TAIKO AUDIO

Battery Management System (BMS) App Manual

Table of Contents

03. Description

04. Functionality

05. Charge Cycle and Voltage Recommendations

06. App Download, Install, and Use

07. App Screens

08. Select Battery Section

09. Main Dashboard screen

10. Settings Section

13. Change Charging Cycle

14. Minimum State Of Charge

15. Change PIN

16. Lightning Storms and Shipping Mode

18. LED Status Descriptions

Description

With the Battery Management System (BMS) App, you can change the battery circuit charging cycle and check the battery voltages. Communicating directly with the server via Bluetooth, the BMS app requires no network skills and provides an easy and reliable method to connect to the server and configure its settings.

Set and Forget

The BMS app is not required in day-to-day use, but it is important to connect the app to the battery sections after initially connecting the Olympus products and after switching off Shipping Mode. During the first seconds of connection, the app will sync the time with the BMS, so that the charging cycles happen at the intended time.

To maintain an optimal battery charge, the Olympus products are set to Shipping Mode before shipping. When you connect the power, the unit(s) will automatically power on and will follow a pre-programmed charging cycle from 00:00 to 07:00 in your local time zone. However, the local time, date, and zone need to be synced once. This happens automatically via Bluetooth when you connect the BMS app.

If desired, the charging period can be adjusted to fit your personal schedule. If the pre-programmed cycle suits you, there’s no need to make any changes.

Functionality

The Olympus Music Server contains two independent battery sections that appear independently in the BMS app. The Olympus I/O contains a third and fourth battery section, creating four independent battery sections in the app in total.

If you only have the Olympus server, you will see only two sections, and if you have the Extreme server with the Olympus I/O, you will only see the I/O's two battery sections.

Server BPS

The Server's first battery section powers the core system. It is configured such that the battery is constantly charged, combining the technical advantages of battery power with the practical benefits of smaller cell sizes. When the server is in standby mode with fully charged batteries, the system batteries can hold a charge for up to 6 hours. But when the server is switched on and playing music, fully charged system batteries will only provide up to 30 minutes of charge. For this reason, it is recommended to always switch the server to standby before disconnecting it from the mains power and to make sure to always reconnect the server to the mains power as soon as possible after relocating it.

The Server's second battery section powers the XDMI Output cards, and is configured to charge in cycles, like a traditional battery. The XDMI battery holds an ample charge to cover the longest listening sessions.

I/O BPS

When the Olympus I/O is added, the Server's second battery section is reconfigured to power the XDMI Interface cards that connect the Olympus to the I/O.

The Olympus I/O contains 2 battery power supplies and a custom power supply for charging the battery cells. The first battery section powers the Network Card, and the second section powers the XDMI Output.

The batteries are configured to charge in cycles, like a traditional battery. The batteries hold an ample charge to cover the longest listening sessions.

Charge Cycle

To maintain ideal battery circumstances, there is a pre-programmed charging cycle between 00:00 and 07:00 for the Olympus Server's second battery section and both the Olympus I/O's sections. For these battery sections, the charging period may also be freely adjusted using the BMS App to precisely fit in with your personal schedule.

You can run the units without charging for an easy 24 hours before Sound Quality starts degrading. Under normal circumstances, that point is never reached. For this to happen, you need to miss a charge cycle due to, for example, a power interruption, or if you place the batteries in Shipping mode.

Please note that charging only occurs when the battery charge is below a certain predetermined value, or when the user manually selects charging.

Voltage Recommendations

System Battery

- Minimum Operating Voltage is 13.6 V.
- The system will shut down if the voltage dips lower.
- Sound Quality is not affected by higher voltages.

XDMI Battery

- Minimum Operating Voltage is 12 V.
- The cards will stop working if the voltage dips lower.
- Sound Quality is not affected by higher voltages.

Download and Install

The BMS app can be found as a free download in the Apple App Store and Android Play Store. Just search for Taiko BMS, and you will find it. The app works on phones and tablets.

After installation, the app is called “Taiko” on iPhone/iPad, and “Taiko BMS Monitor” on Android. These names and icons will be updated and aligned in a future release.

App Use

Please note that the BMS app must be used at least once, after initially receiving the product(s), or when they have been set to Shipping Mode by the user. By connecting the app, the local time, date, and zone are automatically transferred to the Olympus product(s) via Bluetooth.

Upon first launch, the app asks for permission to use Bluetooth. Please allow this, so that it can find the server. To avoid the signal coupling into the Olympus or any of your other gear, the Bluetooth transmission power is deliberately kept low, limiting the range to 10 feet and potentially less under certain circumstances. We recommend sitting close to the unit when using the BMS app.

The app will automatically find and connect to the server, after which it will prompt the user to type a PIN code. The default code is 000000 (6 times 0).

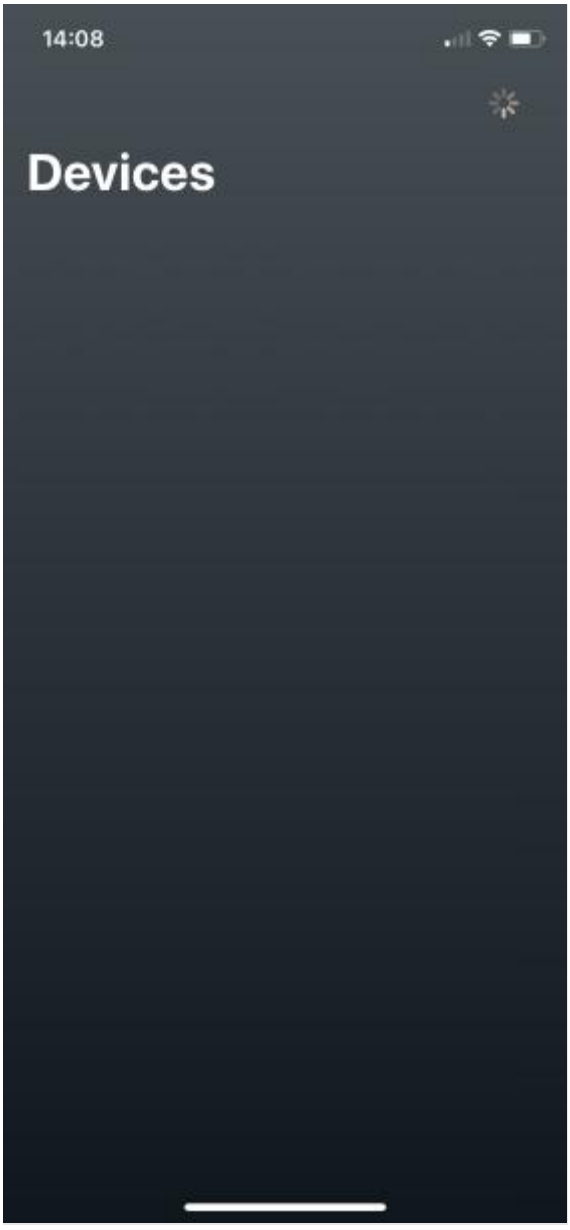
Please note that the Olympus products require a few seconds with a connected BMS app to synchronize the time and battery logic information.

Important Note

In case the PIN Code is forgotten, Taiko Support can help to hardware-reset the unit to factory default, which reinstates a key known only to Taiko. However, to avoid support load because of the required additional steps, we kindly ask the user to take great care of their code, or simply leave it at the default 000000.

App Screens

While searching, or when the server is disconnected from the AC mains, or not switched on, the app's Devices screen will show no devices, as shown below.



(Server disconnected from the AC mains or not switched on)

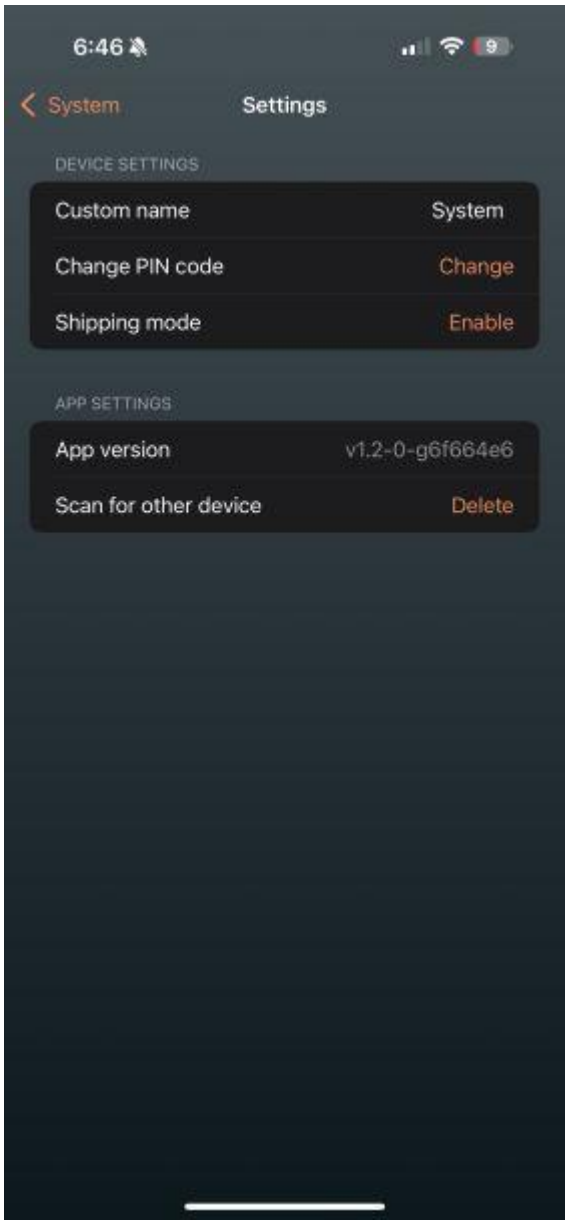
As soon as the data is loaded, the app is ready for use. In the example below, we see the two independent battery sections of an Olympus Server and Olympus I/O.

From the discovered battery sections, please tap the one you want to check or adjust. Next, the main Dashboard screen will be displayed, providing a quick view of the most relevant parameters.

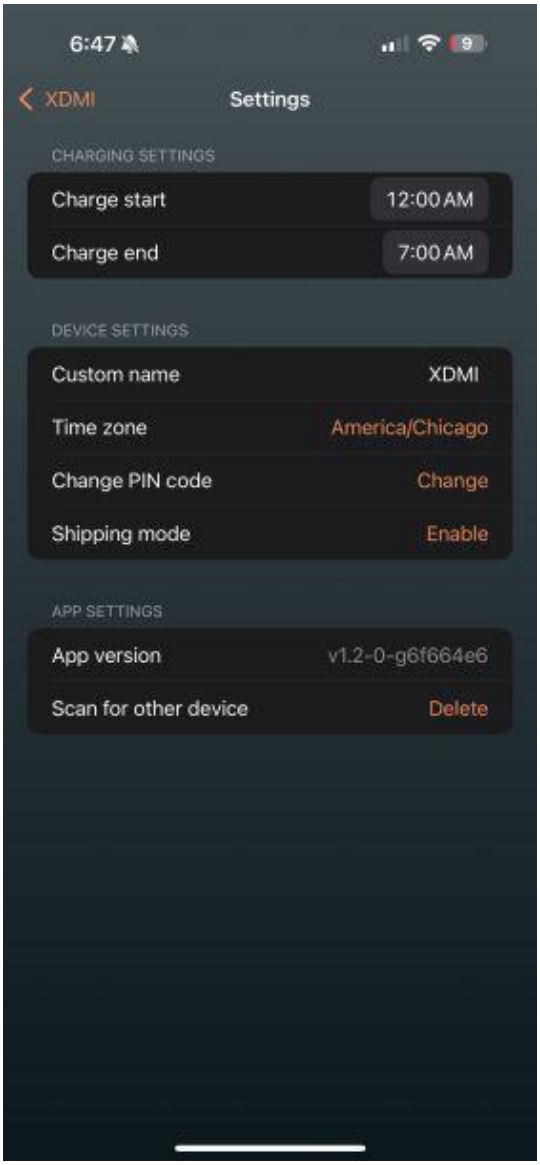
(Main Dashboard Screen)

From the main Dashboard screen, tap the gear wheel in the top right to enter the settings screen.

Note that the number of selectable parameters differs depending on the chosen battery section.



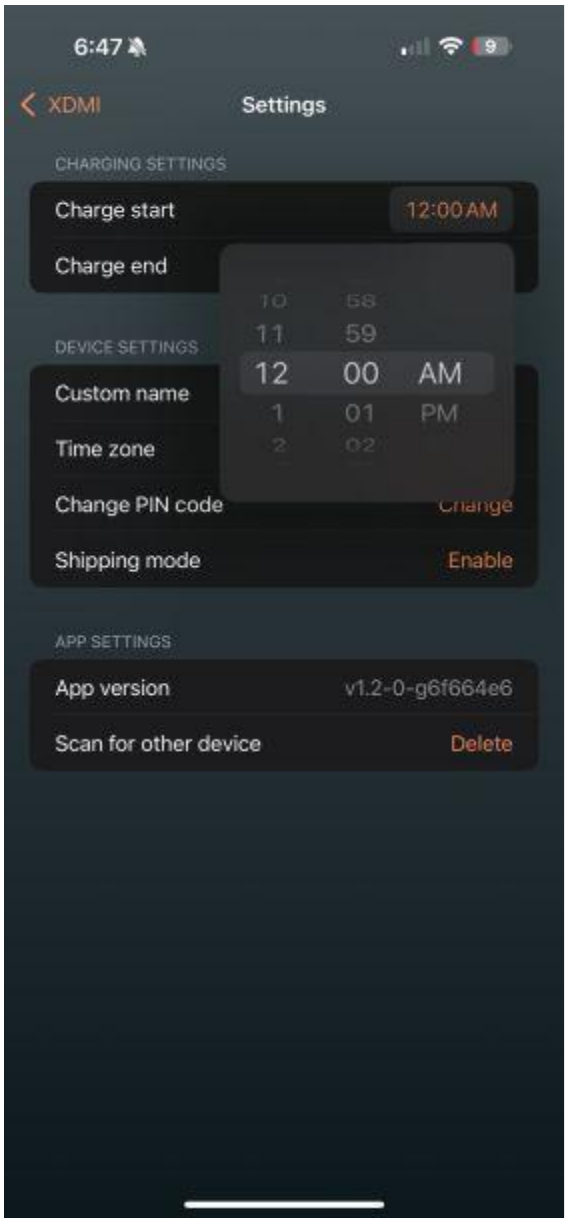
(System settings screen)



(XDMI Settings Screen)

Change the Charging Cycle

To set the Charging Cycle, please select the Charge Start and Charge End fields, and enter your desired times. The average charging time to reach a full capacity is about 5 hours (depending on the mounted XDMI module). To ensure full capacity, the predefined charging period is 7 hours. Naturally, the server can also be used with a partial charge, and it will also work while charging.



Charging Override

An override kicks in when the battery is near-depleted. In that case, the charger will always start charging, while ignoring the time window you configured.

If desired, the user can change the PIN code. This is not required and is up to the user. The code must use 6 digits.

(Change PIN code)

Lightning Storms

We recommend always leaving the server connected to AC mains power. ln case of concern during lightning storms, a good solution would be to install a surge protector power distributor in parallel and temporarily plug the server into it, instead of the normal power distributor. This way, the server is protected, and the batteries can still be charged.

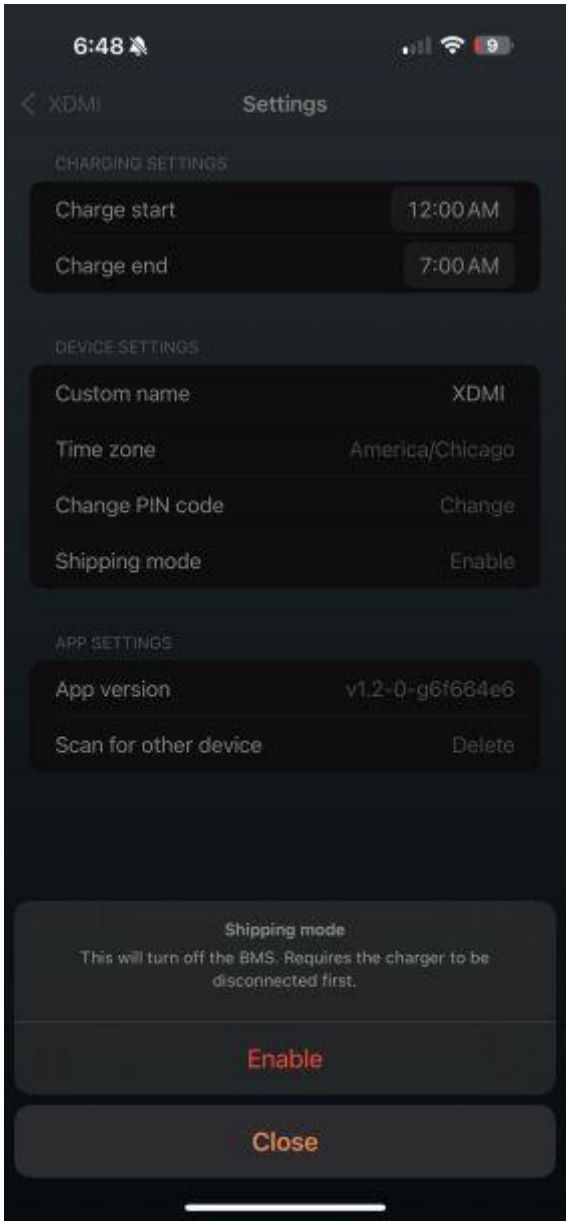
Shipping Mode

If it is expected that the server will be disconnected from the mains power for more than 2 hours, it can be set to Shipping Mode. This will discharge the capacitors and then shut down the motherboard and XDMI cards. After this, the unit can safely be left disconnected indefinitely. This is how we ship the unit.

1. Shut down the server's Operating System by pressing the button underneath the front panel. Confirm the middle LED has gone off. This does not apply to the I/O.
2. Power off the unit(s) with the rear switch.
3. Remove the AC Power Cable.
4. IMPORTANT: Wait for approximately 2 minutes for the Battery sections to shut down.
   (You can check the status by looking through the Server's perforated top, into the front right section, where the green light will go off.)
5. Use the BMS app and select shipping mode for each of the respective unit's independent Battery Sections.

Upon reconnection of mains power, the server will automatically switch out of shipping mode and prepare itself for normal use.

However, it is important to connect the BMS app to the battery sections after switching off Shipping Mode. During the first seconds of connection, the app will automatically sync the time with the BMS, so that the charging cycles happen at the intended time.



(Shipping Mode)

LED Status	Status	Action	Notes
Blinking in regular on/off intervals	Software error / Bluetooth error	Wait for at least 1 minute, if no change, enter Shipping Mode, selected via app menu button, with AC mains power connected)	Should only happen at boot and certainly not for a longer period.
Off	Battery Fully Empty / Shipment mode	Connect AC Mains power	
Fast Blinking (5Hz) and mostly on	Charging error (AC mains power not connected)	Connect AC mains power or Select discharging in app	Will stay in this mode until AC is connected or "Discharging" is selected in App.
Fast Blinking (5Hz) and mostly off	Battery Empty	Connect AC mains power	
On	Discharging if factory charging modus is set to auto. Charging if factory charging modus is set to always charging.		If factory charging modus is set to always charging, the state will remain unchanged, unless AC Mains is disconnected.
Slow Blinking (1Hz) mostly off	Charging		

Slow Blinking (1Hz) and mostly on	Discharging if factory charging modus is set to always charging		Not normally applicable. for factory charging, the modus is set to auto. To fix this, toggle the charging mode.
NOTE ON LED BLINKING SPEED			LED blinking speed can vary +/- 20%, which can cause the slow blinking speed to visibly vary slightly by day. However, the intended slow signalling speed remains easily recognizable by its 1Hz speed. Fast blinking, by contrast, has a much faster 5Hz speed.