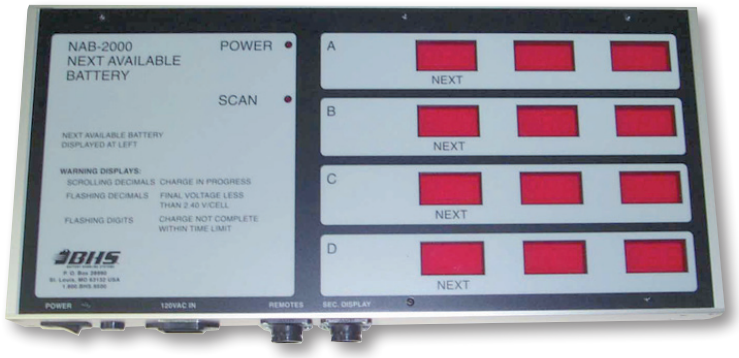
Battery Fleet Management

Next Available Battery



The BHS Next Available Battery (NAB-2000) is an advanced, fully-adaptive monitoring and display system for use with industrial lead-acid battery chargers. The system may be connected to battery charging systems ranging in size from 10 to 500 chargers. By monitoring the charge status of each battery, the NAB-2000 provides a concise, single point display of battery status information. This at-a-glance information makes it possible to keep track of all the batteries in your facility, and to maintain the fullest state of charge in the equipment that uses them.

Features & Benefits

- Monitors various battery types*
- First In, First Out (FIFO) battery tracking
- Eliminates overuse of individual batteries
- Display unit indicates the location of fully and partially charged batteries (battery locations displayed in order of voltage to help select the battery with the longest time off charge)
- Displays errors in charging process, such as chargers that never turn on, chargers that shut off without reaching 2.4 V per cell, and chargers that have not shut off after 15 hours
- 7' (2.13 m) power cord (120 V ac outlet required)

Available Options

Alarm Module (NAB-2000-AM)
Warns operator when a battery is selected out of order

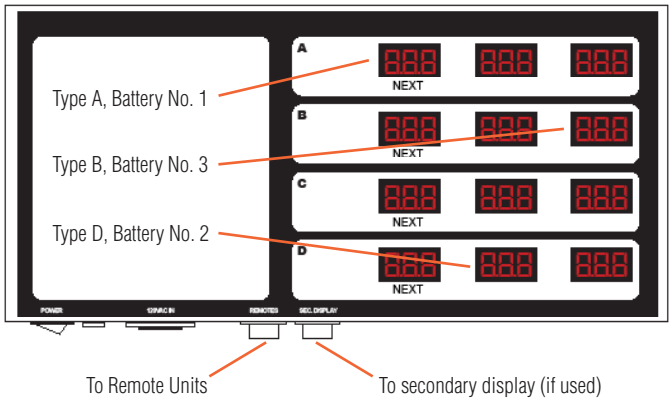
Alarm Module & Logging (NAB-2000-AM-LOG)
Warns operators when a battery is selected out of order and logs data for each complete charging cycle.

Additional Display Board (NAB-2000-DSPL-BD)
Allows for an additional four battery types to be monitored

Remote Display (NAB-2000-RF-KIT)
Wireless display that can be mounted to an Operator Aboard Battery Extractor

** Four battery types can be monitored with a single display. To monitor more than four battery types, Additional Display Boards are required.*

NAB-2000 Display Unit



System Displays	Status Indication
Stationary display	Charge completed normally
Scrolling decimals	Charge in progress
Flashing decimals	Final voltage is less than 2.40 V/cell
Flashing digits	Charge not completed within time limit

NAB-2000 Functionality

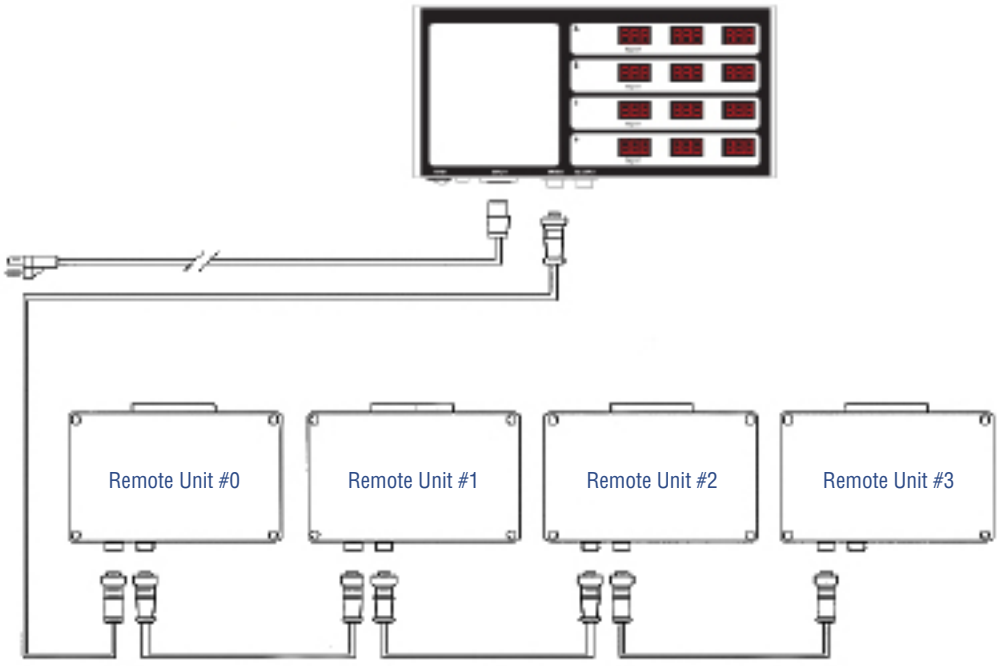
Every NAB-2000 system contains one primary Display Unit that communicates with the chain of Remote Units, and serves as the display for battery types “A” through “D”. If more than four battery types are used, a secondary Display Unit is connected to monitor battery types “E” through “H”. This modular design allows you to configure the NAB-2000 system to meet specific requirements, and allows future expansion as needed.

The Remote Units are responsible for monitoring the battery voltage at each charger, and are available in 12, 18, 24, 36 and 48 V versions. Each Remote Unit monitors up to ten batteries of the same type.

The NAB-2000 can monitor:

- When a battery is connected or disconnected (once disconnected, the Display Unit drops the battery from the line-up)
- When a charger turns on or shuts off, by monitoring changes in the battery voltage
- The approximate state of charge of each battery, by comparing average cell voltage

Sample NAB-2000 system design including (1) Display Unit and (4) Remote Units



NAB-2000-AM-LOG Functionality

The NAB-2000-AM-LOG module provides the following additional features for the NAB-2000 charger monitoring system:

Alarm warns when battery is selected out of sequence: If a battery other than the one at the first or second displayed position is removed, an alarm can be programmed to sound to alert the user. The alarm can be a recorded audio message (requires external speaker), and/or an optional flashing strobe or warning tone.

Logging of data for each completed charging cycle: Up to approximately 40,000 cycles are saved in the module. The data can later be downloaded to a PC via a standard USB cable. The following parameters are logged for each completed charging cycle.

- Battery type
- Charger number
- Charge completed?
- Peak battery voltage (V/cell)
- Charging time
- Cool down time
- Date
- Time
- Alarm? (was battery selected out of sequence)
- Error conditions encountered during charge cycle

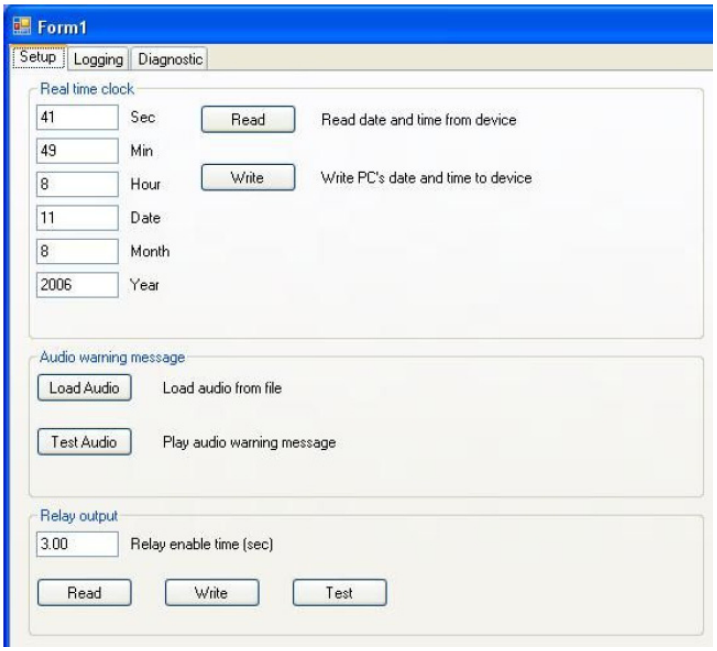
The NAB-2000-AM-LOG connects to a standard NAB-2000 system, but requires a software change in the display panel if it's an existing system. Depending on the software version, the operator can pull only the first battery displayed, or either of the first two, for each battery type.

The user connects a laptop (or other) computer to the NAB-2000-AM-LOG module using a standard USB cable.

The PC software provided with the NAB-2000-AM-LOG is used both to configure the module and to upload the collected data.

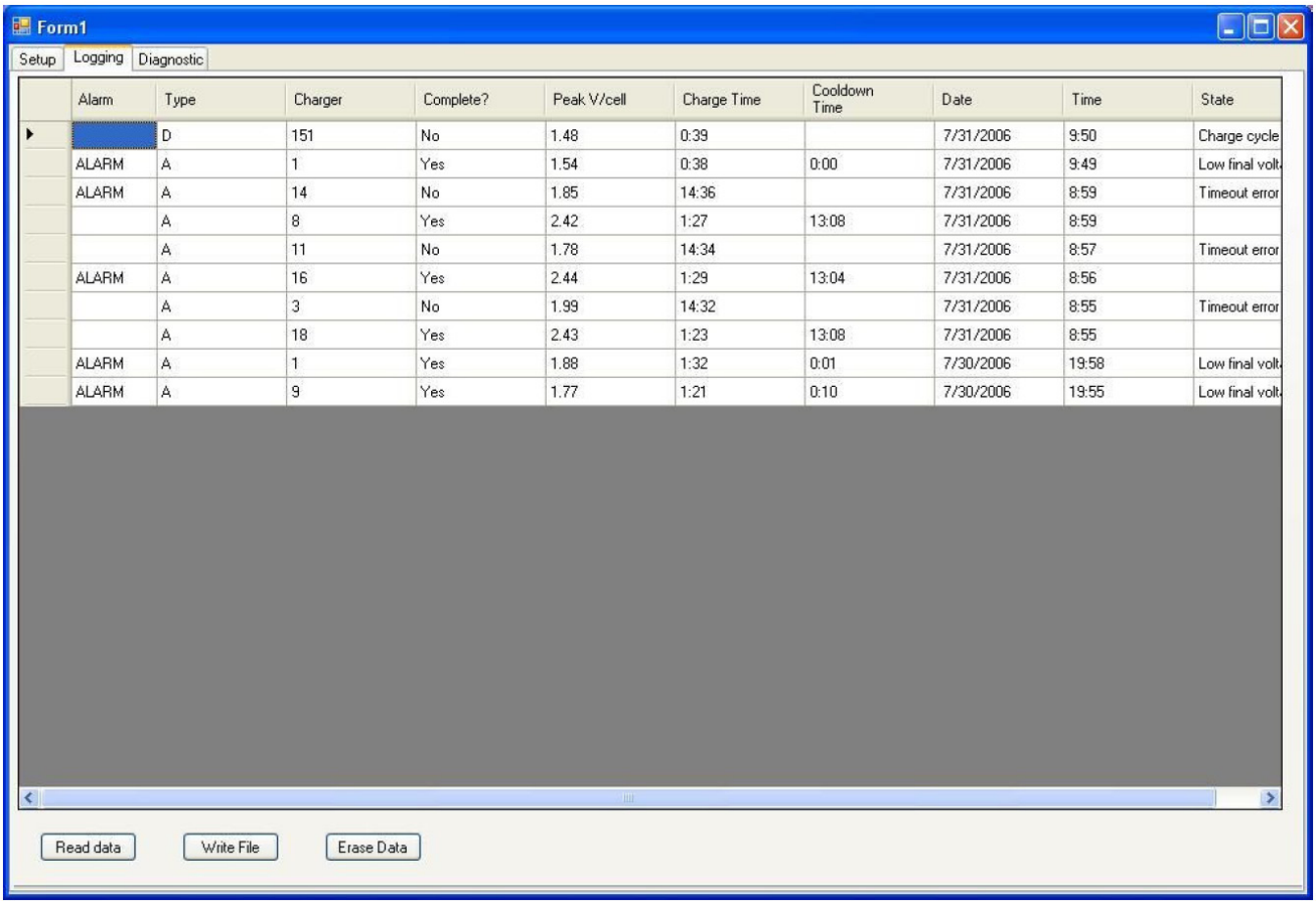
The image right shows the configuration screen, used for:

- Setting the NAB-2000-AM-LOG's internal real-time clock (for time-stamping data)
- Setting the audio warning that is played when a battery is taken out of sequence (can be a voice message or a warning tone) – Requires external P.A. or amplification.
- Setting the duration of the relay closure (for activating an external warning strobe, etc.)



The image below shows example data uploaded from the NAB-2000-AM-LOG.

The data is displayed in a spreadsheet-like format and can also be saved to a file that can be read by any spreadsheet program for printing or further analysis by the user. The download is a Comma Delimited Format .TXT file. which can be uploaded into an EXCEL spreadsheet to mimic report shown on computer display.



P.O. Box 28990 • St. Louis, MO 63132 USA • 1.800.BHS.9500 • Fax: 314.423.6444 • Email: sales@bhs1.com • Web: BHS1.com
Specifications are subject to change without notice. ©2003–2018 BHS, Inc. St. Louis, MO Data Sheet: PL-3700 04/18