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# 团 体 标 准

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## 8K 电视显示屏接口技术规范

Technical Specification for the interface of 8K TV display screen

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中国电子视像行业协会

发 布

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# 前 言

目前 8K 超高清显示产业链上下游标准尚未完善，尤其是 8K 电视显示屏接口方面，各厂家技术方案差异较大，影响了显示屏和整机之间的通用性匹配，阻碍了 8K 显示的迅速推广。

我国作为 8K 显示屏制造大国，国内平板显示行业的发展对 8K 电视显示屏接口标准有强烈的需求。接口标准的制定可以显著降低系统复杂度和企业经营成本，能够引导技术发展、沟通产业链上下游，极大的推动该 8K 显示屏的普及和应用推广，有助于促进产品质量提升，扩大 8K 产业规模。

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。

8K 电视显示屏接口技术规范，是根据产业和市场的发展需要，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：京东方科技集团股份有限公司。

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# 8K 电视显示屏接口技术规范

## 1 范围

本标准规定了 8K 电视显示屏信号接口定义。

## 2 接口定义

### 2.1 8K 60Hz 显示屏 V-BY-ONE 接口定义

8K@60Hz 屏幕接口使用 2 个 51pin 和 1 个 12pin 的接口方案，其接口定义见表 1，表 2，表 3 所示。

表 1 CN1 51-Pin 的定义

Pin	Name	Description	Note
1	HTPDN	Hot plug detect output, Open drain.	
2	LOCKN	Lock detect output, Open drain.	
3	GND	Ground	
4	RX0N	Negative VbyOne differential data input	
5	RX0P	Positive VbyOne differential data input	
6	GND	Ground	
7	RX1N	Negative VbyOne differential data input	
8	RX1P	Positive VbyOne differential data input	
9	GND	Ground	
10	RX2N	Negative VbyOne differential data input	
11	RX2P	Positive VbyOne differential data input	
12	GND	Ground	
13	RX3N	Negative VbyOne differential data input	
14	RX3P	Positive VbyOne differential data input	
15	GND	Ground	
16	RX4N	Negative VbyOne differential data input	
17	RX4P	Positive VbyOne differential data input	
18	GND	Ground	
19	RX5N	Negative VbyOne differential data input	
20	RX5P	Positive VbyOne differential data input	
21	GND	Ground	
22	RX6N	Negative VbyOne differential data input	
23	RX6P	Positive VbyOne differential data input	
24	GND	Ground	
25	RX7N	Negative VbyOne differential data input	

26	RX7P	Positive VbyOne differential data input	
27	GND	Ground	
28	RX8N	Negative VbyOne differential data input	
29	RX8P	Positive VbyOne differential data input	
30	GND	Ground	
31	RX9N	Negative VbyOne differential data input	
32	RX9P	Positive VbyOne differential data input	
33	GND	Ground	
34	RX10N	Negative VbyOne differential data input	
35	RX10P	Positive VbyOne differential data input	
36	GND	Ground	
37	RX11N	Negative VbyOne differential data input	
38	RX11P	Positive VbyOne differential data input	
39	GND	Ground	
40	RX12N	Negative VbyOne differential data input	
41	RX12P	Positive VbyOne differential data input	
42	GND	Ground	
43	RX13N	Negative VbyOne differential data input	
44	RX13P	Positive VbyOne differential data input	
45	GND	Ground	
46	RX14N	Negative VbyOne differential data input	
47	RX14P	Positive VbyOne differential data input	
48	GND	Ground	
49	RX15N	Negative VbyOne differential data input	
50	RX15P	Positive VbyOne differential data input	
51	GND	Ground	

表 2 CN2 51-Pin 的定义

Pin	Name	Description	Note
1	SDA	I2C Data signal	
2	SCL	I2C Clock signal	
3	GND	Ground	
4	RX16N	Negative VbyOne differential data input	
5	RX16P	Positive VbyOne differential data input	
6	GND	Ground	
7	RX17N	Negative VbyOne differential data input	
8	RX17P	Positive VbyOne differential data input	

9	GND	Ground	
10	RX18N	Negative VbyOne differential data input	
11	RX18P	Positive VbyOne differential data input	
12	GND	Ground	
13	RX19N	Negative VbyOne differential data input	
14	RX19P	Positive VbyOne differential data input	
15	GND	Ground	
16	RX20N	Negative VbyOne differential data input	
17	RX20P	Positive VbyOne differential data input	
18	GND	Ground	
19	RX21N	Negative VbyOne differential data input	
20	RX21P	Positive VbyOne differential data input	
21	GND	Ground	
22	RX22N	Negative VbyOne differential data input	
23	RX22P	Positive VbyOne differential data input	
24	GND	Ground	
25	RX23N	Negative VbyOne differential data input	
26	RX23P	Positive VbyOne differential data input	
27	GND	Ground	
28	RX24N	Negative VbyOne differential data input	
29	RX24P	Positive VbyOne differential data input	
30	GND	Ground	
31	RX25N	Negative VbyOne differential data input	
32	RX25P	Positive VbyOne differential data input	
33	GND	Ground	
34	RX26N	Negative VbyOne differential data input	
35	RX26P	Positive VbyOne differential data input	
36	GND	Ground	
37	RX27N	Negative VbyOne differential data input	
38	RX27P	Positive VbyOne differential data input	
39	GND	Ground	
40	RX28N	Negative VbyOne differential data input	
41	RX28P	Positive VbyOne differential data input	
42	GND	Ground	
43	RX29N	Negative VbyOne differential data input	
44	RX29P	Positive VbyOne differential data input	
45	GND	Ground	
46	RX30N	Negative VbyOne differential data input	
47	RX30P	Positive VbyOne differential data input	

48	GND	Ground	
49	RX31N	Negative VbyOne differential data input	
50	RX31P	Positive VbyOne differential data input	
51	GND	Ground	

表 3 CN3 12-Pin 的定义

1	Vin	Power input (+12V)	
2	Vin	Power input (+12V)	
3	Vin	Power input (+12V)	
4	Vin	Power input (+12V)	
5	Vin	Power input (+12V)	
6	Vin	Power input (+12V)	
7	GND	Ground	
8	GND	Ground	
9	GND	Ground	
10	GND	Ground	
11	GND	Ground	
12	GND	Ground	

2.2 8K 120Hz 显示屏 V-BY-ONE 接口定义：

8K@120Hz 使用个 4 个 51pin 和 2 个 12pin 的接口方案，其接口定义见表 4，表 5，表 6，表 7，表 8，表 9 所示。

表 4 CN1 12-Pin 的定义

1	Vin	Power input (+12V)	
2	Vin	Power input (+12V)	
3	Vin	Power input (+12V)	
4	Vin	Power input (+12V)	
5	Vin	Power input (+12V)	
6	Vin	Power input (+12V)	



7	GND	Ground	
8	GND	Ground	
9	GND	Ground	
10	GND	Ground	
11	GND	Ground	
12	GND	Ground	

表 5 CN2 12-Pin 的定义

1	Vin	Power input (+12V)	
2	Vin	Power input (+12V)	
3	Vin	Power input (+12V)	
4	Vin	Power input (+12V)	
5	Vin	Power input (+12V)	
6	Vin	Power input (+12V)	
7	GND	Ground	
8	GND	Ground	
9	GND	Ground	
10	GND	Ground	
11	GND	Ground	
12	GND	Ground	

表 6 CN3 51-Pin 的定义

Pin	Name	Description	Note
1	HTPDN	Hot plug detect output, Open drain.	
2	LOCKN	Lock detect output, Open drain.	
3	GND	Ground	
4	RX0N	Negative VbyOne differential data input	
5	RX0P	Positive VbyOne differential data input	
6	GND	Ground	
7	RX1N	Negative VbyOne differential data input	
8	RX1P	Positive VbyOne differential data input	
9	GND	Ground	
10	RX2N	Negative VbyOne differential data input	
11	RX2P	Positive VbyOne differential data input	
12	GND	Ground	
13	RX3N	Negative VbyOne differential data input	

14	RX3P	Positive VbyOne differential data input	
15	GND	Ground	
16	RX4N	Negative VbyOne differential data input	
17	RX4P	Positive VbyOne differential data input	
18	GND	Ground	
19	RX5N	Negative VbyOne differential data input	
20	RX5P	Positive VbyOne differential data input	
21	GND	Ground	
22	RX6N	Negative VbyOne differential data input	
23	RX6P	Positive VbyOne differential data input	
24	GND	Ground	
25	RX7N	Negative VbyOne differential data input	
26	RX7P	Positive VbyOne differential data input	
27	GND	Ground	
28	RX8N	Negative VbyOne differential data input	
29	RX8P	Positive VbyOne differential data input	
30	GND	Ground	
31	RX9N	Negative VbyOne differential data input	
32	RX9P	Positive VbyOne differential data input	
33	GND	Ground	
34	RX10N	Negative VbyOne differential data input	
35	RX10P	Positive VbyOne differential data input	
36	GND	Ground	
37	RX11N	Negative VbyOne differential data input	
38	RX11P	Positive VbyOne differential data input	
39	GND	Ground	
40	RX12N	Negative VbyOne differential data input	
41	RX12P	Positive VbyOne differential data input	
42	GND	Ground	
43	RX13N	Negative VbyOne differential data input	
44	RX13P	Positive VbyOne differential data input	
45	GND	Ground	
46	RX14N	Negative VbyOne differential data input	
47	RX14P	Positive VbyOne differential data input	
48	GND	Ground	
49	RX15N	Negative VbyOne differential data input	
50	RX15P	Positive VbyOne differential data input	
51	GND	Ground	

表 7 CN4 51-Pin 的定义

Pin	Name	Description	Note
1	SDA	I2C Data signal	
2	SCL	I2C Clock signal	
3	GND	Ground	
4	RX16N	Negative VbyOne differential data input	
5	RX16P	Positive VbyOne differential data input	
6	GND	Ground	
7	RX17N	Negative VbyOne differential data input	
8	RX17P	Positive VbyOne differential data input	
9	GND	Ground	
10	RX18N	Negative VbyOne differential data input	
11	RX18P	Positive VbyOne differential data input	
12	GND	Ground	
13	RX19N	Negative VbyOne differential data input	
14	RX19P	Positive VbyOne differential data input	
15	GND	Ground	
16	RX20N	Negative VbyOne differential data input	
17	RX20P	Positive VbyOne differential data input	
18	GND	Ground	
19	RX21N	Negative VbyOne differential data input	
20	RX21P	Positive VbyOne differential data input	
21	GND	Ground	
22	RX22N	Negative VbyOne differential data input	
23	RX22P	Positive VbyOne differential data input	
24	GND	Ground	
25	RX23N	Negative VbyOne differential data input	
26	RX23P	Positive VbyOne differential data input	
27	GND	Ground	
28	RX24N	Negative VbyOne differential data input	
29	RX24P	Positive VbyOne differential data input	
30	GND	Ground	
31	RX25N	Negative VbyOne differential data input	
32	RX25P	Positive VbyOne differential data input	
33	GND	Ground	
34	RX26N	Negative VbyOne differential data input	
35	RX26P	Positive VbyOne differential data input	
36	GND	Ground	
37	RX27N	Negative VbyOne differential data input	
38	RX27P	Positive VbyOne differential data input	

39	GND	Ground	
40	RX28N	Negative VbyOne differential data input	
41	RX28P	Positive VbyOne differential data input	
42	GND	Ground	
43	RX29N	Negative VbyOne differential data input	
44	RX29P	Positive VbyOne differential data input	
45	GND	Ground	
46	RX30N	Negative VbyOne differential data input	
47	RX30P	Positive VbyOne differential data input	
48	GND	Ground	
49	RX31N	Negative VbyOne differential data input	
50	RX31P	Positive VbyOne differential data input	
51	GND	Ground	

表 8 CN5 51-Pin 的定义

Pin	Name	Description	Note
1	NC	No Connection	
2	NC	No Connection	
3	GND	Ground	
4	RX32N	Negative VbyOne differential data input	
5	RX32P	Positive VbyOne differential data input	
6	GND	Ground	
7	RX33N	Negative VbyOne differential data input	
8	RX33P	Positive VbyOne differential data input	
9	GND	Ground	
10	RX34N	Negative VbyOne differential data input	
11	RX34P	Positive VbyOne differential data input	
12	GND	Ground	
13	RX35N	Negative VbyOne differential data input	
14	RX35P	Positive VbyOne differential data input	
15	GND	Ground	
16	RX36N	Negative VbyOne differential data input	
17	RX36P	Positive VbyOne differential data input	
18	GND	Ground	
19	RX37N	Negative VbyOne differential data input	
20	RX37P	Positive VbyOne differential data input	
21	GND	Ground	
22	RX38N	Negative VbyOne differential data input	

23	RX38P	Positive VbyOne differential data input	
24	GND	Ground	
25	RX39N	Negative VbyOne differential data input	
26	RX39P	Positive VbyOne differential data input	
27	GND	Ground	
28	RX40N	Negative VbyOne differential data input	
29	RX40P	Positive VbyOne differential data input	
30	GND	Ground	
31	RX41N	Negative VbyOne differential data input	
32	RX41P	Positive VbyOne differential data input	
33	GND	Ground	
34	RX42N	Negative VbyOne differential data input	
35	RX42P	Positive VbyOne differential data input	
36	GND	Ground	
37	RX43N	Negative VbyOne differential data input	
38	RX43P	Positive VbyOne differential data input	
39	GND	Ground	
40	RX44N	Negative VbyOne differential data input	
41	RX44P	Positive VbyOne differential data input	
42	GND	Ground	
43	RX45N	Negative VbyOne differential data input	
44	RX45P	Positive VbyOne differential data input	
45	GND	Ground	
46	RX46N	Negative VbyOne differential data input	
47	RX46P	Positive VbyOne differential data input	
48	GND	Ground	
49	RX47N	Negative VbyOne differential data input	
50	RX47P	Positive VbyOne differential data input	
51	GND	Ground	

表 9 CN6 51-Pin 的定义

Pin	Name	Description	Note
1	NC	No Connection	
2	NC	No Connection	
3	GND	Ground	
4	RX48N	Negative VbyOne differential data input	
5	RX48P	Positive VbyOne differential data input	

6	GND	Ground	
7	RX49N	Negative VbyOne differential data input	
8	RX49P	Positive VbyOne differential data input	
9	GND	Ground	
10	RX50N	Negative VbyOne differential data input	
11	RX50P	Positive VbyOne differential data input	
12	GND	Ground	
13	RX51N	Negative VbyOne differential data input	
14	RX51P	Positive VbyOne differential data input	
15	GND	Ground	
16	RX52N	Negative VbyOne differential data input	
17	RX52P	Positive VbyOne differential data input	
18	GND	Ground	
19	RX53N	Negative VbyOne differential data input	
20	RX53P	Positive VbyOne differential data input	
21	GND	Ground	
22	RX54N	Negative VbyOne differential data input	
23	RX54P	Positive VbyOne differential data input	
24	GND	Ground	
25	RX55N	Negative VbyOne differential data input	
26	RX55P	Positive VbyOne differential data input	
27	GND	Ground	
28	RX56N	Negative VbyOne differential data input	
29	RX56P	Positive VbyOne differential data input	
30	GND	Ground	
31	RX57N	Negative VbyOne differential data input	
32	RX57P	Positive VbyOne differential data input	
33	GND	Ground	
34	RX58N	Negative VbyOne differential data input	
35	RX58P	Positive VbyOne differential data input	
36	GND	Ground	
37	RX59N	Negative VbyOne differential data input	
38	RX59P	Positive VbyOne differential data input	
39	GND	Ground	
40	RX60N	Negative VbyOne differential data input	
41	RX60P	Positive VbyOne differential data input	
42	GND	Ground	
43	RX61N	Negative VbyOne differential data input	
44	RX61P	Positive VbyOne differential data input	

45	GND	Ground	
46	RX62N	Negative VbyOne differential data input	
47	RX62P	Positive VbyOne differential data input	
48	GND	Ground	
49	RX63N	Negative VbyOne differential data input	
50	RX63P	Positive VbyOne differential data input	
51	GND	Ground	

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