

# Your Complete Guide to Biopod



### \* \* \* IMPORTANT \* \* \*

Please follow step-by-step instructions thoroughly to prevent voiding your warranty. See Biopod warranty information on page 114-115.

# \* \* \* YOUR BIOPOD'S ADAPTER \* \* \*

Your Biopod adapter is located UNDERNEATH your Biopod unit (in the base). When unboxing your Biopod, gently remove any packaging or tape holding the adapter in place.

# WHAT YOUR BIOPOD'S LIGHTS INDICATE

Orange light: Power | Green Light: Registration Status of your Biopod | Blue Light: Connection status of your Biopod

3 main light combinations you will see at the back of your Biopod:

Orange ON / Green Blinking/ Blue Blinking: Biopod is ON and going through booting cycle if just plugged in, or reset cycle if reset button pressed. BIOPOD WiFi is NOT visible.
 Orange ON / Green ON/ Blue OFF: Biopod is ON, registered but not connected. BIOPOD WiFi is visible.
 Orange ON / Green ON/ Blue OFF: Biopod is ON, registered but not connected. BIOPOD WiFi is visible.

### Congratulations on your new Biopod!





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## Before we begin

Here's a legend showing some of the important elements to pay attention to within this guide.

A. These letters indicate specific areas on screens providing additional information. These letters will start from "**A**" on every page containing additional information.

In this case "A" is indicating to hit the Sign Up button.



1 Multiple images are shown using these numbers

Important messages are displayed using an "!" icon & bold text.



## What you should have in front of you

- 1 Your new Biopod
- 2 "Your Complete Guide to Biopod" (this manual)
- **3** Your Smartphone or Tablet
- 4 Lubricant for reservoir fitting
- If you're missing any of the above, please contact our Customer Support Ninjas at hey@biopod.com.
- If you're located in Canada or the United States of America, your Biopod Plant Pack is included with your purchase. Plant Packs arrive 2-4 days after activating your Biopod unit. For more information on Plant Packs, see 78.







### Some Tips, Tricks & Rules

Never access the area underneath your Biopod unit unless instructed to do so by an official Biopod Customer Support Ninja.

Accessing your Biopod's components or underneath your unit without proper instructions from an Authorized Biopod Representative will void your warranty.

Adding accessories that are not Biopod approved (i.e. heat lamps etc.) will also void your warranty.

Follow instructions in this booklet and you should be set and good to go!

 In certain instances we ask that some components are touched/opened and then closed off via YouTube etc.
 For example: Priming your irrigation pump; this will not void your warranty.



### \* \* \* IMPORTANT \* \* \*

PLEASE PRIME YOUR IRRIGATION PUMP BEFORE BEGINNING WITH THE STEPS IN THIS GUIDE. biopod.com/support/irrigationpump





STEP 1: Initial Registration & Setup

- a) Download the Biopod app
- Available for both Android & iOS

b) Create an account using the Biopod app

c) Place Biopod in Position



**d)** Unpack Biopod and plug it in. It will start its boot cycle. A steady green light on the back of the Biopod means you're good to go!

All indicator lights (including the green light), as well as the plug are located in the back of the unit.

#### e) Establish Network Connection

 WiFi connectivity instructions are available on page 8, on our website and on our YouTube channel. Android: biopod.com/androidsetup iOS: biopod.com/iossetup \*iOS devices require a few extra steps in our Setup Wizard.



### Please follow these tips & tricks

- 1 Ensure your unit is no further than 10 meters away from your router.
- 2 Ensure your unit is up to date always (firmware update), see page 41 & 58.
- 3 Your WiFi frequency must be 2.4 GHz (2.4 GHz with WPA/WPA2 encryption).
- Biopod is currently not supported by a 5 GHz network (WEP encryption is not supported).
- Some routers may be incompatible or cause performance issues with the connection from your phone to your unit and vice versa.
- Please note that your operating system's minimum requirements are:

iOS: 9 | Android: 4.4 Kit-Kat







#### Welcome to the WiFi Setup Wizard

The next steps will help you connect your Biopod to your home WiFi. Plug your Biopod in and have your home WiFi password ready!

Hit  $\ensuremath{\text{Next}}$  when you're ready to begin the WiFi setup process.

### TIPS & TRICKS + TROUBLE SHOOTING

Placing your Biopod close to your router will ensure a great connection and experience with the Biopod app. We recommend that you place your Biopod within 10 meters of your router.

Please note that walls, furniture, beams, large appliances etc. can create WiFi signal barriers. This can result in a slower connection.



#### WiFi Setup Wizard Continued

We will now save your HOME WiFi password to your Biopod. We won't share your password with anyone.

Hit **Next** to enter your WiFi password and get connected!

### TIPS & TRICKS + TROUBLE SHOOTING

The green/white arrows below the header indicate your progress within the WiFi Setup Wizard. Currently the first arrow is green meaning that there are a few more steps to go!



#### WiFi Setup Wizard Continued

- 1 In this screen we are detecting nearby WiFi connections.
- In this screen you see which HOME WiFi connection your app has detected. Below you have two options - you can either enter your HOME WiFi password by selecting the green button, or you can select the second button allowing you to choose another WiFi connection.

Once you're happy with your WiFi connection, hit the **Enter WiFi Password** button.

You will see this screen pop-up. Enter your password twice. The second time you will be confirming/verify-ing your password.

### TIPS & TRICKS + TROUBLE SHOOTING

Ensure your Biopod is within 10 meters distance of your router and that your smartphone is as close to the Biopod as possible for a faster WiFi connection process.





### WiFi Setup Wizard Continued

Once you've entered and confirmed your password, hit **OK**.

If your password matched, you should have no issues. Go ahead and hit **Next**.

#### TIPS & TRICKS + TROUBLE SHOOTING

If it's easier for you to see your password, just hit the little eye icon. This ensures your password will be the same on the first try!



#### WiFi Setup Wizard Continued

We will now connect your phone to a hotspot signal that is emitted by your Biopod. This unique WiFi hotspot will have a name configuration, similar to "BIOPOD\_12345678" (These numbers will be your Biopod's serial number).



1 Connecting to your Biopod's WiFi hotspot.

- 2 You will see this screen if there was an issue connecting to your Biopod's WiFi hotspot.
- **3** Follow the steps on the screen in order to troubleshoot any issues you may have encountered during your Biopod's WiFi Hotspot connection.
- 4 If you do not have any issues connecting you will see a "CONGRATULATIONS" screen, with message similar to the sample here (right).









WiFi Setup Wizard Continued Congratulations! Your WiFi is now setup, we just have to confirm your connection. Follow the steps below:



Enter your serial number.

2 Once you enter your serial number, hit GO!

### TIPS & TRICKS + TROUBLE SHOOTING

Your Biopod's serial number is a unique 12-digit number that can be found **ON THE BACK of this manual**. This number can also be found on the back of your Biopod, located on a white sticker. Please note your serial number can contain both numbers and letters, and must be entered into the app **EXACTLY** as shown on your manual.

Example: 1234567801NA





WiFi Setup Wizard Continued We are now confirming your connection & Biopod serial number.



You will see a loading circle indicating that we are trying to detect your Biopod connection.

2

You should see a check mark indicating we have found your unregistered Biopod.

You have now completed the WiFi setup process!

Hit **End** to add it to your list of Biopods.

### TIPS & TRICKS + TROUBLE SHOOTING

If you are having trouble confirming your Biopod serial number, ensure you have entered in the correct number. Biopod serial numbers can contain numbers and letters, it's important to include the letters as well. Enter your serial number EXACTLY as displayed on the back of your unit or at the back of this manual (letters may be case sensitive).





#### WiFi Setup Wizard Continued

This step is fun and easy! Simply name your Biopod with any name you desire.



You will see a screen with a field option.

Type in a name for your Biopod! In this image it's showing a sample with the name "Lisa's Biopod".

Hit Next to continue

### TIPS & TRICKS + TROUBLE SHOOTING

You can always go back and rename your Biopod if you wish. If you would like to rename your Biopod at any time, head to the MAIN MENU, click on 'Biopod Info' and simply click on the current name to change it. Once you're happy with your decision, hit 'Save'.





What will you use your Biopod for?

In this screen you will see three options - **Decor**, **Pets** and **Plants**. If you're unsure of what you would like to use your Biopod for, simply hit the **I don't know yet** button.

In this demo we will be using the option Pets.

TIPS & TRICKS + TROUBLE SHOOTING

Select **Decor** for your typical rainforest setup with no pets. If you would like to grow specific types of plants, herbs or vegetables, select the option **Plants**.



Making Your Selection

In these screens you will be asked to select your animal/species, plants or decor.



Select a category. For the purpose of this demo we are going to select **Dart Frogs**.

In this screen you'll be asked to select an option. In this case it would be a specific type of dart frog.

### TIPS & TRICKS + TROUBLE SHOOTING

You can always change your selection by going into your Biopod's settings. To get into your Biopod's settings, simply click the **MAIN MENU**, click **BIOPOD INFO**, then click **CHANGE CONFIGURATION** to change your preferences/environment.

Before scaping your Biopod, we recommend you review the components of the Biopod on page 43 to 53 for additional information. Please also ensure that your heat sensor is not touching the heating cables, as this will cause inaccurate sensor readings.





#### **Tips & Tricks**

You have now completed setting up your app with your Biopod!

Important: Before heading to our YouTube channel on how to scape your Biopod, please ensure you **prime your irrigation pump**. This is a critical step before scaping your Biopod.

Head to biopod.com/irrigationpump

After you have primed your Biopod's irrigation pump, head to our YouTube channel, or Facebook page for scape videos, tutorials and more!

youtube.com/biopod



# STEP 2: Gather Items Needed for Scaping

- a) Biopod (already purchased)
- **b)** Your Plants and/or Biopod Plant Packs
- ▶ Please Refer to Page 78 for additional Plant Pack info.
- c) Gravel/Desired Substrate
- ▶ This can be purchased at a local pet store or garden center.
- d) Decor (Wood/Rocks/Etc.)
- This can be purchased at a local pet store, specialty store or online. \*Aquarium Setup (aqua & aqua II) should have compatible aquatic soil/substrate and wood. It must be suitable for an aquatic environment.
- e) Water Conditioner if using tap water
- ▶ If using filtered dechlorinated water, you will NOT need a water conditioner.
- f) 2 Buckets: One for New Water, One for Used Water
- These can be purchased at your local hardware/supply store.

#### g) Siphon Hose for Water Changes

You will need to replace/change the water when first setting up your Biopod due to the materials being fresh. Water changes will also be done to ensure the safety of your plants and animals (preventing stagnation, bacteria growth, murky water...etc). Can be purchased at local hardware store. \*Aquarium Setup Only.

#### h) Beneficial bacteria/Nitrifying bacteria (if housing fish)

Can be purchased at local pet store. This allows proper nutrient cycling.



# STEP 3: Prep Your Items for Scaping/Planting

#### a) Rinse gravel until water is clean (removing all dust particles)

This ensures a clean and balanced Biopod. This also helps with aquatic Biopod setups, ensuring a pristine environment for your fish. Use a strainer as this makes washing gravel easier and faster.

#### b) Unpack your plant roots VERY gently and hydrate the roots

To hydrate the roots, spray gently with water. Do not leave unpacked overnight as plants could wilt and become unusable.

#### c) Unpacking moss

Unpack and unravel your moss and let it air out (letting it sit out in the open). If your moss has arrived dry, then it needs to be gently hydrated with water when you are ready to scape. When you are ready to scape, gently spray the moss from the top (the green portion) with some water. Please do not over-hydrate the moss, just hydrate it slightly (misting for 10 seconds should be sufficient). Wait 5 minutes after re-hydrating your moss to let it soak up water, before beginning the scaping process.

#### d) Scape your Biopod!

Head on to our Facebook/YouTube page to watch a scaping video in order to get your system setup properly. \*This step is important.

# STEP 4: Prepare Biopod

#### a) Recommended Rinse

Rinse your biopod with warm water and wipe with a soft cloth. \*NEVER USE HARSH CHEMICALS TO CLEAN BIOPOD.

### b) Hydrate Sphagnum Moss and plant it/fill it into the Living Wall

Break up your sphagnum moss into small pieces with your hands and soak it in a bucket of water for 15 minutes before filling in the living wall. To see what the living wall looks like, refer to Page 52. When the sphagnum moss is hydrated, start inserting small clumps of sphagnum moss into the living wall. To see an example of filling in the living wall, watch our instructional scaping videos at www.youtube.com/Biopod

#### c) Place Substrate

Coconut Husk is recommended for planting plants in terrestrial models, for Aquatic models we recommend using sphagnum moss. Your substrate must be placed on top of the false bottoms, be sure to rinse your substrate and squeeze out the water before using it. ONLY USE SOIL FOR EDIBLE PLANTS.

#### Types of substrate for your Biopod

- 1 Sphagnum Moss
- 2 Coconut Coir/Husk
- 3 Aqua Soil
- 4 Sand or Desert-Type Substrate



#### d) Place Gravel

Can be purchased at a local store. Must be washed multiple times before placing into Biopod. Should be placed around false bottoms up to the silver ventilation. Refer to diagram below or visit our YouTube channel for additional information. Gently use a butter knife to tuck gravel under the clear tubes along the sides of the Biopod.
\*THIS DIAGRAM & SETUP APPLIES TO TERRESTRIAL MODELS ONLY.

#### Placing gravel in your Biopod



- Gravel (should overlap false bottoms slightly to cover up edges). Gravel should NOT go under false bottoms.
- Coconut Husk or Sphagnum moss should be placed on top of false bottoms for planting.

\*You can use hydro-balls to help reduce the amount of gravel as well as help with aeration. \*\*You can still use gravel for the base layer in Aquatic models. The Aqua II model does not come with false bottoms.

#### e) Place Decor Items

 Placing your wood and decor rocks before you begin your scape helps you envision your outcome. Once you like where your wood and rocks are placed you can start planting.
 \*To make planting easier, remove decor items temporarily.

#### f) Plant Up the Living Wall

You will need to use clips to secure plant roots and moss to the Living Wall. If you need additional instructions, we have scaping/instructional videos on our Facebook page and YouTube channel.

#### g) Start Planting

If you have removed your decor items, add them back in and start planting! Dig a small hole (in substrate where your plant roots would go. Place plant roots into hole and cover up with substrate (Coconut Husk or Sphagnum).

#### h) Add Finishing Touches

Once your Biopod is planted up, add moss on top of the substrate to set the scene. Add air plants if you wish. Check out our scaping videos for more information on setting up and planting your Biopod!

#### i) Spray Your Plants

Once everything is planted, gently spray your plants with filtered dechlorinated water. This allows the plants to settle into their new home.

\*If you are using tap water, ensure that you're also using a water conditioner. Without the water conditioner, tap water will create a lot of residue within your Biopod.

#### j) Add Water to Tank

If you have a terrestrial scape (eden, terra..etc), please add 2-3 inches of water (filtered/dechlorinated). You can see the water level on the side glass or the back of the Biopod. You will want to add water (filtered dechlorinated) up to the ventilation. This allows the Living Wall to work efficiently with minimal maintenance. If using our aquatic models, ensure to also fill up to the ventilation strip. \*Add conditioner to the water if using tap water.

#### k) Add Water to Reservoir

▶ This should also be filtered dechlorinated water. \*DO NOT add animals yet

### \* \* \* IMPORTANT \* \* \*

Before placing animals or running your Biopod, please ensure that your **RIGHT** misting nozzle is facing **AWAY** from the glass and sensor. If your nozzle is facing the sensor, gently turn it to face the Living Wall. Direct water contact with the sensor could damage sensory feedback.

# STEP 5: Stabilize

#### a) Let sit for 2 Days

#### b) Replace 50% of water in Aquatic models/Aquatic setups

Use siphon hose to replace 50% of water. If using tap water, don't forget to add the conditioner. Filtered dechlorinated water is what we use at Biopod and is highly recommended over tap water. For a video on how to siphon water from your Biopod, visit our YouTube channel.

### c) Let Sit for 1 Day

#### d) Replace 50% of Water

Follow instructions above in STEP 6 (b)



# \* \* \* IMPORTANT: AQUATIC SETUP ONLY \* \* \*

#### a) Introducing Water

After your Biopod is scaped/planted, add \*water into your Biopod.

b) Day 1: Let sit for 1 day, change 50% water

c) Day 2: Let sit 1 more day, change 50% water

- d) Day 3: Introducing Fish
- Introduce 1-2 small freshwater fish, feed very small amounts (sparingly) Add nitrifying bacteria. This can speed up the establishment of good bacteria in your tank. Bacteria can be purchased at local pet store.
- e) Day 4: Do 15% water change
- f) Day 5 & 6: Wait
- g) Day 7: Test Water

 Test water for ammonia/nitrite levels, if levels are too high, then use ammonia removing products from your local pet store.

Whenever you need to top off the tank, do a 15% water change, then top off the tank up to the ventilation strip. Once the tank is established, nutrients will be recycled and your fish will do very well. Every once in a while it is still a good idea to test for ammonia/nitrite.



## STEP 6: Add Your Animal(s)

#### a) Introducing your pet to Biopod

Ensure that you speak with a knowledgeable professional or representative at your local pet store with regard to introducing your pet into a new environment (example: not all fish should be introduced at once).

#### b) Don't forget to feed your pet!

Purchase food at your local pet store or specialty shop. While Biopod is low maintenance, we do not have the capability to feed your pets...yet.



# Using the Reservoir Fitting Lubricant

- 1 Lubricant: The lubricant comes in a small clear packet.
- **2** Reservoir Fitting/Stopper: The fitting/stopper is attached to the bottom of the reservoir on the left hand side.

The Lubricant is recommended to ease the insertion of the rubber stopper for your Biopod's reservoir. Please apply the lubricant around the outside surface of the reservoir stopper.





### Automatic Mode

With Biopod's Automatic Mode, your Biopod creates the optimal conditions for your plants and/or animals. Our automatic settings have been developed through extensive research by our team of Biologists. Each setting is unique, dynamic and uses real climate data from natural habitats where each species is found.

This mode is recommended for those who want to establish the best environment for their Biopod and its inhabitants. This setting is highly recommended for novice users who aren't familiar with plant or animal care.

Our Automatic Mode makes it easy, stress-free and ensures that your Biopod will take care of itself. Sit back, relax and watch your Biopod flourish and grow!



#### 2 Custom Mode

Custom mode allows you to freely adjust all parameters: air temperature, ground/substrate temperature, humidity, rainfall, UV lighting, Infrared (IR) lighting and photoperiod (sunrise/sunset). It also allows you to set custom timed cycles for all of Biopod's components (irrigation, aeration and ventilation).

Custom mode has been developed for hobbyists, advanced users, Biologists and for those experienced with plant and animal care.





Setting custom values for the aeration & ventilation: the Biopod may override these settings at times to help your Biopod reach the temperature and humidity selected.

#### Automatic Mode

**A.** This shows you the last information that was sent via your Biopod to the Biopod App.

# You can change the time in your Biopod options.

B. Name you chose for your Biopod!

**C.** These two times define the sunrise (left) and sunset (right). During the day, the LED Lights will be ON. When sunset or sunrise occur, the light will go through a 15 min. dimming cycle to replicate nature as much as possible.

**D.** This shows the power of your UV light. The UV light follows the LED light cycle for sunset and sunrise.

**E.** Displaying the power of your IR (infrared) lights and when they're turned ON. Typically, the IR lights are used during the night to keep a warmer environment, however they can be used during the day as well.



#### Automatic Mode Continued

Temperature inside the Biopod is not constant: It is a gradient, going from the lowest temperature close to the substrate to the highest temperature near the lights.

This shows the temperature gradient you have in your Biopod, measured by your ground sensor (black cable with a silver tip, not always visible depending on your model) and your air sensor (near the camera). You can see the expected (smaller letters) and current (bigger letters) temperatures. If there is a difference between theses two values, an icon (arrow) will appear showing that the temperature is being adjusted.

### TIPS & TRICKS + TROUBLE SHOOTING

This gradient is very important for any animal you will have, as it will be able to find different temperature spots, like it would do in nature.



#### Automatic Mode Continued

**A.** This displays the humidity, measured with your air sensor on the side of the Biopod (near the camera). You can see the current humidity level and the expected humidity range. If the measured humidity is not within this range, It will be adjusted using aeration and ventilation.

**B.** This displays the rain cycles in your Biopod. You can see the daily rainfall value (in mm), you can also see the set times of your Biopod's rainfall: their starting and ending times. If activated, the rain events occur between once and twice a day. **\*It helps you monitor your reservoir to make sure it is always full for proper rain cycle.** 

### TIPS & TRICKS + TROUBLE SHOOTING

The way your Biopod is scaped will impact the temperature and humidity. If you add a lot of leafy plants, water and lots of moss, the humidity will be higher and the temperature gradient not as substantial. If you have a few plants and no water, the humidity will be lower and the temperature gradient stronger.


### Automatic Mode Continued

**A.** This displays information on how long the Living Wall is irrigated. The value is in min/h, meaning that this cycle starts every hour. The irrigation feeds the plants in the living wall while filtering the water in the most natural way possible.

**B.** This displays information on how long the aeration is ON. The value is in min/h, meaning that this cycle starts every hour. The aeration ensures that your substrate/water is well oxygenated.

**C.** This displays information on how long the Biopur Air Injection system is ON. The value is in min/h, meaning that this cycle starts every hour.

**D.** This button permits you to switch to Custom Mode, where you can modify all the parameters. We recommend Custom Mode to experienced users.



### **Custom Mode**

**A.** This shows you the last information that was sent from the cloud to your Biopod unit.

- You can change the time in your Biopod options. Please also note that the time displayed in the Biopod app is not always your device's time (this will depend on how you set up your Biopod).
- B. Name you chose for your Biopod!

**C.** These two times define the sunrise (left) and sunset (right). During the day, the LED Lights will be ON. When sunset or sunrise occur, the light will go through a 15 min. dimming cycle to replicate nature as much as possible.



### **Custom Mode Continued**

**A.** This allows you to adjust the brightness of the LED light panels.

**B.** This displays the power of the UV light. Custom mode allows you to choose the percentage (0% to 100%).

**C.** This displays the power of the IR (infrared) light. You can choose the percentage from 0% to 100%.

Please note, any percentage under 30% is barely visible to the naked eye.



### **Custom Mode Continued**

**A. & B.** These boxes are related to the temperature gradient in the Biopod. You can choose the minimum and maximum temperature inside the Biopod.

As the substrate and air are tied together in a microclimat, both minimum and maximum temperatures can only be changed within 3 degrees of each others to make sure the environment in your Biopod is still close to nature's balance.

**C.** This box is related to the humidity level in your Biopod. The humidity inside the Biopod is always a gradient, and the big number in this box shows the high point of the gradient. For example, if the gradient humidity is between 80% - 95%, this box will show 95%. The other two numbers below represent the optimal humidity range.

Note that the actual values (for both humidity and air temp.) won't be lower than ambient (within your home and the location of your actual Biopod unit) values.



### **Custom Mode Continued**

**A.** This is related to the rain cycles. You can select the cycle length (between 0 and 60 sec.) for two different cycles. You can also decide when those cycles should start.

**B.** The irrigation of the living wall can be set from 0 min/hour (turned off) to 60 min/hour (continuous non-stop irrigation). Make sure you primed your irrigation pump before using it! Note that non-stop irrigation of the living wall may cause algae or mold growth.

**C.** The aeration of your substrate/water can be set from 0 min/hour (turned off) to 60 min/hour (continuous non-stop aeration). The water aeration is extremely important if you have fish.

**D.** The ventilation of your Biopod can be set from 0 min/hour (turned off) to 60 min/hour (continuous non-stop ventilation).

**E.** This permits you to switch to Auto Mode, back to the annual plan you picked for your animal/plants.



### Menu Options > Main Dashboard

**A.** This option gives you information on your Biopod. Your Biopod's internal clock time, name, the model you have, the city it's located in. You can change any of the above settings (see page 42).

**B.** This shows all of the Biopod units connected to your account. Multiple Biopods can be connected to one account.

**C.** The video option allows you to connect to your Biopod's camera.

**D.** Manual mode is used for retail purposes. This feature is not available to users.

E. The Biopod shop allows you to purchase plant packs. \*Biopods cannot currently be purchased using this feature.

**F.** In the settings section, you are able to view General settings, Setting up your WiFi, Wireless diagnostics, Remove Biopod and Update Biopod. This menu can be viewed on page 41.

F. Log Out allows the user to log out of the app.



### Menu Options > Settings

**A.** This feature allows you to see the general settings of your Biopod app.

**B.** This feature opens up the WiFi Setup Wizard which allows you to switch your Home WiFi connection.

**C.** Wireless Diagnostics will show your WiFi to Biopod compatibility (strength of connection, Bit Rate and Channel).

**D.** This allows you to remove a Biopod from your account.

**E.** This feature allows you to check for updates as well as to update your Biopod's firmware.



### Menu Options > Biopod Info

A. Your Biopod's name.

**B.** The model you currently have connected.

**C.** Allows you to change the date your Biopod was connected.

**D.** This allows you to change the time. This is beneficial for sunrise and sunset purposes.

# We strongly recommend to keep your Biopod time synced with your local time to ease your interaction with your Biopod.

**E.** This displays what your Biopod is currently configured for (pet, plant, decor).

**F.** You can change the configuration for your Biopod using this button (pet, plant, decor).

G. Don't forget to save your changes!

**H.** If you scroll down on this screen (right), you will see your latest firmware version.





### How does the biopod work?

Your Biopod is a Smart Microhabitat that follows in real time instructions from the cloud. The instructions (for example air temperature, sunrise and sunset time, water temperature etc...) are created to reproduce a specific natural environment. If you choose to be in a rainforest, the air and water temperature, the daylight duration and other parameters will be adjusted in a different way than if you choose to be in a Desert.



### How does the biopod work?

Three types of components are in your Biopod to control your environment:

- ► The Workers: they are heating, cooling, humidifying, dehumidifying the Biopod.
- The Reporters: they are taking measurements (temperature, humidity...) and report it to the manager.
- The Manager: it is the motherboard of your Biopod. The Manager continuously sends instructions to the workers about the settings for the environment you chose. The Manager gets these instructions from the Cloud (an online database). The Reporters send their measurements to the manager that will compare them to the settings and communicate with the workers if they are not meeting the target.
- Please note, the cooling of your Biopod is done naturally through the fresh air intake (ventilation).



How does the biopod work?

#### Example of controlled environment:

For example, one of the settings could be water temperature of  $24^{\circ}$ C (stored in the Cloud).

The motherboard (the manager) sends these instructions to the water heating system (the worker) that starts to get warmer and warmer. The water sensor (the reporter), measures a temperature of 22°C and sends that information to the motherboard.

The measured value is not matching the requirement (24°C), the motherboard sends new instructions to make sure the water heating system keeps going. Once the water sensor (reporter) gives a value of 24°C or higher, the motherboard will immediately order the water heating system to shut off.





### What's a Cloud?

The Biopod cloud is a virtual filing cabinet for your Biopod's data. This ensures the proper functionality of your unit, allowing continuous interaction and supervision of it wherever you are.

#### Why the Cloud?

Three reasons why we use the cloud:

- Storage: this allows Biopod to use much smaller, more efficient hardware (such as the motherboard).
- Inconsistencies: we are able to identify inconsistencies almost instantly.
- Improving: we are always improving your experience with Biopod via feedback from the cloud.
- Please note, the cloud does not sync your personal data to the Biopod motherboard. Personal information is only used for Customer Support purposes.





# Details about the components (the workers)

#### A. Substrate/water heating

The substrate/water heating is controlled by the blue cable (under the false bottoms) and will warm up depending on the instruction. The cable winds across the Biopod to distribute the heat in the tank, whether it is placed in water or in soil.

#### B. Air heating/cooling

The air is warmed up by the combination of a heating cable (black cable attached under the ventilation) and a ventilation system. Ventilation tubes on both sides of the tank provide a fresh air intake. The air is guided to an aluminum grating built across the tank, and sent upwards along the glass door. The heating cable is located underneath the grating and warms up the air as it passes by. The air is cooled by turning off the heating cable and letting fresh air in.

#### **C.** Ventilation

The ventilation (front of your Biopod unit) allows air movement in the Biopod, and keeps the front glass clean and pristine.





# Details about the components (the workers)

#### A. Substrate/water aeration

The aeration system provides oxygenation in the water and substrate; prevents stagnation and growth of anaerobic bacteria. The airstone is located at the bottom of your unit. If you have a terrestrial model, it is located below the false bottom.

#### **B.** Irrigation

The irrigation system is feeding the living wall that will contain moss and plants. The living wall circulates water, acts as a biofilter with the plants roots and prevents water stagnation. The irrigation input contains a filter system and is protected either by a false bottom (Eden, Terra), or by another part of the living wall (aqua, aqua II). The irrigation output is connected to the bottom of the living wall and shoots water upwards. Water spreads left and right at the top of the living wall and gently drips down along the wall into the tank.

#### C. Rain

Rainfall is created by the misting nozzles located on the Topglass of the Biopod. The maximum rainfall is set to a total of one minute per day to prevent flooding and excessive humidity.





# Details about the components (the workers)

#### A. Sunlight

Sunlight is created by a combination of LED lighting, UV and IR Lighting to be as close as possible to the natural light. A day/ night cycle allows to provide just the right amount of lighting depending on the environment and the season. The sunrise and sunset are reproduced by having a 15-minute dimming cycle at the beginning and end of each days. The mesh located on the Topglass allows UV light to penetrate the tank, while keeping your unit pristine as well as enclosed for the safety of your plants/animals.

#### B. IR (infrared) heating system

The IR (infrared) light source provides an extra source of heat, this is especially beneficial for animals that need extra heat at night.





# Details about the components (The reporters)

#### A. Air sensor

The air sensor measures the temperature and the humidity of the Biopod. As it is located at the top of the tank and hot air rises, the sensor picks up on the highest value of the air temperature gradient in the tank. The humidity inside the Biopod is also a gradient, and this sensor picks up on the highest value of the humidity gradient inside the Biopod. The data from the air sensor are sent back to the cloud for feedback.

#### B. NTC or Substrate heating sensor

The NTC sensor measures the temperature of your substrate (If terrestrial) or water (if aquatic). It also sends data to the cloud for feedback.

#### C. Camera

The camera enables you to see the interior of your Biopod. The Biopod camera's resolution is 720p HD; depending on the strength of your WiFi connection/performance (as well as router), this may appear in lower resolution.

Please make sure that the NTC sensor is not placed right against the substrate heating cable (blue cable) as it will give an inaccurate measurement.



### Other important features

**A. Base:** contains the motherboard and pumps.

**B. Backwall (behind the glass tank):** Support the canopy and reservoir as well as allows for cable routing from the base to the top.

**C. Canopy:** holds Light unit and misting tubes.

D. Lock: Allows to close the tank door.



### Identifying Components

- A. LED Light panel (LED, UV, IR)
- B. Air Temperature/Humidity sensor
- C. Camera
- D. Misting Nozzles
- E. Living Wall
- F. Door (opens left)
- G. Ventilation
- H. Tubes

# Α B С F G н

# \* \* \* IMPORTANT \* \* \*

Before placing animals or running your Biopod, please ensure that your **RIGHT** misting nozzle is facing **AWAY** from the glass and sensor. If your nozzle is facing the sensor, gently turn it to face the Living Wall. Direct water contact with the sensor could damage sensory feedback.



### Back of the Biopod: Pumps and Pipes

A. Misting pump input, from external water reservoir (See point "I" on the image to the right.

**B.** Irrigation pump input (from filter inside the tank)

C. Substrate sensor

**D.** Aeration pump output (to airstone)

**E.** Ventilation heating cable (black colored)

**F.** Substrate heating cable (blue colored)

**G.** Irrigation pump output (to Living Wall)

H. Ventilation output

#### I. Reservoir





### Areas of maintenance

- A. Topglass (Top cover)
- B. Side glass
- C. Front glass
- D. Replacing the light panel/UV light
- E. Filling up the reservoir (back of Biopod)
- F. Trimming plants
- G. Water changes
- H. App/Firmware updates

\*I. Fertilizing Plants DO NOT FERTILIZE PLANTS IF YOU ALSO HAVE ANIMALS IN YOUR BIOPOD.





### Performing maintenance

#### A. Topglass (Top cover)

 Gently clean with water and a microfiber cloth. Do not use paper towel as this could scratch the surface. Do not use harsh chemicals.

#### B. Side glass

Spray with water, use a razor blade or razor scraper to clean off the water stains. BE GENTLE, don't scratch the glass. Once the water stains have been removed, the most effective method to dry your glass would be coffee filters. You'll want to do both the inside and the outside of your Biopod.

#### C. Front glass

Please follow the steps above in "B. Side glass".





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### Performing maintenance

#### D. Replacing the UV light

Details on how to replace your UV light will be provided when the light is ordered.

#### E. Filling up the reservoir (back of Biopod)

Simply remove the reservoir from the fitting by pulling up gently. Fill up with dechlorinated water or RO water. If you're using tap water, ensure that you use a water conditioner; this will keep your glass cleaner for longer periods of time and will reduce maintenance.

#### F. Trimming plants

Although most tropical plants provided in Biopod plant packs grow quite slowly, some occasionally need trimming. Trimming your plants will also help keep the front glass clean and pristine. Simply trim your plants with scissors.





### Performing maintenance

#### G. Water changes

- Siphoning the water out from the front of your unit with a hose/tube will be a lot quicker than from the back of your unit. To change the water in your unit you will need a bucket, siphon hose and some pressure in the hose.
  - Fill your hose/tube with water and hold both ends with the tips of your fingers to create pressure.
  - Put one end of the tube in your Biopod and the other end in the bucket.
  - Once you have both ends in place, let go of the end leading to the bucket and the pressure should siphon water out. Stick the end your finger is covering into your unit and start

If you have fish you will want to leave about 50% of water in the unit.







Visit our YouTube channel for helpful tutorials on water changes.

IMPORTANT: Be careful when doing water changes (don't lost any fish!), Biopod is not responsible for fish harmed during water changes.

### Performing maintenance

#### H. App/Firmware updates

Our "Biopod Firmware Update Guide" is available on our website. To learn more on updating your app or firmware, visit our YouTube channel for videos or head to www.biopod.com/support/technical-guides

#### \*I. Fertilizing Plants

Fertilizer can be purchased at your local store. Ensure to find a fertilizer that is specific to your plant/environment. Follow instructions on packaging.

Fertilizer is not needed when animals are present due to their waste acting as a natural fertilizer.





In order for our technical support team to provide you the best support possible, you will be asked the following questions:

1. What is your name?

- 2. What is the best number to contact you?
- 3. What is your Biopod's serial number?
- 4. Where did you purchase your Biopod?
- 5. Is your Biopod connected right now?

6. Do you have the latest version of the app? (if you are not sure you can uninstall the app and install the latest version from the app store to make sure. Please note WiFi setup instructions are available on our website: biopod.com/support/technical-guides/)

7. Do you have the latest version of the Biopod firmware? (detailed instructions are available on our website: biopod.com/support/technical-guides/)

8. How far away is your Biopod from your WiFi router?

9. What type of device are you using? (Make, Model, Type i.e. Samsung Galaxy S8 Smartphone)

Once we receive the above information someone will get back to you as soon as possible.

### Camera

Here are a few troubleshooting steps to try to resolve your camera issue:

1. Unplug your Biopod from the wall, wait 10 seconds, plug your Biopod back in, and try again.

2. Check the physical connection of your camera as it may be disconnected. To do this you can open the camera housing, make sure the camera cable is fully connected). If the camera was disconnected, once replaced, close the app, unplug the Biopod from the wall, wait 10 seconds, plug the Biopod back in and try again.

If you're still having issues, please contact our Customer Support Ninjas at hey@biopod.com

Please note, we do not record footage from your camera and will not access your camera without your permission.

Visit the following YouTube video for camera repair instructions: https://youtu.be/NtEszhBuypl



### Humidity/Air Temperature Sensor

Here are a few troubleshooting steps to try to resolve your sensor issue. Humidity/Temperature fluctuations/incorrect readings can be caused by the following:

**1. Connectivity Issue:** Your Biopod may have lost connection with your WiFi, please ensure your WiFi is working and that your Biopod is connected.

**2. App Changes:** If you have recently changed modes from auto to custom or vice versa and your changes did not take effect, please try resetting the Biopod by unplugging the power plug from the wall, waiting 10 seconds, and plugging the power back into the wall. This may solve any issues you're having concerning mode switches not being saved.

**3. Scape/Environment:** The temperature/humidity may be showing the correct value, however the scape of the Biopod may be creating an excessive amount of humidity/heat or coolness (the coolness may be caused by excess evaporation from the scape) Please refer to our notices page on our website regarding the temperature/humidity gradient inside your Biopod. For more details please visit biopod.com/support/notices



### Humidity/Air Temperature Sensor Continued

**4. Wet Sensor:** Make sure the right misting nozzle is not spraying into the sensor. If the sensor is wet, gently dry the sensor with a hair dryer for 1 or 2 minutes, making sure it is not too hot, and keep the dryer about 5cms away from the sensor to avoid overheating it. Then, reset the Biopod by unplugging the power plug from the wall, waiting 10 seconds, plugging it back in and check values again after a few minutes.

**5.** If you have another thermometer to put in the Biopod it can help verify what the real temperature is. Note that you need to put the thermometer close to the sensor to make sure you measure at the same location. If the value is similar, then it is a scape issue: the way your Biopod is scaped can create an unbalance in the Biopod. Please send us a picture of your scape and we will help you with this. If the value is different, then the sensor is possibly defective and may need to be replaced.

**6.** Once you have gone through the above steps, please let us know your findings so we can trouble-shoot further by emailing us at hey@biopod.com.



### WiFi Connection

Here are a few troubleshooting steps to try to resolve your WiFi connection issue:

1. Is your Mobile Data OFF while you are trying to connect your Biopod?

2. Are you within 10 metres of your router?

3. Are you using a 2.4gHz WiFi signal?

4. What is the color of your Biopod's status lights? These lights can be seen in the black box at the back of the bottom (near the bottom). Can you see a Biopod WiFi in the WiFi settings of your phone? (It should look something like BIOPOD\_12345678).

5. Have you tried to restart your Biopod and reconnecting it? Access the back of the Biopod near the bottom, and find the small reset button near the power plug. Hold this reset button for 8 seconds and wait for the Biopod to reset and broadcast the "BIOPOD\_12345678" WiFi. Now access the app, go into settings and tap "Setup WiFi". Go through the steps to re-connect your Biopod to your WiFi. If you get stuck or you see an error, please make a note of it and contact us at hey@biopod.com for further assistance.





### WiFi Connection Continued

6. If you're connection issue is occurring during the WiFi Setup process (screen: "Trouble connecting to Biopod WiFi?", make sure that your app is connecting to the "BIOPOD\_12345678" WiFi, if it is not. Then you must manually go into your WiFi settings and connect it yourself. If it asks for a password, the password is always "biopod123".

7. If you cannot find Biopod WiFi, unplug the Biopod, wait 10 seconds, plug it back in and try again. If still not there, reset the biopod again using the reset button, then unplug, plug back in again.

8. If you have an issue during the registration step ("cannot connect to server", "connection wasn't detected"...), make sure your device is connected to your home WiFi. Ensure the Biopod is close enough to your router (3 meters) and try again. If it is still not working, go into your App settings and empty your cache. We have a videos available for this on our YouTube channel, youtube.com/biopod

**A.** Note: It sometimes takes a couple of minutes once you connect and registered your Biopod to see the blue dot on the dashboard.





### WiFi Connection Continued

 If still not working please send us the following:
a. Your information on the Router for your home/shop WiFi

b. A picture of the sticker on the router if available

**c.** WiFi properties found on a laptop WiFi settings and any info you know such as: Security type WPA2 or WPA? WiFi 2.4 or 5GHz, Fiber Optics?

10. Try to unplug/replug the router, reset the Biopod and try again to connect to WiFi.

11. If the Biopod was never able to connect, try to connect with a phone mobile hotspot instead of home/shop WiFi.

12. If the Biopod was previously connected once and is not connecting anymore:

**a.** Make sure that the Biopod is close enough to the router (less than 10m from the router).

**b.** Unplug the Biopod from the wall, wait 10 seconds, plug it back in and try again.





### WiFi Connection Continued

If you've followed all of the steps and still have trouble connecting your Biopod to your WiFi – the WiFi connectivity issues may be due to the following reasons:

**Frequency of your local WiFi:** Currently Biopod only supports a 2.4 GHz frequency WiFi. This is because the 2.4 GHz band is more reliable and farther reaching than a 5 GHz WiFi frequency. Please check your router configuration to determine whether your WiFi frequency is set to 2.4 or 5 GHz. As all routers are different, please refer to your router setup guide or your Internet Service Provider (ISP) on how to configure your router WiFi for a 2.4 GHz frequency.

**WiFi Security Encryption:** Your router's security key may be setup to be a WEP or WPA security type. We recommend using WPA2 or WPA-2PSK as these are the latest and most secure encryption protocols available. Please refer to your router setup guide or your Internet Service Provider (ISP) on how to configure your router for a WPA2 or WPA2-PSK security encryption key.





### WiFi Connection Continued

**Firewall/Blocked Ports/Other settings:** All routers are different, and some come with unique security features. If your router is old, if it was configured by a technician or your ISP, or if it is a special type of router: it may have been set up with some unconventional security features preventing Biopod from connecting to the WiFi. Please refer to your router setup guide or your Internet Service Provider (ISP) on how to configure your router for a WPA2 or WPA2-PSK security encryption key.

#### Please note we also have a detailed WiFi Troubleshooting Guide available on our website at: biopod.com/wifi-troubleshooting-guide

Once you have gone through the above steps, if you are still having trouble, please contact hey@biopod.com with details of your findings and we will troubleshoot further for you.



### Custom Mode Not Responding

Here are a few troubleshooting steps to try to resolve your Settings issue:

If the changes you are trying to implement do not appear to be working, unplug the Biopod from the wall, wait 10 seconds and plug back in.

This should help the Biopod implement the new settings. If this does not resolve your issue, please let us know (hey@biopod.com) and we will troubleshoot further for you.



### Loud Noise

If you hear a loud noise when first plugging in your Biopod, the irrigation pump may need to be primed (YouTube link: https://youtu.be/YmfpQhPK-DAA)

It sometimes takes 2 attempts at priming to make it work and you need to let the water flow for at least 6s and see a steady flow. The water level will need to be high enough in the tank for the pump to operate properly.

You can make sure the water level is covering the pump by looking at the back of the Biopod where you will see the pump connections/stoppers. Make sure the intake for the pump is fully covered by water (usually 2 or 3 inches of water depending on the model of your Biopod and how you have it scaped).

If the reservoir at the back of the Biopod is empty, or not fully inserted into the stopper, this can also cause a noise when the misting pumps try to run. Please let us know if the above steps do not resolve your issue and we will troubleshoot further.





### Motherboard (PCB)

1. If the Biopod won't work at all, check to see if the green light is on at the box part of the adapter. The light can sometimes be difficult to see if light is shining on it. If there is no green light on the adapter let us know and we will send you a replacement adapter.

2. If your adapter has a green light, but the box at the back of your Biopod shows no lights, your Biopod LED's lights are off, and is not receiving power. Your Biopod may have experienced some kind of failure. Please contact us at hey@biopod so we can guide you through some diagnostic steps.

3. If your Biopod doesn't re-boot properly or your connection is lost: try resetting using the reset button on the back of the Biopod. To do this, press and hold the button at the back of the Biopod for 8 seconds. Please make sure the button is fully pressed, you should feel a slight click when you push it in. Once the light stop flashing, unplug the Biopod, wait 10 seconds, plug back in, then check to see if Biopod WiFi is showing on your list of WiFi options on your device. You will have to re-do the WiFi setup.


### Troubleshooting

### Motherboard (PCB) Continued

4. Follow the instructions on page 8 for your WiFi setup.

5. If these steps did not resolve your issue, due to the complex nature of diagnosing Motherboard (PCB) issues, please contact us at hey@biopod.com for further assistance



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### Troubleshooting

#### Power Adapter

Here are a few troubleshooting steps to try to resolve your power adapter issue:

Check the power adapter to see if the green light is on. Check the back of the Biopod to see if the LED lights are on. Try unplugging the Biopod, wait 10 seconds, plug back in and see of the lights come on. If there is no green light on the power adapter after unplugging/plugging back in the Biopod, please let us know and we will send you a new power adapter as quickly as possible.

Please note: The little green light on the adapter can sometimes be difficult to see if there is a light shining on it.

Email us at hey@biopod.com if you think you need a new power adapter.



# Troubleshooting

#### UV Light

If you have any issues with your UV light (whether the light is flickering or not turning on), follow the instructions below:

1. Make sure the UV power in your app settings is on and at more than 30% (the light is not visible bellow that value).

2. If the settings are correct and the UV light is not on, unplug your Biopod from the wall.

3. Unplug the two light connectors (refer to picture 'B'): the white one and the black one, both on the sides of the light unit. Leave them unplugged for 1 min. and plug them back in.

4. Plug your Biopod back in and wait for the booting cycle to complete.

If the issue remains, please contact hey@biopod.com







#### Before we begin

Your Grand is composed of two units, each containing a base and a motherboard. To setup your Grand, you will have to setup each side of your unit individually.

Setting up your Grand involves a few additional steps from any of our other models.

Please note: If you setup your grand with 2 different temperature/environments, this will cause inaccurate readings and will not be sufficient for your plants/animals.

#### What does this mean?

This means you cannot scape half desert and half rainforest and have it work accordingly with those two environments at this time.



#### Let's Begin the Setup

- 1 Once the APP installed and your account created, turn on the main unit (on the right side when facing the Grand).
- 2 Click on ADD in the APP main screen and follow the instructions. Make sure you have the main unit serial number, as it will be required during the process.
- **3** Once your main unit is setup and connected to your APP, turn on the secondary unit and click on ADD to connect it to the APP.

Both of your units are now connected.





### Setup Continued

The next step will enable you to link both units to create a single environment.

- To link them, go to your main unit dashboard's option tab, click on ''Link Grand Units''
- 2 Select the secondary unit serial number in the list.
- 3 Enter in your Secondary Unit Serial Number

Congratulations! You successfully linked your Grand units.





#### Setup Continued

5. The last step is to manually synchronize them by making sure both have the same annual plan and time. To change these two parameters, follow the steps below:

- Ensure you have the MAIN UNIT selected. Go to your options (main menu), and click on "Biopod Info".
- 2 Ensure that you have the annual plan or configuration settings that you want.

Once you are happy with your configuration settings for your MAIN UNIT of the grand. Please head to the main menu, click on 'My Biopods', switch to the SECONDARY UNIT and ensure that the information here matches your MAIN UNIT.

Going forward, you will be working with the settings on your MAIN UNIT only. Your SECONDARY UNIT simply follows any changes/adjustments you make on your MAIN UNIT. This applies in both auto and custom modes.







# **Biopod Plant Packs**

Biopod Plant Packs are only available in Canada and the United States. If you are outside of these countries, please consult with your local pet or plant shop for more details on the appropriate plants to use in your Biopod.



#### FCC Warning

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions

(1) this device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note 1: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-Reorient or relocate the receiving antenna.

-Increase the separation between the equipment and receiver.

-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-Consult the dealer or an experienced radio/TV technician for help.

Note 2: 1. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

2. The minimum separation generally be used is at least 20 cm.