

# IFB-FULLHD V2 HDMI V1.3

## Datasheet



## ◆ IFB-FULLHD V2 brief

IFB-FULLHD V2 is a newly card for SONY VPH-1251 VPH-1252 VPH-1270 VPH-1271 VPH-1272 VPH-1292 VPH-D50 VPH-G70 VPH-G90 CRT projector. It has two HDMI V1.3 input port with **true 12bit** deep color support, and using three high precision 12bit video DACs convert to high precision analog RGB video signal. Build-in **advanced Gamma** circuit create real nature image for your SONY projector. Gain control can adjust pure white of the image. The IFB-FULLHD V2 is an ideal HDMI card for SONY CRT projector to connect feature digital HD source, such as SONY PS3, Blue-ray Disc, HDTV Setup-BOX and HD-DVD.

## ◆ FEATURES

### ■ HDMI input path

- HDMI 1.0, 1.1, 1.2, 1.3 ,HDCP 1.1, and DVI 1.0 compliant
- DTV mode support (480P,576P,720P,1080i,1080P) for 50 and 60Hz
- PC mode support VGA, SVGA, XGA, SXGA, UXGA .etc
- Support 4:4:4 RGB / YCbCr input
- Support 4:2:2 YCbCr input
- Support both 16-235 and 0-255 color range
- 14bit Data processing with High precision 200MHz 12bit DAC
- Improved advance gamma correction processing and white level adjust
- High speed 1.5GHz output Buffer
- Support deep color mode for 10bit and 12bit
- Support 120Hz for 720P and 1080i

### ■ Board

- Fully compatible with SONY VPH series projector's IFB input slot
- Fully compatible with SONY Switcher PC-1270, PC1271, PC-3000
- TOSLINK output, support up to 8 channel audio
- IR control input selection and gamma level adjust
- Ultra Low ESR capacitor to filter noise, and lead to clean image
- ESD improved to prevent Electrostatic Discharge damage while plug HDMI cable

◆ **What difference between IFB-FULLHD and IFB-FULLHD V2**

	<b>IFB-FULLHD</b>	<b>IFB-FULLHD V2</b>
<b>Gamma</b>		Improved gamma (suggested by WTS)
<b>sharpness</b>		More sharper image (improved suggested by MP)
<b>Picture purity</b>		More clean (improved suggested by MP)
<b>Range expand</b>		support
<b>Stability</b>		ESD enhanced

■ HDMI support mode table

PC mode	640X480	60HZ 72HZ 75HZ 85HZ
	800X600	56HZ 60HZ 72HZ 75HZ 85HZ
	1024X768	43HZ 60HZ 70HZ 75HZ 85HZ
	1152X864	60HZ 70HZ 75HZ 85HZ
	1280X1024	43HZ 60HZ 75HZ 85HZ
	1600X1200	48HZ 60HZ 70HZ 72HZ 75HZ
	1440X960	43HZ 60HZ 72HZ
HDTV mode	480P	60HZ
	576P	50HZ
	720P	50HZ 59HZ 60Hz 120Hz
	1080I	29HZ 30HZ 50HZ 59HZ 60HZ 96HZ* <sup>1</sup> 120Hz
	1080P	50HZ 59HZ 60Hz 70HZ 72HZ 75HZ 24HZ* <sup>2</sup> 25HZ* <sup>2</sup> 29.9HZ* <sup>2</sup> 30HZ* <sup>2</sup>
	1035I	30HZ

【Notice】

\*1 need use powerstrip to set graphic card output this mode

\*2 IFB-FULLHD V2 support these modes, and will output these signal with same refresh rate as same as input source, but most CRT projector are only support 30Hz-150Hz, using such low refresh rate may let SONY projector working with incorrect behavior.

◆ Board overview



**HDMI input ports:**

Connect HDMI cable to video source

**SPDIF port (Toslink):**

Optical digital sound output, support 2ch PCM and 8ch compressed sound

**Long cable support:**

30 meter MOLEX HDMI cable test ok 720P BOK HDMI player

**IR control:**

IR control can let you switch between input sources and adjust gamma level

◆ IR functional Keys :

Key name	function	note
1	input select HDMI0	
2	input select HDMI1	
gamma	gamma up/down	Total 20 step
0	Select minima gamma	
100	Select maxima gamma	
A	Output range 16-235	(range expand off)
B	Output range 0-255	(range expand on)

**【Notice】** With range expand function on, you will not see BTB and WTW. But you can get more black and white picture.

◆ Manual gamma VR location:



We can see the panel, there is two little pot, one for contrast adjustment (need professional person to do this), another one use for gamma level adjustment. Below is adjustment way:

Step 1: Turn the little screw to max, un-clockwise (right to left),

Note: **total 25 turns**

Step 2: using **remote controller gamma up/down key** to set little higher gamma level you want. This is coarse adjust for gamma step, you will have **total 20 level** to use. Please note: when you reach the maxima or minima gamma, the IR LED will keep on when press the remote.

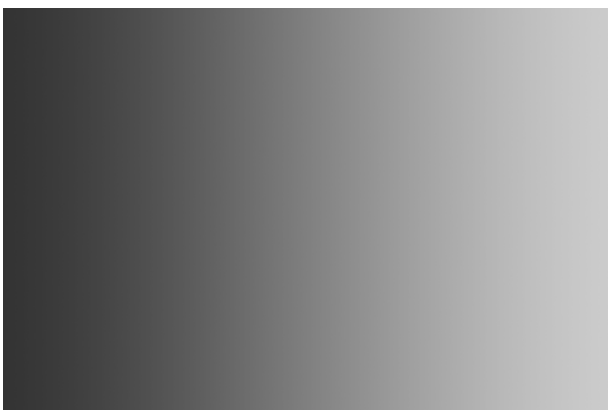
Step 3: fine tune the **gamma level** by turning the little screw. (You will not need this step, if 20 step gamma is enough for your system.)

**【Notice】** : While adjusting the gamma level, the **RED led** will be blinking.

◆Using grayscale to check gamma



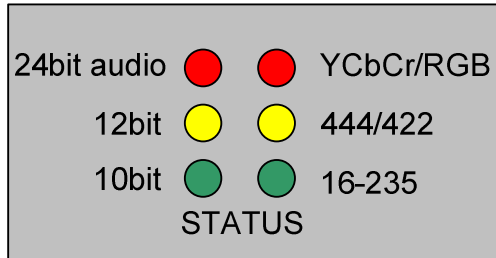
No gamma (gamma level=0)



Well tuned gamma



Too much gamma

**◆ STATUS LED:****24bit Audio LED:**

When feed 24bit audio to IFB-FULLHD V2, this LED lights up

**12bit LED:**

When feed 12bit deep color, this LED lights up

**10bit LED:**

When feed 10bit deep color, this LED lights up

**YCbCr/RGB LED:**

When input mode is YCbCr 444 /422, this LED lights up, if at RGB mode, this LED off

**444/422 LED:**

This LED indicates input source either 444 or 422, when 444, LED lights up, if 422 input, LED off.

**16-235 LED**

This LED indicate output range, if output range is 16-235, LED lights up, when output range at 0-255, LED off.



**◆ Installation example on SONY VPH-G90 and play with SONY PS3**

1. Insert to SONY projector input B, for G90, you can use either input B or C
2. Connect to PS3 with HDMI cable, and turn on both PS3 and projector
3. Select input B or C that HDMI card is installed, the projector should be synced.  
(Please turn off the 1080P 24HZ output mode on the PS3, CRT projector will not accept such low refresh rate)
4. Enter projector's service mode by press "enter enter up down enter " , then set input B/C as RGB or HDTV-GBR mode, G70 use please use RGB.
5. Use gray scale pattern to adjust gamma if need.

**【Note】 Please don't turn the contrast pot if you have no instrument to measure white level. (The factory default is 0.7V for white)**



PRELIMINARY, SUBJECT TO CHANGE WITHOUT NOTICE

◆ **IFB-FULLHD V2 Spec:**

Weight: 125g

Dimension: 130mmX150mmX36mm

Power consumption: 3W +5V 0.6A (1080P 60Hz)

Maxima resolution: 1920X1200 72Hz

Analog bandwidth: 1500MHz

Output white level: 0.6V-1.0V adjustable

◆ **Technical support:**

[moome@seed.net.tw](mailto:moome@seed.net.tw),

[moome@curtpalme.com](mailto:moome@curtpalme.com)

◆ **Warranty:**

Fully 1 year