D/A" buttons. In the firmware, user can redefine some buttons to perform these operations

Usage: "Setup" -> "Advanced" -> "Remap Button" -> "16:9 Letter Box"
- N / A (default)
- 2:35 : 1 ---------- "2:35:1" button is replaced with "16:9 LetterBox" function.

Usage: "Setup" -> "Advanced" -> "Remap Button" -> "Toggle D / A"
- N / A (default)
- LED ACTIVE ---------- "LED ACTIVE" button is replaced with "Toggle D / A" function
- LED OFF ---------- "LED OFF" button is replaced with "Toggle D / A" function
- LCD ON ---------- "LCD ON" button is replaced with "Toggle D / A" function

- LCD ACTIVE ---------- "LCD ACTIVE" button is replaced with "Toggle D / A" function
- LCD OFF ---------- "LCD OFF" button is replaced with "Toggle D / A" function

Note: "Toggle D/A" is used to switch output between digital and analogue. Analogue output could be either one of RGBHV, YPbPr, YCbCr and RGB(Cs), and it is the same as the format last time used

So for example, if you remap "Toggle D/A" button when you are using RGBHV analogue output, this button will switch output between digital DVI and analogue RGBHV when press. And if you change output to analogue YPbPr later on, this button will switch output between digital DVI and analogue YPbPr when press.

(6) More setting in video profile

The TrueLife is now stored in video profile

The following table summarizes the parameters stored in Video profile and AR profile:

VIDEO PROFILE	AR PROFILE
Input Format	Aspect Ratio
Brightness	Zoom Factor
Contrast	Position
Color	Crop
R, G, B Offset	
R, G, B Gain	
Hue	
Pre YC Delay	
Post YC Delay	
Sharpness	
Noise Reducer	
De-interlace Mode	
TrueLife	

(7) Minor bugs fix

- Black Line problem on image when Crystalio first boot up

Crystalio® Release Note v3.0.3

By Pixel Magic Systems Ltd.

Crystalio® Release Note v3.0.3

(1) More Preset Timing

Resolution: 1440x720

Common Model: Hitachi 42 Alis

- This model is designed for 1024 x 1024 ALiS resolution

Output Format: 1080p@59.94(1), 720p @50Hz, 720p @50Hz(1)

- Another 1080p timing for CRT Projector
- 720p timing with refresh rate 50Hz

Remark: The index for customized resolution selection may not be correct. E.g., if you are using customized resolution, after the upgrade and you go into the menu setup -> System Config -> Resolution, the resolution SHOWN may not be the current customized resolution (although the image output is correct). You can correct this by selecting the customized resolution once again.

(2) Individual output resolution with different HDTV input

User can associate different output resolution/format for HDTV input (HDTV DVI, HDTV Component, HDTV RGBHV, HDTV RGB). The default value is 1024x768.

For example:

When input is HDTV DVI, output is 1280x1024
When input is HDTV Component, output is 1080p
When input is SD (e.g. SDI, S-Video), output is 1024x768

(3) HD Auto Input Format

For SDTV, it can auto detect the video source is NTSC or PAL. Now, for High-Def source, Crystalio can auto detect the HD input format.
When you fit in 1080i source, the Crystalio can auto detect the input source format and change the HD input format. When you fit in another 720p source, the machine will switch to 720p input format.

For some un-recognized input format, it will blank screen.

Remark: Crystalio will remain the previous Input Format while firmware upgrade. To use this feature, goto menu setup -> System Config -> Input Format and set to "HDTV". Note also that Input format will be reset to "HDTV" after "Factory Setting" (i.e., menu setup -> Advanced -> Factory Setting).

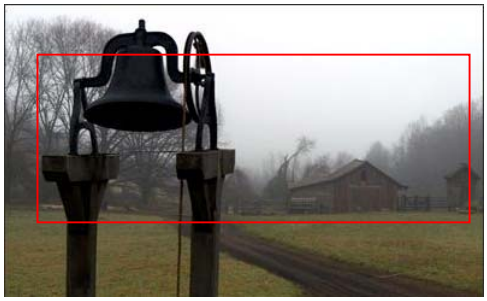
Remark: User can still select different input format same as before. This can solve the problem when HD Auto Input Format function is not fully work on input source.

(4) Film Detection Window Control

Define the film mode detection window. On some cases when the source has sub-title, the de-interlacing method used may not be correct. So, use this control for adjustment.

Usage: "Setup" -> "Advanced" -> "Film Detect"

Normal Wnd



Small Wnd

(5) Sharpness Control

Increase the sharpness of the image

Usage: "Setup" -> "Video Setting" -> "Sharpness"

(6) More setting in video profile

The Noise Reducer and De-interlace mode are stored in video profile. Same idea as Brightness, Contrast.

The following table summarizes the parameters stored in Video profile and AR profile:

VIDEO PROFILE	AR PROFILE
Input Format	Aspect Ratio
Brightness	Zoom Factor
Contrast	Position
Color	Crop
R, G, B Offset	
R, G, B Gain	
Hue	
Pre YC Delay	
Post YC Delay	
Sharpness	
Noise Reducer	
De-interlace Mode	

(7) Minor bugs fix

- Hide input bug fixed
- Zoom to line bug fixed
- HD Active Wnd bug fixed