

**SANYO**

NC-MQN02  
**AA/AAA Charger: Ni-MH/Ni-Cd**  
Operating Instructions/Service Manual

Thank you for purchasing this SANYO product.

Please read and understand these instructions carefully for safe and satisfying operation.

Be sure to keep this instruction manual handy for future reference.

**FEATURES**

- Exclusively for use with SANYO AA and AAA (HR-3U, N-3US, N-3U, HR-4U and N-4U) rechargeable batteries of NI-MH (Nickel-Metal Hydride) and NI-Cd (Nickel Cadmium) type.
- Charge up to 4 AA batteries or up to 4 AAA batteries at once.

- 1 -

**Danger**  
Signifies danger which may result in serious injury or death.

**Warning**  
Indicates items or action which may cause serious injury or death.

**Caution**  
Indicates items or actions which may result in damages or personal injury.

**Notes on use BATTERY CHARGER NC-MQN02**

**⚠ DANGER**

- Use to charge SANYO NI-MH and Ni-Cd AA/AAA batteries only. Other types of batteries may burst causing personal injury and damage.
- Risk of electric shock, dry location use only.
- Do not insert the batteries with their + (positive) and - (negative) terminals reversed.
- Be sure to use charger with correct voltage only AC220V.
- Do not modify or disassemble.
- Please connect this charger with commercial power source.

**⚠ WARNING**

- Do not Insert any objects (such as a screwdriver or metal wires) into the charger.
- Keep out of reach of infants. Children may use only under strict parental supervision.

**⚠ CAUTION**

- Disconnect charger from outlet promptly once charging is complete.
- Be sure to charge batteries between 0°C~35°C.
- If something appears wrong with the charger and/or batteries, disconnect from the electric outlet immediately and contact the nearest service center.

- 2 -

**Notes on use RECHARGEABLE BATTERIES**

**⚠ DANGER**

- Be sure to use only with the exclusive SANYO battery charger.
- Do not Insert the batteries with their + (positive) and - (negative) terminals reversed.
- Do not solder lead wire or terminals directly onto the battery or modify it.
- Do not connect the + (positive) and - (negative) terminals together or let the battery contact metals such as necklaces and hairpins.
- Do not connect the batteries directly to a power outlet or cigarette lighter of an automobile.
- Never expose to heat or fire.
- If any liquid from the battery gets into your eyes, promptly wash it off with clean water and consult your doctor at once.

**⚠ WARNING**

- Stop charging once the specified charging time is reached.
- Never allow batteries to come in contact with or be immersed in water.
- Do not connect more than 20 batteries together.
- Stop using batteries immediately if you notice anything wrong with them such as leakage, color change or deformity.
- Keep out of reach of infants. Children may use only under strict parental supervision.
- If any liquid from the battery gets on skin or clothing, promptly rinse with clean water.
- Do not subject the battery to strong shocks.
- When using 2 or more batteries in a device, make sure they were charged simultaneously.
- Remove batteries from unit or device when not in use.

Not following all of the above warnings may cause electric shock, battery damage/leakage, overheating, explosion, or fire and can result in severe personal injury and/or damage to the property

- 3 -

Recommended temperature ranges for use:

	(NI-MH)	(NI-Cd)
To use (discharge) the batteries	0°C~50°C	-20°C~60°C
To charge the batteries	0°C~35°C	0°C~35°C
To store the batteries	-20°C~30°C	-30°C~35°C

Using the batteries outside the above temperature may shorten battery life and decrease efficiency.

### OPERATING INSTRUCTIONS

#### CHARGE INDICATOR LIGHT

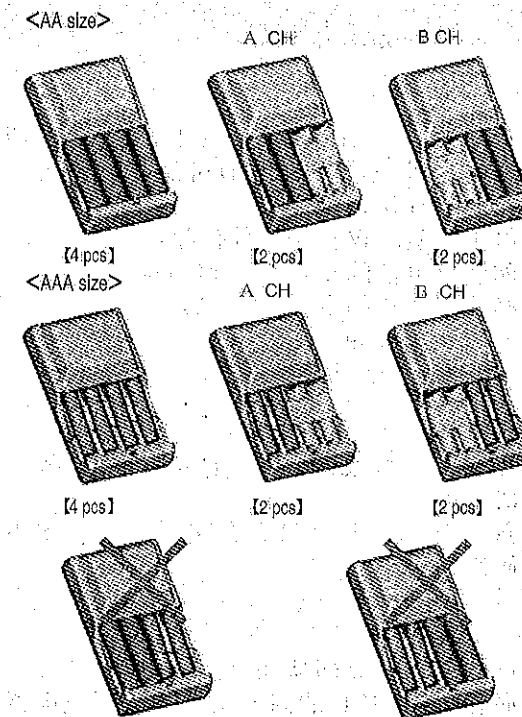
Light is on (steady) while charging and turns off after 17 hours.

#### HOW TO CHARGE

- Place 1 to 4 of AA or 1 to 4 of AAA size batteries into the charger so that the + (positive) and - (negative) ends (terminals) of the batteries correspond to the same + and - marking in the charger.
- Plug the charger into an electrical receptacle (outlet) of AC 220V. The charge indicator light is illuminated and battery charging begins.  
(NOTE: Do not insert or remove batteries during this charging process)  
The charging cycle time depends on battery type. See specification chart.
- Disconnect the charger from the electric outlet once charging is complete.
- Remove the batteries from the charger. Be careful to handle them, the temperature of batteries right after charging can be high.

### HOW TO INSERT THE BATTERIES

- Please charge 2 cells or 4 cells batteries. (1 cell or 3 cells batteries cannot be charged.)
- Do not charge AA and AAA cells together.



#### CAUTION

- Protection timer will not be initialized after putting two additional batteries to charger, when charging two batteries. Depending on the capacity of the additional batteries, those may not be fully charged.
- For safety reason, the charging time may be extended when ambient temperature becomes above 35 degree centigrade. In this case, timer cut-off will be extended from 17 hours to 21 hours.

### SPECIFICATIONS

NC-MQN02 SPECIFICATIONS:

Voltage	AC220V / 240V	
Input	50-60Hz 5W	
Output	DC2.4V 180-270mA × 2(AA) 100-180mA × 2(AAA)	
LED Indication	ON Steady - Charging OFF - Timer off	
Battery / Charge time	NI-Cd AA (1000mAh)	6(hrs)*
	NI-Cd AA (700mAh)	6.5(hrs)*
	NI-Cd AAA (250mAh)	2.5(hrs)*
	NI-MH AA (2100mAh)	13.5(hrs)*
	NI-MH AA (1850mAh)	11.5(hrs)*
	NI-MH AA (1700mAh)	10.0(hrs)*
Battery / Charge time	NI-MH AAA (800mAh)	7.5(hrs)*
	NI-MH AAA (600mAh)	7.5(hrs)*
Dimensions	113 × 66 × 37 (mm) * Excluding AC plug portion	
Weight	Approx. 230 (g)	

\* Above charging times are estimated numbers to complete charging.  
LED turns off after 17 hours with Auto-cut off times.

### ADDITIONAL NOTICE

- Battery Life - Charging and then discharging is possible for approximately 500 times, depending on their use.
- Operating Temperature - Batteries are chemical products. Even when used within the recommended temperature ranges, their efficiency may vary. This is normal, and not a malfunction.
- Periodically wipe off the positive and negative terminals of the charger and batteries with a dry cloth. Dirt built-up may prevent batteries from being charged.
- Batteries may become warm while charging, but it is not a malfunction.
- Noise may appear on the radio or television during charging. In this case, use a separate outlet.
- Avoid charging and discharging near a heat source such as heater or in direct sunlight.

**SANYO**

SANYO Electric Co., Ltd.