

Battery Charger

Operating Instructions

BC-DWX1

DWX
DIGITAL WIRELESS

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Features

The BC-DWX1 is a battery charger that can charge two DWT-B03R or NP-BX1 units at the same time.

- In addition to charging the NP-BX1 battery packs alone, the unit is capable of charging the battery packs while they are inserted in DWT-B03R digital wireless transmitters.
 - Two power supplies are supported; AC adapter (not supplied) power and PoE (Power over Ethernet) via LAN cable.
 - Connecting the unit to a network allows you to monitor the charge status and change settings via the Wireless Studio* computer software.
- * Wireless Studio version 5.0 or later required.

Important Notes on Operation

If the unit is suddenly taken from a cold to a warm location, or if ambient temperature suddenly rises, moisture may form on the outer surface of the unit and/or inside of the unit. This is known as condensation. If condensation occurs, turn off the unit and wait until the condensation clears before operating the unit. Operating the unit while condensation is present may damage the unit.

The life expectancy of the electrolytic capacitor is about 5 years under normal operating temperatures and normal usage (8 hours per day; 25 days per month). If usage exceeds the above normal usage frequency, the life expectancy may be reduced correspondingly.

The battery terminal of this unit (the connector for battery packs and AC adaptors) is a consumable part. Power may not be supplied to the unit properly if the pins of the battery terminal are bent or deformed by shock or vibrations, or if they become corroded due to prolonged outdoor use.

Periodic inspections are recommended to keep the unit working properly and to prolong its usable lifetime. Contact a Sony service or sales representative for more information about inspections.

Notes on Cross Remote

- When supplying power to the BC-DWX1 via LAN cable (i.e., Power over Ethernet), always use IEEE802.3af-compliant PoE power sourcing equipment (e.g., PoE hub).

For details on operating the PoE power sourcing equipment or PoE hub, refer to the operating instructions supplied with the device.

- When power supplies from both an AC adapter and PoE power sourcing equipment exist, the AC adapter power supply will be prioritized.

Maintaining Performance

- Be sure to check that there are no foreign objects or particles in the charging ports before inserting transmitters into the unit for charging. The presence of foreign objects or particles may prevent proper charging.
- A charged battery will slowly discharge, even when it is not in use. Be sure to charge the battery before each use to ensure safe operation.
- Proper charging may not be possible if the unit or the battery terminals are dirty. In such cases, wipe the terminals with a dry cloth or cotton swab. When doing so, make sure that the unit is turned off, and never touch the charging terminals directly with your hands.

- Avoid usage and storage in the presence of excessive dust or active gases, or in locations exposed to direct sunlight.

Notes on the Battery

Charge the battery in an ambient temperature range of 10 °C to 30 °C (50 °F to 86 °F). Efficient charging may not be possible at other temperatures.

Battery usage

- Battery performance drops in low ambient temperatures, resulting in shorter usable durations. To extend the usage duration in low ambient temperatures, place the battery in your pocket, for example, and insert it in the unit immediately before use.
- The battery is not waterproof. Be careful not to wet the battery.
- Do not leave the battery in high temperature environments, such as inside a hot car or under direct sunlight.
- If the battery terminals are dirty, problems, such as power not being supplied or charging not being possible, may occur. In such cases, wipe the battery terminals with a dry cloth or cotton swab to remove the dirt.

Battery storage

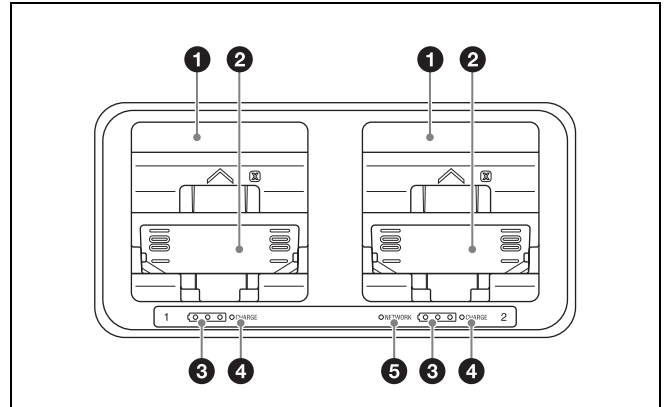
- Even during extended periods of disuse, charge the battery about once a year to maintain its functionality. After charging the battery, insert it in the unit, use the storage function to discharge it, and then remove it from the unit before storing it in a cool location with low humidity.
- To prevent dirtying of the terminals, short circuits, or other problems, place the removed battery in a plastic bag, for example, and keep it away from metal objects during transport or storage.

Battery life cycle

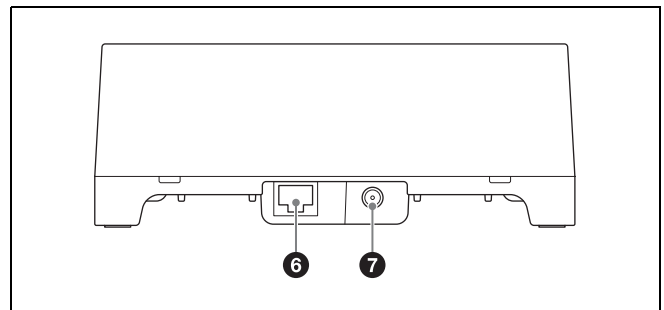
- The battery is a consumable part. The battery's charge capacity will gradually decrease as time passes and the battery is used. When the battery's usable duration becomes drastically reduced, it may have reached the end of its life cycle. Purchase a new battery in such cases.
- The battery's life cycle will vary depending on storage methods, usage conditions, and environments.

Parts Identification

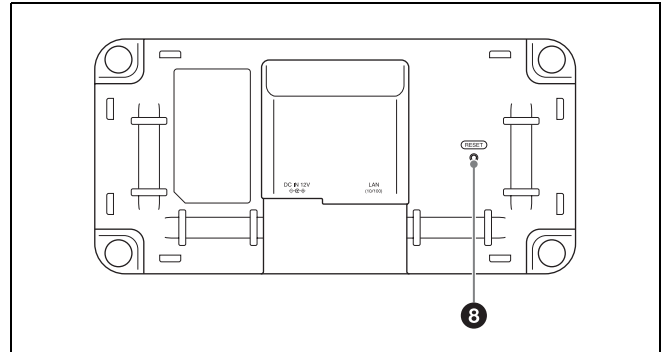
Top



Side



Bottom



1 Cable pockets

Place the cable of a lavalier microphone connected to the DWT-B03R here.

2 Charging ports

Insert the DWT-B03R or NP-BX1 to be charged here. For safety, use only the Sony battery packs and AC adaptors listed below.

- NP-BX1

3 Charge/discharge status indicators

Light according to the charge/discharge status.

4 CHARGE indicators

Light while charging is in progress.

5 NETWORK indicator

Lights while network communication is in progress.

6 LAN connector (RJ-45)

Use this to establish 10BASE-T/100BASE-TX network connections. The communication speed will change automatically according to the connected device.

Connect to Windows computers, hubs, etc.

When this connector is connected to a PoE-compatible hub or power sourcing equipment, power can be supplied to the unit via this connector.

CAUTION

For safety, do not connect the connector for peripheral device wiring that might have excessive voltage to the following ports:

Follow the instructions for this port.

- LAN connector

CAUTION

When you connect the LAN cable of the unit to peripheral device, use a shielded-type cable to prevent malfunction due to radiation noise.

7 DC IN 12V connector

Connect an AC adapter (not supplied) here.

Notes

To avoid fire and malfunctions, use only the recommended AC adapter (not supplied).

8 RESET button

Use this to perform one of three functions; restore factory settings, switch the charge mode, or enable/disable the network function.

Use a pen or paper clip, for example, to press the button. Perform RESET button operations without any DWT-B03R or NP-BX1 units inserted.

Restoring factory settings

Hold down the button for 10 seconds. All the indicators on the top of the unit will blink, and all setting values will reset to factory settings.

Switching the charge mode

When you press the button while the CHARGE indicator is off, the indicator will light for 3 seconds, allowing you to check the current charge mode. Pressing the button again during this time will switch between normal mode and storage mode.

Press the button while the CHARGE indicator is lit to switch the charge mode.

For details, see “Using the Storage Function” (page 7).

Enabling/disabling the network function

Connect the power supply while holding down the button to enable/disable the network function.

When the network function is disabled, the NETWORK indicator will not light, even when the unit is connected to a network.

Connecting to the Power Supply or Other Devices

Notes

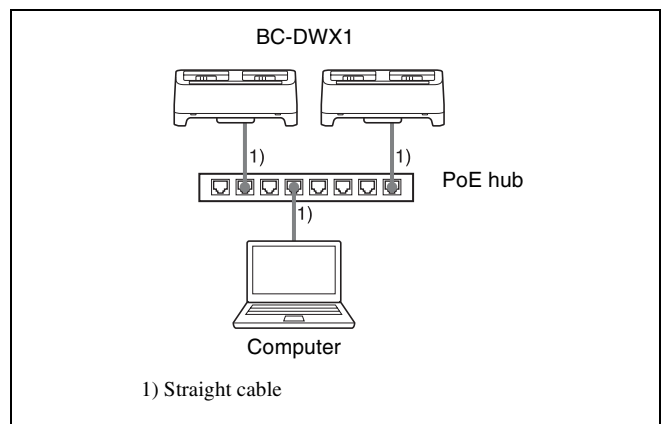
- Always use a category 5 LAN cable.
- The LAN cable used to connect the unit to the device (PoE hub, receiver, etc.) should not exceed 100 m (328 ft.) in length.
- If power sourcing equipment without a repeater function is connected between the unit and the device (computer, hub, etc.), the total LAN cable length between the unit and the device should not exceed 100 m (328 ft.).
- Proper network connections may not be possible when using modified LAN cables. Be sure to use commercially available cables.

The connection methods and cable types used differ as follows, depending on the method used to supply power to the unit.

Supplying Power via PoE

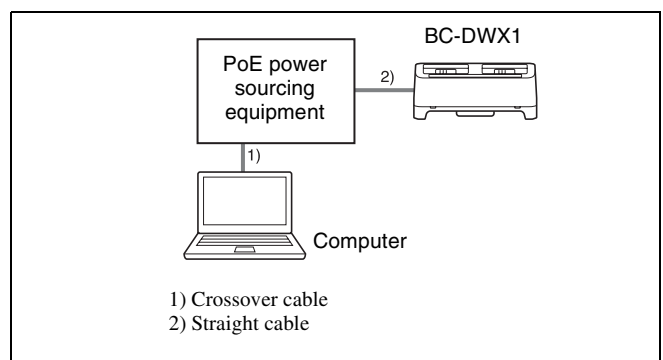
The following are connection examples for supplying power to the unit via PoE.

Supplying power from a PoE hub

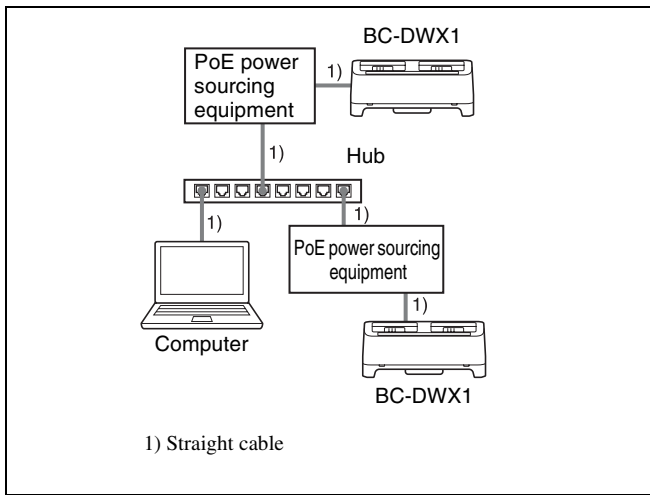


Supplying power from PoE power sourcing equipment

- When only the unit and a computer are connected

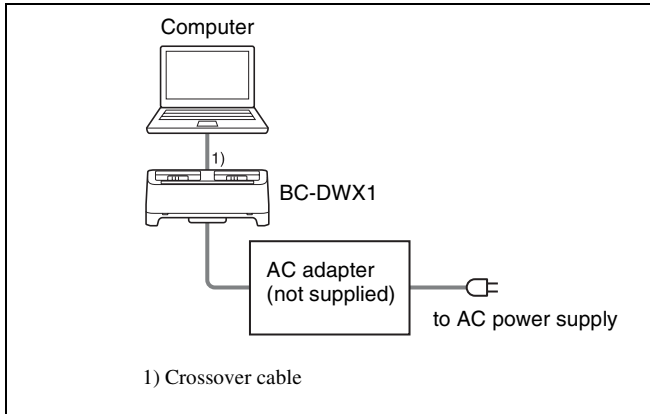


- When multiple units and other devices are connected

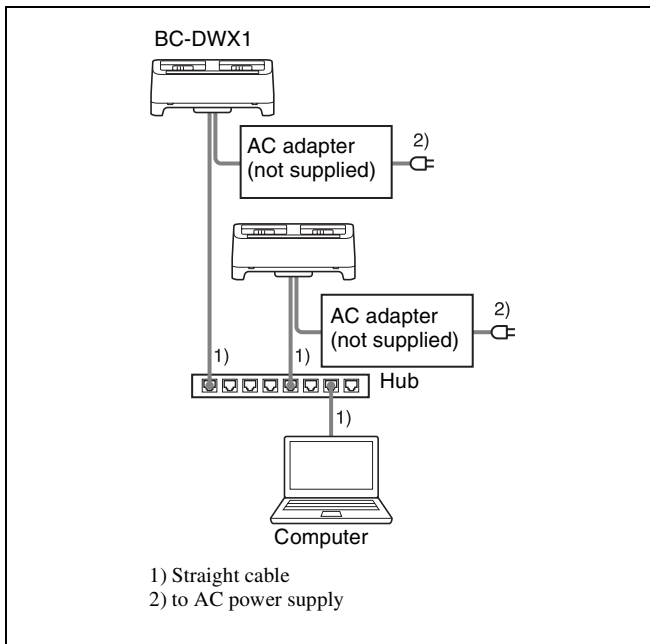


Supplying Power via an AC Adapter

- When only the unit and a computer are connected



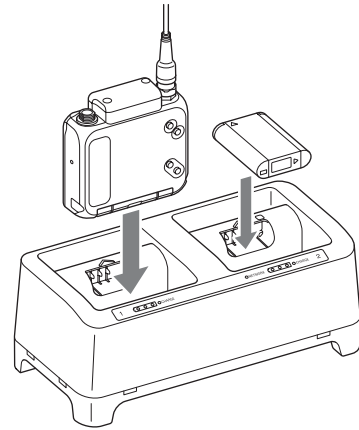
- When multiple units and other devices are connected



Charging

Check that there are no foreign objects or particles in the charging port, and insert the DWT-B03R or NP-BX1. The CHARGE indicator of the charging port in which the DWT-B03R or NP-BX1 was inserted lights, and charging starts.

You can charge using either of the charging ports.



Notes

If the CHARGE indicator does not light, check that the device is fully inserted. The device may not charge if it is not inserted properly.

Inserting the DWT-B03R

You can charge the NP-BX1 while it is inserted in the DWT-B03R.

Check the orientation of the DWT-B03R, and insert it fully into the charging port.

For details on inserting the NP-BX1, refer to the operating instructions for the DWT-B03R.

Inserting the NP-BX1

Insert while making sure that the Δ mark on the NP-BX1 is at the top and facing the direction of the Λ mark on the unit.

Notes

If you insert the DWT-B03R while it is turned on, the DWT-B03R will turn off, but charging will still occur. The DWT-B03R will remain turned off, even after you remove it from the unit.

Checking the charge status

You can check the charge status of battery packs via the charge/discharge status indicators and CHARGE indicators.

○: Off ●: Lit

	Charge/discharge status indicators	CHARGE indicator
Immediately after insertion to 30%	○○○	●
30% to 60%	○○●	●
60% to 90%	○●●	●

	Charge/discharge status indicators	CHARGE indicator
90% to fully charged	●●●	○
Full charging complete	○○○	○

Notes

The charge status indicators and the above values are approximate guides. The actual charge status may differ from the above values depending on the ambient temperature and battery condition.

Removing charged devices

The unit is designed to secure the DWT-B03R or NP-BX1 and prevent dropping due to vibration or shock.

- DWT-B03R
Pull the DWT-B03R upward while holding down the unit.
- NP-BX1
Gently push the NP-BX1 toward the direction of the Δ mark on the unit, and raise the edge of the NP-BX1.

Charging time

Fully charging a fully discharged battery pack in an ambient temperature of 25 °C (77 °F) will take about 3 hours.

The charging time may be longer depending on your operating environment. In addition, battery packs that have not been used for extended periods may take longer to charge.

When you are in a hurry

If necessary, devices can be removed from the unit before they are fully charged. However, their usable durations will vary depending on how long they were charged.

Using the Storage Function

Storing a battery in a fully charged state will deteriorate the battery and shorten its life cycle.

The unit is equipped with a storage function that limits charging to 80% to prevent battery deterioration. When you do not intend to use a battery for extended periods, using the storage function can minimize deterioration.

Switching to storage mode

Press the RESET button while the CHARGE indicator is lit to switch between normal mode and storage mode.

When you press the RESET button while the CHARGE indicator is off, the indicator will light for 3 seconds, allowing you to check the current charge mode. Pressing the button again during this time will switch between normal mode and storage mode.

During normal mode: Lights orange

During storage mode: Lights red

The switching operation can also be performed via the Wireless Studio computer control software.

Discharging battery packs

When a battery pack with 80% to 100% charge is inserted, the leftmost charge/discharge status indicator will blink and discharge will start.

Discharge will complete when the battery charge reaches 80%.

Checking the charge/discharge status during storage mode

As in normal mode, you can check the charge/discharge status of battery packs via the charge/discharge status indicators and CHARGE indicators.

However, the manner in which the indicators light differs from normal mode.

○: Off ●: Lit ◐: Blinking

	Charge/discharge status indicators	CHARGE indicator
Immediately after insertion to 30%	○○○	●
30% to 60%	○○●	●
60% to 80%	○●●	●
80%	○●●	○
80% to 100% (discharging)	◐●●	○

Discharging time

Discharging a fully charged battery pack to 80% in an ambient temperature of 25 °C (77 °F) will take about 1 hour.

The discharging time may be longer depending on your operating environment.

Connecting to a Network

By connecting the unit to a network and using Wireless Studio or BC-DWX Setting Tool, you can control and monitor the unit via the network.

You can download the latest versions of Wireless Studio and BC-DWX Setting Tool and their operating instructions from the following URL.
<https://www.sonycreativesoftware.com/>

Wireless Studio

The Wireless Studio computer control software allows you to monitor the status of the unit*, portable base units, RMU-01 units, and Sony digital wireless receivers and transmitters from a computer, and allows you to control settings for the unit, receivers, and transmitters remotely.
* Wireless Studio version 5.0 or later required.

For details, refer to the user guide for Wireless Studio.

BC-DWX Setting Tool

To connect to the unit via a network, you must assign an IP address to the unit using BC-DWX Setting Tool.

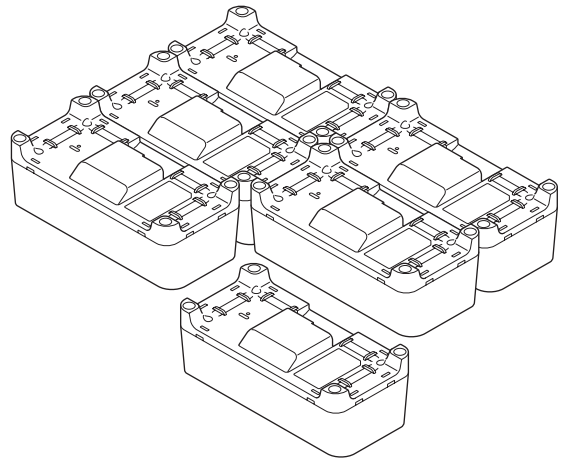
For details, refer to the user guide for BC-DWX Setting Tool.

Connecting Multiple Units

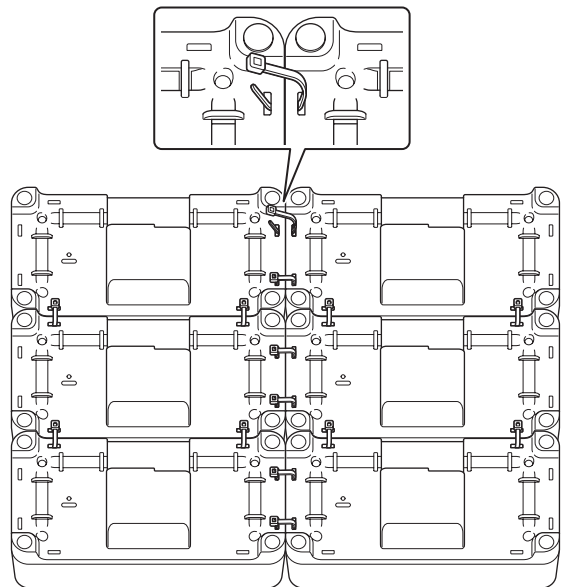
Multiple instances of the unit can be connected to each other using commercially available cable ties.

In addition, the cables connected to the units can be grouped and fastened neatly.

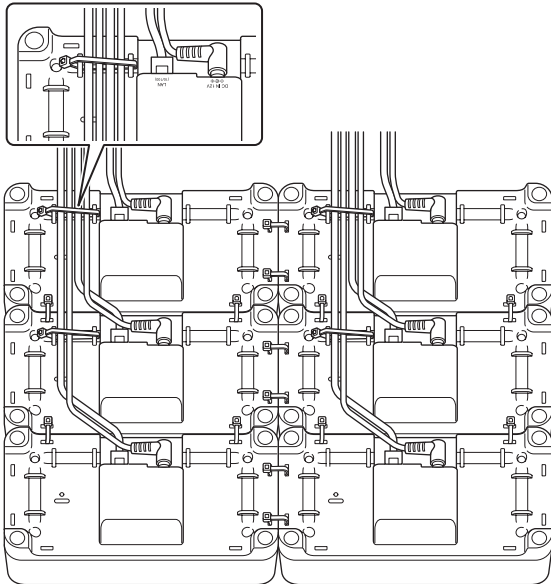
- 1 Remove any devices charging in the units and any connected cables.
- 2 Place the units with their bottoms facing up in the layout in which you want to connect them.



- 3 Insert the cable ties through the holes on the bottoms of the units, and secure them.



- 4 Connect the cables, insert the cable ties through the holders on the bottoms of the units, and secure them while grouping the cables.



The holes at the bottom of the units that are not being used for connections can be used to secure the units to the tray or drawer of a commercially available 19-inch rack, for example.

Troubleshooting

If you encounter a problem when using the unit, check the following. If the problem persists, contact your Sony representative.

If the CHARGE indicators blink

The CHARGE indicators blink in one of two patterns. The indicators will either blink at about 1.5-second intervals (slow blinking) or at about 0.15-second intervals (rapid blinking).

The action to take will differ depending on the blinking pattern.

Slow blinking

This indicates that charging has paused automatically and is in a standby state.

This occurs when the ambient temperature is not appropriate for charging.

Charging will resume and the CHARGE indicators will remain steadily lit once the ambient temperature enters the appropriate range.

We recommend charging batteries in an ambient temperature range of 10 °C to 30 °C (50 °F to 86 °F).

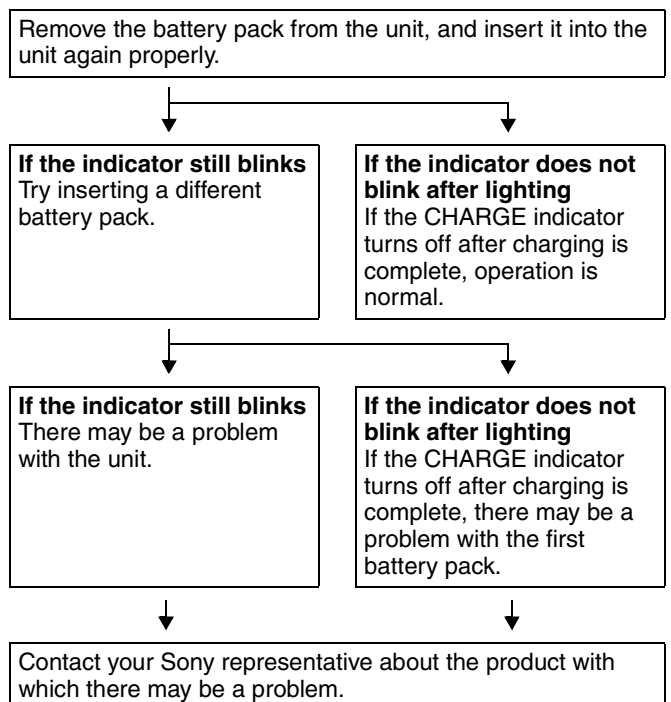
Rapid blinking

This may occur when charging for the first time in the following situations.

- After extended storage of the battery pack
- After extended storage of the battery pack while inserted in the DWT-B03R
- Immediately after purchase

Remove the battery pack from the unit, and try charging again.

If the indicator still blinks rapidly, perform the following to determine the problem.



If batteries do not charge

- Power is not being supplied to the unit.
→ Check that the cable is connected properly.
- The inserted battery is askew or facing the wrong direction.
→ Insert the battery properly.
- The battery is fully charged.
→ This is not a malfunction.
- The unit is set to storage mode.
→ Switch to normal mode.

If the BC-DWX1 is not automatically detected on the network

- When using a computer with multiple LAN ports (whether wired or wireless), automatic detection may not be possible without changing the port settings under the operating system's network connection settings.
→ Disable all of the computer's ports under the operating system's network connection settings, and then enable only the port to which the BC-DWX1 is connected. Afterward, restart BC-DWX Setting Tool to perform automatic detection.
- The network function is disabled.
→ Connect the power supply while holding down the RESET button at the bottom of the unit to enable the network function. When the network function is disabled, the NETWORK indicator at the top of the unit will not light, even when the unit is connected to a network.

Licenses

This product uses μ T-Kernel source code based on T-License 2.0 from T-Engine Forum (<http://www.t-engine.org>).

Specifications

Supply voltage	When using AC adapter: 12 V DC (use the recommended optional AC adapter)
Current consumption	When using AC adapter: 1.2 A or less
Rated output	When charging: 4.2 V DC, 0.86 A (per slot)
LAN connector	RJ-45 modular jack (1) 100BASE-TX: IEEE802.3u compliant 10BASE-T: IEEE802.3 compliant
PoE compatibility	IEEE802.3af Class3 compliant (modes A and B supported)
Operating temperature	0 °C to 40 °C (32 °F to 104 °F)
Storage temperature	-20 °C to +60 °C (-4 °F to +140 °F)
Dimensions	186 × 71 × 91 mm (7 ³ / ₈ × 2 ⁷ / ₈ × 3 ⁵ / ₈ in.) (W×H×D)
Mass	Approx. 290 g (10 oz.)
Supplied accessories	Warranty (1) Before Using This Unit (1) CD-ROM (1)

Optional accessories

AC adapter (AC-UES1230 series)

For details on the recommended AC adapter, contact your Sony representative.

Design and specifications are subject to change without notice.

Notes

- Always verify that the unit is operating properly before use. SONY WILL NOT BE LIABLE FOR DAMAGES OF ANY KIND INCLUDING, BUT NOT LIMITED TO, COMPENSATION OR REIMBURSEMENT ON ACCOUNT OF THE LOSS OF PRESENT OR PROSPECTIVE PROFITS DUE TO FAILURE OF THIS UNIT, EITHER DURING THE WARRANTY PERIOD OR AFTER EXPIRATION OF THE WARRANTY, OR FOR ANY OTHER REASON WHATSOEVER.
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