

# PC

<sup>1</sup>, <sup>2</sup>, <sup>3</sup>, <sup>4</sup>  
가 <sup>1 3 4</sup>  
<sup>2</sup>

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## Control method of PC cluster based multi-projection display systems

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PC 가 ( : PowerWall<sup>TM</sup>)  
( : CAVE<sup>TM</sup>, RealityCenters<sup>TM</sup>)  
, , , PC  
PC 가 가 PC  
, PC  
power on/off (Mute),

Keyword : , , 가 , ,

1.

가

RealityCenters<sup>TM</sup>  
가 PC , 가  
CAVE<sup>TM</sup> Tiled PowerWall<sup>TM</sup>  
RealityCenters<sup>TM</sup>, CAVE<sup>TM</sup>  
FOV(field of view)  
RealityCenters<sup>TM</sup> 가

[7].

\* ETRI/Fraunhofer IGD/( )IGI

(Multi-projection)  
 PC  
 PC  
 가  
 가 PC  
 PC  
 , PC  
 PC

가  
 PC  
 PC  
 power , PC  
 , on/off ,  
 (Mute)  
 PC  
 2 , 3  
 PC , 4  
 , 5

( 1).



1. NCSA Tiled : PC

[6]

2.

가 PC [9].  
 Tiled

HEyeWall™ 48 PC 48

[4]. PC AVALON[1]  
 가 가 X3d/VRML

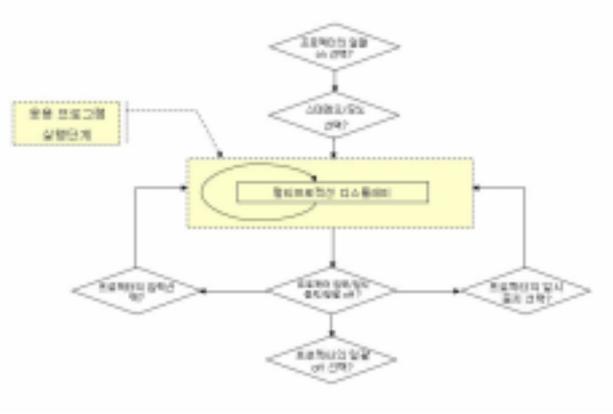
Scalable Display

가 가  
 Tiled . 24  
 PC



가 4.

PC , 16 PC 16  
 , 4x2  
 , Reboot  
 ( 3).



4.

on/off,  
 가

on PC

off

, RGB, DVI

/ ( 4).

( 5).

- ( 3m)

(4x2x2)

- / , 가

- OpenSG

- 3D  
 (4096x1536 , 30fps )

- 3

- GPU

( 5 pixel )



5.

RGB, DVI

PC

, PC

Reboot shutdown

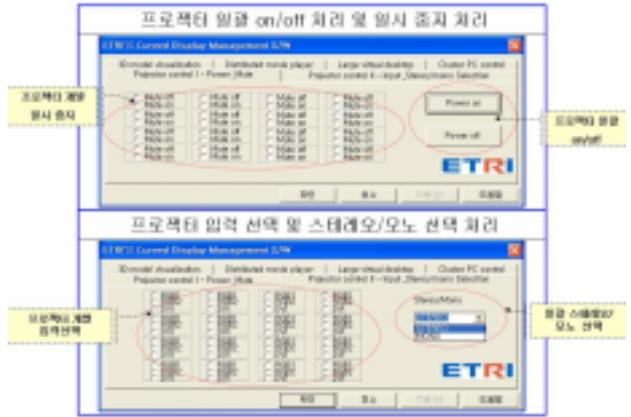
6). PC

PC

PC

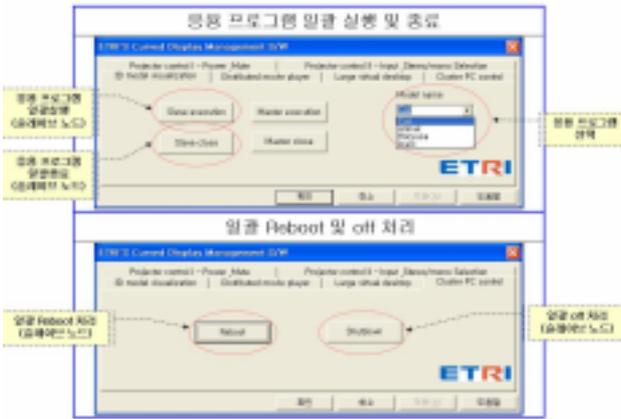
, PC

on/off PC



7.

5.



6. PC

PC

PC

PC

PC

가

가

on/off,

( 7).

on/off PC

RS-232C

가

PC

( .on/off,

(Mute)

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- [1] AVALON, <http://www.zgdv.de/avalon/>
- [2] Caroline Cruz-Neira, Daniel J. Sandin, and Tom DeFanti. Surround-screen projection-based virtual reality: The design and implementation of the CAVE. Proceedings of SIGGRAPH 93, pages 135-142, August 1993.
- [3] Han Chen, Grant Wallace, Anoop Gupta, Kai Li, Tom Funkhouse, Perry Cook. Experiences with Scalability of Display Walls. Projection Technology Symposium(IPT), March 2002.
- [4] Heyewall. <http://www.heyewall.com>
- [5] Humphreys G, Buck I, Eldridge M, Hanrahan P. Distributed rendering for scalable displays. IEEE Supercomputing 2000, 2000.
- [6] NCSA's Visualization and Virtual Environments group.  
<http://www.ncsa.uiuc.edu/Divisions/DMV/Vis/Projects/Tiledwal>
- [7] PowerWall , University of Minnesota.  
<http://www.lcse.umn.edu/research/powerwall/powerwall.html>
- [8] TOPDOME. <http://www.elumens.com>
- [9] , , , “  
PC ”, HCI 2005  
, pp.752~756