

Multi-screen LCD display system standard

China

IEC/TC100 Discussion

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Part-1 conceptual model of multi-screen LCD display system

3

Part-2 measuring method of multi-screen LCD display system

Background

- The Necessity of multi-screen LCD display system Standard
- The Difference Between multi-screen LCD system& Single Unit

1-1. The Necessity of multi-screen LCD display system Standard

Multi-screen LCD display system are popular used in multi-screen for its affluent display scope, Attracts more and more display manufactures to seize this market.

With such a huge market demand of multi-screen system and the blank of industry standards, there is an urgent need to develop a standard for this. It can promote the products performance and market demand, and to create more economic and social benefits.



Outdoor AD Display



Huge Size Inform Display

柜台号	航班号	终点站	柜台号	航班号	终点站
Counter / Flight	In	To	Counter / Flight	In	To
Z23	CA9138	南京 Nanjing	V77	SR198	上海 Shanghai
A11	SZ1234	广州 Guangzhou	G12	CZ356	西安 XianJing
L27	SR198	天津 Tianjin	Q39	S6812	上海 Shanghai
G78	SZ1234	南京 Nanjing	M41	SC101	成都 Chengdu
L30	MU5794	南京 Nanjing	C28	S6812	福州 Fuzhou
L30	S6812	深圳 Shenzhen	M41	SC101	天津 Tianjin
Y26	MU5794	广州 Guangzhou	D08	SR198	深圳 Shenzhen
F05	CZ356	北京 Beijing	J02	MU5794	南京 Nanjing
U04	CA1519	上海 Shanghai	H32	SC101	泉州 Quanzhou
U05	CZ356	深圳 Shenzhen	R05	SZ1234	上海 Shanghai
N07	SZ1234	天津 Tianjin	F23	S6812	上海 Shanghai
18:35 好的! ok!					

Transport inform terminal



Education training and conference system



Monitoring Display Terminal



Live Monitoring Terminal

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1-2. The Difference Between Multi-screen LCD System & Single Unit

The Test Object are Different

- LCD Single Unit : focus on a single LCD product
- Multi-screen LCD display system: focus on multi-screen system after splicing

The Test Contents are Different

- Multi-screen LCD display system define the test items and method base on the whole multi-screen system

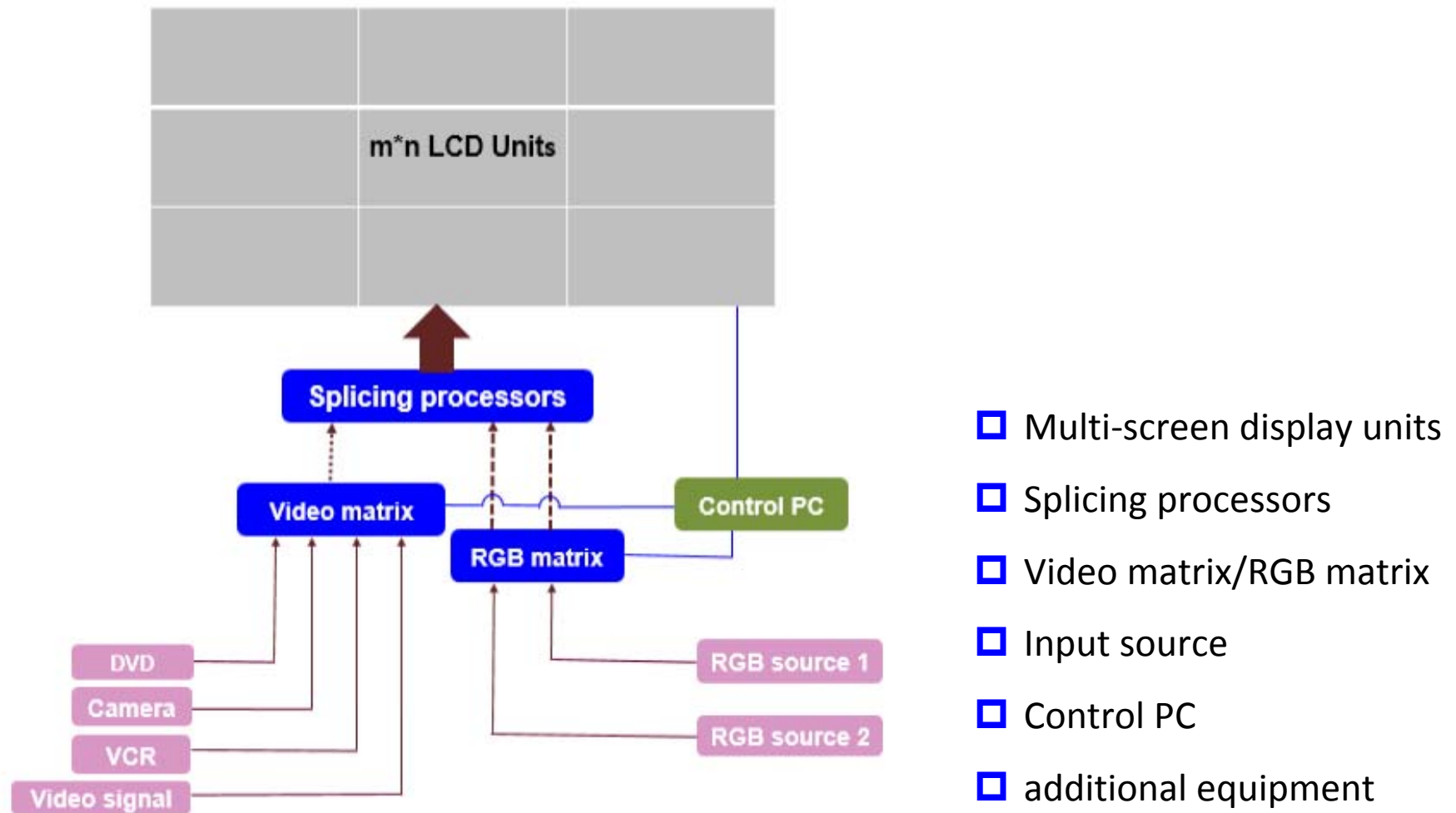
This standard mainly include:

- Mechanical test
- Optical test

Part 1

--conceptual model of multi-screen LCD display system

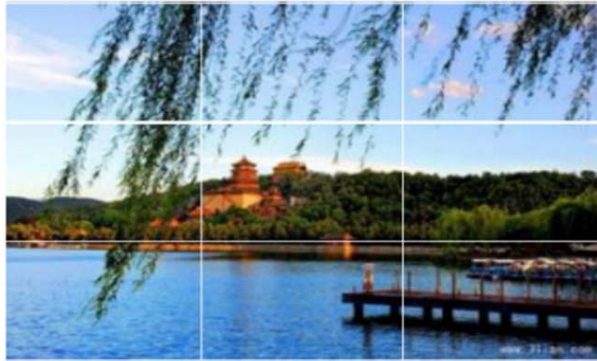
2-1. Multi-screen LCD display system Basic frame



2-2. Term

- LCD unit
- Splicing
- LCD splicing screen
- Splicing processors
- LCD splicing system
- Roam
- Physical gap
- Optical gap
- Optical dark strip
- Video matrix
- RGB matrix
- Image distortion
- Multi-screen LCD display system installation deviation

2-3. Typical application



- Full screen display



- Split-screen display



- Combined screen display




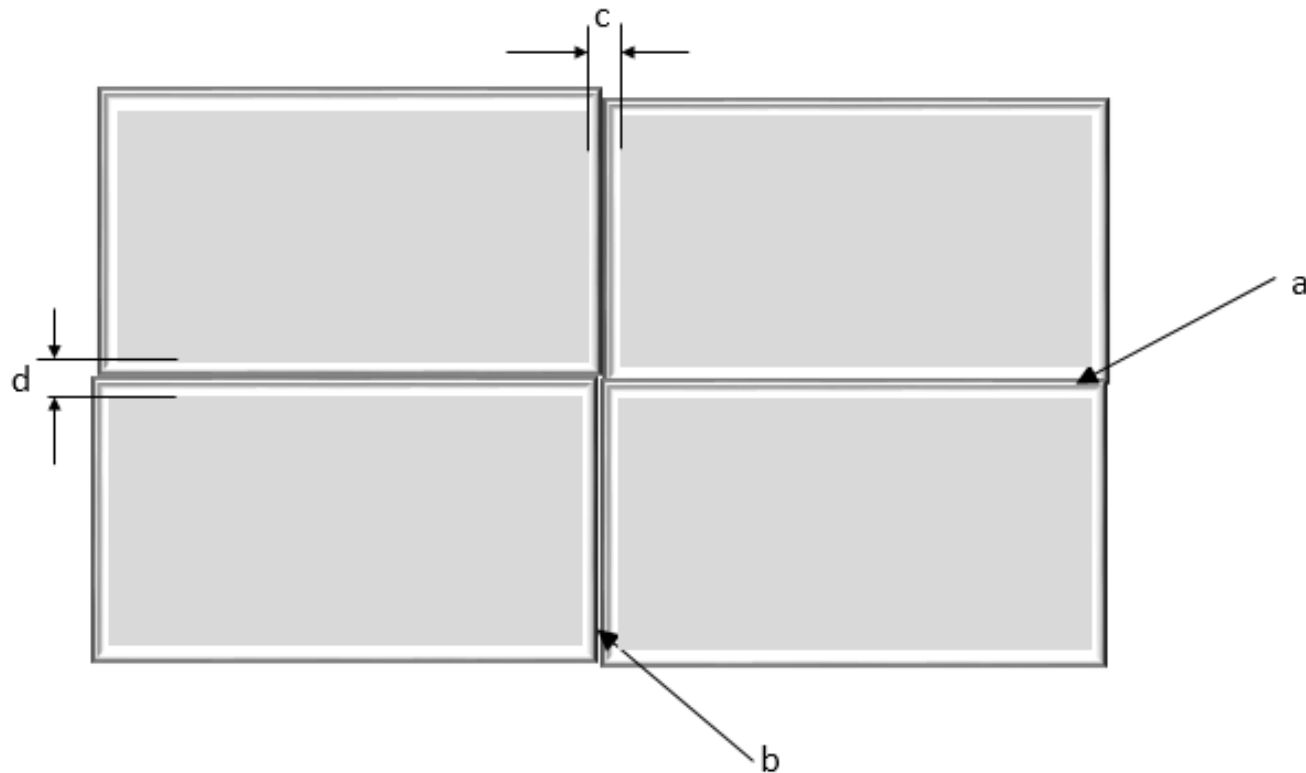
- Roam display

Part 2

--measuring methods of multi-screen LCD display system


3-1. Multi-screen LCD display system Standard Main Content

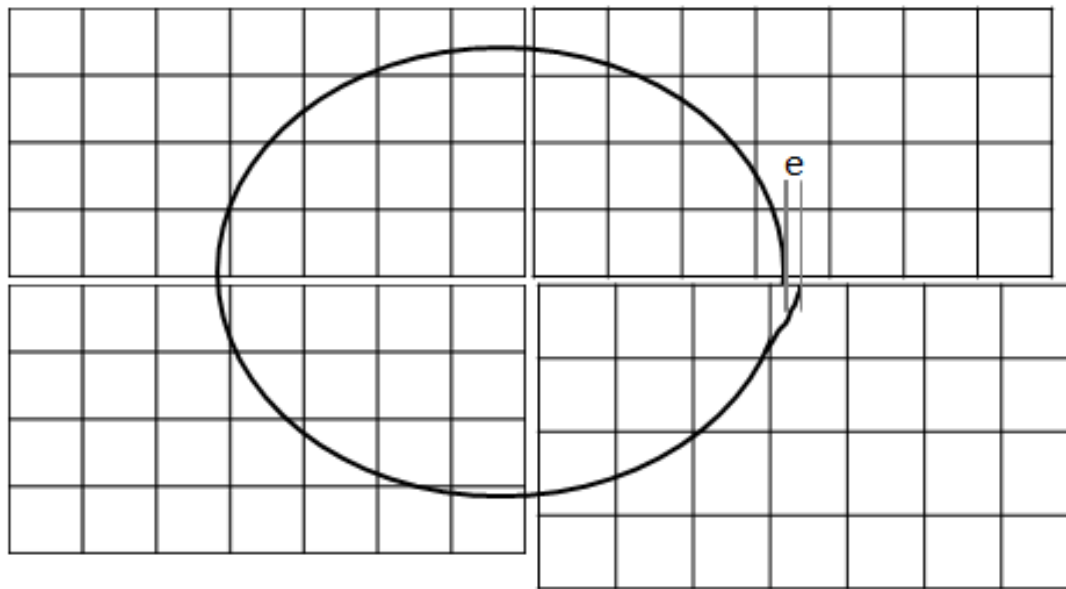
 Gap(physical, optical)--- Detail splicing precision



Comment: a, b represent the Physical gap c, d represent the optical gap

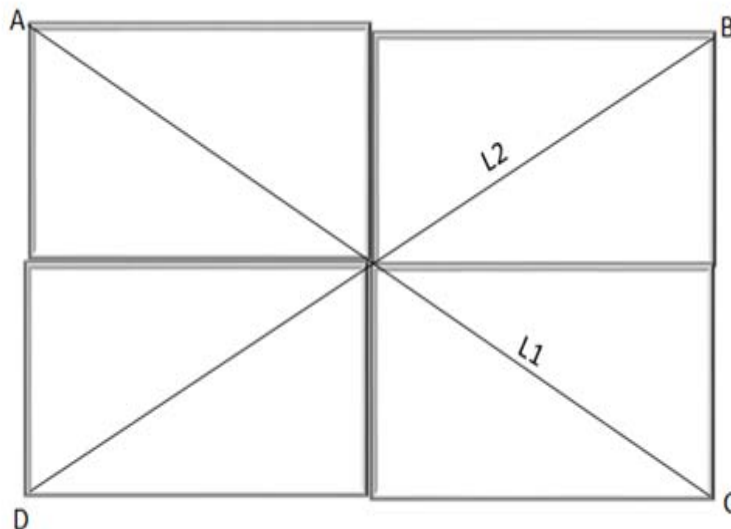
3-2. Multi-screen LCD display system Standard Main Content

-  Image dislocation—Picture display accuracy of multi-screen LCD splicing terminal

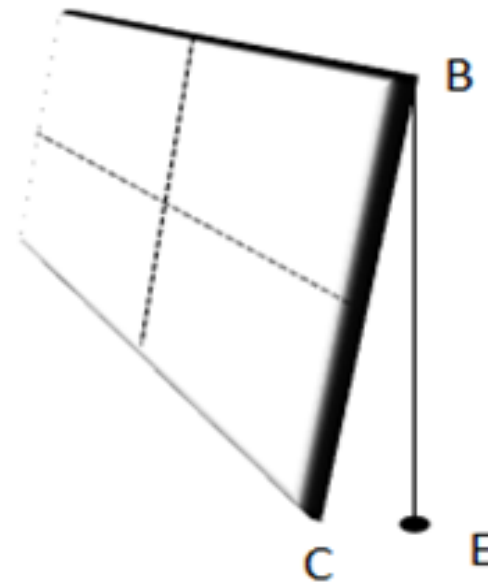


3-3. Multi-screen LCD display system Standard Main Content

- Multi-screen LCD display system installation tolerance---The flatness of multi-screen system in surface and vertical direction




Surface flatness



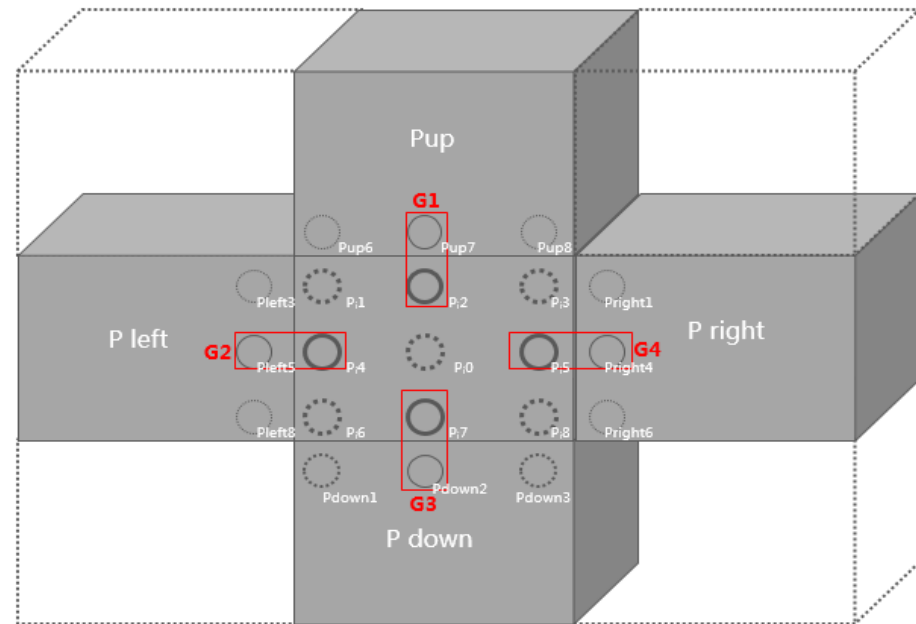
Vertical flatness

3-4. Multi-screen LCD display system Standard Main Content

 Multi-screen LCD system brightness uniformity—multi screen system overall brightness feature

P01 Unit 1	P02 Unit 2	P03 Unit 3
P04 Unit 4	P05 Unit 5	P06 Unit 6
P07 Unit 7	P08 Unit 8	P0n Unit n

Multi-screen Brightness uniformity
(brightness value)



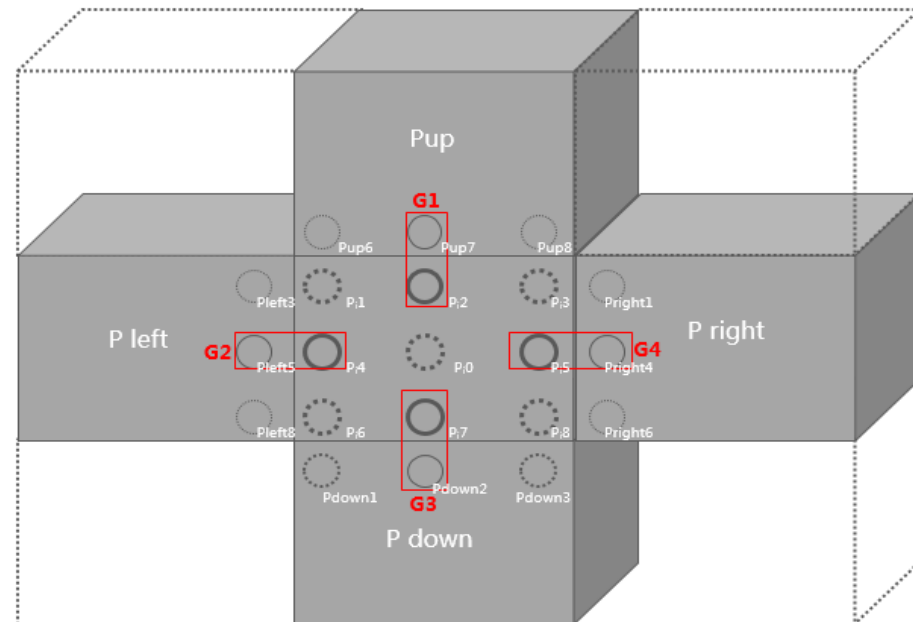
Adjacent unit brightness uniformity
(brightness value)

3-5. Multi-screen LCD display system Standard Main Content

 Multi-screen LCD display system colour uniformity—multi screen system overall colour tolerance

P01 Unit 1	P02 Unit 2	P03 Unit 3
P04 Unit 4	P05 Unit 5	P06 Unit 6
P07 Unit 7	P08 Unit 8	P0n Unit n

Multi- screen colour uniformity
(*u,v color coordinate*)



Adjacent unit colour uniformity
(*u,v color coordinate*)

3-6. Multi-screen LCD display system test items list

Mechanical items:

- . Physical gap
- . Optical gap
- . Image dislocation
- . Multi-screen LCD display system installation tolerances

Optical items:

- . Multi-screen Brightness uniformity
- . Adjacent unit brightness uniformity
- . Multi- screen colour uniformity
- . Adjacent unit colour uniformity

END

THANKS

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