



INSTRUMENTS

OWNER'S MANUAL

OLD MAIN TOWER

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CERTIFICATE OF COMPLIANCE

EU Declaration of Conformity

This declaration of conformity is issued under the sole responsibility of the manufacturer:

Apogee Instruments, Inc.
721 W 1800 N
Logan, Utah 84321
USA

for the following product(s):

Old Main Tower

The object of the declaration described above is in conformity with the relevant Union harmonization legislation:

2014/30/EU	Electromagnetic Compatibility (EMC) Directive
2011/65/EU	Restriction of Hazardous Substances (RoHS 2) Directive
2015/863/EU	Amending Annex II to Directive 2011/65/EU (RoHS 3)

Standards referenced during compliance assessment:

EN 61326-1:2013	Electrical equipment for measurement, control, and laboratory use – EMC requirements
EN 63000:2018	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

Please be advised that based on the information available to us from our raw material suppliers, the products manufactured by us do not contain, as intentional additives, any of the restricted materials including lead (see note below), mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB), polybrominated diphenyls (PBDE), bis (2-ethylhexyl) phthalate (DEHP), butyl benzyl phthalate (BBP), dibutyl phthalate (DBP), and diisobutyl phthalate (DIBP). However, please note that articles containing greater than 0.1 % lead concentration are RoHS 3 compliant using exemption 6c.

Further note that Apogee Instruments does not specifically run any analysis on our raw materials or end products for the presence of these substances, but we rely on the information provided to us by our material suppliers.

Signed for and on behalf of:
Apogee Instruments, January 2024

Bruce Bugbee
President
Apogee Instruments, Inc.



CERTIFICATE OF COMPLIANCE

UK Declaration of Conformity

This declaration of conformity is issued under the sole responsibility of the manufacturer:

Apogee Instruments, Inc.
721 W 1800 N
Logan, Utah 84321
USA

for the following product(s):

Old Main Tower

The object of the declaration described above is in conformity with the relevant UK Statutory Instruments and their amendments:

2016 No. 1091	The Electromagnetic Compatibility Regulations 2016
2012 No. 3032	The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012

Standards referenced during compliance assessment:

BS EN 61326-1:2013	Electrical equipment for measurement, control, and laboratory use – EMC requirements
BS EN 63000:2018	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

Please be advised that based on the information available to us from our raw material suppliers, the products manufactured by us do not contain, as intentional additives, any of the restricted materials including lead (see note below), mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB), polybrominated diphenyls (PBDE), bis (2-ethylhexyl) phthalate (DEHP), butyl benzyl phthalate (BBP), dibutyl phthalate (DBP), and diisobutyl phthalate (DIBP). However, please note that articles containing greater than 0.1 % lead concentration are RoHS 3 compliant using exemption 6c.

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INTRODUCTION/OVERVIEW

Old Main has served Utah State University in Logan, Utah for over 120 years. Originally containing the entirety of the college, nearly every department on campus has called the building home at some point in its history. The graduating class of 1909 were first to cap Old Main's central tower with a glowing 'A,' then powered by candlelight bulbs. Today, Old Main tower is illuminated with high powered LED 'A's fixed to all four sides. At night the tower glows proudly atop Old Main Hill, shining over both the university it represents and the valley it calls home.

Dr. Bruce Bugbee, a professor of Crop Physiology at Utah State University, collaborated with Apogee Instruments to design this Old Main replica tower for Utah State. Apogee Instruments is a local Cache Valley business founded by Dr. Bugbee in 1996. Since then, Apogee has grown into a world-class manufacturer of environmental sensors with dozens of employees, a state-of-the-art headquarters and manufacturing facility, and over 100,000 products in the field. The company focuses on providing high-quality, cost-effective instrumentation for research and commercial applications in horticulture, meteorology, sustainable food production, and renewable energy.

You may choose to manually light your 'A' lights white or blue with the push of a button. Alternatively, you can synchronize this replica tower with the Old Main tower on the Logan, Utah campus by connecting the tower to your local Wi-Fi network. This setting allows your tower to mimic the colors of the real tower as it [changes in recognition of various Aggie events and achievements](#). Either setting allows you to proudly share your Aggie pride. Apogee Instruments is proud to debut this Old Main replica tower.

SPECIFICATIONS

Old Main Tower	
Operating Environment	Indoors
Dimensions	3.75 in (9.53 cm) width, 3.75 in (9.53 cm) depth, 9.75 in (24.77 cm) height
Mass	260 g
Cable	USB Type A to USB Type C, 2 ft. Wall Charger Included
Power Requirements	5 V power adapter for USB charging cable
Connectivity	2.4 gigahertz Wi-Fi network / Bluetooth

SETUP AND OPERATION

The replica tower has two main modes of operation: manual and automatic. Manual mode allows the user to manually cycle through five predetermined display states (listed below). Automatic mode uses a network connection to match the replica tower's display state automatically and continuously to that of the real Old Main. Ensure the tower is always connected to power with the included 5 V power adapter and USB cable.

Manual Mode

Quickly press the button to cycle through the five static display states. This allows you to choose the color of your tower, regardless of the color currently on the actual Old Main tower.

1. Middle tower spotlights ON (White A's)
2. Middle tower spotlights ON (Blue A's)
3. Middle tower spotlights OFF (White A's)
4. Middle tower spotlights OFF (Blue A's)
5. All Lights OFF

Manual mode can be entered at any point by simply pressing the button on the tower base (see diagram in [Input/Output](#)).

Automatic Mode

Automatic mode works by maintaining an internet connection through a local Wi-Fi network to synchronize colors with the Old Main tower. Please note the unit can only connect to a 2.4 gigahertz Wi-Fi network.

Configure Network Connection

1. Hold the button for at least 10 seconds to enter setup mode. The roof A lights will flash blue to indicate the tower is broadcasting a setup network.
2. Use a Wi-Fi capable device to connect to the "minitower" network.
3. Open a browser on your newly connected device. You will be automatically redirected to the network configuration page.
4. Input the name and password for the local 2.4 gigahertz Wi-Fi network to which you are connecting your tower. Select your preferred automatic matching style (see [Automatic Matching Styles](#)).
5. Once you submit the information, the tower will attempt to connect to the network. If the connection is successful, the roof A lights will flash white and then assume automatic operation to match the real tower (lights off, white lights on, or blue lights on) according to the matching style you selected.

After successfully configuring a network connection, you can switch back to automatic operation at any point by pressing and holding the button on the base for at least two seconds. Pressing and holding the button for longer than 10 seconds will initiate setup mode and allow you to reconfigure the network connection by following the steps above.

Automatic Matching Styles

There are three ways for the display tower to replicate Old Main: 1) Match Reality, 2) Local Day/Night, and 3) Always On.

1. **Match Reality** syncs your replica tower to the current state of Logan, Utah's Old Main's lights regardless of where you are in the world. The real Old Main turns its lights on at night and goes dark during the day.
2. **Local Day/Night** applies the last state of the real Old Main's lights to your replica tower – but waits until 8:00 PM in your local time zone.
3. **Always On** ensures your replica tower is always on and shining white until Old Main changes to blue. The replica tower will return to white when Old Main is white again.

INPUT/OUTPUT

Input	Action	Indication
Quick press	Cycle through display states	Display state changes
Short hold	Enter automatic mode	Flashing white
Long hold (>10 seconds)	Launch setup network	Pulsing blue

USB-C Header: Provides power to the tower.

Brightness Thumbwheel: Used to adjust the brightness of the LEDs on the tower.

Button: Input for changing display states, swapping operating modes, and initiating the setup network.

