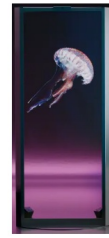**Manuals+** — User Manuals Simplified.

United Screen CrystalScreen 2.0 Transparent OLED Display

United Screen CrystalScreen 2.0 Transparent OLED Display User Manual

Contents

United Screen CrystalScreen 2.0 Transparent OLED Display

Specifications

- Product Name: CrystalScreen 2.0
- Display Type: Transparent digital display
- Protective Glass: Front – 5mm tempered glass, Rear – 1.2mm plexiglass
- Operating Environment: Controlled indoor business environments
- Weight: Refer to technical data sheet
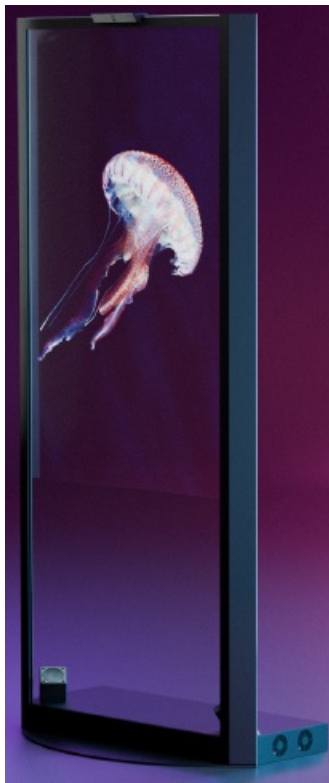- Dimensions: Refer to technical data sheet

Product Usage Instructions

Introduction

Captivating Fusion of Reality and Digital Content
The CrystalScreen 2.0 revolutionizes how we perceive information. Its high transparency enables seamless integration of dynamic and interactive content into the physical environment. Digital visualizations appear to float freely in space while maintaining an unobstructed view of the scene behind. The CrystalScreen 2.0 delivers vibrant colors with 120% Rec.709 color gamut coverage and wide viewing angles without any angle-dependent contrast or brightness limitations.

The display features Full HD resolution for stunning, color-rich graphics and video content. The CrystalScreen 2.0 includes a powerful integrated PC running Windows 11 Pro with a dedicated NVIDIA Quadro graphics card for Full HD video playback and demanding interactive applications. The height-adjustable camera with microphone enables exciting application scenarios, while the stereo speaker system completes this industry-unique package. Furthermore, the media stele supports connection to external players including touch and camera functionality, making it compatible with playback sources such as PCs, Macs, and hardware players.

Safety Information

To ensure safe operation and prevent personal injury or property damage, comprehensive knowledge of this operating manual is essential. Maintenance, installation, and service work must be performed exclusively by authorized technical personnel.

Emergency Measures and Damage Prevention

In case of liquid or foreign object infiltration, fall and housing damage, or damage to power supply components:

1. Immediately power down the system
2. Disconnect from the power supply
3. Contact United Screens without delay

Installation Requirements

- Install exclusively on stable, level surfaces
- Do not install outdoors or in humid environments
- Maintain sufficient distance from heat sources
- Implement professional cable management to protect the power supply

Display Protective Glass
The front of the system is equipped with tempered, 5mm thick protective glass offering enhanced impact and breakage resistance. The rear panel of the display is fitted with 1.2mm plexiglass, which requires more careful handling. Contact with hard or sharp-edged objects should be avoided.

Operating Specifications

Operational Environment and Usage Duration

- Indoor stationary installations only
- Maximum 18 hours of operation daily, moving image content only

Temperature Range and Placement

- Ambient temperature: 0°C to 35°C (32°F to 95°F)
- Freestanding installation required
- Minimum distance of 1m (3.3ft) from heat sources

Ventilation Requirements

- Unobstructed air circulation around the ventilation openings on the sides of the system base
- Mandatory compliance with minimum clearance requirements as specified in the installation prerequisites, see page 6
- When integrating into structures or applying cladding: Ensure sufficient ventilation is maintained

Installation Environment

The CrystalScreen 2.0 system is designed for installation in controlled indoor business environments. It is intended for professional settings under operator supervision. Ambient temperatur e and humidity must remain within the specified operational range. Surfaces or structures on which the stele is to be placed or mounted must be capable of supporting its weight. Please refer to the technical data sheet for weights and dimensions. The stele base comes standard with seven glide feet in M8 through-holes. Optionally, these can be replaced with leveling feet or utilized for permanent floor anchoring.

Anchoring is performed from the top of the base and requires temporary removal of the base cladding. This installation must be carried out exclusively by authorized technical personnel. The ventilation openings in the stele base require a minimum clearance of 50mm from surrounding objects and must remain freely accessible at all times to ensure optimal system cooling. The characteristic transparency of the display is optimized with thoughtful lighting in the area behind the CrystalScreen. Experiment with lighting intensity and direction for best results.

Note: The CrystalScreen display panel is not designed for direct sunlight exposure.

System Architecture

Core Components

- 55″ Transparent OLED Display with touch functionality
- Integrated 4K camera positioned above the display
- Stereo speaker system

Integrated System Unit

The compact stele base houses all system and control components:

- High-performance multimedia PC
- Display control electronics
- Audio components
- Intelligent switching unit for flexible operating modes

Connectivity and Operating Modes

The system offers two operating modes:

1. Integrated Mode
    - Fully autonomous operation via the integrated PC
2. Externer Modus
    - Connection of external systems (PC/Mac/Linux) via standard interfaces
    - Pass-through of touch and camera functions via USB 2.0
    - Convenient switching via dedicated mode selector

Extension Options

Discreet Single-Ear Handset
Elegant audio output solution for noise-sensitive environments such as museums and exhibition spaces.

External Player – Cable Connection Set
Optimized USB-B and HDMI cable management for seamless integration of external systems with closed rear panel cover. The set includes two USB 2.0 B cables for touch and camera functionality, plus an HDMI cable with short connector. All components are enclosed in a black cable sleeve for clean installation.

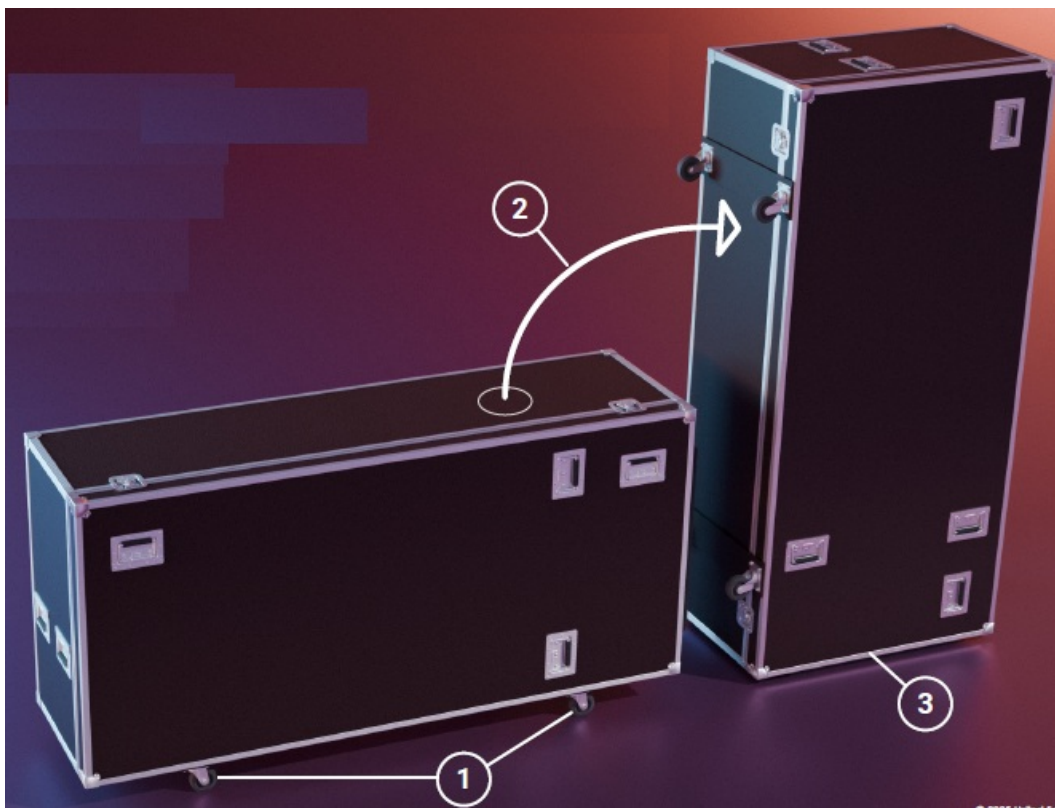- Cable assembly length: available upon consultation.

Unpacking and Setup

Personnel Requirements
For smooth assembly of the CrystalScreen 2.0, we recommend a team of two to three people. This ensures safe handling of the flight case and protects both personnel and equipment from damage. Installation by a single person is not advised for safety reasons.

Flight Case Preparation

1. Lock all transport wheels using the integrated brakes.
2. Position the flight case in an upright position.

   ! It is essential to observe the UP arrow on the WARNING sign!

   Improper positioning of the flight case will result in damage.
3. Ensure the case is stable and secure.

Unpacking and Setup

System Removal

1. Open all four butterfly latches on the lid.
2. Carefully remove the lid.
3. Use only the marked grip positions (see illustration) to remove the system.

Important Handling Instructions
The upper half of the stele is not designed as a carrying or holding point.
Any strain on the upper area must be avoided!
The installation surface must be designed to support the system weight of 60 kg.
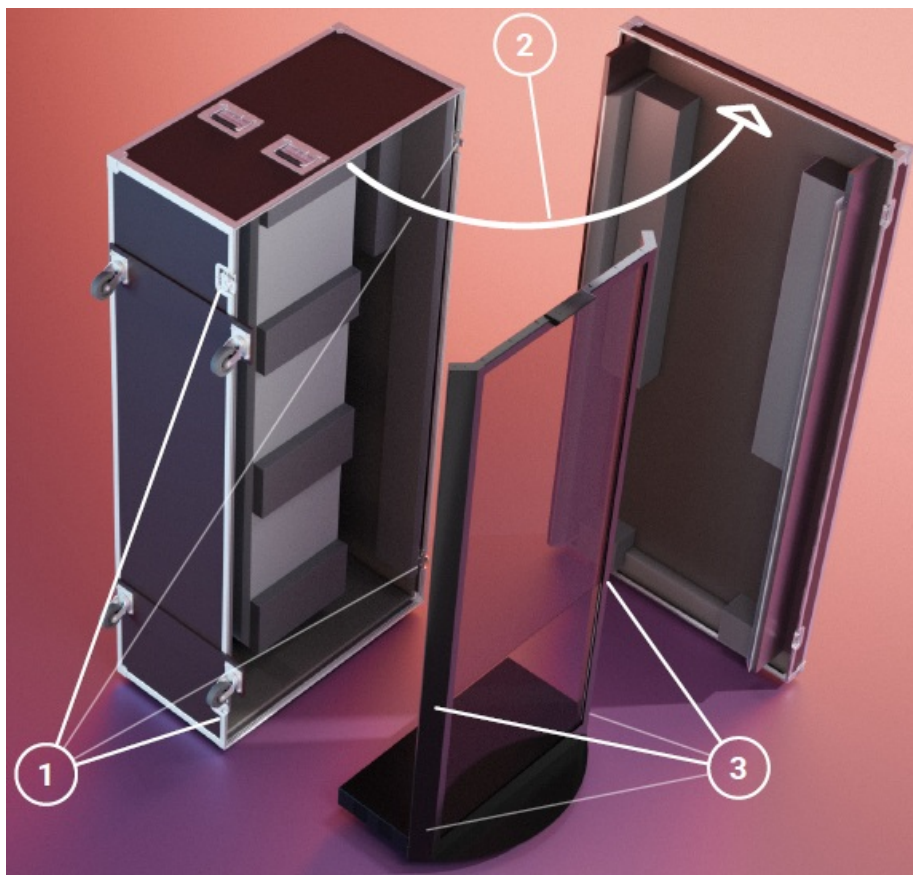
On-Site Transport

For longer transport distances, we recommend moving the CrystalScreen using a hand truck or dolly:

Use rear loading exclusively. Use protective materials (rigid foam, polystyrene) to prevent damage

Non-slip underlay is mandatory. Secure carefully against unintentional slippage.

System Operation

Connections and Switches
The rear panel of the stele base contains connections and switches for the display, integrated PC, and external

playback systems. This connection and control panel is shown in the illustration below.

OSD Control Panel

System Power-Up

- Connect the power cable ❺ and set AC switch ❻ to "I"
- LED ❸ red/off -> Press POWER button ❷
- POWER Internal Player ❶

Note: If no digital input is connected, the display will wait for several seconds and then switch to energy-saving mode. The LED indicator will change from green to red. This will continue until a digital input is established.

Note: If no digital input is connected, the display will wait for several seconds and then switch to energy-saving mode. The LED indicator will change from green to red. This will continue until a digital input is established.

System Shutdown
Shut down the integrated PC using the ON/OFF icon in the Windows Start menu. The integrated PC is powered off when the blue LED ring around the POWER button in the Internal Player section no longer illuminates ❶. Now completely power down the system by switching the power switch ❻ to "o".
Do not power off the system using the power switch ˜ while the integrated PC ❶ is still running and the Power LED is illuminated.

Connecting an External Player
Press Power External Player ❹ and connect external players via HDMI, touch, and camera cables. Power on the OLED display 2 and then start the external player.
If the external input is not automatically detected, use the OSD control panel to change the signal input (page 11).

System Operation

Using the Touch Screen
The touch screen allows you to control the Windows operating system. The touch display is HID-compatible and provides up to 10 touch points for Windows and Linux without requiring drivers. For Mac operating systems, only single-touch is supported. No driver is required for Mac support.

Speakers
The volume of the integrated speakers can be adjusted both through the Windows audio settings of the integrated PC and through the display volume using the OSD control panel (page 11). The display volume is the primary setting and should only be configured once. Factory default is set to 80%. All further volume adjustments should be made through the playback system (internal PC or external source if connected). Both with the internal PC and external source, the display is selected as the audio playback device (audio via HDMI).

Content Development
Our Content Developer Guide provides valuable support for creating optimized content for your CrystalScreen 2.0 system. The documentation explains the specific properties of OLED displays and provides practical design guidelines for compelling visual results. The guide is available for download at: **https://www.united-screens.tv/en/crystalscreen-content-dev-guide/**

Note: Display Dimming
The OLED has a "burn-in protection" feature against static content, as the organic components in the display would otherwise be subject to an accelerated aging process with constant illumination. If a static image is displayed on the OLED for longer than 5 minutes, the dimming function of the OLED will activate and reduce the brightness of the display by 75%.

Integrated Playback PC

The integrated PC is equipped with an Intel Core i7 processor with speeds up to 4.8 GHz and an NVIDIA® T1000 graphics card, delivering excellent performance for FHD video playback and demanding interactive applications. The latest version of Windows 11 Pro comes pre-installed.

Further information on the integrated PC specifications can be found in the data sheet.

FEATURES

- Windows 11 Pro
- Desktop 8-core CPU with Turbo Boost
- NVIDIA® RTX professional graphics
- USB 3.0
- WiFi & Bluetooth
- LAN

Troubleshooting

When the power switch is changed from the "0" (Power off) position to the "I" (Power on) position, the green LED in the OSD control panel on the rear should illuminate. If the LED indicator shows red, please press the POWER button on the OSD control panel. If the internal PC is powered off and no external PC/player is connected, an OSD information field with the message "ATTENTION No Video Input" should appear on the display within less than 20 seconds. With the internal PC powered on (blue LED ring illuminated around the "Internal Player" Power Button) or an external PC/player connected, the image from the corresponding source should appear after a few seconds. The OSD information field "INPUT" with DisplayPort or HDMI indication will also briefly appear.

Potential Problem: The power switch is turned on, but no image appears.
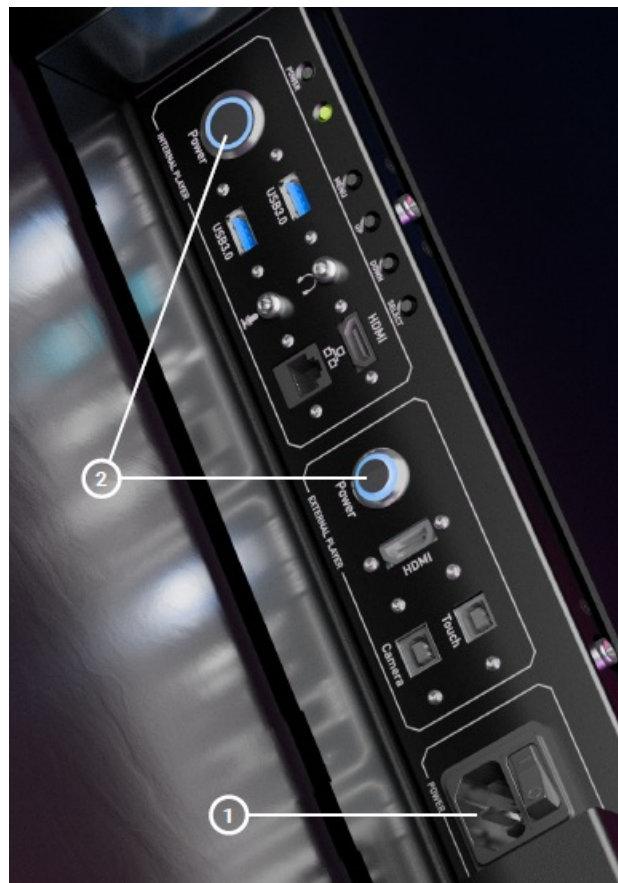
Elements to check: ①
Ensure that the power cable is firmly connected at both ends and that power is available. Check the LED indicator in the OSD control panel. If it is illuminated red, press the POWER button in the OSD control panel.

Potential Problem: The monitor powers on and displays the message "ATTENTION No Video Input", but then remains blank.

Elements to check: ②
Verify whether the Internal Player is powered on. When the player is on, the blue LED ring will illuminate. If needed, a control display can be connected to the HDMI port in the Internal Player area to determine if the internal player is operational. Check via the OSD control panel which SOURCE input is selected on the display. For the Internal Player, DisplayPort must be selected; for the External Player, HDMI must be selected. If these troubleshooting instructions do not resolve the issue, please contact United Screens technical support to determine the next steps.

- Hotline during business hours: +49 (0)40 571 996 47
- Business hours: Mon-Fri 09:00 – 18:00

Maintenance

System Cleaning
Power off the system completely using the rocker switch in the POWER area before cleaning! See page 12, item ❻.
Appropriate cleaning is required both after installation and throughout the entire rental or usage period of the system.

Metal Surfaces
The powder-coated black metal surfaces can be cleaned with an absorbent cloth and standard commercial cleaners. Ensure that no liquid enters the stele base (electronics) of the system!

Display Front

Use a soft, lint-free cloth or paper. Microfiber cloths work best.

Use a high-quality glass cleaner. A premium isopropyl alcohol (IPA) cleaner can also be used alone or as a supplement to glass cleaner.

Use IPA separately from glass cleaner; do not mix them.

Ideally, use different cloths for each liquid.

Note: IPA is flammable. Do not use the cleaner near open flames or other ignition sources.

Glass cleaner or IPA must NOT enter the electronic base or the area between the display glass and display housing.

Apply cleaning fluid, glass cleaner, or IPA sparingly to a cloth (not directly onto the glass surface) and begin at one side of the screen. Wipe evenly across the screen using circular movements. If you cannot achieve a streak-free surface, increase the amount of cleaner on the cloth and change cloths more frequently.

Display Rear

Do not use cleaners on the display rear; use only a microfiber cloth dampened with water. No liquids should enter the area between the rear of the display and the stele struts or between the glass panel and stele base. Proceed with even greater caution. The display consist of 1.2mm plexiglass. Take special care to use a clean cloth that is free from hard residues (crumbs/chips, etc.).

Ventilation Openings

Carefully vacuum all four ventilation openings on the sides of the stele base approximately once per month to remove dust from the ventilation grilles.

For this operation as well, power off the stele using the rocker switch (page 12, switch ❻) beforehand. Vacuuming while the fans are rotating can damage them.

Support

If you need assistance or have any questions regarding the CrystalScreen 2.0, reach out to the manufacturer's support team for help.

Accessing Technical Support

The following documents and resources are available at **www.united-screens.tv/en/downloads/#crystalscreen**

- This user manual
- CrystalScreen 2.0 data sheet
- CrystalScreen Content Development Guide
- CrystalScreen 2.0 3D visualization data
- Support hotline and email

Manufacturer Information
Contact United Screens for any inquiries related to the product or its operation.

- Manufacturer Name: United Screens GmbH
- Manufacturer Address: Behringstraße 28a, 22765 Hamburg, Germany

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RoHS Declaration of Conformity: The CrystalScreen 2.0 is fully RoHS compliant.

FAQ

- **Q: What should I do in case of liquid infiltration?**

  A: Immediately power down the system, disconnect from the power supply, and contact United Screens without delay.

- **Q: Can I replace the glide feet with leveling feet myself?**

  A: No, replacement of glide feet with leveling feet should be done by authorized technical personnel.

Documents / Resources

	United Screen CrystalScreen 2.0 Transparent OLED Display [pdf] User Manual 2.0, CrystalScreen 2.0 Transparent OLED Display, CrystalScreen 2.0, Transparent OLED Display, OLED Display, Display

References

- **User Manual**