RECURRENT ANAXIMANDER
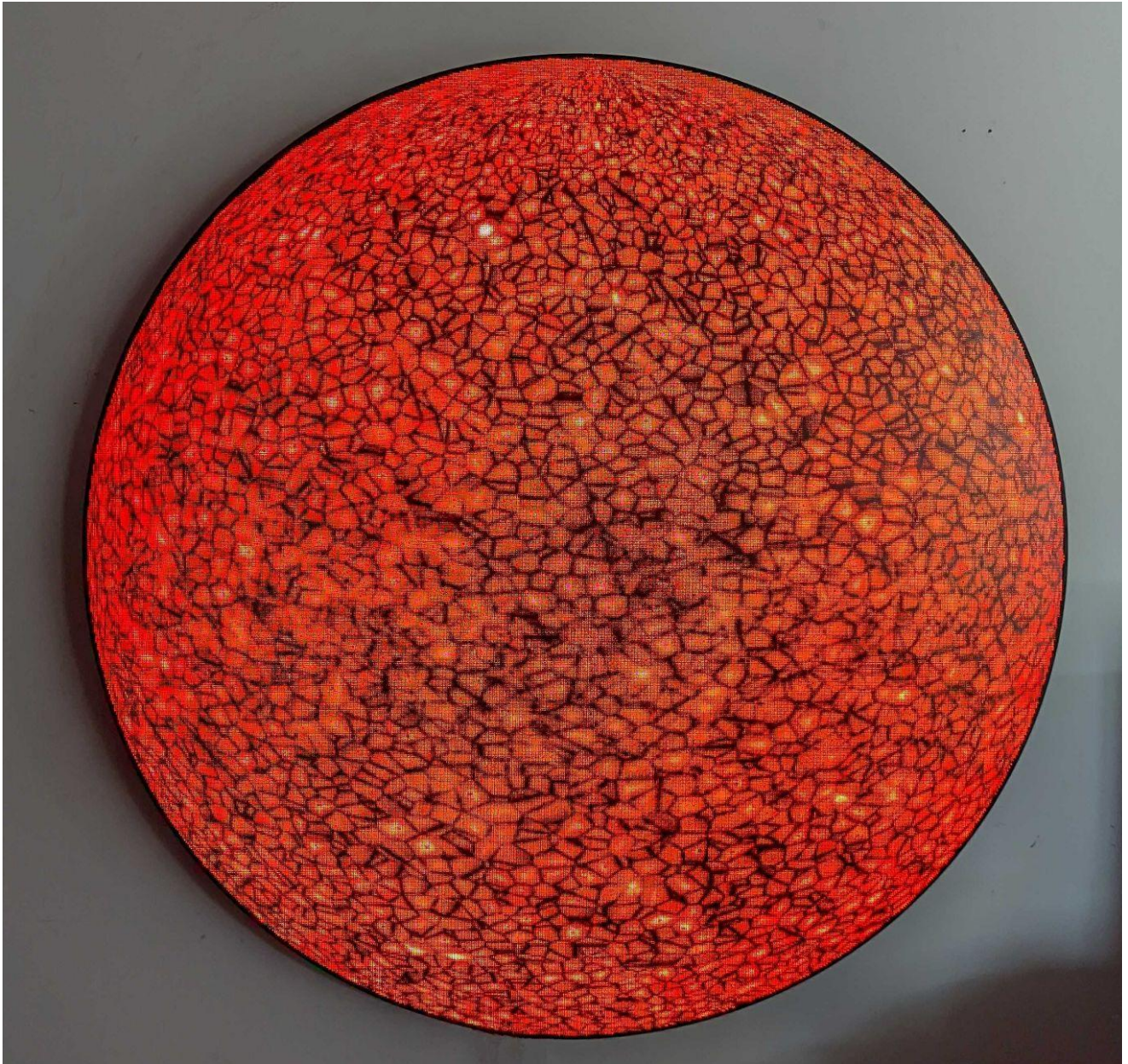
BY RAFAEL LOZANO-HEMMER - 140CM CIRCULAR DISPLAY SETUP

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GENERAL IMPORTANT INFORMATION

This short section must be read for proper operation.

RECURRENT ANAXIMANDER (2020)

BY RAFAEL LOZANO-HEMMER - CIRCULAR DISPLAY SETUP

Technique

Computer, custom LED circular display. Powder-coated steel frame.

Description

Recurrent Anaximander is a generative animation running on a circular display. The piece features a solar simulation made with Reaction Diffusion, Navier Stokes, Voronoi and Perlin Noise algorithms, running on top of a Solar Dynamics Observatory (SDO) image that is updated daily by NASA. Small planets in orbit create infrequent eclipses that aid the trompe l'oeil render perspective. The project is named after Anaximander of Miletus (610-545 BCE), the pre-Socratic philosopher who first explained eclipses as a function of a cosmos that is all around us and whose concept of the World's origin from and collapse into the "apeiron" (the "indefinite") greatly influenced thinkers up to and including contemporary cosmogeny.

Operation

Please refer to [Appendix I - Installation](#) for detailed system information and wiring diagram.

1. Connect the computer, the display and the video processor to power.

2. Flick ON the switch on the video controller, then press on the power button on the computer. Once you have turned the computer ON, the piece should start automatically after about three minutes.

3. To turn the piece OFF, press the same power button located on the computer, then flick OFF the switch on the video controller.

Maintenance

Please do not clean the display surfaces with Windex or soap. Use a lint-free cloth and LCD screen liquid cleaner, such as Kensington Screen Guardian found in most computer stores.

The metal frame can be cleaned with regular all-purpose cleaner or even with a simple damp cloth. Do not use harsh cleaners or rough sponges.

We recommend cleaning the piece at least every two months.

Placement Instruction

When installing the bracket on the wall, you have to make sure it is at an angle of 45 degrees: placing a spirit level on the horizontal bar will allow you to reach such an angle. Note that the centre of the bracket isn't aligned with the centre of the artwork: the center point of the artwork matches with the center point of the metal tube attached to the bracket, slightly off center, perpendicular to the metal plate.

The artwork display should be vertically centred at 150 cm (59") from the floor. The monitor weighs about 150lbs and we recommend using at least 5 anchor points: the 4 outer corners of the bracket and a point near the centre. Depending on the hosting wall structure and composition, you might decide to use more anchor points: this explains why the mounting bracket has plenty of holes to allow different anchor points locations. In order to align the bracket properly, here is height for the 4 outer anchor points.

1895mm [74" ½]

1751mm [69]

1500mm [59"]

1125mm [44" ½]

1270mm [50"]
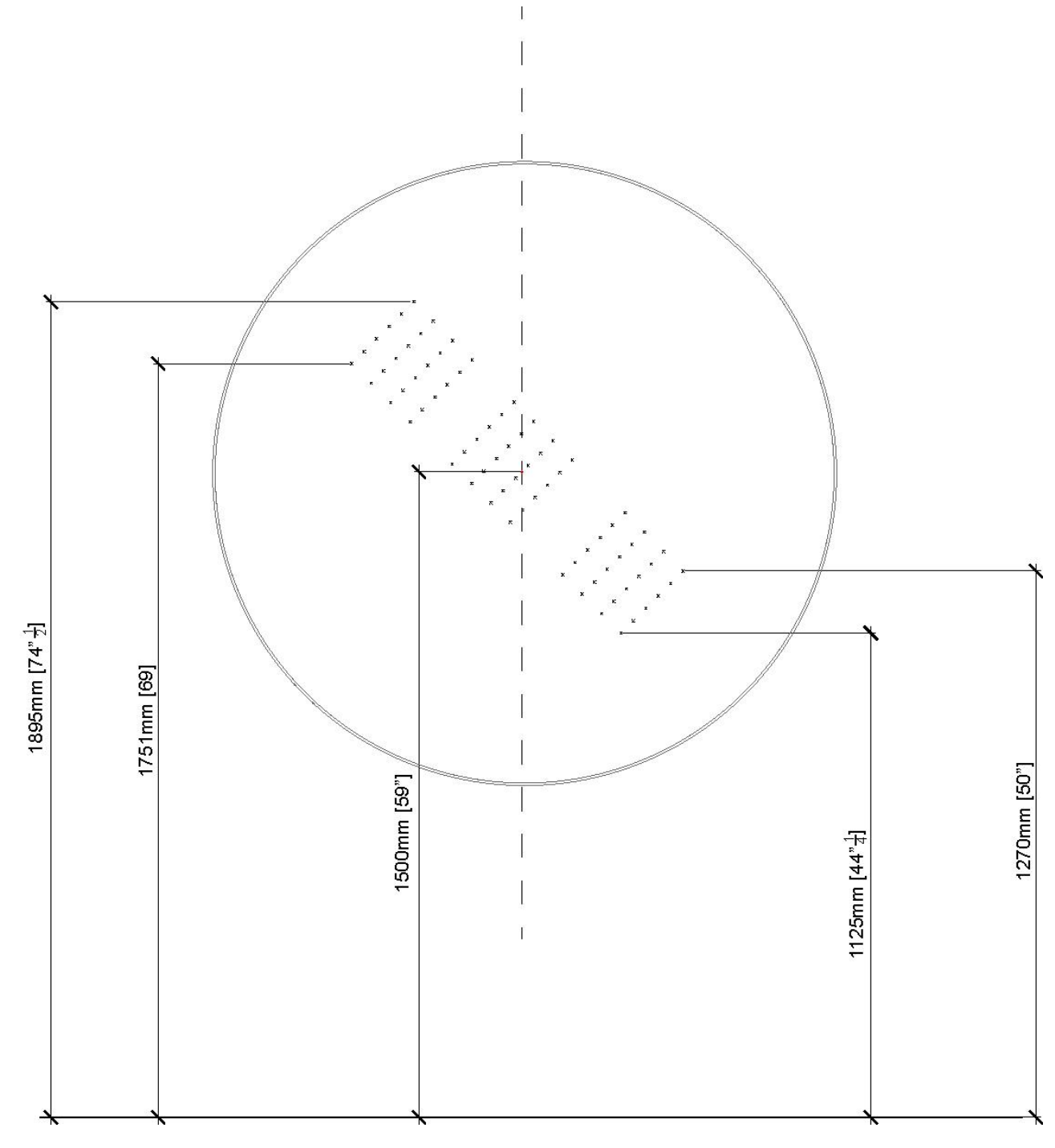
To centre the artwork on the wall with precision, ensure to place the following 4 anchor points at specific distance from the center point where you want the artwork. The "top right" anchor point needs to be 251mm (9 ⅞") left of the central point, the "top left" anchoir point at 395mm (15 9/16") to the left, etc. Doing so would also give you the 45 degrees angle needed. Using a spirit level would allow you to be perfectly aligned, as described in next page.

251mm - 9 7/8"

395mm - 15 9/16"

372mm - 14 5/8"

230mm - 9 19/32"
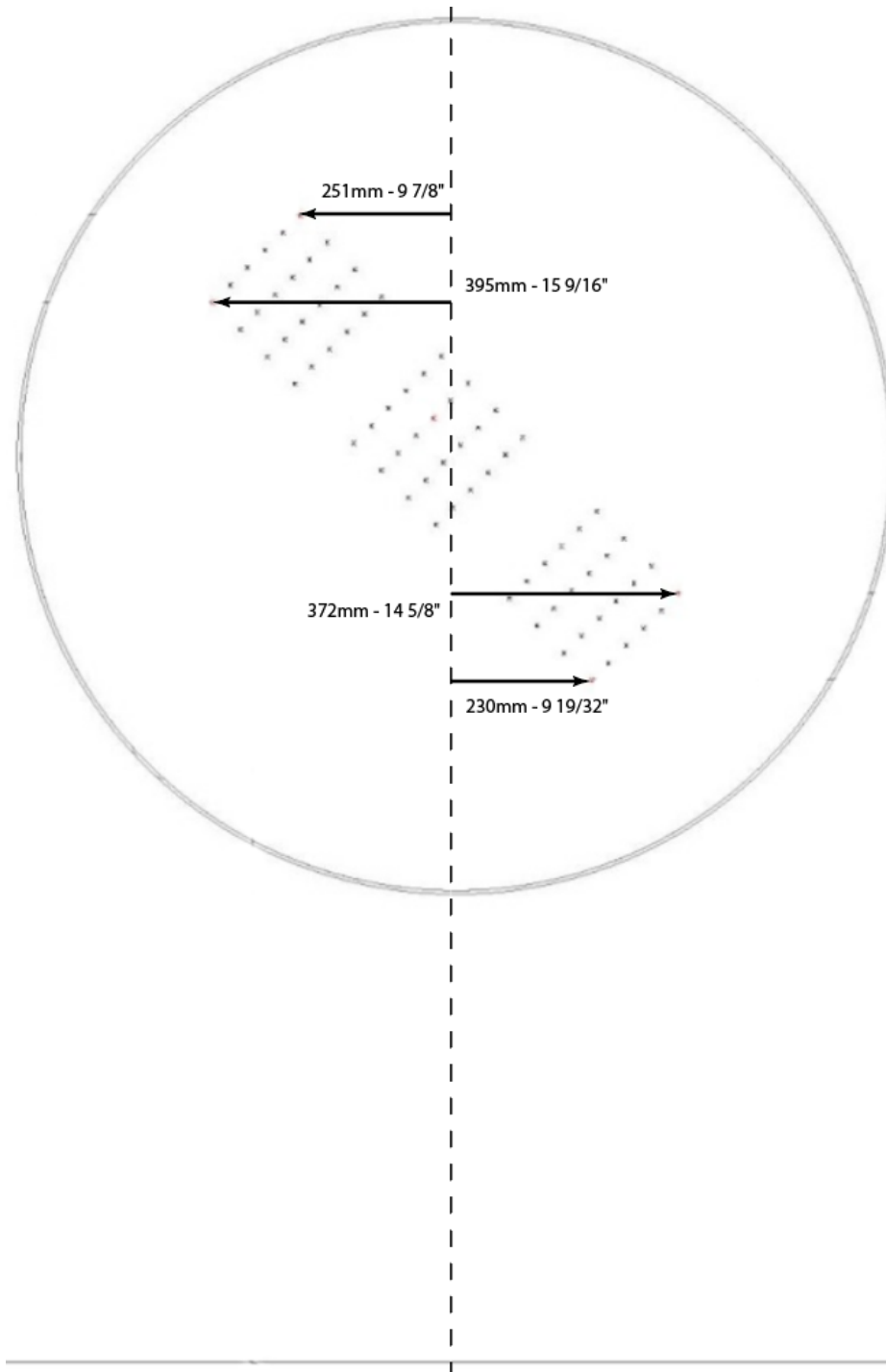
Once the bracket is attached to the wall, adjust the screws of the horizontal bar so the top of their head comes 45 mm (1 3/4") away from the wall and tighten the nuts onto the metal bar to lock screws in place.
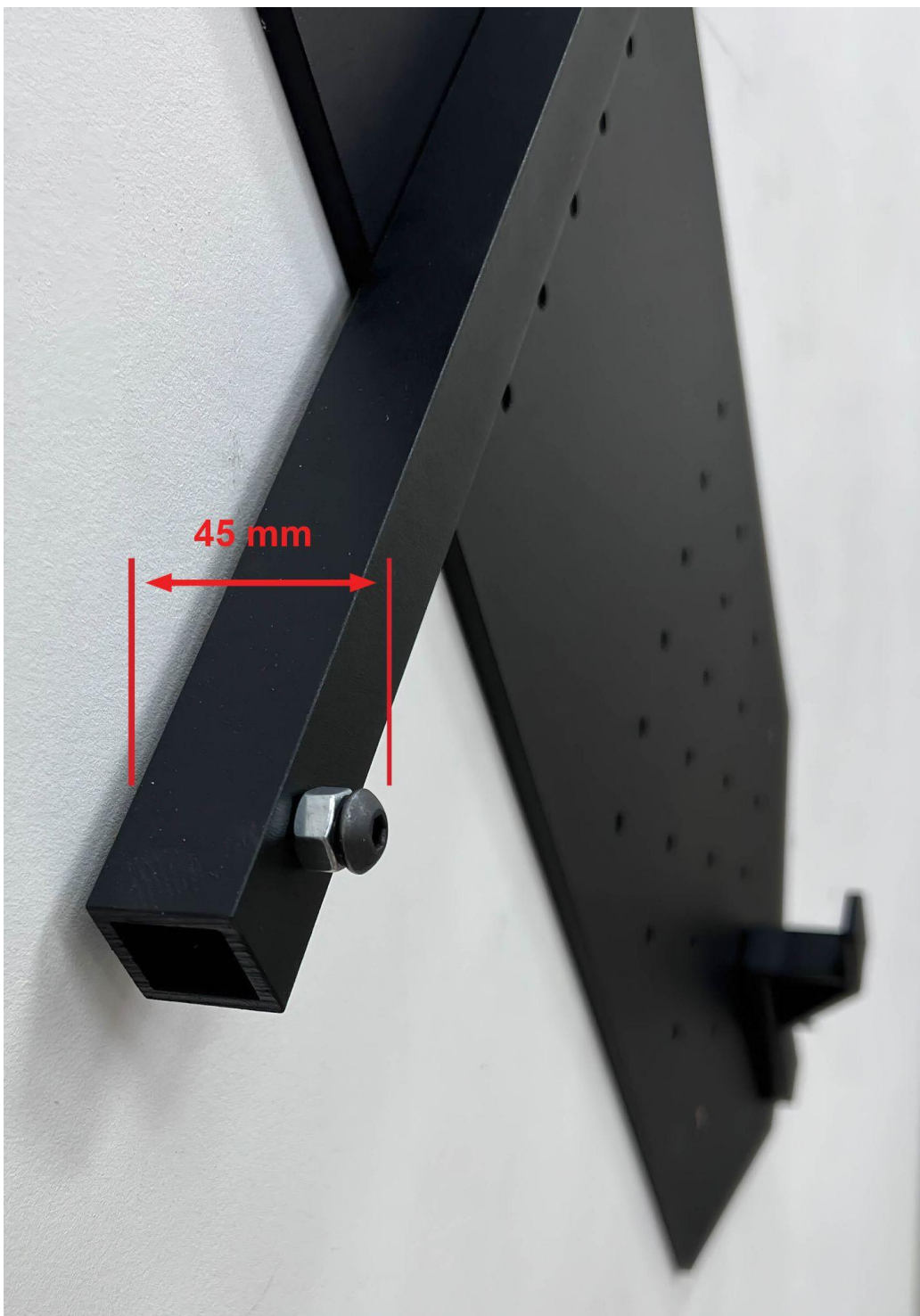
We recommend using at least three people to place the display onto the bracket: the first two will be on either side lifting the display while a third guides them.

The bracket has 2 hooks and there are 4 slots on the back of the display. You will need to use two slots along the vertical axis, the upper and lower ones. The wider slot from the back of the display should be located near the bracket's top hook: this would ensure the display is in the right axis.

Place the display vertically on a soft blanket to avoid damaging the frame. Please pay attention to the cabling to avoid any accidents or damage to the piece.

Rotate the display 45 degrees counterclockwise. Lift the display and insert both hooks simultaneously into the vertical axis slots. Then slowly and diagonally slide the display onto the hooks, making sure that it is secure.
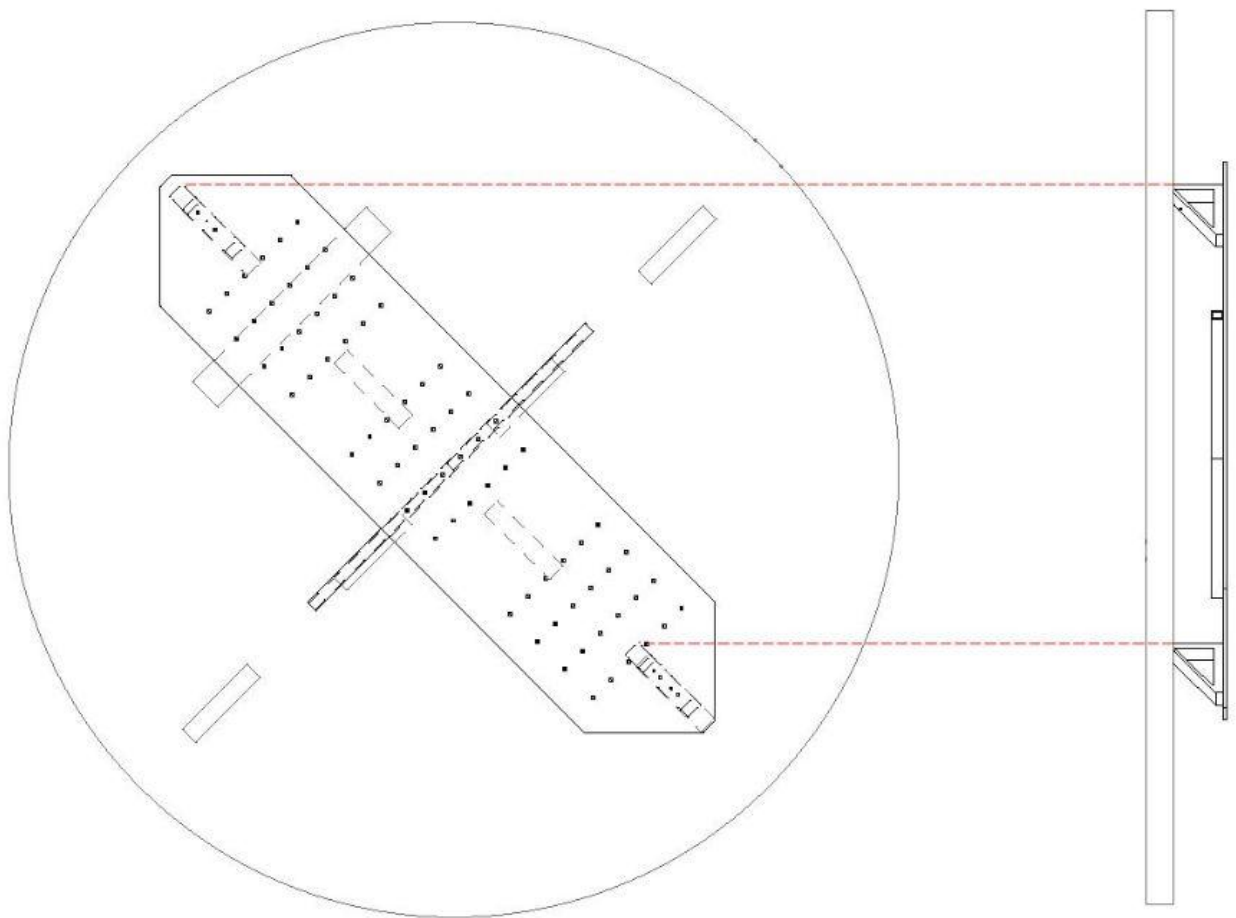
DETAILED TECHNICAL INFORMATION

Normal Software Operation

The custom software runs on Touchdesigner, which is automatically set to startup with the computer's daily power cycle. It is plug and play; it will auto-start displaying the artwork without any need to go through the computer's system or menus. The artwork's canvas is displayed from the upper left corner of a normal HD 1920 x 1080 resolution desktop.

Manual Software Settings

Saturation and Brightness:

Using the wireless keyboard provided, one can adjust the brightness and saturation of the artwork using the **left** and **right arrow keys** for saturation control and the **up** and **down arrow keys** for brightness control. If you need to save these settings, press **CTRL** + **s keys,** so that the next time the artwork initiates, it remembers these settings.

Eclipse:

The piece will periodically feature planets that eclipse over the sun. You can initiate these eclipses outside their timed settings; the smallest of the planets can be triggered using the **e key**. Text will display on screen that says: "**Eclipse Started**", then it will take around 10 seconds for the planet to appear on the left side of the screen as it travels towards the right.

Quitting software:

To exit the software, press on the Escape button, then Ctrl+Q. You should now be in Windows' desktop.

Remote Access to Artwork's Computer

There is a software installed on the computer running this artwork that allows the studio to connect remotely to the artwork. This feature is helpful when you require assistance from the studio, as we can remotely connect to it, do a quick inspection, and do a debugging session of your components, if needed. In order to enable this feature, the computer has to be connected to the internet at all times. Depending on the computer's operating system (Windows 7/8/10, OSX), the procedure to set the computer online will vary. Please look online for tutorials, if necessary.

Preliminary Troubleshooting Steps

After pressing the computer's power button, nothing seems to happen.

Do you hear any fan-like noise coming from the computer? If so, the computer is running and the display should show the piece shortly. Check if the computer feels hot, or if you can feel the fan running from the top of the computer, both of which indicate that the computer is running and receiving power. The computer has an orange light around the power button that appears when it is turned ON.

If the computer is turned ON but the screen is still not reacting, ensure that the power cable going from the back of the screen to the power source is firmly in place.

If you think the computer is OFF, check that the power source is correctly giving power, or try restarting the computer by pressing the power button for a longer duration.

The rendered image is compressed or stretched on: the shape is more of an oval than a circle.

This might be a communication issue between the computer and the display: ensure the computer is connected to the display. Inspect all video connections and if your edition has a video controller, ensure it is powered on. After trying these steps, if the image is still deformed, try restarting the artwork.

The piece does not react and the image is frozen.

Ensure that the computer and video control box are securely connected to the display through the ethernet cable. If the image is frozen, it might be because the connection has been disrupted. Restarting the piece, as described above, can be another solution. Check that the cables between the computer and the video box as well as the cable from the video box to the display are securely connected.

If the issue still persists after trying all of the above steps, then please contact the Studio for further assistance.

The piece is on but the screen is black.

The image may be offscreen for whatever reason. Restart the machine to see if the output window is in the correct space. Try moving the mouse to the top-left hand side to see if you can see the cursor.

An independent LED is strangely pixelated, or is not displaying the image.

In the unlikely chance that an area of the display is no longer responding or has become pixelated, independent from the rest of the display, this might indicate that an LED panel has become damaged and needs replacing. Contact the Studio with evidence of the issue. It is helpful to provide the Studio with any extra information gathered, when they are assessing the issue.

The rotation of the sun isn't happening from left to right.

The orientation of the sun's rotation should go from left to right. If it isn't the case, there are 2 potential issues: the display settings got modified in Windows or software settings got corrupted.

Quit the software, you should be in Windows Desktop. Look at the orientation of the Recurrent Anaximander shortcut: if the shortcut is flipped over (name / text being oriented towards the top of the display), we'll change the Display rotation. Right click in Desktop, click on Display settings: it will prompt a "Display Settings" window. In this window, you'll retrieve the Orientation, first note what is your original configuration, then pick the opposite of what you currently have (Landscape vs. Landscape (flipped), Portrait vs. Portrait (flipped)). You might even want to try the other options (Landscape vs Portrait). Final result should give you an icon displayed in the circular screen where its name is readable and positioned under the icon image.

If changing the display orientation didn't fix it, revert the Windows Display settings to your original value, then head to desktop, double click on the Recurrent Anaximander icon. After a few seconds, the software will be back up and running. Access the menu (Alt+G), locate the Finalrotation value and adjust it to either -45, 0 or 45. This should give you the ability to rotate the sun and ensure a proper animation's rotation going from left to right. Close this setting page by clicking on the window's X button.

Troubleshooting Assistance

Prior to contacting the Antimodular Studio with a problem about your artwork, please ensure that you went through the preliminary troubleshooting steps outlined in the previous section.

The troubleshooting process will vary depending on the problem. In order to make the process easier, it is recommended that you collect and send the following information to the studio:

- Date and time when the problem first happened;
- Description of the problem;
- Actions taken so far and conclusions;
- Detailed photographs (or videos) displaying the problem;
- Detailed photographs (or videos) of the suspected faulty component;
- Detailed photographs (or videos) of the whole artwork and its surroundings;
- Personnel involved.

Support (Contact Us)

If you would like support for the piece, please feel free to call Lozano-Hemmer's studio in Canada:

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4060 St-Laurent, studio 107
Montréal Québec H2W 1Y9 Canada
Tel 1-514-597-0917
Fax 1-514-597-2092
info@antimodular.com
www.antimodular.com

# APPENDIX I - INSTALLATION

Description of Components

This artwork requires the following components:

Component	Description
Computer	Computer running on Windows 10 LTSC OS at least, with a NVidia graphics card (at least RTX 3060).
Video signal cables	Connects the computer to the video controller (usually it is a DVI-HDMI cable) and the video controller to the display (network cable).
Video controller	Device receiving the video feed from the computer and outputting it to the display.
Display	A LED round display.
Keyboard	While not required for normal use of the artwork, it allows you to calibrate the system prior to exhibition.

Images of components, for consultation:
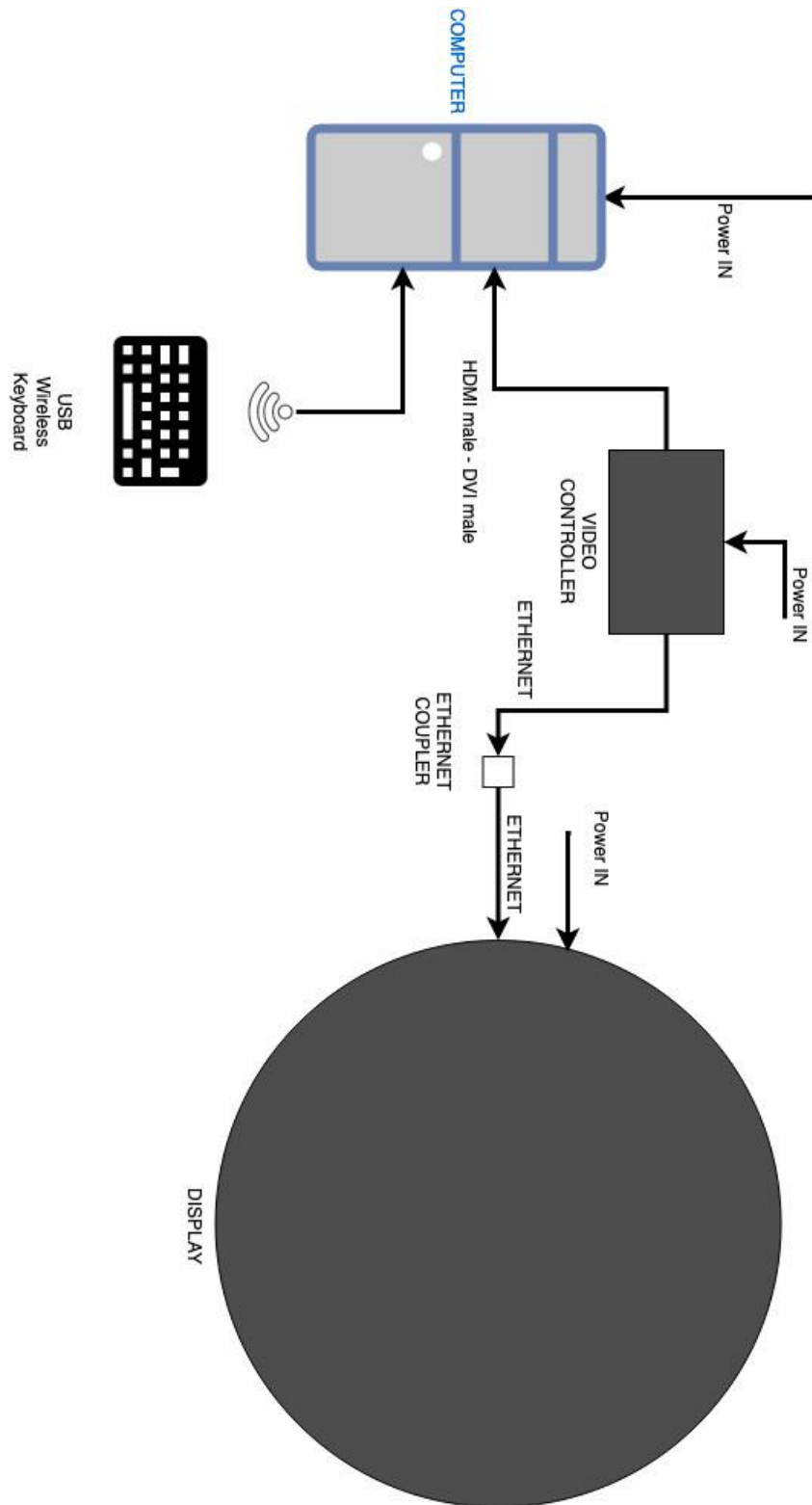

Computer, Windows OS
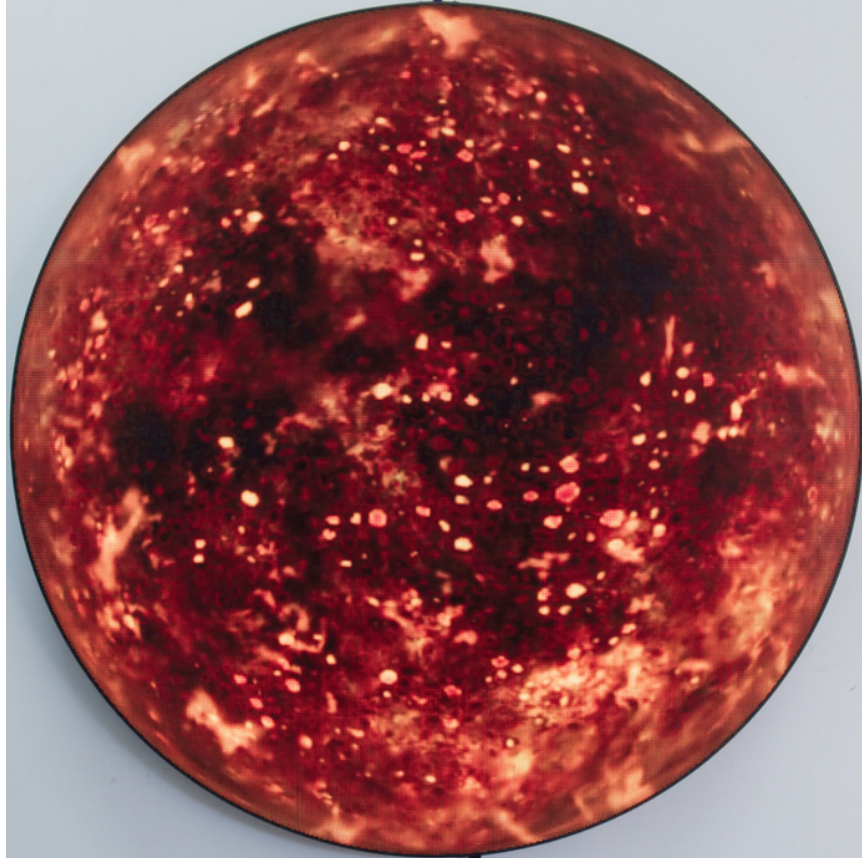
Display

Logitech wireless RF keyboard

Video controller

Wiring Diagrams and Connections

Wall Bracket Dimensions