

INSTRUCTION MANUAL

Battery Pack BT-79Q Holder DB-79A/B AC/DC Converter AD-17B/C/D/E



Thank you for selecting our products.

- Please read this Instruction manual carefully, when using this product.
- The specifications and general appearance of the instrument, and the content of this manual are subject to change without notice.
- Some of the diagrams shown in this manual may be simplified for easier understanding.
- Always keep this manual in a convenient location and read it when necessary.
- Please read the Instruction manual of the paired instrument in conjunction with this manual.

PRECAUTIONS FOR SAFE OPERATION

In order to encourage the safe use of products and prevent any danger to the operator and others or damage to properties, important warnings are put on the products and inserted in the instruction manuals. We suggest that everyone understand the meaning of the following displays and icons before reading the "Safety Cautions" and text.

Definition of Indication

 WARNING	Ignoring or disregard of this display may lead to death or serious injury.
 CAUTION	Ignoring or disregard of this display may lead to personal injury or physical damage to the instrument.

WARNING

- Do not use the unit in areas exposed to high amounts of dust or ash, in areas where there is inadequate ventilation, or near combustible materials. An explosion could occur.
- Do not disassemble or rebuild the battery or the battery charger, nor expose to heavy shocks or vibration. Sparking, fire, electric shock or burns could result.
- Do not short circuit. Heat or ignition could result.
- Do not place articles such as clothing on the battery charger while charging batteries. Sparks could be induced, leading to fire.
- Do not use voltage other than the specified power supply voltage. Fire or electrical shock could result.
- Do not use batteries other than those designated. An explosion could occur, or abnormal heat generated, leading to fire.
- Do not use damaged power cords, plugs or loose outlets. Fire or electric shock could result.
- Do not use power cords other than those designated. Fire could result.
- Use only the specified battery charger to recharge batteries. Other chargers may be of different voltage rating or polarity, causing sparking which could lead to fire or burns.
- Do not use the battery or charger for any other equipment or purpose. Fire or burns caused by ignition could result.
- Do not heat or throw batteries or chargers into fire. An explosion could occur, resulting in injury.
- To prevent shorting of the battery in storage, apply insulating tape or equivalent to the terminals. Otherwise shorting could occur, resulting in fire or burns.
- Do not use the battery or battery charger if its terminals are wet. Resultant poor contact or shorting could lead to fire or burns.
- Do not connect or disconnect power supply plugs with wet hands. Electric shock could result.

CAUTION

- Do not touch liquid leaking from batteries. Harmful chemicals could cause burns or blisters.

PRECAUTIONS

Precautions regarding use

- Be sure to charge the battery within the charging temperature range.
Charging temperature range: 10 to 40°C
- Treat with care. Do not drop, modify or expose to heavy shocks.
- Be sure to charge the battery fully before using it for the first time or after not using it for long period.
- The charger will become rather hot during use. This is normal.
- Use only the specified battery or the battery charger. Failures caused by using other batteries or battery chargers are out of warranty including the main unit.

- Do not use if the terminals are dirty. If dirty, wipe clean with a soft dry cloth.
- To clean other parts of the unit, lightly moisten a soft cloth with water or a mild detergent solution. Wring out excess water until the cloth is slightly damp, then carefully wipe the surface of the unit. Do not use any organic solvents or alkaline cleaning solutions.

Warranty policy for Battery

- Battery is an expendable item. The decline in retained capacity depending on the repeated charging/discharging cycle is out of warranty.

Precautions regarding storage

- Disconnect from the surveying instrument and charger before putting the battery into storage.
- Wipe off moisture completely if the instrument gets wet during survey work.
- When not in use, disconnect the power cable plug from the wall outlet.

Other precautions

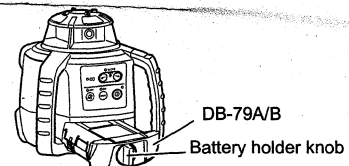
- This battery generates power using a chemical reaction and as a result has a limited lifetime. Even when in storage and not used for long periods, battery capacity deteriorates with the passage of time. This may result in the operating time of the battery shortening despite having been charged correctly. In this event, a new battery is required.

Exceptions for responsibility

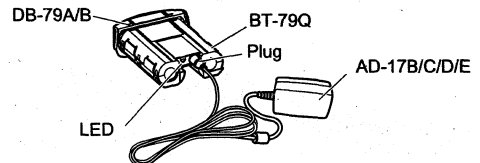
- The manufacturer, or its representatives, assumes no responsibility for any damage, or loss of profits (change of data, loss of data, loss of profits, an interruption of business etc.) caused by use of the product or an unusable product.
- The manufacturer, or its representatives, assumes no responsibility for any damage, or loss of profits caused by usage different to that explained in this manual.
- The manufacturer, or its representatives, assumes no responsibility for consequential damage, or loss of profits due to heavy rain, strong wind, high-temperature and humidity, or storing or use of the product under unusual conditions.
- Product failures caused by rebuilding are out of warranty.
- Cautions and warnings included in this manual do not cover all the possible events.

BATTERY CHARGING (BT-79Q)

- 1 Remove the DB-79A/B battery holder by turning battery knob to "OPEN" side.



- 2 Connect the AD-17B/C/D/E into the charge port of the battery pack BT-79Q.



- 3 Plug the AD-17B/C/D/E into the wall outlet.
When charging starts, the LED is solid red. The LED is off when charging finished.
- 4 Unplug the AD-17B/C/D/E from the battery pack BT-79Q and disconnect the AD-17B/C/D/E power plug from the wall outlet.

The LED of BT-79Q indicates the charging status:

- Red ON : Charging
- OFF : Charging completed
- Red blinking slowly: Ni-MH BT-79Q battery pack protection feature is working automatically.

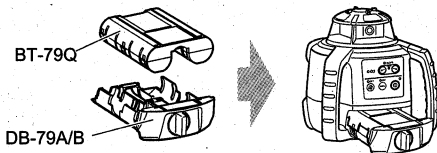
Let the battery pack fall within its designated charging temperature range (10 to 40°C), unplug the AD-17B/C/D/E from the battery pack and then check the LED status. Solid red LED indicates charging has started again. Slow blinking red LED indicates the Ni-MH battery is still out of the charging temperature range. Wait for a while, unplug the AD-17B/C/D/E and then check the LED again.

The instrument has a protection feature which works when the batteries are under a high or low temperature state. In such a case, charging will stop automatically to protect nickel hydride batteries.

- Red blinking quickly: The battery is not charged properly. Please contact your local dealer.

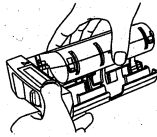
INSTALLING THE RECHARGEABLE BATTERY PACK

- 1 Install the battery pack BT-79Q into the DB-79A/B battery holder.



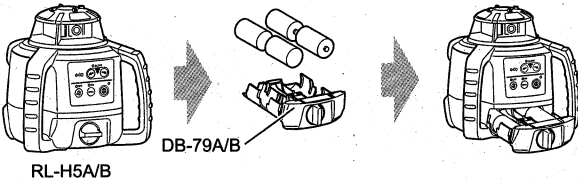
- 2 Install the battery holder. Tighten the battery cover knob to "LOCK" side.

- It is possible to remove the battery pack BT-79Q from the DB-79A/B battery holder and use the dry cell batteries. Grasp the specified place on the battery holder, which is shown below, and remove the battery pack.



REPLACING THE DRY CELL BATTERIES

- 1 Remove the DB-79A/B battery holder by turning battery knob to "OPEN" side.



- 2 Install the new 4xD size dry cell batteries (alkaline) referring to the illustration on the battery holder.*1), 2), 3)
- 3 Install the battery holder. Tighten the battery cover knob to "LOCK" side.

- *1 Replace all 4 batteries with new ones at the same time. Do not mix used and new batteries, and do not mix different types of batteries together.
- *2 Use alkaline dry cells. Nickel hydrogen dry cells and nickel cadmium dry cells can be used too, but the operating time is different from the time of alkaline dry cells.
- *3 Generally, performances of dry cell deteriorate temporarily in low temperature, but recover in normal temperature.

SPECIFICATIONS

BT-79Q (Ni-MH rechargeable battery)

Nominal voltage	: 4.8V
Capacity	: 7,000mAh
Size	: 104(W) x 127(D) x 37(H) mm
Weight	: 690 g

AD-17B/C/D/E

Input voltage	: 100 to 240 V AC, 50 to 60 Hz, 0.6 A
Output voltage	: DC 9 V/2.0 MAX 18 W
Charging time	: about 13 hours
Charging temperature range	: 10 to 40°C (50 to 104°F)
Storage temperature range	: -20 to 70°C (-4 to 158°F)
Size (excluding cable) /Weight	

AD-17B	: 45(W) x 83(D) x 54(H) mm /133 g
AD-17C	: 45(W) x 83(D) x 70(H) mm /137 g
AD-17D	: 45(W) x 83(D) x 59(H) mm /135 g
AD-17E	: 45(W) x 83(D) x 62(H) mm /140 g



CONTAINS NI-MH BATTERY.
MUST BE RECYCLED OR DISPOSED OF PROPERLY.

REGULATIONS

Region/Country: U.S.A.

Directives/Regulations: FCC-Class B

FCC Compliance

WARNING:

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.

NOTE:

This equipment has been tested and found to comply with 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.

Region/Country: California, U.S.A.

Directives/Regulations: Proposition 65

WARNING: Handling the cord on this product or cords associated with accessories sold with this product, will expose you to lead, a chemical known to the State of California to cause birth defects or other reproductive harm. *Wash hands after handling.*

Region/Country: California and NY, U.S.A.

Directives/Regulations: Recycling Batteries

DON'T THROW AWAY RECHARGEABLE BATTERIES, RECYCLE THEM.

Topcon Positioning Systems Inc., United States Return Process for Used/Rechargeable Nickel Metal Hydride, Nickel Cadmium, Small Sealed Lead Acid, and Lithium Ion, Batteries

In the United States Topcon Positioning Systems Inc., has established a process by which Topcon customers may return used rechargeable Nickel Metal Hydride(Ni-MH), Nickel Cadmium(Ni-Cd), Small Sealed Lead Acid(Pb), and Lithium Ion(Li-ion) batteries to Topcon for proper recycling and disposal. Only Topcon batteries will be accepted in this process.

Proper shipping requires that batteries or battery packs must be intact and show no signs of leaking. The metal terminals on the individual batteries must be covered with tape to prevent short circuiting and heat buildup or batteries can be placed in individual plastic bag. Battery packs should not be disassembled prior to return.

Topcon customers are responsible for complying with all federal, state, and local regulations pertaining to packing, labeling, and shipping of batteries. Packages must include a completed return address, be prepaid by the shipper, and travel by surface mode. Under no circumstance should unrecyclable batteries be shipped by air.

Failure to comply with the above requirements will result in the rejection of the package at the shipper's expense.

Please remit packages to: Topcon Positioning Systems, Inc.
C/O Battery Return Dept. 150
7400 National Dr.
Livermore, CA 94551

DON'T THROW AWAY RECHARGEABLE BATTERIES, RECYCLE THEM.

Region/Country: EU

Directives/Regulations: EMC-Class B

EMC NOTICE

In industrial locations or in proximity to industrial power installations, this instrument might be affected by electromagnetic noise. Under such conditions, please test the instrument performance before use.

Manufacturer

Name : TOPCON CORPORATION
Address : 75-1, Hasunuma-cho, Itabashi-ku, Tokyo, 174-8580 JAPAN

Europe Representative and Importer

Name : Topcon Europe Positioning B.V.
Address : Essebaan 11, 2908 LJ Capelle a/d IJssel, The Netherlands

Region/Country: EU

Directives/Regulations: WEEE Directive



WEEE Directive

This symbol is applicable to EU members states only.

Following information is only for EU-member states:

The use of the symbol indicates that this product may not be treated as household waste. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. For more detailed information about the take-back and recycling of this product, please contact your supplier where you purchased the product or consult.

Region/Country: EU

Directives/Regulations: EU Battery Directive



EU Battery Directive

This symbol is applicable to EU members states only.

Battery users must not dispose of batteries as unsorted general waste, but treat properly.

If a chemical symbol is printed beneath the symbol shown above, this chemical symbol means that the battery or accumulator contains a heavy metal at a certain concentration. This will be indicated as follows:

Hg: mercury(0.0005%), Cd: cadmium(0.002%), Pb: lead(0.004%)

These ingredients may be seriously hazardous to human and the global environment.

TOPCON CORPORATION (Manufacturer)

75-1 Hasunuma-cho, Itabashi-ku, Tokyo 174-8580, Japan <http://www.topcon.co.jp>

Please see the following website for contact addresses.

GLOBAL GATEWAY <http://global.topcon.com/>

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