

# Blinking Outside the Box: The Treatment of Sol LeWitt's *Wall Structure in Nine Parts, Each Containing a Work of Art by Other Artists*, 1963



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## Introduction

Electronic media works often pose challenges with preservation and display, but when the electrical components are 60 years old, even more complicated decisions must be considered. With the 1963 mixed media artwork *Wall Structure in Nine Parts, Each Containing a Work of Art by Other Artists* by American artist Sol LeWitt (1928-2007), there was concern about exhibiting the work with the aged thermal flasher relays and electrical wiring, as well as accurately representing the artist's original intent.

The artwork consists of nine boxes joined together in a 3x3 orientation, each containing an artwork by a different artist that is revealed by lights flashing on and off (Figure 1). The corner boxes are each illuminated by a 10-watt lightbulb, and the

remaining boxes are illuminated by a single 75-watt lightbulb in the center box. The lights are wired on two different thermal flasher relays: one for the four corner bulbs and one for the central bulb. The relays turn their corresponding lights on and off. Switching at slightly different rates, the corner bulbs and central bulb oscillate over time between switching in unison and switching oppositely.

The goal of the treatment was to address the aged electrical components to ensure the artwork could be displayed safely with no fire risk, set the flashing lights to operate as the artist intended or the best approximation, and update the lightbulbs for exhibition display. The artist's estate was consulted on all proposed possibilities and approved the final treatment.

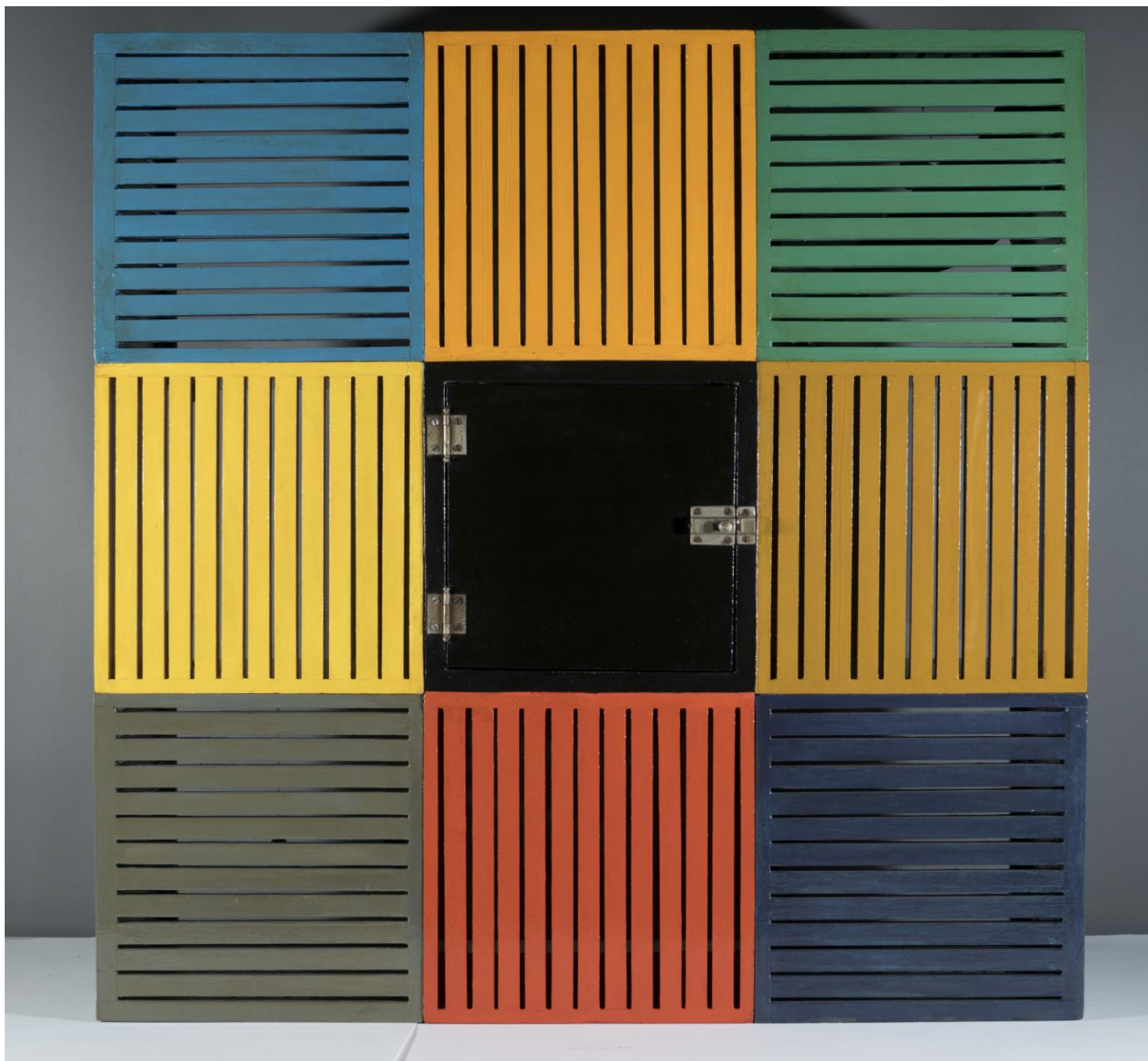


FIGURE 1 Front (left) and back (right) of *Nine Parts, Each Containing a Work of Art by Other Artists*, 1963, before treatment. Note: Back panels of top right, top left, and bottom left panel removed for condition assessment.

## Condition of Electrical Components

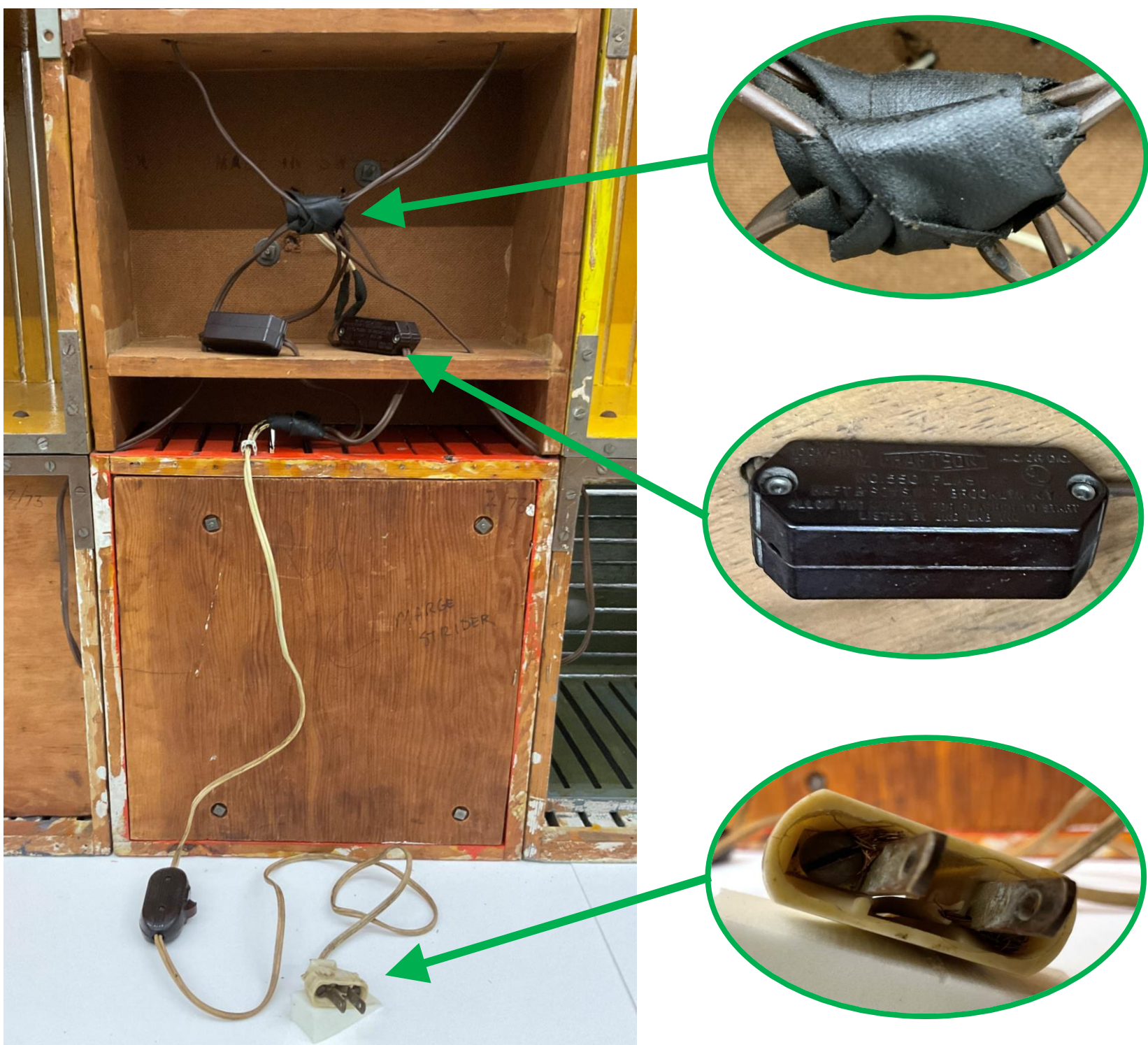


FIGURE 2 Detail of original electrical components at back. Top: degraded black electrical tape around wires; middle: thermal flasher; bottom: plug with corroded wire and screws exposed.

The sculpture could still be turned on, but the original electrical components (Figure 2) were in various states of degradation.

**Flashing:** The relays (flashers) were causing the lights to turn on and off sporadically and inconsistently. There was concern about the possibility of electrical arcing or an electrical fire when the relays ultimately fail, as the mechanics of thermal flasher relays leave them prone to gradual degradation over time.

**Wiring:** There was concern about yellowed wires and splices held together with degrading electrical tape. The plug was also yellowed with exposed wires.

**Lightbulbs:** The age and origin of the lightbulbs were unknown. Each of the four corner boxes had a different lightbulb, but they were all approximately the same size/shape (Figure 3).

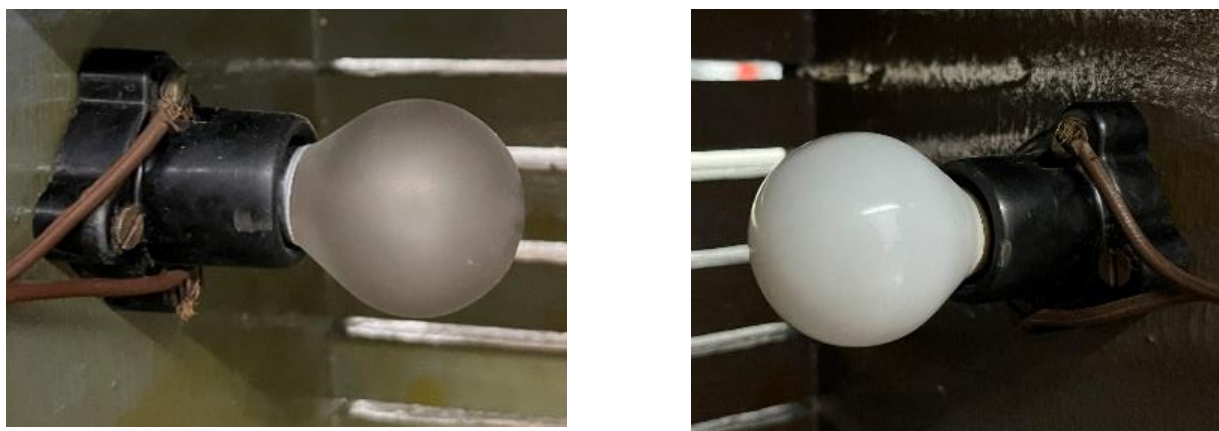


Figure 3 Two of the existing lightbulbs: box 7 (left) and box 9 (right)



FIGURE 4 Kaela Nurmi, Elisse Brautigam, and Nick Ecker during treatment.

## Treatment Performed

We reached out to the Estate, as well as private conservation studio bek&frohnert LLC, to gain information on previous treatments of similar artworks. The Estate approved the following treatment:

1. Photo documented before, during, and after treatment
2. Removed existing electrical components from the artwork
3. Re-wired with new, appropriate materials
4. Inserted new relays (flashers) into relay bases
5. Set new relays to reflect the existing timing
6. Replaced lightbulbs with modern equivalents
7. Created custom storage trays for the back corner plates
8. Accessioned all original materials in the Artist Material Archive
9. Updated installation instructions

## Flashing Considerations

**Thermal Flashers:** The original flashers use a bimetallic strip made of two different conductive metals that expand and contract at different rates when a current passes through. This causes the bottom strip to bend and break the connection, so the light goes off. As the current dissipates, the metal contracts back into place, turning the light back on (Figure 5).

**Timing:** The work was turned on for three hours to time the existing flashing. The corner lights settled into a consistent rate of 2 seconds on, 2 seconds off, but the central light took longer to consistently flash, finally settling at about 2 seconds on, 3 seconds off. The inconsistent flashing was likely a result of material degradation due to age or quality control during manufacturing. Any slight difference in metal (length/thickness) between the two flashers, would result in a noticeable change in the flashing sequencing.

**Programmable Relays:** Modern mechanical time-delay relays replaced the original thermal flashers as they can be programmed to reflect the existing timing (Figure 6). The function of the relay (light on) starts when voltage is applied to the coil inside the relay, and after the set time, the armature contact is released (light off), (Figure 7). The relays fit into bases secured in place, to prevent jostling and unnecessary wear on the components. No new holes were created in the artwork, and the relays can easily be removed.

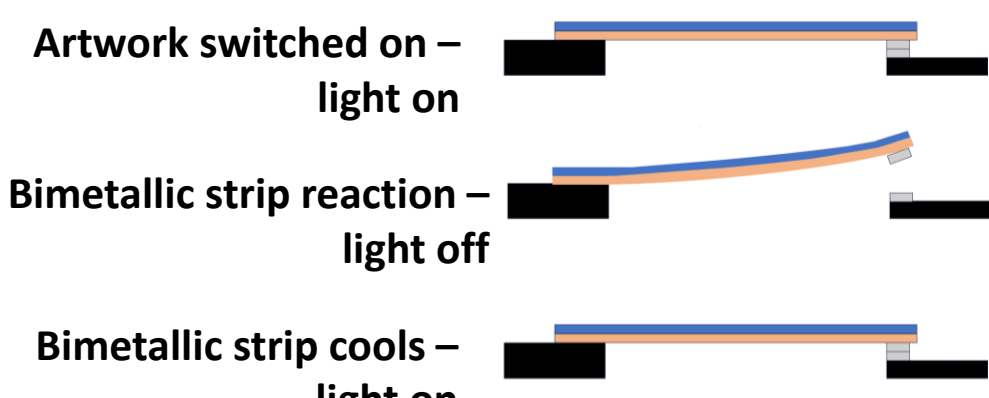


FIGURE 5 Diagram of thermal flasher



FIGURE 6 Detail of new relays and wiring.

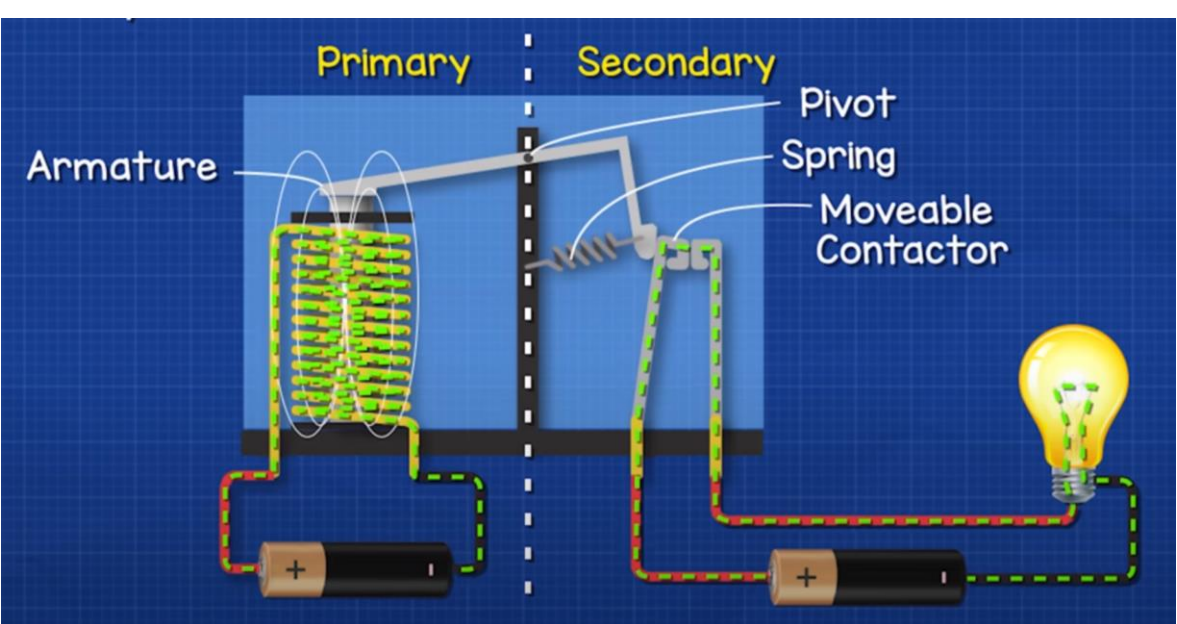


FIGURE 7 Diagram of mechanical relay<sup>1</sup>

## Conclusion

*Wall Structure in Nine Parts, Each Containing a Work of Art by Other Artists* can now be exhibited without fire risk. The updated electrical components allow for the work to be enjoyed safely, as LeWitt intended. All original electrical components were saved, and the updated electrical elements can be safely removed.



FIGURE 8 Original electrical components saved for Artist Material Archive (right) and back panels stored on trays (left).

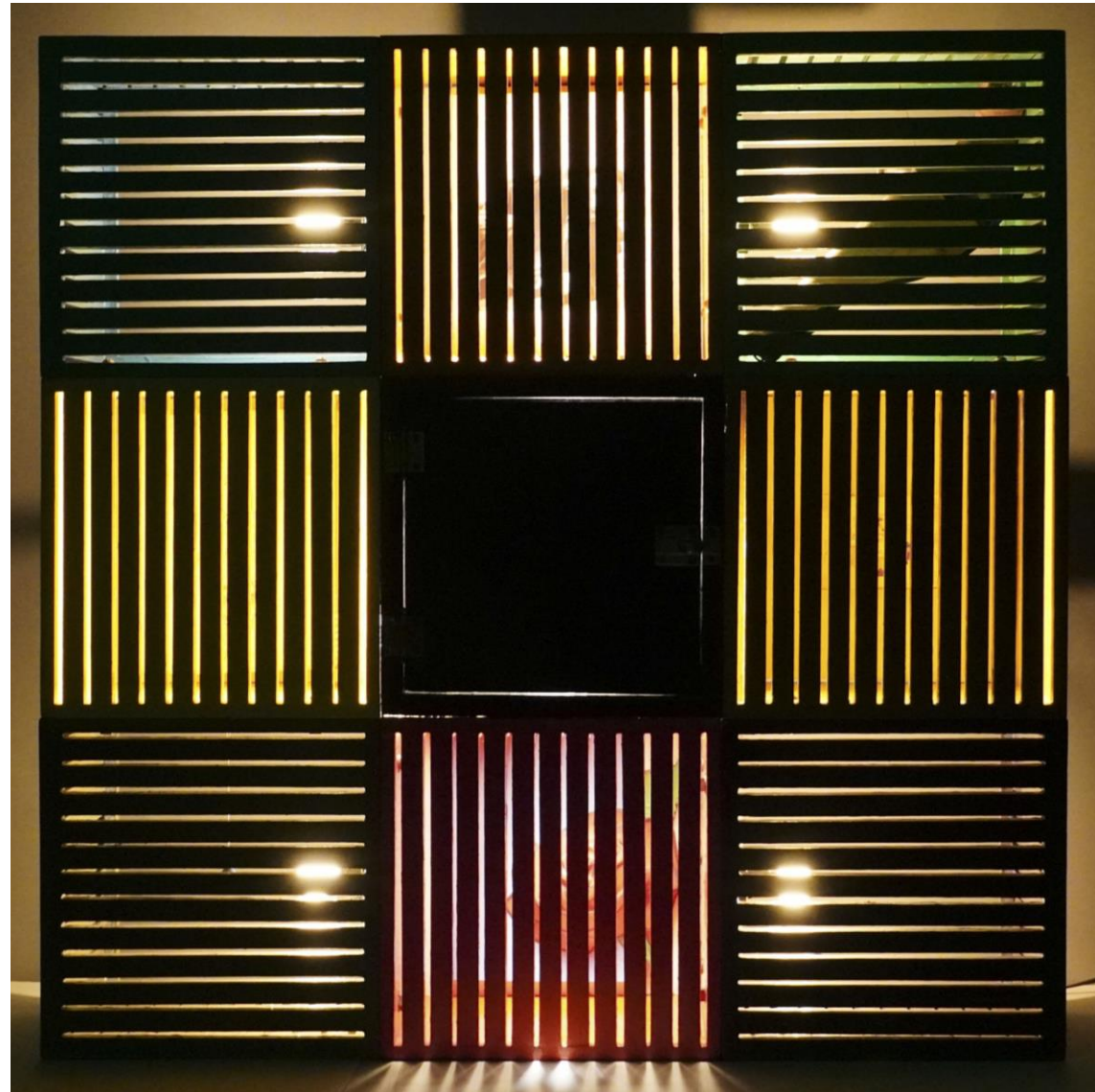


FIGURE 9 Back, after treatment (top); Front, all lights on (bottom)

Check out a video of the work in all its flashing glory by scanning the QR code!



## References

<sup>1</sup> The Engineering Mindset. 2020. *How Relays Work*. Youtube, uploaded by The Engineering Mindset, 19 September 2020, <https://youtu.be/n594CkrP6xE?si=NMtX3P8elaWOLih>

## Acknowledgements

Steven O'Banion,<sup>A</sup> Samantha Owens,<sup>A</sup> Austin Anderson,<sup>A</sup> MichaelAngelo Rodriguez,<sup>A</sup> Juan Lucas,<sup>A</sup> Philip Batler,<sup>A</sup> Reinhard Bek,<sup>B</sup> Janet Passehl,<sup>D</sup>

<sup>A</sup> Glenstone Museum <sup>B</sup> bek&frohnert LLC <sup>D</sup> LeWitt Collection

## About Glenstone

Glenstone Museum is a modern and contemporary art in Potomac, Maryland, less than 15-miles from Washington, DC. Glenstone seamlessly integrates art, architecture and nature into a serene and contemplative environment. Glenstone is a leader in environmental stewardship and is committed to advancing sustainable best practices in the field. Admission is always free. Learn more and schedule a visit at [www.glenstone.org](http://www.glenstone.org).