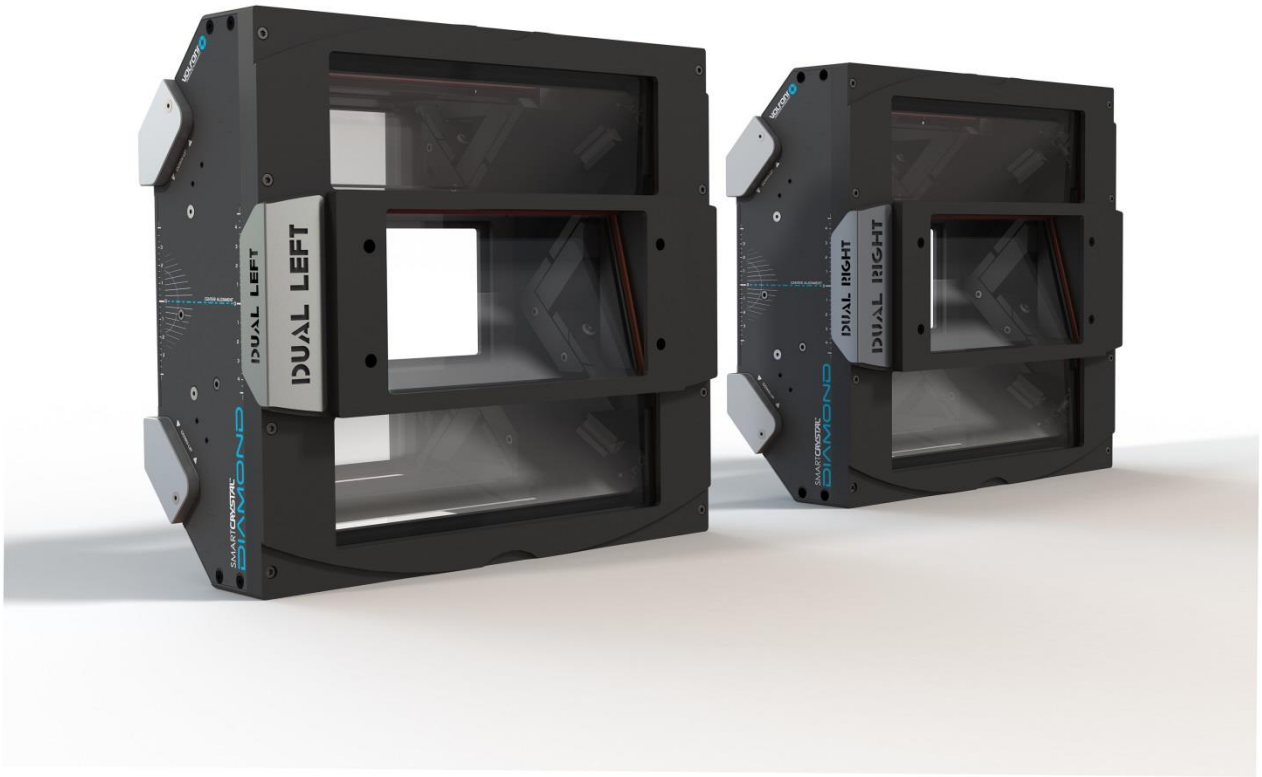
SMARTCRYSTAL™ DIAMOND DUAL

User Guide



MODEL: VBSP-13000

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I. PRODUCT OVERVIEW ---- 3
II. REQUIREMENTS ---- 3
III. SMARTCRYSTAL DIAMOND DUAL FEATURES ---- 4
1. General specifications ---- 4
2. Technical specifications ---- 4
3. Electrical specifications ---- 4
4. Theoretical brightness performance SmartCrystal Diamond Dual ---- 5
IV. SMART CRYSTAL DIAMOND DUAL INSTALLATION ---- 5
1. Mechanical & Optical Installation ---- 5
2. Projectors settings ---- 5
3. Network connection ---- 6
4. Electrical Installation ---- 7
V. TROUBLESHOOTING ---- 8
VI. IMPORTANT SAFETY RECOMMENDATIONS ---- 10
VII. WARRANTY ---- 10
VIII. FURTHER INFORMATION ---- 10
IX. REGULATORY STANDARDS ---- 10
XII. VOLFONI CONTACTS ---- 11

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I. PRODUCT OVERVIEW

The SmartCrystal™ Diamond Dual is a complete standalone automatic dual glass polarized filter for dual projection and large format screen
Automatic mode operation involves creating automation cues in your server(s) macros: ***See section IV / 3 / Network connection / Page 6***

II. REQUIREMENTS

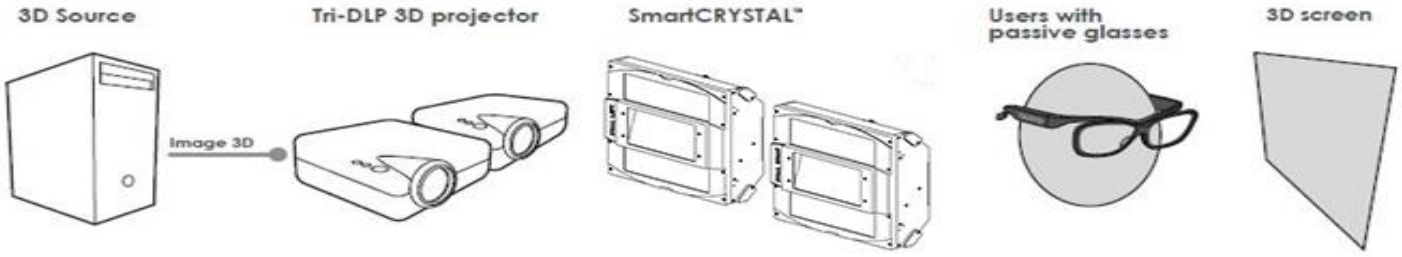
To use the SmartCrystal™ Diamond Dual unit, the following is required:

1. 3D content :
   - ✓ The server(s) must broadcast the 3D content in two 2D contents
   - ✓ 1 2D content (left images) for the left projector
   - ✓ 1 2D content (right images) for the right projector

2. 2X3D cinema projectors:
   - ✓ The two projectors must be synchronized in order to broadcast the left and right images simultaneously in 2D mode
   - ✓ As Auto-Mode option is disabled and there are no 3D signal coming from projectors, BNC connectors are not used with Dual systems

3. Polarization-preserving silver screen

4. Passive circular-polarized 3D glasses



Most types of 3D cinema projectors are compatible with the SmartCrystal™ Diamond Dual system.
DLP (Digital Light Processing) projectors are especially efficient for 3D projection. The system is easy to set up with a DCI-compliant DLP projector and works with projector lamps up to 7KW.

Please consult Volfoni for additional information.

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Polarization-preserving silver screen
In order to enjoy the best quality 3D images, a polarization-preserving silver screen designed for 3D projection is required. If your screen was not manufactured specifically for 3D use, you might experience uncomfortable and blurry 3D images with a high level of cross-talk.

Passive polarized 3D glasses
The SmartCrystal™ Diamond Dual is compatible with most commonly used passive 3D glasses (circular-polarized only).

III. SMARTCRYSTAL DIAMOND DUAL FEATURES

1. General specifications

- Meets all standards for electronics approved by CE
- For use with lightweight circular-polarized passive 3D glasses
- Passive 3D glasses are available from Volfoni.

Please consult Volfoni for additional information.

2. Technical specifications

- Maximum power of projector: 7 kW
- Power supply: 110V/240V 50/60Hz
- Operating temperature: +10°C to +50°C (50°F to 122°F)
- Storage temperature: -5°C to+50°C (23°F to 122°F)
- Entrance window dimension: 70x100 mm
- Product dimensions (L x W x H): 280 x 260 x 100 mm
- Weight: 5.6kg per units (12.3 lb)

3. Electrical specifications

- V= 240 / 110 V AC
- F = 50 / 60 Hz
- Consumption <40mA AC / 220V (e)
- The unit has a built-in surge protector
- The system is supplied with two different power cables, a European model and an American model.
- This equipment should be electrically grounded.
- To rectify any indicated faults, please contact your dealer, installer stating the model number shown in the silver label of the product.

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4. Theoretical brightness performance SmartCrystal Diamond Dual

Maximum power of projector: 7 kW | Power supply: 110V/240V 50/60Hz

		30K lumens (x2)				20K lumens (x2)				15K lumens (x2)			
		6 Fl on the screen		4.5 Fl on the screen		6 Fl on the screen		4.5 Fl on the screen		6 Fl on the screen		4.5 Fl on the screen	
		Feet	Meter	Feet	Meter	Feet	Meter	Feet	Meter	Feet	Meter	Feet	Meter
Aspect ratio (LxH)	Flat (1.85)	114.5x 62	35 x 19	132 x 72	40.2 x 21.8	93.5 x 51	28.5 x 15.5	108 x 58.5	33 x 18	81 x 44	25 x 13.3	93 x 50.5	28.5 x 15.4
	Scope (2.35)	129 x 55	39.30 x 16.7	149 x63	45.5 x 19.3	105 x 45	32 x 14	122 x 52	37 x 15.7	91 x39	28 x 12	105 x 45	32 x 13.6

IV. SMART CRYSTAL DIAMOND DUAL INSTALLATION

1. Mechanical & Optical Installation

To install properly the SmartCrystal™ Diamond Dual, please refer to the user manual of the SmartCrystal™ Diamond that you can find online.

http://volfoni.com/en/smartcrystal-diamond/

2. Projectors settings

To use the SmartCrystal™ Diamond Dual, the 3D projectors must be set as follows:

3D content:

- ✓ The server(s) must broadcast the 3D content in two 2D contents
- ✓ 1 2D content (left images) for the left projector
- ✓ 1 2D content (right images) for the right projector

2X3D cinema projectors:

- ✓ The two projectors must be synchronized in order to broadcast the left and right images simultaneously in 2D mode
- ✓ As Auto-Mode option is disabled and there are no 3D signal coming from projectors, BNC connectors are not used with Dual systems

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3. Network connection

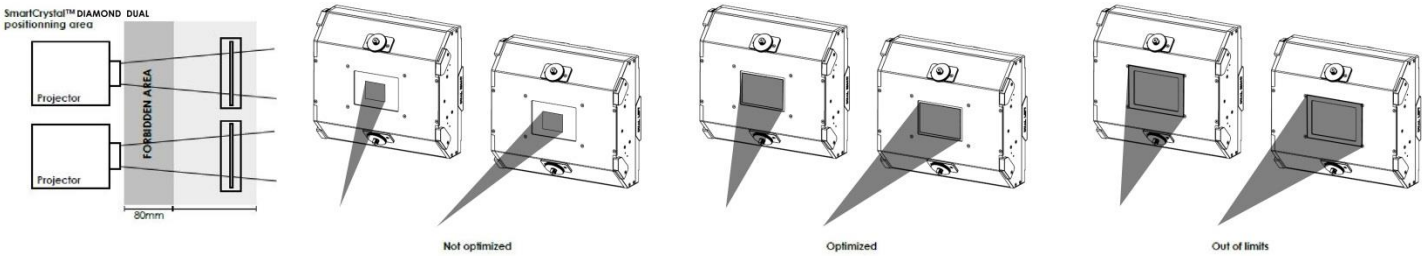
The NOC connector allows the system to be connected to a central network in order to retrieve information and perform remote operations on the SmartCrystal™ Diamond Dual (e.g., monitoring, remote control, etc.).

There are two different modes:

- ✓ Manual mode: the user interface of the SmartCrystal™ Diamond Dual directly controls the operation of the 3D system
- ✓ NOC mode: information and operations are automatically sent from the server via the central network:
- ✓ **Follow the procedure: http://volfoni.com/en/smartcrystal-diamond-dual/ : Remote Connection Guide**

REMINDER

The SmartCrystal™ Diamond Dual should be placed directly in front of the lens of the projector at a distance such that the image from the projector covers as much as possible the entire area of the entrance window in order to minimize thermal heating effects.
Ensure that the side of the SmartCrystal™ Diamond marked "PROJECTOR SIDE" is facing towards the projector and the polarizer marked with a «RIGHT EYE» is in front of your right projector and the polarizer marked with a «LEFT EYE» is in front of your left projector. The SmartCrystal™ Diamond entrance window must be placed at least 20mm (1 inch) away from the projector lens.



Monitor the distance between the projector and the SmartCrystal™ Cinema Dual as it is very important to preserve the Polarizer

You may tilt the SmartCrystal™ polarization panel at a slightly to avoid scattering light reflection onto the projector lens and to reduce potential ghosting.

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4. Electrical Installation

As for the mechanical installation please refer to the user manual of the SmartCrystal™ Diamond that you can find online. The only difference is for the SmartCrystal™ Diamond Dual there is no auto mode.

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V. TROUBLESHOOTING

PROBLEM	SOLUTION
The system does not work	- Verify that the power LEDs on the bracket are fixed red - Verify that the SCD Controller display is enabled - Verify the complete 3D configuration (projectors, server…) - Verify your electrical supply - Should the error persists, please contact your reseller or integrator
Bracket error message	Let everything plug and press the reset button of the bracket
No 3D effect *Or* *Bad 3D quality* *Or* *Flickering image* *Or* *Hazy image* *Or* *Poor contrast* *Or* *The image is blurred*	**Possible reasons:** - Problem on the silver screen - Projectors settings are not right - The SCD is not connected to the Controller - The Controller is not plugged in - The projection window depolarizes light - SCD and Controller are not compatible - The lens focus is wrong - The image aligning is bad - The protective films on the front and back sides have not been removed - Presence of fingerprints or dirt on the lens and/or on the SCD box inflow and outflow windows **Solutions:** - Ensure that the side of the device marked “Projector side” is facing towards the projector - Ensure the polarizer marked with a “Right eye” is in front of your right projector - Ensure the polarizer marked with a “Left eye” is in front of your left projector - The server(s) must broadcast the 3D content in two 2D contents : 1 2D content (left images) for the left projector and 1 2D content (right images) for the right projector - The two projectors must be synchronized in order to broadcast the two 2D contents (left and right images) simultaneously in 2D mode - Fit the lens focus - Check that 2D images coil out polarizers are sharp - Check if the protective films have been removed - Remove the protective films and clean the inflow and outflow SCD box windows using the provided wipes

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	- Adjust the SCD box aligning again using the pattern and lock the system (bracket & mirrors) - Silver screen must be used - Remove projection porthole in case of it depolarizes the light - We recommend to use Volfoni passive glasses (circular polarization glasses)
Too dark image	- The power of the projector lamp is too low - The lamp settings are badly adjusted - Change the lamp settings - Change the lamp
You cannot control the system remotely (NOC)	Follow procedure: http://volfoni.com/en/smartcrystal-diamond-dual/ *Remote Connection Guide*
In case of system needs to be repaired in our offices	- Equipment (modules and cables) should be returned in their original packaging along with the original proof of purchase - Equipment that is broken or scratched is not covered under warranty - Volfoni does not guarantee uninterrupted or error-free operation of the product

IF YOU DO NOT NOTICE ANY IMPROVEMENT FURTHER TO THE SUGGESTED SOLUTIONS, PLEASE CONTACT YOUR SUPPORT

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VI. IMPORTANT SAFETY RECOMMENDATIONS

Protect all parts of the 3D system from direct sunlight, heat or water.

- Extreme conditions may alter the product's performance.
- Do not modify the electrical or mechanical components of your 3D system.
- Do not apply force to the window of the polarization modulator.
- Do not touch the polarization window.
- Avoid vibrations and shock.
- Use a clean soft cloth when cleaning the polarization modulator to avoid scratching.
- Always transport the SmartCrystal™ Diamond Dual system in its original packaging to avoid scratching the LCDs or the frame.
- In case of damage to the SmartCrystal™ Diamond Dual where the skin is exposed to liquid crystal material, we recommend that you immediately wash the area with soap and water.
- In case of eye exposure to liquid crystal material, please seek medical advice immediately.
- Please note that passive 3D glasses must not be used as sunglasses.

VII. WARRANTY

The SmartCrystal™ Diamond Dual is protected under warranty to the original purchaser for five (5) years according to local legislation.
Equipment (modules and cables) should be returned in their original packaging along with the original proof of purchase. Equipment that is broken or scratched is not covered. Volfoni does not guarantee uninterrupted or error-free operation of the product.

VIII. FURTHER INFORMATION

NOTICE:
The Volfoni Group reserves the right to make changes in the hardware, packaging or other documentation without prior written notice. SmartCrystal™ Diamond Dual is a trademark of the Volfoni Group. All trademarks are the property of their respective companies.

www.volfoni.com

IX. REGULATORY STANDARDS

European Union - Disposal information
This symbol means that according to local laws and regulations your product should be disposed of separately from household waste. When this product reaches the end of its life, take it to a collection point designated by local authorities. Some collection points accept product for free.

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The separate collection and recycling of your product at the time of disposal will help conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment.
This Class B digital apparatus complies with Canadian ICES-003.

XII. VOLFONI CONTACTS

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