The following instructions are for MWP units purchased before March 2021

Zantiks MWP kit:

1. Integrated unit (approx. 270mm H; 220mm D; 160mm W) with:
   - Zanscript (Zantiks proprietary scripting software)
   - Built-in features / stimuli
     - overhead 'house lights'
     - screen on the MWP_sc
     - vibration motor on the MWP_vb
     - Camera
     - Computer
2. A 12V power cable
3. Zantiks router, power cable, and Ethernet cable
   - Zantiks router is supplied with the first unit, this is typically a TP Link router (previously Cisco) with 4 LAN ports and 1 WAN port. Subsequent units can be networked to this router, using a network switch if necessary.
4. Stand to hold a multi-well plate or Petri dish
   - The type of stand will vary depending on the unit. MWP_vb with come with a diffuser stand, MWP_sc with come with a clear stand.
5. A standard temperature control system is included with all units. The peltier temperature control system is offered as an optional add on if required.

Assembling the motor plate

If you have purchased the MWP_vb unit you need to insert the motor plate into the unit before using it. The motor plate is delivered detached in order to prevent breakage during transit.

The link below shows how to open the front section of the MWP_vb unit so that the motor plate can be inserted and attached. You will need a T10 Torx driver, or similar, not an allen key to do this (this tool should be included with your unit).

Please note the MWP_sc unit does not have a built-in motor, so these assembly instructions are not valid for this version.

https://www.youtube.com/watch?v=413nz3j7dKQ

Setting up the MWP

The video below demonstrates how to set up the MWP unit including the layout of the cables in the socket panel, and how to insert a well-plate into the chamber with or without a stand.

https://www.youtube.com/watch?v=7mjtl-jJOZ8

1. Place the MWP unit on a stable surface close to a power socket and away from disturbances.
2. Insert the 12V power supply cable into the top left side socket of the MWP and plug it into the mains socket.
3. Connect the ethernet cable at the side of the MWP unit, just below the 12V power cable, and plug this into any of the 4 slots available in the LAN section of the router.

Side socket of MWP unit showing where to insert the green connector plugs and cables. Bottom left the Ethernet cable plugs in; directly above it is the 12V power supply cable. On the bottom board are two 2-way green, connector plugs. On the top green connection board are the 4-way connector plug for the thermistor (left) and the 4-wire connector plug for the overhead lights (right).

4. Turn on the router and the mains power to the Zantiks unit. Wait a few minutes for the MWP unit to power on. When using the MWP version with a screen, text will scroll across the screen before displaying the IP address of the unit (which begins with the same 7 digits 192.168.1.). When using the MWP_vb, your IP address is included on your delivery note. If you have only one Zantiks unit, the IP address will be 192.168.1.101. The IP address is used to identify the unit on the Zantiks Control Console.
5. Using any browser-enabled device:
   - go to your device's network settings and connect to the wifi network "Zantiks"
   - type in the network password, which is initially provided as: behaviour, simply
   - go to the address bar of the web browser and type in the IP address for your Zantiks unit
6. Your web browser should now display the Zantiks Control Console page.

Temperature control options for the MWP

For information on temperature control options and their set up. Please refer back to the MWP manual. These have not changed between models.

Assembling the Light Stand

The light stand can incorporate a diffusing stand, and so replaces the standard diffusing stand that is supplied with the MWP_vb unit. The main components include:

1. Light stand with incorporated diffusing stand
2. LED holder (with your choice of wavelength lights)
3. Control circuit to plug directly into the MWP unit
4. Foam door (with hole for light plate)
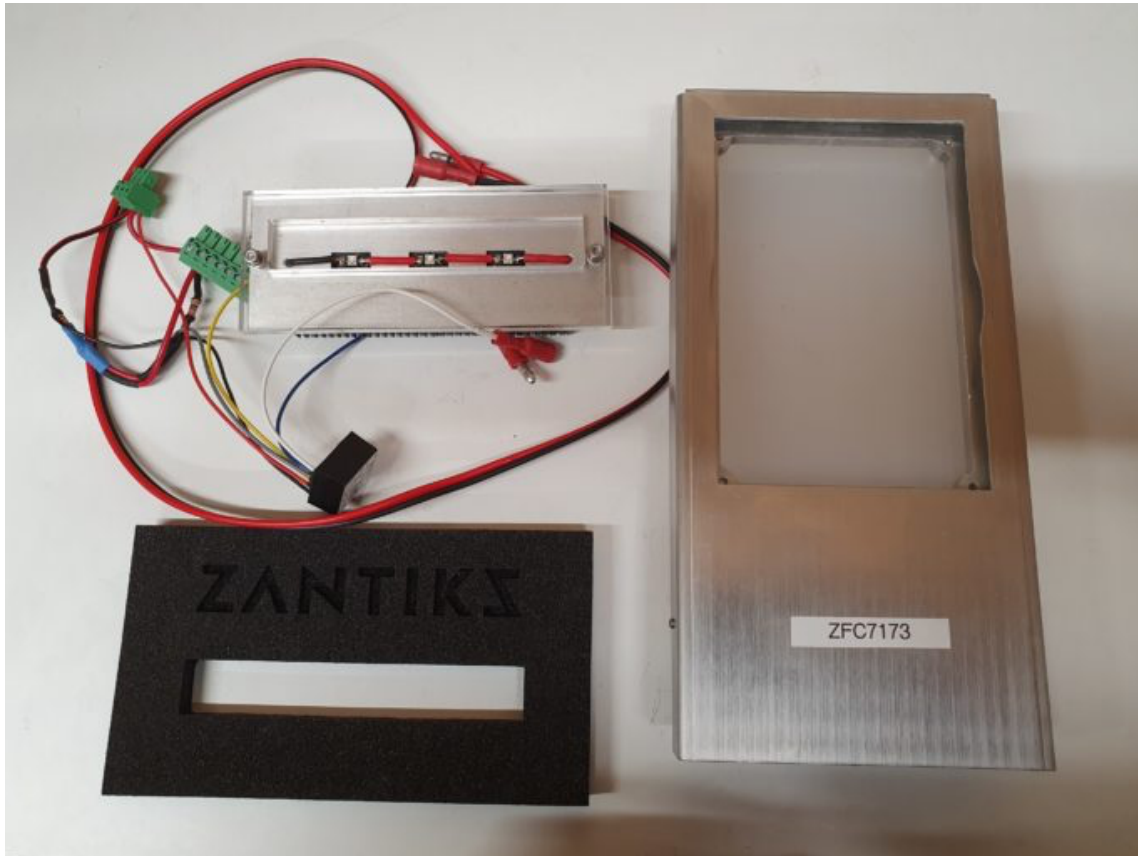
The main components of the light stand.

The system plugs directly into the MWP, and does not require an additional power supply.

Control of the system is from the included Zanscript programming language, and incorporates control of both the brightness of the light and the duration of the stimulus.

The brightness of the light is controlled by the voltage set on output4. This is the 7th connector on the 8-way output located at CN5 of the lower board (see picture).

The light being on or off is controlled by the relay output from CN4, which is the second of the 3 way connectors on the lower board from the left (see picture).
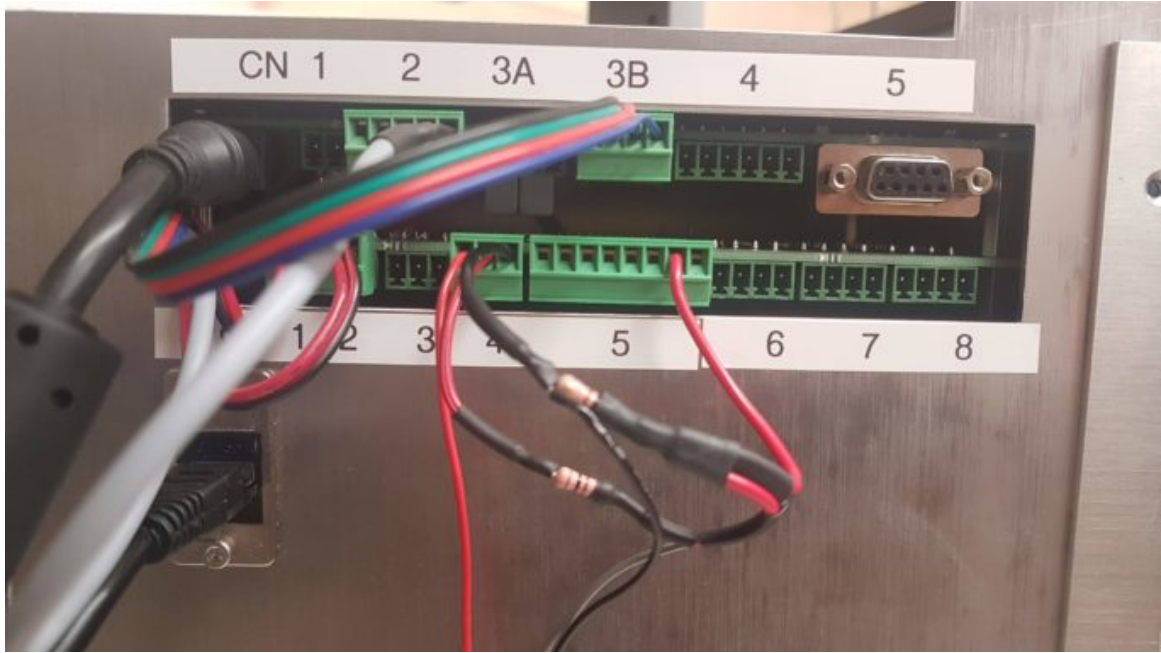
Side socket of MWP unit demonstrating how the wires for the light stand should be connected in CN4 and CN5 of the lower board

The LED holder is then connected to the control circuitry with the push connectors.
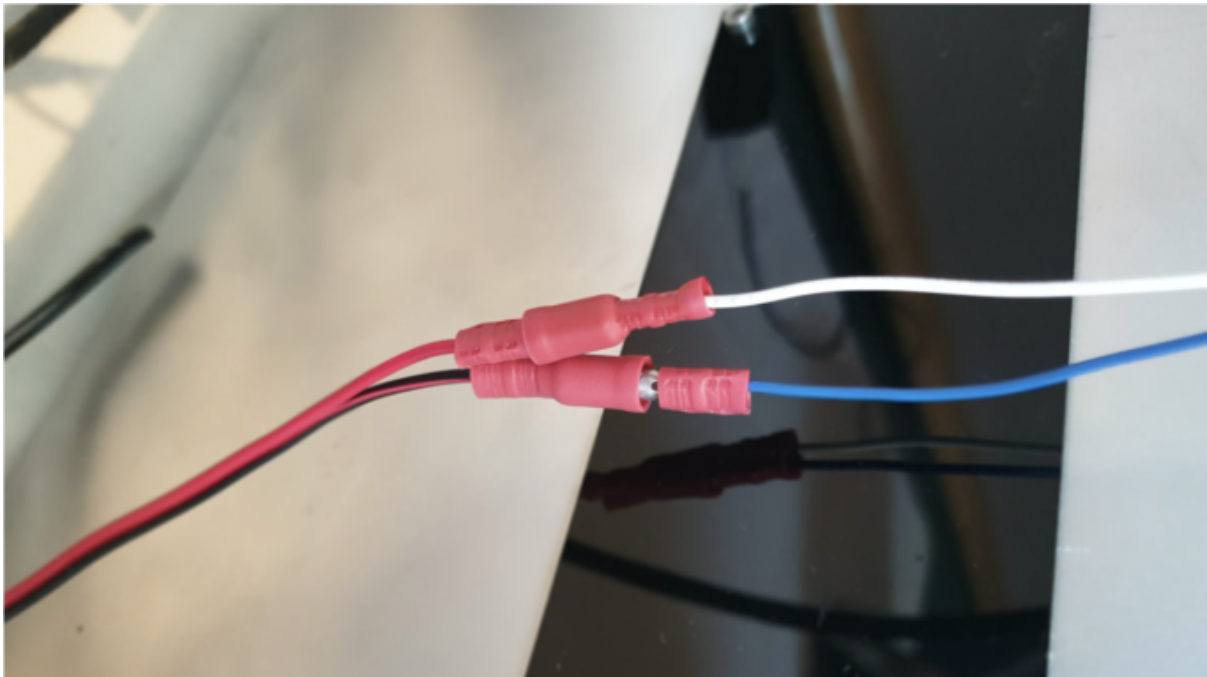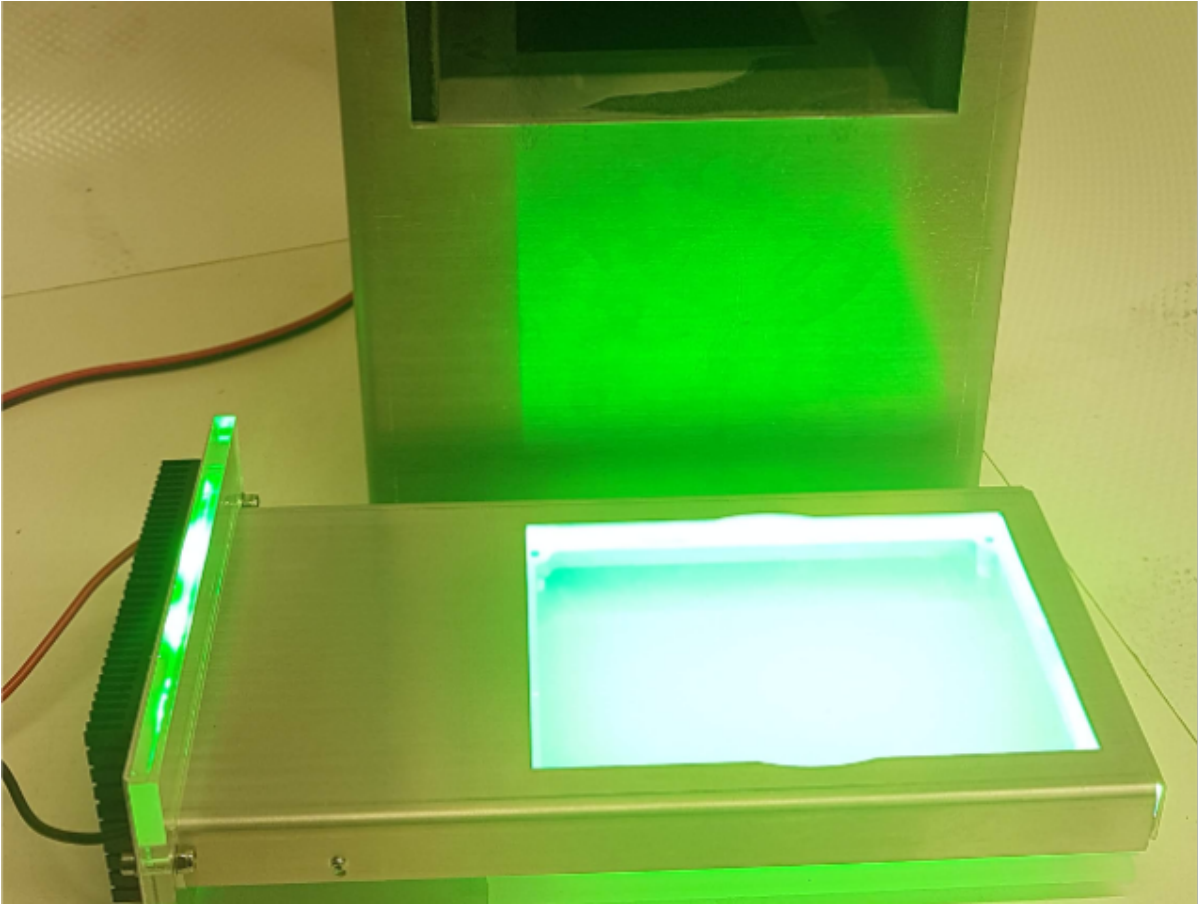

Push plugs connecting LED holder to the control circuit

Connection of the LED holder to the MWP unit via the control circuit

The LED holder can be attached to the light plate. This can then be inserted into the MWP unit with the foam door to prevent any excess light entering or exiting the unit (see images below).

LED holder attached to light stand with green LEDs

Light stand with LED holder inserted into MWP unit with foam door to prevent light escaping

We are using a third party LED driver device which allows us to control the on/off and brightness of the LEDs from the ZANTIKS script and electronics. This allows the system to be fully integrated into the Zantiks experiments.

The LED driver is permanently powered from the 3-way connector plugged in as in the previous photo (CN4). CN4 each provides permanent 12V power, a 12V power source switched by relays controlled from Zanscript, and a ground connection. CN4 has power applied by default, and when power is provided here the plate will not be lit. When power is not applied then the LED will light as controlled by the voltage out from the 4th output of CN5. High voltages (10000 mv) keep the stand unlit, and low voltages (anything below about 4000mv) will have the stand at full power.