ICS 33.160
M 70/79

团　体　标　准

T/CVIA-36-2014 代替

CVIA-TJ- LCD/LED-2014-01

4K 超高清电视屏信号接口技术规范

2014-03-21 发布

2014- 03-21 实施

中国电子视像行业协会　发 布

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前 言

本规范是中国电子视像行业协会的推荐性规范，是中国电子视像行业协会相关会员单位在组织技术研发、采购和生产过程中的主要参照标准，也推荐其他相关企业参考采用。

4k 超高清电气接口技术规范，是根据产业和市场的发展需求，由中国电子视像行业协会组织相关会员单位，共同制定的推荐性标准。本规范旨在为企业提供彩色电视机用液晶显示屏在电气接口参数方面的一致性，以达到降低生产成本、规范生产秩序、促进市场繁荣的目的。

本标准主要起草单位：中国电子视像行业协会、京东方科技集团股份有限公司、深圳市华星光电技术有限公司 TCL 集团股份有限公司、青岛海信电器股份有限公司、青岛海尔电子有限公司、深圳创维-RGB 电子有限公司、四川长虹电器股份有限公司、康佳集团股份有限公司、厦门华侨电子股份有限公司（排名不分先后）。

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4K 超高清电视屏信号接口技术规范

1 范围

本规范给出了4K超高清电视屏图像信号接口技术规范，该规范主要对信号接口各管脚进行定义。

2 图像信号接口定义

2.1 V-BY-ONE 图像信号接口定义（该接口适用 120/60Hz 超高清电视屏， 60Hz 时，只使用 51-Pin 接口）。

2.1.1 51-Pin 的定义

PIN	Symbol	Description
1	VDD	+12V power supply
2	VDD	+12V power supply
3	VDD	+12V power supply
4	VDD	+12V power supply
5	VDD	+12V power supply
6	VDD	+12V power supply
7	VDD	+12V power supply
8	VDD	+12V power supply
9	NC	No connection
10	GND	GND
11	GND	GND
12	GND	GND
13	GND	GND
14	GND	GND
15	L/R_O	Output signal for Glasses Left Right signal
16	L/R	Input signal for Left/Right synchronous signal.
17	2D/3D	2D/3D Enable
18	SDA	I2C Data

19	SCL		I2C CLK
20	WP		(EEPROM Write Protection High(3.3V) for Writable, Open/Low(GND) for Protection)
21	option	NC	NO connection
		8b_10b.	V-by-One input 8/10 bit selection
22	LD_EN		Local Dimming Mode Enable
23	NC		No connection
24	GND		Ground
25	HTPDN		Hot Plug Detect
26	LOCKN		Lock Detect
27	GND		Ground
28	CH1[0]-		First pixel Negative VB1 differential data input. Pair 0
29	CH1[0]+		First pixel Positive VB1 differential data input. Pair 0
30	GND		Ground
31	CH1[1]-		First pixel Negative VB1 differential data input. Pair 1
32	CH1[1]+		First pixel Positive VB1 differential data input. Pair 1
33	GND		Ground
34	CH1[2]-		First pixel Negative VB1 differential data input. Pair 2
35	CH1[2]+		First pixel Positive VB1 differential data input. Pair 2
36	GND		Ground
37	CH1[3]-		First pixel Negative VB1 differential data input. Pair 3
38	CH1[3]+		First pixel Positive VB1 differential data input. Pair 3
39	GND		Ground
40	CH1[4]-		First pixel Negative VB1 differential data input. Pair 4
41	CH1[4]+		First pixel Positive VB1 differential data input. Pair 4
42	GND		Ground
43	CH1[5]-		First pixel Negative VB1 differential data input. Pair 5
44	CH1[5]+		First pixel Positive VB1 differential data input. Pair 5
45	GND		Ground

46	CH1[6]-	First pixel Negative VB1 differential data input. Pair 6
47	CH1[6]+	First pixel Positive VB1 differential data input. Pair 6
48	GND	Ground
49	CH1[7]-	First pixel Negative VB1 differential data input. Pair 7
50	CH1[7]+	First pixel Positive VB1 differential data input. Pair 7
51	GND	Ground

2.1.2 41-pin 定义

PIN	Symbol	Description
1	GND	Ground
2	CH1[8]-	First pixel Negative VB1 differential data input. Pair 8
3	CH1[8]+	First pixel Positive VB1 differential data input. Pair 8
4	GND	Ground
5	CH1[9]-	First pixel Negative VB1 differential data input. Pair 9
6	CH1[9]+	First pixel Positive VB1 differential data input. Pair 9
7	GND	Ground
8	CH1[10]-	First pixel Negative VB1 differential data input. Pair 10
9	CH1[10]+	First pixel Positive VB1 differential data input. Pair 10
10	GND	Ground
11	CH1[11]-	First pixel Negative VB1 differential data input. Pair 11
12	CH1[11]+	First pixel Positive VB1 differential data input. Pair 11
13	GND	Ground
14	CH1[12]-	First pixel Negative VB1 differential data input. Pair 12
15	CH1[12]+	First pixel Positive VB1 differential data input. Pair 12
16	GND	Ground
17	CH1[13]-	First pixel Negative VB1 differential data input. Pair 13
18	CH1[13]+	First pixel Positive VB1 differential data input. Pair 13
19	GND	Ground
20	CH1[14]-	First pixel Negative VB1 differential data input. Pair 14

21	CH1[14]+	First pixel Positive VB1 differential data input. Pair 14
22	GND	Ground
23	CH1[15]-	First pixel Negative VB1differential data input. Pair 15
24	CH1[15]+	First pixel Positive VB1differential data input. Pair 15
25	GND	Ground
26	NC	No connection
27	NC	No connection
28	NC	No connection
29	NC	No connection
30	NC	No connection
31	NC	No connection
32	NC	No connection
33	NC	No connection
34	NC	No connection
35	NC	No connection
36	NC	No connection
37	NC	No connection
38	NC	No connection
39	NC	No connection
40	NC	No connection
41	NC	No connection